



THE DARK SIDE OF THE POOLS:

What Investors Should Learn From Regulators' Actions

September 15, 2015



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ACKNOWLEDGEMENTS

The authors wish to thank Robert Battalio, Elise Bean, John Cosenza, Rajarshi Das, Micah Hauptman, Rachel Lauer, Lee Schneider, Nicole Tichon, Dave Tomar and others who reviewed this report and provided comments. The authors also wish to highlight the contributions by O3 World and Mike Gadsby in helping to lay out and design the report.

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EXECUTIVE SUMMARY

The evolution of modern capital markets has been stunning in its speed and breadth. The financial services industry of today would be unrecognizable to market participants of a generation ago. Order and execution information that was once communicated through hand signals and gruff voices now rockets through fiber optic cables and microwave towers around the world in fractions of a second. In the US, trading that was at one time dominated by one or two exchanges may now occur at any of 11 exchanges, several dozen dark pools, or hundreds of broker-dealer “internalizers.”

In recent years, one particular form of Alternative Trading System (ATS), the so-called “dark pool,” has rightly received increased attention from investors and regulators. Dark pools are generally thought of as venues with no pre-trade price transparency, unlike Exchanges or other venues where orders of specific size and price are public. For institutional investors—many of whom manage retirement savings, university endowments, and the wealth of millions of people around the world—placing orders in the lit markets would allow other traders to easily run ahead of their trades, leading to higher execution costs and lower overall performance. Dark pools have thus replaced the “upstairs” market of yesteryear, and have grown rapidly from comprising just 4% of US equities trades in 2008 to around 16-18% today.

For institutional investors, the need for dark pools has never been greater. High-speed traders armed with cutting-edge technology have grown stunningly adept at identifying, exploiting, and profiting from large orders. To gain even more of an edge, some of these high-speed traders have been awarded special—and sometimes secret—privileges from market centers, such as greater or faster access to information, or specialized order types. Lured into dark pools by promises of “safe” trading, institutional investors have increasingly sought refuge from this technological assault.

Unfortunately, an outdated regulatory framework, a paucity of publicly available order and execution data, and an inability to test dark pools’ claims have provided innumerable opportunities for abuses. Over the past couple of years, these abuses have been detailed in well-read books, Congressional hearings, and by whistleblowers, not to mention daily press reports. Far from providing safe havens, some dark pools operators have proven to be the very high-speed traders that they were purportedly defending investors against.

Prior to 2011, no U.S. regulator had brought any meaningful action against any dark pool. When regulators’ attention finally turned to dark pool operations, the number of cases—and the sizes of the fines—multiplied. Today, regulators have settled, or are reportedly in negotiations to settle, more than half a dozen cases against dark pool operators. All told, between November 2014 and August 2015, over 79 billion shares were traded on ATSs that have been accused of wrongdoing or have settled with regulators.

In this report, we examine the most significant of these cases: Pipeline (2011), UBS (2015), and ITG (2015). We also briefly survey, to the extent possible, cases that are reportedly imminent against Barclays and Credit Suisse.

The misconduct identified in these cases has been as troubling as it has been widespread:

- Pipeline's trading desk accounted for over 95% of the executions in its dark pool at some points, and it surreptitiously took advantage of its customers' order information for years.
- UBS created and selectively marketed custom-designed order types for high-speed traders, accepted millions of orders in sub-penny increments in blatant violation of SEC Rule 612, and shared customers' order information with over a hundred people who didn't need it.
- ITG created a secret trading desk that had inappropriate access to confidential customer order information, the sole purpose of which was to profit by exploiting those same customers.

We've learned that even the largest, oldest, and most well-respected dark pools are not above wrongdoing.

After exploring the contours and implications of these cases, the Report outlines some clear lessons for investors. Chief among them, we've learned that even the largest, oldest, and most well-respected dark pools are not above wrongdoing. Any dark pool may engage in misconduct, and that misconduct may remain undetected and unfettered for years. Worse yet, several years will often pass between the time that regulators first learn of misconduct and the time that the details of said misconduct are made public. This means that market participants may continue routing orders to venues based on clearly misplaced trust for years. And while regulators seem content to focus on inadequate disclosures, they do not seem focused on protecting investors from substantive abuses (such as by prohibiting abusive practices). To be sure, regulators are catching up, but they started far behind and have far to go.

The remainder of the Report outlines a path forward for investors. Recent and pending regulatory actions against dark pools have irreparably damaged investors' confidence in their trading venues, and must lead to fundamental changes in how investors interact with them. In the aftermath of these cases, investors are faced with two related sets of questions.

The first set of questions revolves around how an institutional investor can feel comfortable continuing to execute trades in a particular dark pool. Right now, investors and their brokers

need to consider whether they should continue trading with those ATSs that have been involved in regulatory actions. They need to ask, have I been harmed? If so, should I seek damages? Can I trust my history with this venue? Can I trust the execution metrics that I have used in the past? Can I find out enough about the ATS's operations to feel comfortable routing order flow there? Can I afford to not route an order to a particular dark pool? In our view, investors and brokers should be able to trust historical experiences and execution metrics, but should also recognize their limitations.

The second set of questions asks what investors can do to protect themselves going forward. How can I protect my customers' assets? What disclosures are good enough? Should I send out surveys to the brokers and ATSs that I use? What should my "best execution" committee be doing? In essence, how can I fill the gaps created by the structural flaws in the regulation of dark pools?

The SEC and other regulators certainly need to fill some of those gaps in the years ahead, but we are not optimistic that any regulatory reforms will be either timely or adequate. To enable investors to better protect themselves, we recommend the following:

- **Strengthen Dark Pool Disclosures.** Investors should demand better public and private disclosures. To the extent possible, these disclosures should be standardized across market venues. Investors need to know how dark pools operate and how their orders are handled. At the same time, investors and regulators need to have high-quality order routing and execution data against which to test brokers' and venues' performance.
- **Avoid and Mitigate Dark Pools' Conflicts of Interest.** Investors should demand lesser conflicts of interest from dark pools and their operators. Investors should make informed decisions about the risks of interacting with dark pools that have an affiliate trading for profit in the pool, and should determine whether or not those trading operations are adequately disclosed. Even with disclosure, the risk of abuse remains high.
- **Update Policies, Procedures, and Practices Regarding Best Execution.** Investors should update and modernize their practices regarding best execution and fiduciary obligations. This is essential for investors to minimize their trading costs and fulfilling their fiduciary obligations to their clients.
- **Promote and Reward More Transparent and Less-Conflicted Trading Venues.** Over the long term, investors should continue their efforts to promote independent alternative trading venues whose business models are better aligned to protect the interests of their underlying customers. In addition to providing higher quality venues for investors, these efforts may act as a powerful catalyst to drive reforms at other trading venues.



In each of these endeavors, investors should promote rigorous best practices by their brokers, by the dark pools to which they route orders, and within their own trading strategies. Investors can and should demand regulatory requirements that far exceed those in place today.

Dark pools perform a critical function for investors and are not going away. Unfortunately, holes in the regulation and oversight of dark pools have created a trading environment in which investors must blindly trust dark pool operators. The breadth, depth, and severity of recent regulatory actions plainly demonstrates that investors cannot blindly trust any dark pool. Investors are now warned. They must better protect themselves. Their fiduciary obligations demand it of them.

INTRODUCTION TO DARK POOLS

Off-exchange trading is a critical element of today's US equities markets. Roughly 35% of all US equities trades occur off-exchange, with 16 to 18% of trades occurring in dark pools. It wasn't always this way. For decades, trading in stocks was generally restricted to formally regulated exchanges dominated by a small handful of actors. Then, starting in the 1980s, a host of new options began to emerge. These new trading venues have come to be called "alternative trading systems" or ATSs.

Some of these ATSs allow for trading without revealing the identity of counterparties or displaying specific order information. These have come to be known as "dark pools." Many large institutional investors have been drawn to dark pools over exchanges because dark pools may allow them to execute trades in larger sizes without tipping off predatory traders or significantly impacting market prices.¹

Perhaps due to their historically small volume of trading, these venues existed for several years before federal regulators began exercising oversight and imposing meaningful regulation upon them. In 1998, the SEC adopted Regulation ATS, which required all ATSs to be registered as broker-dealers, thus subjecting dark pools to FINRA oversight. As part of this process, all ATSs had to file basic disclosures with the SEC about their operations and meet other regulatory requirements.

With the adoption of Regulation NMS, decimalization, and the rise of algorithmic trading, dark pools began to proliferate. Indeed, their trading volumes have verily exploded. From just a handful of dark pools when Reg NMS was adopted in 2005, there are over forty in operation today.² Similarly, while it has been estimated that dark pools accounted for just 4% of trading as

¹ As one finance professor commented to the SEC during its consideration of Regulation ATS, "Instinet began because institutions wanted an anonymous way to trade large blocks of stocks thereby minimizing information leakage." Letter from Daniel G. Weaver, Associate Professor of Finance, Baruch College, to Jonathan Katz, Secretary, Sec. and Exch. Comm'n, Nov. 23, 1998.

² Alternative Trading Systems with Form ATS on File with the SEC as of February 1, 2015, available at <http://www.sec.gov/foia/ats/atslist0215.pdf>.



recently as 2008,³ that number currently hovers around 18%.⁴

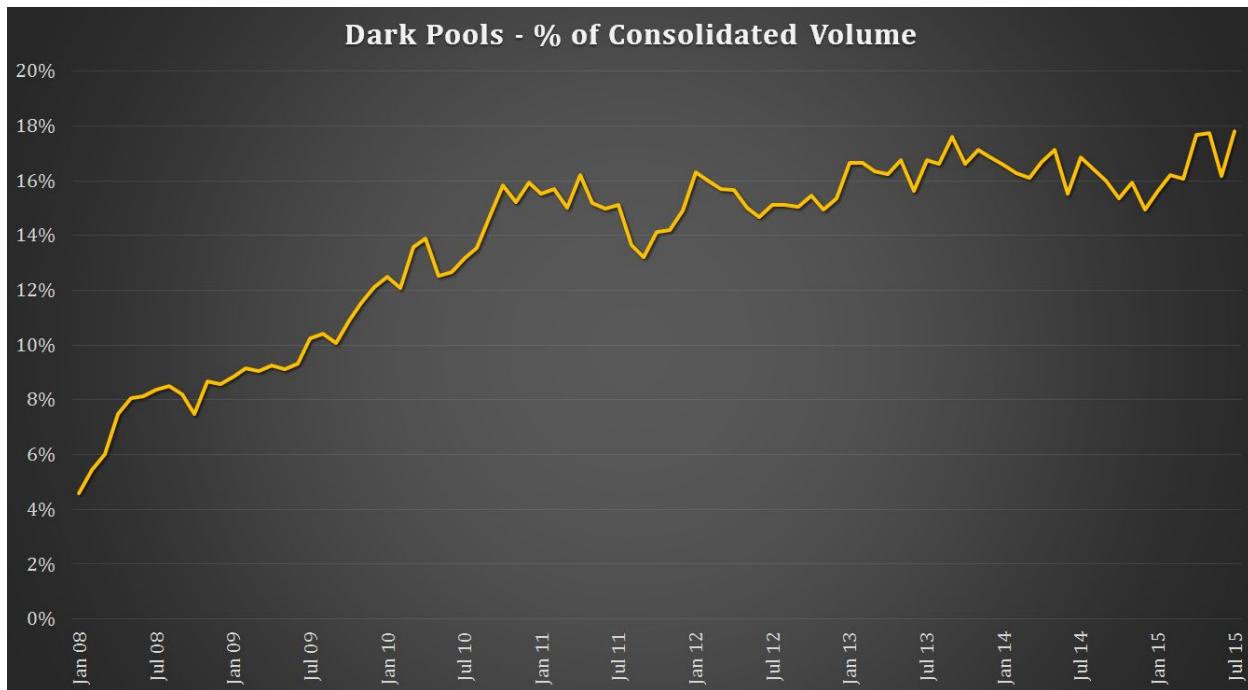


Figure 1: Dark Pool as Percent of Total Consolidated Volume. Rosenblatt Securities, Sept. 2015.

