BETTER MARKETS

– FACT SHEET –

Payment for Order Flow: How Wall Street Costs Main Street Investors Billions of Dollars through Kickbacks and Preferential Routing of Customer Orders

February 16, 2021

The frenzied trading in GameStop and other so-called "Reddit Rebellion" equities has brought attention to longstanding equity market structure issues. In particular, retail broker-dealer Robinhood Markets Inc.'s ("Robinhood") order routing practices have—again—come under regulatory and public scrutiny. In 2020, Robinhood reportedly received $687 million dollars in so-called "rebates" for essentially selling its customer orders to six high frequency trading ("HFT") firms that serve as its executing broker-dealers (*i.e.,* the HFTs that execute or facilitate execution of Robinhood's customer orders).[1] These rebates, called "payment-for-order-flow" ("PFOF"), are used by nearly all of the "commission-free" retail broker-dealers (*e.g.,* Robinhood, E-Trade, Schwab/TD Ameritrade) who receive orders from Main Street investors. PFOF across all retail broker-dealers in 2020 was reportedly $2.6 billion.

Of course, the HFTs were willing to rebate $2.6 billion to retail broker-dealers because the execution of retail customer orders generated net trading profits of more than the rebated amount. Thus, the rational and most pertinent question is not whether the HFTs make money from Robinhood and similar retail broker-dealers' order flow—they do!—but whether retail customers end up worse off in a material number of securities transactions routed to the HFTs because of the PFOF. Despite often inaccurate or incomplete HFT-industry claims to the contrary, the answer to this question is "yes."

There are nuances and complexities beyond the scope of this brief fact sheet, but the essential facts about PFOF are as follows:

- **Conflicts of Interest:** First, PFOF creates conflicts of interest between (1) a retail broker-dealer's duty to seek the "best execution" available for customer orders and (2) its duty to maximize its own profits for shareholders and/or owners through PFOF revenues generated by preferentially routing transactions to select HFTs. The regulatory standards governing "best execution" are multi-factor, malleable, and difficult for regulators to monitor, much less enforce, making them an inadequate mitigant for these conflicts of interest.

- **Harm to Investors:** Second, these conflicts, in practice, have been found to affect order routing decisions and harm Main Street investors. This is evidenced, for example, by a recent Securities and Exchange Commission ("SEC") enforcement action finding that Robinhood executives internally reviewed the firm's order routing practices, determined that limiting order routing to the PFOF executing dealers was harming its customers, and yet, continued to preferentially route orders.[2] Robinhood paid a $65 million civil monetary

---

[1] According to Robinhood's securities filings (*e.g.,* Held NMS Stocks and Options Order Routing Public Report), these six HFTs are Citadel Execution Services, Virtu Americas, LLC, Two Sigma Securities, LLC, G1X Execution Services, LLC, Wolverine Securities, LLC, and Morgan Stanley & Co. LLC.

[2] *See* SEC, In Re Robinhood Financial, Order Instituting Administrative and Cease and Desist Proceedings (Dec. 17, 2020) (finding that "Robinhood had conducted a[n] . . . extensive internal analysis that found Robinhood's execution quality and price improvement metrics were substantially worse than other retail broker-dealers' in many respects, and [that] senior Robinhood personnel were aware of this analysis" and further finding that

penalty for failing to disclose those practices to its customers—the facts are damning and seem to indicate that the firm intentionally concealed the adverse effects of PFOF from its customers.[3]

- **Harm and Risks to Markets:** Third, PFOF takes retail liquidity away from securities exchanges and redirects that order flow to a very small number of HFTs that execute an almost alarming percentage of overall trading. This lost liquidity (1) affects all investors directly or indirectly using the securities exchanges; (2) potentially disincentivizes the provision of resting liquidity to the exchanges; (3) has serious and potentially systemic risk implications; (4) incentivizes, if not requires, exchanges to design distortive liquidity rebates and programs, order types, and trading protocols to attract and advantage HFT trading; (5) results in a needlessly fragmented system of created complexity that lacks sufficient transparency and investor protections; and (6) interferes with the price discovery and capital allocation functions of the securities markets.

We explain these facts in more detail below. It is noteworthy that other jurisdictions, including the United Kingdom, Australia, and a few European Union member states, have prohibited payment for order flow without adverse consequences.

PFOF harms investors and markets by polluting the retail order routing process but nevertheless remains a nearly universal practice among retail broker-dealers.

It is often believed that retail (non-institutional) investors trade stocks by placing orders through brokerage accounts and transacting (crossing orders) in market centers, like the New York Stock Exchange. That often is not the case. In fact, for the most part, retail investors access the securities markets through a small number of retail-oriented broker-dealers (we call them "super brokers" at Better Markets, given their substantial market share in the retail broker-dealer business). Robinhood, like most of these "super brokers," routinely routes retail customer orders to other broker-dealers—the executing dealers—and these executing dealers function in both an agency and principal capacity because they (1) "internalize" trades, meaning they trade against their own securities inventory or cross the order flow from multiple routing broker-dealers; and (2) access liquidity in market centers (*e.g.,* the large number of national securities exchanges). The executing dealers are HFTs with powerful information processing and automated order routing and trade-execution capabilities that permit them to locate securities, assess incoming order flow, and operate in several markets and market capacities simultaneously.