There are many reasons for this rapid rise in popularity. Institutional traders have always worked to execute their large trades without tipping off the markets before their transactions were completed. Historically, these types of trades were done “upstairs” at the New York Stock Exchange.⁵ Information leakage was a significant problem “upstairs”⁶ and investors were eager for alternatives. In many ways, dark pools began as an answer to the leakage problem.

The first dark pools were created to facilitate smooth institutional trading without the consequent market impact associated with displaying institutional-sized orders on a lit venue.⁷ Dark pools offered a similar opportunity to an “upstairs” trade, but with ostensibly more robust electronic security over sensitive information. In addition, institutional investors have

³ Rosenblatt Securities, Sept. 2015; but see, Scott Patterson, ‘Dark Pools’ Face Scrutiny, Wall St. Journal (June 5, 2013) (estimating trading at 4% in 2009).

⁴ Rosenblatt Securities, Sept. 2015.

⁵ See, e.g., Donald B. Keim and Ananth Madhavan, *The Upstairs Market for Large-Block Transactions: Analysis and Measurement of Price Effects*, The Rev. of Fin. Studies, 1-36 (Spring 1996).

⁶ For example, one study of over 5500 “upstairs” trades from 1985 to 1992 found that price movements prior to the trade date were “significantly positively related to trade size, consistent with information leakage as the block is “shopped” upstairs.” Donald B. Keim and Ananth Madhavan, *The Upstairs Market for Large-Block Transactions: Analysis and Measurement of Price Effects*, The Rev. of Fin. Studies, 1-36 (Spring 1996).

⁷ See Letter from Daniel G. Weaver, Associate Professor of Finance, Baruch College, to Jonathan Katz, Secretary, Sec. and Exch. Comm'n, Nov. 23, 1998.

increasingly flocked to dark pools to avoid algorithmic traders that have become ever more effective at identifying and exploiting large orders.

Dark pools were also less expensive than exchanges for brokers. As exchanges began to increase rebates and access fees, brokers came to recognize that crossing trades in their own ATS could hold significant benefits from both a cost and reputational standpoint. Large ATSs could also attract more flow in a beneficial feedback loop, and increase the broker's volumes, market share, and revenues.

Increasing their fill rates and executions meant that dark pools had to find counterparties for their resting orders. This task has always been a significant challenge. Simply stated, it is relatively rare that at the exact same time one mutual fund complex wishes to sell one million shares of a particular stock, another institution in the pool will just happen to want the same million shares. Of course, from a trader's perspective, the longer an order rests in a dark pool, the greater the risk of information leakage and increased opportunity costs.⁸

Dark pools have taken several different approaches to solving this problem. Most have attempted to solicit as many institutional subscribers as possible, thus increasing their odds of matching trades with counterparties. Some have set up their own high-speed trading desks within these pools, or granted access to their affiliated broker-dealers, to take the other sides of trades. Still others have welcomed third-party high-speed traders.

The limited transparency into dark pool operations, order types, matching algorithms, and even participants creates an attractive opportunity for high-speed traders.

High-speed traders pose an interesting dilemma for many dark pool operators. Dark pools have long offered high-speed traders coveted opportunities to interact with more uninformed⁹, large

⁸ Quantitatively measuring execution costs, particularly opportunity costs, has historically been difficult. Early studies suggested that trading costs for trades executed on ATSs were significantly lower than those for trades executed on exchanges. See, e.g., Jennifer Conrad, Kevin M. Johnson, and Sunil Wahal, *Institutional trading and alternative trading systems*, *Journal of Fin. Econ.*, 70, 99–134 (2003) (reviewing approximately 800,000 orders from 1996 and 1998). However, once studies started to more fully account for the costs of trades not being executed and adverse selection, then some of the perceived cost benefits deteriorated. See, e.g., Randi Naes and Bernt Arne Ødegaard, *Equity Trading by Institutional Investors: To Cross or Not to Cross?*, *Journal of Financial Markets*, 79–99 (May 2006). Some recent studies suggest that the costs of unexecuted orders in dark pools may be quite significant. See, e.g., Haoxiang Zhu, *Do Dark Pools Harm Price Discovery?*, *Rev. of Fin. Studies*, (2014) (noting “[b]ecause matching in the dark pool depends on the availability of counterparties, some orders on the “heavier” side of the market—the side with more orders—will fail to be executed. These unexecuted orders may suffer costly delays.”).

⁹ From a statistical perspective, “informed” order flow has a short-term (measured in milliseconds, seconds or minutes) perspective on price movement that is correct often enough to cause market makers to lose money. Uninformed flow (such as institutional or retail) has a long-term perspective with little concern over short-term price movements.



sized orders. The limited transparency into dark pool operations, order types, matching algorithms, and even participants creates an attractive opportunity for high-speed traders. In some cases, high-speed traders have found dark pool operators willing to work with them to customize and selectively disclose order types, matching priority and other ATS features. These technology-driven traders also noticed that many dark pools had inferior technology systems, which could be exploited.

From the perspective of the dark pools, on one hand, accepting some high-speed traders into a given pool could increase fill rates, execution volumes, and market share. On the other hand, too many high-speed traders could substantially erode the benefits offered by the pool as compared to a traditional exchange. Many dark pools have come down on the side of welcoming some high-speed traders into their pools.

As high-speed traders entered the pools, trading volumes sky-rocketed, but the characteristics of dark pools changed. Execution sizes came down, as shown in Figure 2 below, ultimately converging at the same value as on lit markets.

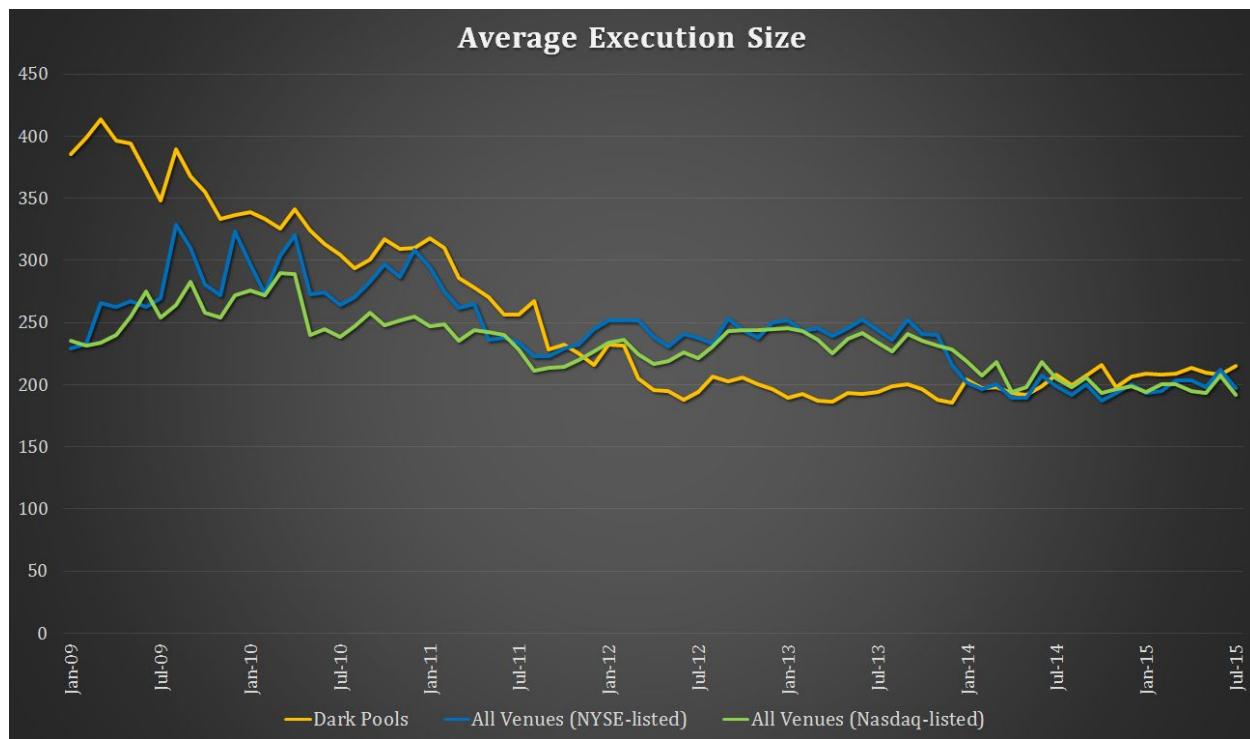


Figure 2: Average Trade Size Over Time. Rosenblatt Securities, Sept. 2015.

Some measures of quality also often went down. Adverse selection and toxicity – two common measures for information leakage and market impact – rose alongside fill rates.¹⁰

Brokers seem to have a strong preference to route to their own dark pools, but investors have to wonder at what cost.

The feedback loop of large brokers routing orders to their own ATSs, often to be filled by high-speed traders, ensured that the biggest brokers had the most successful ATSs. As Figure 3 below shows, while the ATSs of many bulge bracket brokers in Q1 2015 were under 1% market share (except for Credit Suisse), most of them filled a disproportionate amount of orders in their own ATS (Goldman Sachs being a notable exception):

Figure 3: Fill Rates and Market Share

Broker	ATS Fill Rate - NYSE Names <i>Source: Rule 606 Filings</i>	ATS Fill Rate - Nasdaq Names <i>Source: Rule 606 Filings</i>	ATS Market Share <i>Source: FINRA ATS and BATS</i>	Trading Market Share <i>Source: Greenwich Associates</i>
Goldman Sachs	4%	9%	0.72%	8.70%
JP Morgan	15.5%	19%	0.64%	8.60%
BAML	6%	13%	0.73%	8.40%
Morgan Stanley	11%	15%	0.96%	8.20%
Credit Suisse	30%	34%	1.60%	6.90%

Brokers seem to have a strong preference to route to their own dark pools, but investors have to wonder at what cost. As evidence has mounted that dark pool operators have favored some participants over others—and execution quality has suffered as a result—regulators have begun to intervene.

¹⁰ For example, a study of 28 dark pools utilized by one brokerage firm's smart order router found a relationship between increased fill rates and toxicity. George Sofianos and JuanJuan Xiang, *Dark Pool Races, Part Two*, Goldman Sachs, Street Smart, Issue 44 (2011). Notably, this study found that despite the rise in toxicity, the increased fill rates led to lower shortfalls, suggesting lower execution costs.

RECENT ENFORCEMENT ACTIONS

Prior to 2011, state and federal regulators had never brought any significant enforcement actions against any dark pools. The October 2011 enforcement action against Pipeline Trading Systems, LLC (Pipeline) and its principals ushered in a new era of regulatory oversight.

Over the past four years, regulators have settled actions against six dark pool operators, including:

- Pipeline,¹¹
- eBX, LLC (LeveL),¹²
- Goldman Sachs,¹³
- Liquidnet,¹⁴
- UBS,¹⁵ and
- ITG.¹⁶

In addition to these settled matters, it was reported in August 2015 that Credit Suisse and Barclays were in advanced discussions with the New York Attorney General and the SEC to settle allegations of wrongdoing in their respective dark pools.¹⁷ Below, we examine the most significant of these regulatory actions: Pipeline, UBS, ITG, and, to the extent possible, Barclays and Credit Suisse.

PIPELINE

In October 2011, the SEC brought its first significant action against any dark pool when it settled a case against Pipeline and two of its principals.¹⁸ The Pipeline case was remarkable in a number of respects, including that:

- it was the first significant case against a dark pool operator;
- the misconduct continued unchecked for several years until a whistleblower highlighted the problems to the SEC;
- the SEC narrowly focused on the quality of the dark pool's disclosures as the primary misconduct; and

¹¹ In the Matter of Pipeline Trading Systems LLC, Fred J. Federspiel, and Alfred R. Berkeley III, Exch. Act Rel. No. 34-65609 (Oct. 24, 2011).

¹² In the Matter of eBX, LLC, Exch. Act Rel. No. 34-67969 (Oct. 3, 2012) (regarding the operations of LeveL).

¹³ In re Goldman Sachs Execution & Clearing, L.P., Letter of Acceptance, Waiver, and Consent, No. 20110307615-01, (Jun. 3, 2014), available at <http://disciplinaryactions.finra.org/Search/ViewDocument/36604>.

¹⁴ In the Matter of Liquidnet, Inc., Exch. Act Rel. 34-72339 (June 4, 2014).

¹⁵ In the Matter of UBS Securities LLC, Exch. Act. Rel. 34-74060 (Jan. 15, 2015).

¹⁶ In the Matter of ITG, Inc. and AlterNet Securities, Inc., Exch. Act Rel. 34-75672 (Aug. 12, 2015).

¹⁷ Bradley Hope, Emily Glazer, and Christopher M. Mathews, *Credit Suisse, Barclays in Talks to Settle 'Dark Pool' Allegations*, Wall St. Journal (Aug. 11, 2015). As discussed further below, the New York Attorney General filed suit against Barclays in June 2014.

¹⁸ In the Matter of Pipeline Trading Systems LLC, Fred J. Federspiel, and Alfred R. Berkeley III, Exch. Act Rel. No. 34-65609 (Oct. 24, 2011) ("Pipeline Order").

- the SEC accepted a limited theory of disgorgement and modest penalties.

BACKGROUND

In 2004, the former President of the Nasdaq Stock Market opened Pipeline as a registered ATS based in New York City.¹⁹ Pipeline fashioned and sold itself as a non-predatory “crossing network” for “naturals” to trade large blocks of shares without information “slippage.”²⁰ Put simply, it was supposed to be a safe haven from statistical arbitrageurs and high frequency traders that prey on large orders.²¹

To distinguish itself from other dark pools that also housed a proprietary trading desk, Pipeline’s sales force was instructed to tell customers that there was “no prop desk at Pipeline attempting to game your block orders.”²² To protect large institutional traders from having their orders sniffed out by firms executing at small sizes, Pipeline restricted trading to minimum block sizes of 10,000, 25,000, or 100,000 shares, depending upon the stock.²³ It also disciplined traders in its dark pool for what it viewed as abusive practices.²⁴

Before it opened for trading in 2004, Pipeline’s parent holding company formed an affiliated entity expressly intended “to ‘[p]rovide a baseline fill rate for early Pipeline adopters’ by frequently placing orders and trading with Pipeline customers.”²⁵ The affiliate, trading under multiple names over the years,²⁶ was tasked with taking the other side of its customers’ orders to ensure that trades were executed in the dark pool. Pipeline’s management hoped that this would attract more customers and more executions.

Pipeline’s affiliate trading changed somewhat over time. At its most basic level, the affiliate’s employees were notified when a stock’s status changed in the pool, and were given other information they could use to guess the direction of customers’ orders in the pool. The affiliate would then attempt to take the other side. Sometimes, the affiliate would seek to front-run orders by executing trades in the same direction at other market centers, and then flip the

¹⁹ Pipeline Order at 3.

²⁰ See Pipeline Order at 7-8 (quoting statements by the Pipeline parties:

- “[W]ith Pipeline, pre-trade leakage of critical information is eliminated. Pipeline gives block traders the ability to attract giant contras while frustrating the prying eyes of predators.”
- According to Federspiel, “Traders [using Pipeline] experience the simplicity and speed of anonymously executing large blocks without moving the market. Relieved from predators and front runners, traders can quickly and quietly unearth block liquidity – generating more fills with less slippage.”
- Pipeline was “a refuge from predators and front runners.”
- According to Berkeley, Pipeline “acts as a confidential channel, specifically to bring natural buyers and sellers together . . . without disseminating their intentions.”).

²¹ For example, an August 17, 2009 press release quoted the company’s CEO as saying “[o]ur mission is to help buy-side desks get all the liquidity they need while minimizing losses to high-frequency trading operations.” Pipeline Order at 10.

²² Pipeline Order at 10.

²³ Pipeline Order at 4-5.

²⁴ Pipeline Order at 13.

²⁵ Pipeline Order at 5 (quoting an email from Pipeline’s Director of Research to both of its then-President and CEO).

²⁶ The Affiliate operated under the names Exchange Advantage LLC, Aurora Technology Partners LLC, and Milstream Strategy Group LLC. Pipeline Order at 5.

positions back to the resting customer orders. Although the affiliate was usually guessing the direction of the resting customer orders, it had more information with which to guess than did non-affiliates.

At times, the affiliate would lose money on its trades. Sometimes it would guess wrong. Other times, it would simply take the other side of customer orders, and subsequently attempt to flip out of these positions in a manner that limited its losses. In these situations, it rarely made money.

Still other times, the affiliate would front-run its own customers' orders and subsequently take the other side of their customers' resting orders. This approach was far more likely to be profitable.

Pipeline was well aware of its conflict of interest as the counterparty to its dark pool customers and took steps to mitigate it. For example, Pipeline attempted to mitigate its conflict of interest by paying its traders based on a formula that rewarded them for both trading profits and for providing higher-quality executions to their customers (so that profitability was not the only factor shaping execution practices).²⁷

At first, from 2004-2006, Pipeline's affiliate lost \$19.7 million on its trading.²⁸ These losses might be expected if it was simply taking the other side of its customers' orders, and then looking to subsequently unload the positions. These losses also suggest that Pipeline was, as a collective enterprise, providing relatively high quality executions. Then, things changed at Pipeline. After a few years, the company decided to shift its money-losing affiliate into a revenue generator. In 2007, the affiliate had almost no losses,²⁹ and from 2008-2010, its trading turned a profit of \$32.2 million.³⁰

Pipeline's affiliated trading desk wasn't a secret, nor was its involvement in the dark pool. In fact, Pipeline's subscription agreements with its customers generally included a notice that unspecified affiliates of Pipeline or its investors could be trading on the ATS.³¹ However, the disclosures about the affiliate never detailed the its "role in providing liquidity on the ATS."³²

The affiliate was an essential element to completing transactions in the dark pool. When Pipeline started its operations, its affiliate was participating in as much as 97.5% of the trades in its dark pool.³³ Although that rate declined over time, from its launch until the end of 2009,³⁴ Pipeline's affiliate still participated in approximately 80% of the trades in its pool.

²⁷ Pipeline Order at 12.

²⁸ Id.

²⁹ Id.

³⁰ Id.

³¹ Pipeline Order at 5.

³² Id.

³³ Pipeline Order at 6.

³⁴ Id.

ENFORCEMENT ACTION

Pipeline's misconduct was ultimately discovered when a disgruntled former employee blew the whistle to the SEC.³⁵ The SEC settled the matter with Pipeline, its CEO, and its Chairman on October 24, 2011.

The SEC's action against Pipeline was not based on Pipeline's conscious decision, beginning in early 2008, to profit at its customers' expense.

When outlining the basis for the case, the SEC's Director of Enforcement stated that "Pipeline and its senior executives [we]re being held to account because they misled their customers about how Pipeline's dark pool really worked."³⁶

The SEC's action against Pipeline was not based on Pipeline's conscious decision, beginning in early 2008, to profit at its customers' expense. In fact, the settlement expressly noted, with no criticism, that "[s]ome operators of ATSs own proprietary trading desks that trade securities on their ATSs with the operators' own money."³⁷ In addition, instead of calculating damages according to the \$32 million in profits obtained by the affiliate at its customers' expense from 2008-2010, the SEC expanded the settlement time horizon for the settlement to include the prior years when the affiliate lost money and even gave credit to the affiliate's operational expenses and executive compensation.

Instead of focusing on Pipeline's tangible, quantifiable harm to investors from 2008-2010, the SEC's action was built largely on Pipeline's inadequate disclosures about the critical role the affiliate played in the venue's operations and the advantages it had over other participants in the pool.

³⁵ Scott Patterson and Jenny Strassburg, *Traders Navigate a Murky New World*, Wall St. Journal, (Apr. 9, 2012).

³⁶ Press Release, Sec. and Exch. Comm'n, Alternative Trading System Agrees to Settle Charges That It Failed to Disclose Trading by an Affiliate, Oct. 24, 2011 (quoting SEC Division of Enforcement Director Robert Khuzami).

³⁷ Pipeline Order at 10.

In this way, the settlement bizarrely gave credit to Pipeline for its affiliate's compensation to traders who were being paid in part from ill-gotten trading profits. These additional losses and operational expenses also had another important effect: they completely offset the ill-gotten trading profits from 2008-2010. Thus, the settlement required no disgorgement of unjust profits.

Instead of focusing on Pipeline's tangible, quantifiable harm to investors from 2008-2010, the SEC's action was built largely on Pipeline's inadequate disclosures about the critical role the affiliate played in the venue's operations and the advantages it had over other participants in the pool.³⁸ The settlement order is replete with dozens of allegedly misleading statements, regulatory filings, and interview quotes by Pipeline and its principals.³⁹ Again, this was despite the fact that Pipeline's customer agreements disclosed the existence of an affiliate with the capacity to trade in its dark pool.

While none of the defendants admitted any wrongdoing,⁴⁰ the settlement required the firm, its CEO, and its Chairman, to pay \$1 million, \$100,000, and \$100,000, respectively.⁴¹ Other than a standard "cease-and-desist" order, no further actions were taken against the firm or its associated individuals.

REACTION FROM MARKET PARTICIPANTS

Investors' reaction to the Pipeline case was dramatic. In spite of the fact that it replaced the key executives involved in the case (which included the former Nasdaq Stock Market President),⁴² Pipeline's customers largely stopped sending orders to the venue, leading to its rapid collapse. Because of Pipeline's already low trading volume, it proved to be a relatively easy-to-replace trading venue.⁴³

Perhaps because there was no disgorgement, many market participants and even legal experts appear to have been under the false impression that Pipeline had not abused investors for its

³⁸ In particular, the settlement order declared that Pipeline violated:

- Section 17(a)(2) of the Securities Act (which prohibits material misstatements or omissions in the offer or sale of securities);
- Rule 301(b)(2) of Regulation ATS (which governs disclosures of ATS operational changes); and
- Rule 301(b)(10) of Regulation ATS (which requires an ATS to establish adequate safeguards and procedures to protect subscribers' confidential information).

The settlement order further declared that Pipeline's CEO and Chairman both caused the 17(a)(2) and 301(b)(10) violations, and had liability pursuant to Sections 15(b)(6) and 21B(a)(3) of the Exchange Act, for Pipeline's violations of Rule 301(b)(2) of Regulation ATS. Pipeline Order at 16-17.

³⁹ See, e.g., Pipeline Order at 7-10.

⁴⁰ Pipeline Order at 1.

⁴¹ Pipeline Order at 17-18.

⁴² Scott Patterson and Jenny Strassburg, *Pipeline Financial's Top Officers Leave in Wake of 'Dark Pool' Case*, Wall St. Journal, Nov. 15, 2011.

⁴³ Brokers are generally obligated to route orders to venues likely to provide the best executions. A trading venue with a greater volume of orders and executions could be a source of liquidity that traders may thus feel compelled to tap into for the benefit of their customers—even if they have reservations about the venue's operations and transparency.

own profits. In fact, no investors pursued significant legal action against Pipeline following the SEC settlement.⁴⁴

"This type of thing speaks to the actions of particular individuals and firms rather than the industry more broadly. ... Block-crossing is an area that has conducted itself pretty well because it's client-focused by design."

Jamie Selway, Head of Liquidity Management, ITG (October 25, 2011)

At the time, several well-known market structure experts were shocked by Pipeline's conduct.⁴⁵ Many argued that Pipeline was an outlier, whose misconduct was evidence of a few bad apples. For example, in a now ironic comment, the head of liquidity management at ITG (which has recently paid a record-setting penalty for its own dark pool abuses) opined at the time that "[t]his type of thing speaks to the actions of particular individuals and firms rather than the industry more broadly.... Block-crossing is an area that has conducted itself pretty well because it's client-focused by design."⁴⁶

⁴⁴ There are many potential reasons why investors chose to not bring any actions against Pipeline, including that: (i) any damages could be difficult to quantify, (ii) damages would likely be low due to Pipeline's relatively low volume of trading, and (iii) the likelihood of recovery, even if an investor won an action, was presumably low.