A. Executing dealers receiving retail order flow through PFOF rebates need not share their captured spread (trade-specific profits) with investors and may facilitate trading at inferior prices to competitors.

In the above process, the executing dealers derive revenues from capturing spreads and trading venue rebates from their intermediation of customer orders, which means that they have incentives to funnel as much trading volume as possible through their systems. If the order flow is viewed metaphorically as a pipe pumping water (investor orders) through a plumbing system, the executing dealers might be thought of as maximizing revenues by encouraging as much water to flow through the pipes as possible because they have a bypass that drains just a little bit of water out of the flow. That small amount of hardly noticed water drained from the flow at any given moment adds up to a large body of water over time.

1. The objective of the executing dealer is not necessarily finding the "best" price for customers but rather, finding a regulatorily acceptable price that maximizes captured spreads over a large number of transactions.

Robinhood executives knew that "the percentage of orders that received price improvement and the amount of price improvement, measured on a per order, per share, and per dollar traded basis" were "substantially worse than other broker-dealers").

[3] Robinhood did not admit or deny the SEC's findings in connection with that enforcement action. *Id* at 1.

This revenue model might be best explained by a stylized hypothetical. Let's say a securities exchange has orders for 1,000 shares of GameStop at the top of its order book, evenly divided between 100-share bids and offers and with a hypothetical spread of $0.10 per share between the best bid and offer. Let's also say the exchange's best priced bids on GameStop (*i.e.,* the price at which the investors are willing to purchase) are $52.40 for a total of 500 shares, and let's say the exchange's best priced offers on GameStop (*i.e.,* the price at which investors are willing to sell) are $52.50. Hence, the $0.10 spread. Let's further say 1,000 Robinhood customers simultaneously each submit one-share market orders for GameStop and have their order flow preferentially routed to Citadel Execution Services ("CES"), one of several competing executing dealers with PFOF arrangements with Robinhood. Finally, let's say that Robinhood's customer order flow is evenly divided, with 500 customers placing market orders (bids) to purchase 500 shares of GameStop and 500 customers placing market orders (offers) to sell 500 shares.

CES could fill the 1,000 incoming Robinhood orders by routing them to the exchange. In that case, it would sweep the top of the exchange's order book (*i.e.,* trade against all of the best priced bids and offers). This means all of the sell orders from Robinhood's customers would be filled at $52.40 because the market sell orders would be matched with highest priced bids and all of the buy orders would be filled at $52.50 because all of the market buy orders would be matched with the lowest priced offers. Because CES is taking liquidity in connection with customer orders, the exchange probably would assess passive liquidity (taker) fees on the filled orders.[4]

If CES instead internalizes the incoming orders, the near-simultaneous buying and selling by Robinhood's customers could be crossed or traded against CES's own securities inventory and potentially filled at better prices than publicly quoted for large orders on the exchange. This is what is meant by "price improvement." CES might fill the sell orders at $52.42 (getting investors $0.02 more per share relative to exchange routing) and fill the buy orders at $52.48 (saving investors $0.02 per share relative to exchange routing). Plus, because CES internalized the orders, there would be no taker fee assessed by the exchanges. In the process, CES pockets, let's say, the $0.06 spread for their troubles. Because Robinhood's customer base made this internalization possible, Citadel probably would want to keep the order flow coming and choose to rebate a portion of the spread to Robinhood or risk losing the preferential order routing to Virtu, Wolverine, Two Sigma, or another executing dealer.

In reality, orders do not arrive simultaneously or match perfectly, obviously, and CES may not have available securities inventory, so the order routing, trade execution, and spread capture process is considerably more complex. Furthermore, the spread captured through these activities can be considerably narrower (even sub-penny). But this stylized hypothetical illustrates the essential nature of the business model and will help to reveal the idealized and misleading contention made by industry with respect to PFOF—namely, that PFOF is acceptable because everyone wins (Robinhood, Citadel, and the customer). We explain how that contention is misleading, if not outright false, in the sections that follow.