⁴⁵ Joshua Gallu, Nina Mehta, and Nick Baker, *Pipeline Settles with U.S. SEC Over Dark Pool Claims*, Bloomberg, Oct. 24, 2011 (quoting Larry Tabb, founder of Tabb Group, LLC as finding it "shocking" and quoting Justin Schack, managing director for market structure at Rosenblatt Securities as "amazed and shocked.").

⁴⁶ Jacob Bunge, *'Dark Pool' Settlement Shines Light on Potential Abuses*, Wall St. Journal, Oct. 25, 2011 (quoting Jamie Selway). Selway is both the head of liquidity management for ITG and a Board Member for BATS Exchange. See <http://www.bloomberg.com/research/stocks/people/person.asp?personId=109696070&ticker=ITG>.

UBS

The next significant dark pool case brought by the SEC was against UBS.⁴⁷ UBS's dark pool, unlike Pipeline's, was one of the largest. The UBS settlement was – for about seven months – the largest ever involving a dark pool.

The UBS settlement was notable in a number of respects, including that:

- it was the first case against a major dark pool operator;
- UBS ATS gained significant, unfair competitive advantages over other trading venues by accepting sub-penny orders, in blatant violation of Regulation NMS;
- UBS allowed over 100 people to unnecessarily have access to its customers' confidential order information;
- UBS selectively marketed a complex order type to high-speed traders while also secretly permitting its own order routing customers to avoid interacting with high-speed traders; and
- the SEC again accepted limited theories of disgorgement and penalties.

BACKGROUND

UBS Securities LLC (UBS)⁴⁸ has operated UBS ATS, a New York-based dark pool, since 2008.⁴⁹ Prior to the settlement, according to the SEC, UBS ATS was the largest equity ATS in the United States.⁵⁰

Beginning in May 2008, and continuing for nearly three years, UBS ATS accepted and gave preferential treatment to hundreds of millions of orders priced with increments of less than one cent ("sub-penny orders").⁵¹ Rule 612 of Regulation NMS expressly prohibits ATSs like the UBS

⁴⁷ The SEC also settled an action against Liquidnet Holdings, operator of the Liquidnet dark pool in June 2014 for "allow[ing] a business unit outside the dark pool operation to access the confidential trading data." Press Release, Sec. and Exch. Comm'n, SEC Charges New York-Based Dark Pool Operator With Failing to Safeguard Confidential Trading Information, June 6, 2014. Unlike the other matters discussed, there were no allegations or facts suggesting that the misconduct resulted in harm to investors. Rather, the misuse of information stemmed from another Liquidnet business unit utilizing customers' trading information for its own marketing purposes, and not for any trading advantages for itself or others. That said, Liquidnet settled for \$2 million (double Pipeline's settlement), and the order detailed the same three substantive violations as were found in the Pipeline action. In the Matter of Liquidnet, Inc., Exch. Act Rel. 34-72339 (June 4, 2014) ("Liquidnet Order"). In addition, as described later, the New York Attorney General also filed a lawsuit against Barclays in July 2014. That matter is reportedly close to settlement. Lastly, the SEC settled allegations in October 2012 that the operator of LeveL had, amongst other transgressions, allowed the technology service provider who managed the dark pool to use customer information from the pool for the service providers' separate order routing business. The dark pool subscribers' confidential order information was used by the service provider for its routing business from 2008 through early 2011, when an SEC examination identified the misconduct. It is unclear whether any investors were harmed, or if so, how any damages might be calculated. Instead, the settlement simply imposes a penalty of \$800,000. In the Matter of eBX, LLC, Exch. Act Rel. No. 34-67969 (Oct. 3, 2012).

⁴⁸ UBS Securities LLC is a New York-based, indirectly wholly-owned subsidiary of UBS AG. UBS Securities LLC, Notes to the Statement of Financial Condition, Dec. 31, 2014.

⁴⁹ In the Matter of UBS Securities LLC, Exch. Act. Rel. 34-74060, at 4 (Jan. 15, 2015) ("UBS Order").

⁵⁰ UBS Order at 2.

⁵¹ UBS Order at 2-3.

ATS from accepting sub-penny orders. The rule is intended to prevent market participants from jumping to the top of the order book by offering immaterial price improvement.⁵²

While some of these sub-penny orders were accepted due to technical issues, others were as a result of two custom-designed order types, one of which was operational from 2008-2010, and the other, from 2010-2011.⁵³ Between the two order types and the two technical issues, UBS ATS ended up accepting and prioritizing hundreds of millions of sub-penny orders, granting UBS a significant competitive advantage over other trading venues that complied with the SEC's rules.⁵⁴

UBS didn't tell all of its subscribers about the complex order types that resulted in sub-penny orders.⁵⁵ Instead, it marketed the order types nearly exclusively to high frequency traders and market makers.⁵⁶ UBS ATS ultimately "decommissioned" both order types, although the second order type was shut down only after the SEC examination staff expressed concerns with it.⁵⁷

Another issue involved a mechanism developed by UBS to enable its algorithmic trading customers to avoid being "picked off" by high frequency traders and market makers in its dark pool. To implement this protection, UBS first used its own quantitative analytics to categorize users of its dark pool as either "natural" or "non-natural."⁵⁸ UBS then enabled its algorithmic program customers to avoid interacting with "non-natural" firms.⁵⁹

But rather than make the feature widely available, UBS declined to inform everyone in its pool, instead making it available to only users of UBS's trading algorithms.⁶⁰ In addition, UBS didn't tell some of the firms that it had designated as "non-natural" that they were being prevented from interacting with other orders in the pool.⁶¹

A third issue involved confidentiality. While ATSSs are required to keep their customers' information confidential, UBS gave more than 100 employees who had no role in the operation or compliance of the dark pool full access to the pool's order book.⁶²

⁵² See Exch. Act Rel. No. 34-51808, at 219 (June 9, 2005).

⁵³ UBS Order at 2-3.

⁵⁴ UBS Order at 3.

⁵⁵ Id.

⁵⁶ Id.

⁵⁷ UBS Order at 8. It is unclear why the other order type was "decommissioned" in 2010.

⁵⁸ UBS Order at 10.

⁵⁹ Id.

⁶⁰ UBS Order at 3.

⁶¹ UBS Order at 10.

⁶² UBS Order at 13.

ENFORCEMENT ACTION

On January 15, 2015, UBS settled an enforcement action with the SEC regarding its dark pool.⁶³ In announcing the settlement, the SEC's Director of the Division of Enforcement explained that "[t]he UBS dark pool was not a level playing field for all customers and did not operate as advertised."⁶⁴

As with Pipeline, the SEC's action focused primarily on the inadequacy of UBS's disclosures about how UBS ATS operated and its SEC filings.⁶⁵ As stated in the settlement, "UBS violated [the law] by failing to disclose PPP to all UBS ATS subscribers ... [and] by failing to provide all UBS ATS subscribers with notice of a feature that could prevent an order from executing in the ATS against orders from subscribers whose flow was designated as 'non-natural,' typically market makers and/or HFT firms."⁶⁶

Unlike the Pipeline settlement, however, the SEC settlement also included a substantive violation of Rule 612's prohibition against sub-penny orders, numerous books and records violations, and a violation of the fair access requirements (since UBS ATS had such significant trading volume that it triggered these requirements).⁶⁷

The SEC's treatment of the Rule 612 violation is particularly interesting. The settlement expressly:

- acknowledges that the purpose of Rule 612 was to "deter the practice of stepping ahead of exposed trading interest by an economically insignificant amount;"⁶⁸
- details how UBS designed and marketed order types to high frequency traders that plainly violate Rule 612's unambiguous prohibition against sub-penny quotes;
- explains that one of the abusive order types "facilitated the very result that Rule 612 was designed to prevent: it allowed one subscriber to gain execution priority over another in the order queue by offering to pay an economically insignificant sub-penny more per share;"⁶⁹ and
- acknowledges that by allowing for sub-penny orders, UBS gained a competitive advantage for executions over other ATSs and exchanges that complied with Rule 612.

⁶³ The very same week that the UBS settlement was announced, the SEC also settled an enforcement action against BATS Global Markets for failure to accurately disclose how custom-designed complex order types used on EDGA Exchange and EDGX Exchange (formerly owned by Direct Edge Holdings) worked. At the time, it was the single largest penalty against a securities exchange. Press Release, Sec. and Exch. Comm'n, SEC Charges Direct Edge Exchanges With Failing to Properly Describe Order Types, Jan. 12, 2015.

⁶⁴ Press Release, Sec. and Exch. Comm'n, SEC Charges UBS Subsidiary With Disclosure Violations and Other Regulatory Failures in Operating Dark Pool, Jan. 15, 2015.

⁶⁵ UBS Order at 2-4, 14-15.

⁶⁶ UBS Order at 3.

⁶⁷ UBS Order at 2-4, 14-15. The UBS settlement also included a violation for UBS's grant of access to customers' trading information to over 100 people (mostly IT personnel) who had no role in the operations or oversight of UBS ATS. UBS Order at 13.

⁶⁸ UBS Order at 4 (quoting Exch. Act Rel. No. 34-51808, at 219 (June 9, 2005)).

⁶⁹ UBS Order at 5.



UBS was—for several years—able to accept more orders, and very likely enjoyed far more executions, than it would have otherwise. In fact, this mechanism may have helped propel the UBS ATS and its algorithmic trading desks to the top of the industry.

However, despite this extensive discussion of UBS ATS's repeated Rule 612 violations, the settlement does not quantify the losses suffered by other trading venues as a result of its illegal acceptance of sub-penny orders. The settlement also fails to quantify the losses suffered by investors whose orders were exposed to "non-natural" participants in the dark pool. In fact, rather than any detailed analysis about UBS's gains, or the losses suffered by exchanges, ATSs or investors as a result of UBS's misconduct, the settlement simply lists a "disgorgement" amount of approximately \$2.24 million, interest of another \$235,000, and a penalty of \$12 million.⁷⁰

In accepting the 2015 settlement, UBS neither admitted nor denied the findings in the order, and no actions have yet been brought against any individuals at the firm.

REACTION FROM MARKET PARTICIPANTS

Market reaction to the UBS settlement was nearly non-existent. As can be seen in the chart below, UBS market share (the grey line) stayed constant until increasing significantly in April 2015 and briefly taking the top spot in the ATS rankings, as shown in Figure 4.

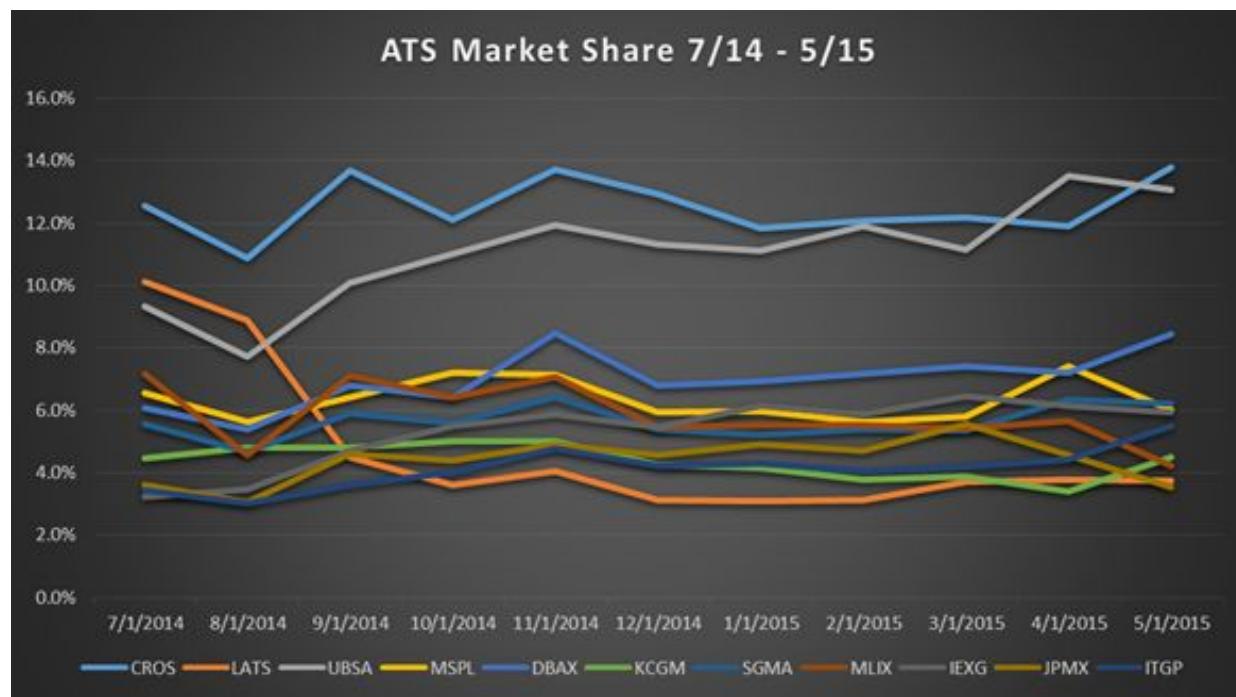


Figure 4: ATS Market Share since July 2014. FINRA ATS Data..

⁷⁰ UBS Order at 15.

Thus, although UBS paid the single largest penalty up to that date for dark pool abuses, and those abuses involved hidden mechanisms that secretly favored some traders over others, it appears to have had no appreciable impact on investors' or brokers' decisions to use the pool, in marked contrast to Barclays LX (LATS on the graph above).

ITG

Seven months after the UBS settlement, the SEC broke its dark pool settlement record yet again with ITG, one of the oldest dark pool operators in the US. For those who observed the details of the Pipeline case, ITG's conduct will be familiar. ITG operated a proprietary trading desk with privileged access to information about resting orders in its dark pool, and it used that desk to profit at its customers' expense.

BACKGROUND

ITG, Inc. and its affiliate, AlterNet Securities, Inc., (collectively, "ITG") are subsidiaries of Investment Technology Group, Inc., a New York-based, publicly traded company. ITG provides its customers with trading algorithms and smart order routers, which are used to route orders to numerous venues for execution, including to ITG's own dark pool, POSIT.⁷¹ ITG has operated POSIT since 1987, making it one of the oldest ATSs.⁷² POSIT's subscribers include asset managers, brokers, and institutional investors.⁷³

As of Q1 2015, POSIT was the ninth largest ATS in the US by trade volume.⁷⁴ ITG has historically operated and marketed itself—and has a reputation—as an independent "agency-only" brokerage firm.⁷⁵ In other words, ITG's primary business has been providing brokerage services, including POSIT access, to investors.⁷⁶

ITG has been considered by many market participants and regulators to be a "thought leader" in dark pool regulation. In recent years, ITG's executives have repeatedly testified before Congress and regulators on how trading venues should be regulated.⁷⁷ Most recently, the head of ITG's liquidity management spoke at the first meeting of the SEC's Equity Market Structure

⁷¹ ITG Order at 2.

⁷² ITG Order at 2.

⁷³ ITG Order at 4-5.

⁷⁴ ITG Order at 2.

⁷⁵ ITG Order at 4.

⁷⁶ Id.

⁷⁷ See, e.g., Computerized Trading Venues: What Should the Rules of the Road Be?, Before the Subcomm. On Securities, Insurance, and Investment of the Senate Comm. on Banking, Housing, and Urban Affairs, (2012) (Statement of Robert Gasser); Dark Pools, Flash Orders, High Frequency Trading, and Other Market Structure Issues, Before the Subcomm. On Securities, Insurance, and Investment of the Senate Comm. on Banking, Housing, and Urban Affairs, (2009) (Statement of Robert Gasser).

Advisory Committee⁷⁸—an Advisory Committee that includes ITG’s Chairman among its members.⁷⁹

Facts now show that nearly six years earlier, in late 2009, ITG executives had begun to explore ways to generate more revenue at the expense of their customers'.⁸⁰ Thereafter, at the recommendation of senior management, the Board approved ITG’s establishment of an undisclosed proprietary trading desk.⁸¹ According to the settlement, the desk was intended to be a small trial run. If the desk proved to be successful, then ITG would ostensibly expand its operations and, at that time, notify its customers, POSIT subscribers, and the SEC.⁸²

The firm tasked its head of liquidity management to run the desk. This officer already had “responsibility for all of ITG’s electronic brokerage products, including its entire suite of trading algorithms, its smart order routers, and for the POSIT dark pool.”⁸³ The team he assembled to work on the desk included technology employees with extensive experience developing and managing ITG’s order routing products.⁸⁴

According to the settlement, ITG executives were concerned that its reputation with its customers and POSIT subscribers would be damaged if they learned about this new desk.⁸⁵ So ITG never informed its customers, the SEC, or even its own sales force.⁸⁶

In April 2010, the desk, which was dubbed “Project Omega,” began operations for a two-week test period.⁸⁷ After a temporary halt to analyze the data and refine its strategies, the secret trading desk resumed trading in June.⁸⁸

The secret trading desk was designed to trade only against “sell-side” customers, a feature that no other subscriber to POSIT was able to enjoy.⁸⁹ ITG’s compliance department also articulated a number of restrictions for the desk, most notably that it:

- was not to have more than \$500,000 in positions at any given time;⁹⁰
- could “not have access to information regarding ITG (including POSIT) and/or AlterNet buy-side or sell-side customer order flow;”⁹¹ and

⁷⁸ Equity Market Structure Advisory Committee, Sec. and Exch. Comm’n, May 13, 2015, (Statement of Jamie Selway).

⁷⁹ For the past eight years, the Chairman of its Board has been a prominent Cornell University professor who wrote a leading book on market microstructure and also sits on the Board of Trustees for TIAA-CREF. See ITG, Inc., Board of Directors, available at <http://www.itg.com/about-itg/board-of-directors/>.

⁸⁰ ITG Order at 5.

⁸¹ Id.

⁸² ITG Order at 6.

⁸³ ITG Order at 5.

⁸⁴ ITG Order at 6.

⁸⁵ ITG Order at 6.

⁸⁶ Id.

⁸⁷ ITG Order at 7.

⁸⁸ Id.

⁸⁹ ITG Order at 10.

⁹⁰ ITG Order at 7.

⁹¹ Id.

- “may not coordinate trading strategies or share order flow and/or execution information” with other ITG employees.⁹²

Despite these restrictions from the Compliance Department, ITG’s secret trading desk had access to, and used, two distinct sets of confidential data feeds. The first feed contained real-time information regarding “sell-side” customer orders using eleven of ITG’s algorithmic trading programs.⁹³ This feed, which was not provided to any other POSIT subscribers, included: “(a) client identifier, (b) symbol, (c) side, (d) quantity of shares, (e) filled shares, (d) target price, (e) the ITG algorithm in which the order was located, and (f) time parameters.”⁹⁴

With this feed, ITG’s secret trading desk engaged in what a lay-person might think of as classic front-running trades—euphemistically referred to as the “Facilitation Strategy.”⁹⁵ The secret trading desk saw orders that were willing to “cross the spread,” engaged in trades at other market venues in the same directions as those orders, and then executed trades opposite ITG’s customers’ orders in POSIT—thus capturing the entire spread.⁹⁶ ITG’s secret desk ultimately traded ahead of, and then against, POSIT subscribers to the tune of 262 million shares.⁹⁷

ITG’s secret trading desk also used a feed that tapped into ITG’s order routing and execution management system to get real-time information about ITG’s “buy-side” and “sell-side” customers’ order routing and fills at POSIT and other market venues.⁹⁸ Seeing these executions enabled ITG to deduce when and where trades could happen at the midpoint of the spread.⁹⁹ ITG’s trading desk could then place orders in the displayed markets and offsetting orders in another venue that it inferred would execute at the midpoint of the spread. If both executed, the desk would capture half the spread.¹⁰⁰

The secret trading desk’s activities continued unabated until early December 2010. This was when ITG’s CEO learned that the trading desk had—in violation of the Compliance Department conditions—accessed and made use of ITG’s customer and POSIT’s subscriber information through the feeds. The desks’ trading was stopped.¹⁰¹ The head of the desk was reprimanded.¹⁰²

A few days later, the secret desk resumed trading—only this time without the two feeds.¹⁰³ Nevertheless, the secret desk still had access to information about ITG’s order routing systems

⁹² Id.

⁹³ ITG Order at 9.

⁹⁴ Id.

⁹⁵ Id. Interestingly, the settlement does not refer to these trades as “front-running.”

⁹⁶ ITG Order at 9-10.

⁹⁷ ITG Order at 13.

⁹⁸ ITG Order at 11.

⁹⁹ Id.

¹⁰⁰ ITG Order at 11.

¹⁰¹ ITG Order at 12.

¹⁰² Id.

¹⁰³ ITG Order at 13.

and algorithms, as well as access to some confidential customer and POSIT subscriber information.¹⁰⁴

Trading then continued until mid-July 2011, when ITG fired the desk head and dismantled the trading desk.¹⁰⁵ Over the course of its existence, ITG's secret trading desk traded 1.3 billion shares, and earned profits of approximately \$2.1 million.¹⁰⁶

ENFORCEMENT ACTION

On August 12, 2015, ITG, Inc. and its affiliate, AlterNet Securities, Inc., settled an enforcement action with the SEC over the operation of its dark pool. This action resulted in an \$18 million penalty, the largest ever paid by a dark pool, eclipsing the mark set just seven months prior by the UBS case.

The SEC fashioned ITG's creation of a secret trading desk and abuse of its customers as simply another case of "inadequate disclosures."

In announcing the ITG settlement, the SEC's Director of Enforcement explained that "ITG created a secret trading desk and misused highly confidential customer order and trading information for its own benefit."¹⁰⁷ Thus, for the first time, the SEC appears to have focused on the nature of the abuse in question, not just on a disclosure failure. Despite that lofty rhetoric, however, the charges ultimately leveled against ITG look eerily similar to those of its predecessor cases. The settlement order describes ITG's violations as follows:

- ITG Failed to Disclose Project Omega or its Proprietary Trading Activities;¹⁰⁸
- ITG Failed to Restrict Access to POSIT Subscriber Information;¹⁰⁹ and
- ITG Failed to Amend its Form ATS Filings.¹¹⁰

The SEC fashioned ITG's creation of a secret trading desk and abuse of its customers as simply another case of "inadequate disclosures." The settlement never discusses how ITG's customers and POSIT subscribers were harmed by ITG's misconduct. Nor does it make any attempt to qualitatively or quantitatively determine the extent of their injuries. Instead, the settlement

¹⁰⁴ Id.

¹⁰⁵ Id.

¹⁰⁶ Id.

¹⁰⁷ Press Release, Sec. and Exch. Comm'n, SEC Charges ITG With Operating Secret Trading Desk and Misusing Dark Pool Subscriber Trading Information, Aug. 12, 2015.

¹⁰⁸ ITG Order at 13-14.

¹⁰⁹ ITG Order at 14.

¹¹⁰ Id.

simply declares that ITG's secret trading desk made approximately \$2.1 million in profits and orders "disgorgement" of that amount plus interest and a civil penalty of \$18 million.¹¹¹

In sharp contrast to the Pipeline and UBS cases, ITG admitted to the facts in the settlement order and to violating federal securities laws.¹¹² To date, no actions have been brought against any individuals at the firm, although the SEC declared that the investigation is "continuing."¹¹³

REACTION FROM MARKET PARTICIPANTS

The reaction to the ITG settlement has been dramatic. ITG's parent, Investment Technology Group, Inc., has lost about 40% of its market capitalization since its July 2015 high.¹¹⁴

As for trading through ITG and on POSIT, the decline has also been dramatic. ITG averaged 157MM shares traded per week¹¹⁵ for the weeks of July 6th through July 27th, 2015. The news was first announced on July 29th, and the next week trading declined to less than 97MM shares.¹¹⁶ However, the full extent of the transgression was not known until the middle of the next week when the SEC order was released. That week—August 10, 2015—the total was 78MM shares¹¹⁷, a decline of over 50%. The week that followed yielded a total of 82M shares.¹¹⁸ As of now, the ongoing viability of ITG is in question.

Importantly, ITG provides numerous services to its customers, from order routing and management to data and analytics. Thus, while POSIT may at least temporarily suffer from significant lost trading volume, it is unclear to what extent market participants will search for other service providers. Further, because of ITG's nearly 30 years of operating POSIT and its historically favorable reputation, ITG may be able to convince market participants to continue to use its services. This effort may be aided by the fact that ITG:

- fired the head of the secret trading desk and shut it down over three years ago;
- fired its CEO and General Counsel; and
- still enjoys, for the moment, significant trading volumes that may compel brokers and other market participants to continue to connect to it as a potential source of liquidity.

A number of factors involved in this case raise significant questions about ITG's culture and the judgment of its executives and Board, particularly in light of the fact that the Board expressly authorized the creation of the secret trading desk and hid its existence from customers and

¹¹¹ ITG Order at 16.

¹¹² ITG Order at 1.

¹¹³ Press Release, Sec. and Exch. Comm'n, SEC Charges ITG With Operating Secret Trading Desk and Misusing Dark Pool Subscriber Trading Information, Aug. 12, 2015.

¹¹⁴ See [http://finance.yahoo.com/echarts?s=ITG+Interactive#{"range":"3mo","allowChartStacking":true}](http://finance.yahoo.com/echarts?s=ITG+Interactive#{) (reflecting a July 2015 high of 27.13 and close of 15.62 in August).

¹¹⁵ FINRA ATS Data, available at <http://ats.finra.org>.

¹¹⁶ Id.

¹¹⁷ Id.

¹¹⁸ Id.

regulators. The long-term ramifications of this settlement for ITG remain undetermined, and will likely be far-better understood by the end of 2015.¹¹⁹

OTHER REGULATORY ACTIONS - BARCLAYS AND CREDIT SUISSE

New York Attorney General (NYAG) Eric Schneiderman has expressed increasing interest in policing the capital markets, and delving more deeply into issues surrounding market structure and algorithmic trading in particular. The unique powers of the Martin Act provides his office with powerful tools with which to do so.¹²⁰ In June 2014, the NYAG filed his first major dark pool suit against Barclays PLC (Barclays). This marked the very first public regulatory action against a major dark pool. Barclays, which sells brokerage services, including trading algorithms and smart order routers, also runs a dark pool. At its core, the case involves allegations that, following a 2011 decision to dramatically expand its dark pool operations,

Barclays [made] a series of false statements to clients and the investing public about how, and for whose benefit, Barclays operates its dark pool. In short, contrary to Barclays' representations that it implemented special safeguards to protect clients from "aggressive," "predatory," or "toxic" high frequency traders, Barclays has operated its dark pool to favor high frequency traders. Barclays has actively sought to attract such traders to its dark pool, and it has given them advantages over others trading in the pool.

¹²¹

Barclays is also alleged to have its order routing algorithms consistently favor its own dark pool, where it knew that the orders were exposed to the same "aggressive or predatory high-frequency traders" that it was purportedly protecting investors from.¹²²

In July 2014, UBS AG, Deutsche Bank AG, and Credit Suisse AG (Credit Suisse) all announced that they were being investigated by US regulators regarding the operations of their dark pools.

¹²³ To date, only the UBS case has been publicly resolved, leading many to speculate about the status of the other two cases. Then, on August 11, 2015, it was reported that both Barclays and

¹¹⁹ Ryan Hoerger, Sam Mamudi, and Matt Robinson, *ITG Faces Fight for Reputation Amid Fallout From Dark-Pool Probe*, Bloomberg, (Aug. 5, 2012).

¹²⁰ N.Y. Gen. Bus. Law Article 23-A. The Martin Act, which was first adopted in 1921, vests the Attorney General for the State of New York "broad law-enforcement powers to conduct investigations of suspected fraud in the offer, sale or purchase of securities." New York State Attorney General, available at <http://www.ag.ny.gov/bureau/investor-protection-bureau>. In particular, the Martin Act allows for State to bring actions without the burdens of establishing intent, reliance, or customer damages. For a brief primer on the Martin Act, please see Enforcement Proceedings Under New York's Martin Act. Harold Gordon, Practical Law Journal, (2015), available at http://www.jonesday.com/files/Publication/cc6cfc9e-1517-4707-958d-8ea80d2042c2/Presentation/PublicationAttachment/9be275fc-e882-499c-9045-9a429519ab82/FebMar15 %20NYSupplement_MartinActFeature.pdf.

¹²¹ Complaint at 2-3, People of the State of New York v. Barclays Capital, Inc. and Barclays PLC, (Jun. 24, 2015). The NYAG later expanded his complaint to include allegations that Barclays had lied in its court filings and that it had failed to make two of its senior trading executives available in response to a subpoena. William Alden, *New York Attorney General Adds to Lawsuit Over Barclays Dark Pool*, N.Y. Times, (Jan 21, 2015).

¹²² Complaint at 3, People of the State of New York v. Barclays Capital, Inc. and Barclays PLC, (Jun. 24, 2015) (noting that Barclays's claims that its routers were unbiased in their venue selection).

¹²³ Neil MacLucas, *Credit Suisse Dragged Into Dark-Pools Trading Probe*, Wall St. Journal, (Jul. 31, 2014).



Credit Suisse were in advanced discussions with the New York Attorney General and the SEC to settle claims arising from their respective dark pools.¹²⁴ These settlements were reported to be even larger than the last, with the settlement against Credit Suisse expected to be in the high “tens of millions.”¹²⁵

WHAT INVESTORS SHOULD LEARN FROM THESE CASES

From October 2011 through August 31, 2015, the SEC, Financial Industry Regulatory Authority (FINRA), and NYAG collectively brought actions against a half dozen dark pools, with more actions likely on the way. Several lessons have emerged from these cases:

ANY VENUE MAY ENGAGE IN MISCONDUCT

The dark pools that have already settled legal actions include some of the oldest, most well-respected, and largest dark pools in the country. Contrary to the wishful thinking of many in 2011, we now know that misconduct in dark pools has not been confined to a few fringe actors. Some of the most-prominent individuals in the industry have been involved. Dark pools that have been subject to regulatory actions have been overseen by a former President of Nasdaq Stock Market, a leading academic and fund board member, and longtime industry veterans.

If reportedly imminent actions are taken into account, then between November 2014 and August 2015, over 79 billion shares traded on dark pools that were violating the law.

Some of the dark pools involved are also the biggest. If reportedly imminent actions are taken into account, then between November 2014 and August 2015, over 79 billion shares¹²⁶ traded on dark pools that were violating the law. This represents 43% of all ATS trading over that time period.¹²⁷

¹²⁴ Bradley Hope, Emily Glazer, and Christopher M. Mathews, *Credit Suisse, Barclays in Talks to Settle ‘Dark Pool’ Allegations*, Wall St. Journal, (Aug. 11, 2015).

¹²⁵ Id.

¹²⁶ FINRA ATS Data, available at <http://ats.finra.org>.

¹²⁷ Id..



MISCONDUCT MAY REMAIN UNDETECTED AND CONTINUE FOR YEARS

Misconduct within a dark pool may continue for years without detection. In the Pipeline case, the misconduct continued from 2004 until after a whistleblower finally alerted the SEC more than 5 years later. The proprietary trading desk was part of Pipeline's plan for how its venue would execute orders from the start. Yet, neither the SEC nor any other regulator detected the scheme during the course of its operations, even after the trading desk changed its strategy in order to more directly take advantage of its customers' orders.

Similarly, UBS's misconduct started with its dark pool in 2008 and continued for years. Again, even as the SEC reviewed its regulatory filings and ATS operations, it failed to detect UBS's blatant violations of Rule 612 despite the passage of several years. Nor was the SEC aware of the fact that over 100 UBS employees had access to UBS ATS's order book for no apparent reason.

Given how long the dark pools' misconduct in these cases persisted, we must conclude that the information available to customers, the public, and regulators is insufficient to detect wrongdoing.

EVEN WHEN UNCOVERED IT CAN TAKE YEARS TO LEARN OF MISCONDUCT

In each of these actions brought to date, regulators first learned of the conduct years before it was disclosed to market participants and the public. In UBS, for example, an SEC examination team expressed concerns with one of its order types that allowed for sub-penny orders in early 2011, and yet the details were not made public until early 2015—leaving market participants in the dark about wrongdoing by one of the country's critical trading venues. Similarly, for Credit Suisse and Deutsche Bank, regulatory investigations were disclosed over a year ago, but investors and brokers know next-to-nothing about any of the substantive concerns with those venues. Thus, even if regulators are able to identify misconduct, it is unclear when investors and other market participants may learn about it.

MISCONDUCT MAY PROFOUNDLY IMPACT MARKET PARTICIPANTS

The breadth of misconduct uncovered to date has ranged from violations of books and records to using customers' confidential trading information against them. ATS's have an obligation to protect their customers' information. But how can an investor or broker know whether its information is, in fact, being protected? To reiterate, UBS allowed over 100 of its employees to gain access to customer information for no apparent reason.



The ability of investors or brokers to identify misconduct or quantify damage inflicted upon them is extremely limited without comprehensive data.

In Pipeline and ITG, proprietary trading desks took the other side of their customers' orders. Pipeline and ITG operated trading desks that, at times, acted as the very predators who investors were seeking to avoid by going into the dark pool in the first place. Even worse, at times, these desks would front-run their customers' orders at other trading venues and then flip the positions back to their customers—capturing illicit profits at the expense of those customers. The ability of investors or brokers to identify misconduct or quantify damage inflicted upon them is extremely limited without comprehensive data.

REGULATORS ARE FOCUSED ON DISCLOSURE - NOT SUBSTANTIVE PROTECTION

The dark pool cases to date demonstrate that regulators (and the SEC in particular) are focused on treating dark pool abuses as predicated largely on inadequate disclosures, filing violations, and books and records violations, rather than on unfair practices. Their approach suggests that if a firm disclosed that it had an algorithmic trading desk in its own dark pool, then the SEC might not bring a case.

For example, in the Pipeline case, the settlement expressly acknowledged that “[s]ome operators of ATSs own proprietary trading desks that trade securities on their ATSs with the operators' own money.”¹²⁸ At the same time, the settlement documents detail that “Pipeline's senior management recognized that there could be 'a direct conflict of interest' between the Affiliate and a customer whose order it was seeking to fill. In any given trade, the better the price the customer received, the worse the price the Affiliate received, and vice versa.”¹²⁹

But while the SEC seems to appreciate the conflict of interest, it also appears to give credit to Pipeline for establishing a compensation system that included not just the trading profitability of its trading desk, but also its customers' execution quality. Yet the SEC found those efforts to be inadequate. Thus, while there was a clear conflict of interest—Pipeline's customers were on the losing end of a zero-sum game—the SEC didn't bring any action for violations relating thereto. Instead, the action was classified as a failure to disclose the extent of the role the trading desk played in the executions.

¹²⁸ Pipeline Order at 10.

¹²⁹ Pipeline Order at 11.



The settlement says that the trading desk averaged 80% of the dark pool's executions, and at some points accounted for as much as 97.5%. Still, one could easily read the settlement as suggesting that if Pipeline had added a one-sentence disclosure to its agreement indicating that its trading desk "played a significant role in providing liquidity to the dark pool," then there might not have been any case at all.

An operator of a dark pool that also operates a trading desk in the dark pool has an inherent conflict of interest: it has an incentive to trade against its customers for a profit.

An operator of a dark pool that also operates a trading desk in the dark pool has an inherent conflict of interest: it has an incentive to trade against its customers for a profit. It is difficult to see how that conflict is cured simply by the vague disclosure of its existence. This conflict of interest may be exacerbated when an operator of a dark pool also operates order routing algorithms, which may exhibit bias towards the affiliated dark pool, to the detriment of a customer. Unfortunately, while observing this conflict of interest, the enforcement actions to date have not substantively addressed it.

REGULATORS ARE CATCHING UP

Regulators seem to be ratcheting up the financial penalties imposed upon violators, even as actions against individuals have been rare. Since the beginning of this year alone, regulators have settled two landmark dark pool cases and another landmark case against an exchange for abusive order types. Regulators are reportedly in talks to settle at least two more significant cases in the near future.

One of the significant challenges regulators face, however, is a lack of critical data, technological resources, and analytical capabilities. As discussed below, despite being proposed over five years ago, the Consolidated Audit Trail is not yet being built, and the SEC's Market Information Data Analytics System (MIDAS) has numerous significant data gaps. Additionally, the SEC currently lacks sufficient analytical resources with which to make use of comprehensive data, if collected.¹³⁰

¹³⁰ We note that, pursuant to the Dodd-Frank Wall Street Reform and Consumer Protection Act created a "Securities and Exchange Commission Reserve Fund" that was intended to be spent on the Commission's priorities, including upgrades to the Commission's technology systems and resources. For FY 2012-2014, the SEC spent some of these unappropriated funds on various information technology (IT) projects, although it is unclear to what extent these resources have enhanced, if at all, the capabilities of the SEC to monitor trading and detect abuses. For more information on the SEC's use of the Reserve Fund for IT projects, please see the SEC Inspector General's July 6, 2015 management letter. Letter from Carl W. Hoeker, Inspector General of the Sec. and Exch. Comm'n, to Mary Jo White,

We expect these cases to give rise to significantly greater examinations of dark pool operations and disclosures going forward, as well as the exploration of a number of market structure reforms. These reforms may include revisions to required ATS disclosures, Rules 605 and 606, best execution standards, and potentially even conflicts of interest prohibitions.

PATH FORWARD FOR INVESTORS

The path forward for investors should be viewed in two stages: immediate concerns and longer-term concerns. In the immediate term, investors need to consider whether they should continue trading with dark pools that have been involved in regulatory actions, as well as other dark pools, and under what circumstances. Over the longer term, investors need to focus on how they can reform the markets and regulatory regime to better protect themselves.

CAN I CONTINUE TRADING IN THIS DARK POOL?

The breadth and depth of regulatory enforcement actions has directly called into question the integrity of several key dark pools. As news of each new dark pool investigation hits the press, many institutional investors have begun to look back at their trading data to see if they can decipher whether and to what extent they have been harmed by the wrongdoing. There are two important reasons for doing this: (1) determining whether they were harmed (and should seek damages from the dark pool), and (2) deciding whether to continue to use the dark pool.

Investors should question the efficacy of the data and analyses being used to evaluate “best execution” if they failed to detect execution quality issues at the venues that clearly disadvantaged them.

A retrospective review of trading at a venue that has been punished for wrongdoing is an essential exercise. But the results are unlikely to provide much guidance for an investor. After all, institutional investors already have “best execution” committees and most of them hire third parties to routinely analyze trading data and advise on order routing decisions. Investors should question the efficacy of the data and analyses being used to evaluate “best execution” if they failed to detect execution quality issues at the venues that clearly disadvantaged them.

Chair of the Sec. and Exch. Comm'n and Jeffery Heslop, Chief Oper. Officer of the Sec. and Exch. Comm'n, Jul. 6, 2015, available at <https://www.sec.gov/oig/reportspubs/evaluation-of-sec-use-of-reserve-fund.pdf>.

Some firms have even hired their own quantitative trading experts to help them analyze their trading patterns and execution quality.¹³¹ In most cases, despite all of the resources and attention, the wrongdoing at these dark pools went undetected.

Detailed trading analyses are important, but they are also subject to the quality and breadth of information provided, as well as to the technical expertise, biases, and analytical capabilities of providers.

One reason is that most investors lack comprehensive market data against which to compare their trading.¹³² In recent months, some firms have sought to quickly fill this need through enhanced analyses by comparing their customers' information against public market information about executions. Detailed trading analyses are important, but they are also subject to the quality and breadth of information provided, as well as to the technical expertise, biases, and analytical capabilities of providers.

These analyses will also take time to complete, and once completed, will likely provide little illumination. Of course, if a venue is shown to perform extremely poorly, then an investor or broker should immediately suspend trading at that venue, and route elsewhere. But if the analysis was already clear-cut enough to make this determination, we suspect that such poor performance would have already been identified and order flow to that venue curtailed.

Thus, an investor or broker should supplement this retrospective data analysis with a review of other factors that should inform its routing decisions. These factors should include the investor's or broker's:

- general history with the dark pool;
- knowledge of the dark pool's execution practices, including whether the dark pool is affiliated with a firm that also engages in proprietary trading;

¹³¹ See, e.g., Sam Mamudi, *Invesco's Cronin Has SEC Playing Catch-Up on Safe Trading*, Bloomberg, (Feb. 26, 2015).

¹³² The long-awaited Consolidated Audit Trail would ostensibly give regulators a powerful new tool to help police the markets. However, the current proposal is to not have the information be made public, out of concerns for protecting proprietary trading by market participants. Unfortunately, by failing to disclose the data, the SEC would essentially eviscerate the single best use of the data, which would be to aid market participants in their analysis of the markets and their own trading performance. It is also years away from existence. In the meantime, the SEC's Market Information and Data Analytics System (MIDAS) appears to be little more than a consolidation of the proprietary data feeds from various market venues, akin to the standard information available to any high-frequency trading firm. This makes sense, as the specifications for it were prepared in consultation with high frequency trading firms, and it was ultimately built for the SEC by one such firm. Here, too, the data is not public, again depriving investors of the ability to use it in their statistical analyses. For more information on MIDAS, see <http://www.sec.gov/marketstructure/midas.html>.

- relationship to the dark pool, including whether it has a controlling or other ownership interest; and
- knowledge of the dark pool's other subscribers.

If an investor has a longstanding relationship with a dark pool, and its experience has been favorable, then the investor should factor this history into its forward-looking order routing practices. At the same time, an investor or broker routing an order to a dark pool needs to know how it works:

- Is it exclusively buy-side firms, or are other firms allowed into the pool?
- What are the characteristics of other firms?
- What are the minimum execution sizes?
- What do the distribution of order and trade sizes look like?
- How are orders matched? For example, if orders are matched at the midpoint, is that the midpoint of the National Best Bid and Offer or is it at the midpoint of the spread based on proprietary data feeds?
- Does the dark pool operator have a proprietary trading desk? If so, does that desk have access to the pool or any data about subscribers that is not shared with all other subscribers?
- Is the dark pool affiliated with the firm that may be routing investor orders?
- What is the process used by their order router to select this dark pool as opposed to any other execution venue?

These questions, and the others contained in the [Healthy Markets ATS Questionnaire](#), should help an investor understand the quality of the executions received, as well as the risks and conflicts of interest facing the dark pool operator.

Without knowing the answers to these basic questions, investors should be very reluctant to reward a dark pool with their orders.¹³³ In addition, the substance of the answers to these questions is equally important. For example, we are skeptical about utilizing order routing services that consistently result in orders being routed to any particular venue, and would be extremely skeptical of any routing product that consistently routes to a broker's affiliated dark pool. The conflicts of interest with any proprietary trading desk in a dark pool are profound. Affiliated trading desks may increase fill rates, as they did with Pipeline and ITG, but they may also be used to profit at the expense of the dark pools' subscribers. We are deeply skeptical of any dark pool that maintains a trading desk or allows an affiliate to trade in the pool.

Even if an investor wants to route away from a particular dark pool, doing so may not be easy. Brokers' order routing systems will need to be reconfigured and programmed, and verifying that brokers honored these requests requires diligence and careful analysis.

¹³³ It is worth noting that complete and accurate responses to the [Healthy Markets ATS Questionnaire](#) would fill in these gaps.



Even worse, investors and brokers may feel compelled – as a legal matter – to continue to access any significant pools of liquidity. Investors and brokers are required to scour potential sources of liquidity and utilize those that are most likely to help them achieve high quality executions. When a dark pool is a significant source of liquidity, such as UBS ATS, then investors and brokers may thus feel compelled to continue utilizing it. And if each investor and broker feels that way, then each will continue to send orders to the venue. Consequently, other investors may feel similarly compelled to do the same, the net result of which is continued order and execution volumes. This essentially amounts to a perverse reward for any “too big to fail” pool of liquidity.

An investor may also want to continue to use a broker that has generally performed well for it in the past, even if that broker has an affiliated dark pool that causes the investor concerns. These relationships may be in equities trading, or they may not. For example, an investor may not want to damage a relationship with a broker that provides it with a wide array of services, from research, to fixed income trading, to derivatives trading around the world. The investor may feel compelled to continue using that broker, even if it comes with the “price” of continuing to route to the broker’s affiliated dark pool.

Investors and brokers should not feel compelled to continue to route orders to venues they do not trust.

These two phenomena are significantly more likely to impact investors’ and brokers’ behaviors with larger dark pools, and with those that are affiliated with firms that provide other services. Collectively, we believe that these phenomena may also explain the relatively tepid reaction of investors to UBS’s settlement. It is also for that reason that we believe that the impact on Credit Suisse’s settlement—despite its reported size—may be tepid. Again, this is in sharp contrast to the way investors reacted to enforcement actions against Pipeline and ITG.

Investors and brokers should not feel compelled to continue to route orders to venues they do not trust. At the same time, if they know how a dark pool works, and if this pool has performed well for them in the past, and if they trust its leadership going forward, investors and brokers do have a right to feel comfortable continuing to utilize this dark pool. This requires both investors and brokers to conduct due diligence to ensure that all of the above-mentioned conditions are met and documented, and to verify claims made by ATS operators, likely through some third-party auditing.

HOW CAN I BETTER PROTECT MYSELF?

At the same time that firms are making judgments concerning how they can trade and with whom, they should also be thinking about how they can create a safer trading environment over the long term. Investors and regulators, working together, should (i) demand enhanced disclosures about order routing and executions; (ii) update expectations regarding dark pools' conflicts of interest; (iii) update and modernize best execution expectations; and (iv) promote alternative trading venues.

STRENGTHEN DARK POOLS' DISCLOSURES

Investors need to know how their orders are handled and executed. Smart order routers and dark pools cannot simply be "black boxes," whose operations and conflicts of interest are unknown.

An increasingly common technique for investors to learn about their dark pools' operations is to send dark pool operators surveys. In recent years, the proliferation of these largely overlapping but conceptually distinct surveys has provided investors with some additional information. Unfortunately, many of these voluntary surveys still have substantive gaps, while others are simply not completed by their recipients.¹³⁴

We recommend that investors work with dark pool operators to develop a standardized industry survey, which can be used to inform disclosure "best practices."¹³⁵ Investors and brokers should demand completion of this survey on at least a quarterly basis. By standardizing the survey, investors will both streamline the process for ATSs and improve the comparability of results across market venues. We firmly believe this should form the basis for public disclosures, and that this will help ensure consistency between public and private disclosures.

Investors should aggressively leverage their order flow – individually and collectively – to obtain critical information about the handling and execution of their orders.

In addition to basic transparency reforms, we expect market participants to start demanding better data regarding the quality of trade executions. Investors should be engaging in significant statistical analyses of execution quality across asset types, order sizes, and other characteristics

¹³⁴ It is unclear whether or to what extent particular dark pools that have been subject to regulatory action responded to customers' surveys in the past, or whether information provided in response to such surveys was complete and accurate.

¹³⁵ The Healthy Markets Association and KOR Group [ATS Questionnaire](#), which is used to determine scores on our proprietary ATS Transparency Index™, could serve this purpose. This survey is freely available to institutional investors.

across multiple venues.¹³⁶ Investors should be willing to route orders away from venues that fail to provide basic information about their order handling and execution practices. And as we discussed below, investors may be obligated to do so. Investors should aggressively leverage their order flow – individually and collectively – to obtain critical information about the handling and execution of their orders.

Development of “best practices” is essential. Though regulators may find themselves playing catch-up in their rulemakings, the final rules quite often seek to codify current best practices. An excellent example of regulation adopted from best practices is the recent move by FINRA to begin publishing ATS statistics.¹³⁷ Initially driven by firms seeking a better understanding of trading volumes, several industry analysts began publishing volume statistics. When certain firms discontinued publishing statistics,¹³⁸ FINRA then required regularly published ATS statistics.¹³⁹ These statistics are now freely available.¹³⁹ The FINRA ATS statistics have been immensely beneficial as firms work to better understand dark pool volume levels on a per-symbol basis, and have helped guide order routing decisions. It took the industry’s push for best practices to spur FINRA’s adoption of these disclosures.

Market-driven reforms are likely to be sporadic and insufficient to fully and adequately inform and protect investors. Efforts to implement best practices should be supplemented by thoughtful regulatory protections from the SEC, FINRA, and state regulators. The SEC has indicated that it is looking to propose significant reforms to ATS registration and disclosures this year, and the SEC Chair publicly called for order routing reforms in June 2014. Similarly, the NYAG could establish de facto “best practices” and industry standards through the settlement process, as was most-famously done with the global research analyst settlement of 2003.¹⁴⁰

Aside from information about dark pool operations, investors also need more and better data about order routing and executions. Investors should be able to quantitatively test the quality of the services available to them. While private industry efforts are currently pushing data availability forward, there have not been any organized, concerted efforts to establish data standards, impose clock synchronization standards, or require brokers to make critical data available to investors.

Regulators are even further behind. At a bare minimum, investors should work with regulators to modernize Rules 605 and 606 to reflect the modern capital markets where orders are now placed, evaluated, and executed or cancelled within milliseconds. The SEC’s internal order data

¹³⁶ A number of firms provide these services for investors and brokers, such as KOR Group and Markit.

¹³⁷ See FINRA Rule 4552.

¹³⁸ See Matthew Philips, *Credit Suisse is Making Dark Pools Even Darker*, Bloomberg, (Apr. 22, 2013).

¹³⁹ FINRA ATS Data, available at <http://ats.finra.org>.

¹⁴⁰ See Joint Press Release, Sec. and Exch. Comm’n, NYAG, North American Sec. Admin. Assoc., NASD, NYSE, Ten of Nation’s Top Investment Firms Settle Enforcement Actions Involving Conflicts of Interest Between Research and Investment Banking, Apr. 28, 2003.

system, MIDAS, also needs an upgrade. In the absence of the Consolidated Audit Trail,¹⁴¹ MIDAS data needs to be expanded to cover hidden orders on lit exchanges, resting orders and IOIs on dark pools, un-filled IOCs and exotic orders as well as other asset classes, such as Futures.¹⁴²

The purpose of an audit trail is to know what happened and when. Clock synchronization is absolutely critical to a proper understanding and interpretation of order audit trails. We believe that investors and regulators should dramatically upgrade demands for synchronized clocks across all Exchanges and ATSs.¹⁴³

The SEC is reportedly working on proposals to reform Rules 605 and 606, as well as the ATS reporting requirements. Unfortunately, to date, regulators have not proposed any substantive reforms, and there is reason to believe that any regulatory reforms that are eventually proposed will take years to implement.

AVOID AND MITIGATE DARK POOLS' CONFLICTS OF INTEREST

Broker-dealers who route orders, operate an ATS and have a proprietary trading desk are fulfilling the holy trinity of conflicts of interest. Their order routing operation is incentivized to route orders to the ATS to reduce fees, and as volume increases in both the ATS and order routing operations, it becomes mutually beneficial (regardless of the quality of those executions to long-term investors). Their proprietary trading operation stands at odds with both of these "agency" responsibilities, and can lead to practices such as co-location / cross-connects into the ATS, and adoption of slower technology within the ATS that can increase profits for some aggressive high-speed traders at the expense of long-term investors. Investors should know about any ATS features that could be used by proprietary trading systems or that may only be available to the broker's order routing systems. Our [ATS Questionnaire](#) includes a section specifically designed to allow non-independent ATSs to disclose such operations. However, we are extremely skeptical that these conflicts of interest may be cured by mere disclosure.

Broker-dealers who route orders, operate an ATS and have a proprietary trading desk are fulfilling the holy trinity of conflicts of interest.

¹⁴¹ Describing the tortured history of the Consolidated Audit Trail would take far more pages than we have for this Report. Proposed in 2010, the project appears to be nowhere close to helping investors or regulators. SEC-imposed deadlines have been blown. Nothing is built. And the specifications of what is to be built appear to be so materially deficient that it is unclear what utility it will provide to investors or regulators if it ever comes into existence.

¹⁴² See Letter from Chris Nagy and Dave Lauer, Healthy Markets Association and KOR Group, to Steven Luparello, Sec. and Exch. Comm'n, Sept. 22, 2014, available at

<http://www.healthymarkets.org/sec-comment-accelerating-data-driven-regulation/>.

¹⁴³ We believe that the minimum standard necessary to allow for ready interpretations and analysis would be 10 microseconds. For more on our views of clock synchronization, please see our comment letter. Letter from Chris Nagy and Dave Lauer, Healthy Markets and KOR Group, to Marcia E. Asquith, FINRA, Feb. 20, 2015, available at <http://www.healthymarkets.org/sec-comment-finra-clock-synchronization/>.

UPDATE POLICIES, PROCEDURES AND PRACTICES REGARDING BEST EXECUTION

“Best execution” obligations and fiduciary duties collectively form the bedrock of our trading markets by creating a baseline defense for investors. Yet they are not defined by federal securities laws. They are instead largely defined through case law and regulatory interpretations. At its simplest, the fiduciary duty can be thought of as an obligation to put the best interests of the customer first.¹⁴⁴ Investment advisers have fiduciary duties to their customers, and this extends to the advisers’ selection of brokers to whom they provide orders.¹⁴⁵

At the same time, their brokers have a duty to seek “best execution.” Price is usually thought of as the most important factor. That said, as a practical matter, “best execution is not necessarily the most favorable price point or lowest commission cost, but whether the transaction represents the best quantitative and qualitative execution for the client account.”¹⁴⁶

A broker’s best execution obligation does not require the broker to achieve best execution. It simply requires the broker to seek it. Thus, fulfillment of a broker’s duty is one of process, not necessarily results. FINRA requires brokers to “use reasonable diligence to ascertain the best market for the subject security and buy or sell in such market so that the resultant price to the customer is as favorable as possible under prevailing market condition.”¹⁴⁷ Similarly, the SEC has declared that brokers “must consider … the opportunity to get a better price than what is currently quoted, the speed of execution, and the likelihood that the trade will be executed.”¹⁴⁸

To help tie the required process to the intended results, brokers are further obligated to perform regular and rigorous reviews of execution quality to ensure they are receiving the best terms available. Investment advisers, as fiduciaries, also review their execution quality statistics to make sure they are using the right brokers. This has resulted in the creation of “Best

¹⁴⁴ We recognize the oversimplification of the exceedingly complex analyses regarding fiduciary duties, as well as the ongoing discussions and rulemakings related to “fiduciary duties.” We do not wish to engage in that discussion here.

¹⁴⁵ Over the past decade, the SEC has thus brought enforcement cases against investment advisers for violating this duty in their broker-selection process. See, e.g., In the Matter of A.R. Schmeidler & Co., Inc., Inv. Adv. Act Rel. No. 3637 (Jul 31, 2013).

¹⁴⁶ RBC Global Asset Management, Best Execution: Defining Best Execution in an Increasingly Complex Trading Environment, 2 (Fall 2010), available at

https://us.rbcgam.com/resources/docs/pdf/whitepapers/equity%20trading%20paper_best%20execution.pdf.

¹⁴⁷ FINRA Rule 5310. The rule further articulates that “[a]mong the factors that will be considered in determining whether a member has used “reasonable diligence” are:

- A. the character of the market for the security (e.g., price, volatility, relative liquidity, and pressure on available communications);
- B. the size and type of transaction;
- C. the number of markets checked;
- D. accessibility of the quotation; and
- E. the terms and conditions of the order which result in the transaction, as communicated to the member and persons associated with the member.” FINRA Rule 5310.

¹⁴⁸ See Sec. and Exch. Comm’n, Fast Answers: Best Execution, available at <http://www.sec.gov/answers/bestex.htm>.

Execution” Committees on fund boards, as well as a raft of consultants providing so-called “best execution” analysis.

Investors need to know how their orders are handled, routed, and executed.

In light of the cases outlined by this report, as well as other high-profile media reports calling into question the integrity of our capital markets, we expect enforcement and reform efforts to expand. Fund board members and best execution committees are already asking questions about what their funds’ traders are doing to protect them from abuses. How can a trader argue that he is fulfilling his best execution obligations when he doesn’t know how his orders are handled, or even how they are executed?

Thus, to satisfy such questions, we believe that investors’ obligations to review their brokers’ performance extends to the choice of execution venues. Investors need to know how their orders are handled, routed, and executed. With this level of scrutiny, we expect that traders may feel compelled to route orders away from venues that are without certain basic degrees of transparency or are lacking quantitatively measured execution quality. The SEC may, of course, accelerate this process through potential revisions to its rules or additional guidance, but while SEC action in this area has been rumored for years, no actions have been proposed or taken to date.

PROMOTE AND REWARD TRANSPARENT AND LESS-CONFLICTED VENUES

Investors and other market participants should seek to create, promote, and reward trading venues that have fewer conflicts of interest, and provide them with transparent operations and high-quality executions.

From an investor’s perspective, a dark pool, as with an exchange, is essentially performing a utility-like function. The greater the profit motive for the dark pool or its operators, the stronger the incentive for the dark pool to accept or encourage practices, or engage in behaviors that may drive up the venue’s profits at the expense of investors who trade there.

Numerous dark pools – including all of the ones subject to regulatory actions – purportedly operate to provide safer trading for investors. That said, some dark pools that are not directly affiliated with a particular brokerage firm, such as Liquidnet and BIDS, may present investors

with fewer conflicts of interest. In addition, a number of new investor-focused venues have been proposed or are starting operations, such as IEX, Luminex, and Plato.¹⁴⁹

IEX, which was funded by firms seeking to build a trading venue with protections in place for long-term investors, just surpassed 1% of daily trading volume, and is currently in the process of becoming an exchange. Luminex was founded by institutional investors to develop a block trading venue in which only natural investors can interact with each other. Plato is a non-profit organization in Europe founded by the brokerage community and investors to develop a trading venue without the traditional profit incentives, and in which profits are funneled into a research institute.

Each of these venues is at a different stage in its development, and each is intended to serve a different role in the markets. All are relatively new, and whether or not they will succeed remains to be seen. That said, whether these venues or others, investors should support trading venues that present them with greater transparency about their operations and fewer conflicts of interest.

CONCLUSION

Dark pools play an important role in our markets. Unfortunately, recent regulatory actions against dark pool operators have demonstrated that investors are justified in their longstanding fears over dark pools' lack of transparency. Investors and their brokers must revise their own practices and expectations to better protect themselves from dark pool abuses. By demanding more transparency and lesser conflicts of interest, investors and their brokers may help ensure dark pools continue to play a constructive role in US capital markets in the years to come.

¹⁴⁹ Each of these venues faces significant hurdles to its success. Most importantly, for each new dark pool, the operator will need to carefully determine whether and how to make executions happen with enough volume to add value for its subscribers, while also not diluting the quality of executions, or worse, driving up overall trading costs for investors. The benefits of a captive trading desk to a dark pool, particularly through increased fill rates, may be productive, but the conflicts of interest it creates may also be extreme. One way to mitigate the impact of this conflict might be through a mutually-owned model, or some other structure where the profits and losses to the venue accrue directly to its subscribers in proportion to their trading volumes on that venue.