2. **<u>The internalization of trading by the PFOF executing dealers harms investors, distorts order routing processes, and fragments markets</u>.**

The <u>above</u> hypothetical can easily mislead policymakers into thinking PFOF is a harmless, or even good, practice. In reality, PFOF encourages increased internalization and, in turn, often harms investors, distorts order routing and

---

[4] This fact sheet focuses on PFOF between retail broker-dealers, like Robinhood, and executing dealers, like CES, given the adverse effects of the broker-to-broker rebate structure on order routing. However, it is important to note that the exchanges have their own PFOF arrangements (as well as similar inducements) designed to attract order flow and compete with the executing dealers, each other, and alternative trading systems. These PFOF rebates influence order-routing decisions within the broader U.S. equity market structure and encourage "rebate arbitrage" by HFTs. Recognizing the obvious conflicts of interest attendant to exchange-to-broker PFOF, the SEC recently instituted a pilot program to quantify the effects of fee and rebate structures on order-routing practices. However, the rule implementing that pilot program was vacated by the D.C. Circuit after the New York Stock Exchange and other exchanges challenged it, arguing that the SEC lacked authority to conduct what it characterized as a burdensome regulatory experiment without first finding that there was in fact a problem in the markets in need of a solution. *See* NYSE v. SEC, 962 F.3d 541 (D.C. Cir. 2020).

execution practices, and fragments markets in a manner that undermines pre-trade transparency, price discovery, and capital allocation.

There are a number of key facts lost in the industry's gross oversimplification of PFOF issues:

- **Price improvement statistics are not measured against the "best" price available to investors**: CES, like other HFTs, repeatedly cites misleading "price improvement" statistics meant to quantify the value of PFOF and internalization to investors. For example, Citadel Securities recently stated that it provided $1.5 billion of "price improvement" on retail equity orders in 2020, and other HFTs cited similar "price improvement" statistics intended to demonstrate that preferential order routing practices arising from PFOF are not harming investors.

  These claims are conceptually akin to a retailer that benchmarks its prices against a non-competitive seller that charges 20% more than all other retailers for widgets and then claims its on-or-above-market price to be a "price improvement." To reflect a true benefit to investors, "price improvement" must be measured relative to the market price an investor would receive with reasonable effort under prevailing market conditions. In equity markets, the national best bid or offer ("NBBO") disseminated across the markets is used as an improper proxy for this fair market price and as a benchmark for price improvement statistics. Why is it an improper benchmark? Because there often is an "inside" spread that is narrower than the top of the national market and perhaps a better reflection of the fair market price for small retail orders (as we explain below). Measured against these inside spreads, the claimed benefits of internalization and routing to PFOF executing dealers would be at least dramatically reduced.

- **There would be more price improvement in the absence of PFOF:** Retail broker-dealers do not necessarily route to the executing dealers that result in the greatest price improvement to customers. This is, in part, a result of a defect in the SEC and FINRA's best-execution frameworks, which are exceedingly difficult to police and permit retail broker-dealers to consider PFOF in their routing decisions. In addition, although there is execution competition for spreads and rebates under PFOF arrangements, the competition is limited to firms willing to enter into PFOF arrangements. Thus, exacting the same rebates among a limited group of competing executing dealers, while better than nothing, does not eliminate conflicts of interest or end the pollution of the order routing process.

  Robinhood itself was one of the few firms sanctioned for programming its order routing systems to preferentially send order flow to the executing dealers rebating the most in PFOF, even when it knew doing so routinely caused its own customers to get inferior prices. If Robinhood instead had an enforceable legal duty to get its customers the best reasonably available execution on all automated orders, it would have had to program a non-discriminatory order router that considered all reasonably available avenues for trade execution. That, in turn, would have improved its customers' execution quality dramatically according to Robinhood's own internal analysis (described in the SEC's recent enforcement action), demonstrating all too clearly and embarrassingly that Robinhood was designing its order routing practices to enrich itself and its executing dealers—like CES, a primary source of revenue—not its customers.

  Furthermore, as demonstrated by the above hypothetical, retail broker-dealers and executing dealers have perverse incentives to capture as much of the spread in a trade as possible and therefore to fill orders as close to the edges of the spread as possible. In other words, retail broker-dealers and executing dealers have incentives to provide as little of the benefits of internalization to investors and to keep as much of the benefits for themselves as possible. Benchmarking trades against the NBBO alone and pretending that this is pro-investor "price improvement" utterly fails to recognize the difference between ***one***

available price for investors and the ***best price reasonably available*** for investors, which is meant to be the concern of SEC and FINRA's best-execution requirements. Importantly, this difference, taken out of the pockets of retail traders, is, in part, how those HFT firms paid $2.6 billion in PFOF in 2020 and still posted record trading profits.

This is not just theory. This reality is perhaps best evidenced by the SEC's recent enforcement case against Robinhood's most used executing dealer, Citadel Execution Services, which, among other things, programmed an algorithm, called "FastFill," to route orders to be filled at the outermost acceptable price in the markets—the NBBO—when a better price inside of the NBBO was readily available at the time of execution. Monitoring of execution quality and increasing true competition between executing dealers might solve for some of these problems but for the fact that PFOF has been shown to limit the objectivity of execution analyses and interfere with free and fair competition among the executing dealers. Even broader competition between executing dealers, moreover, would not approximate the price competition that would accompany routing orders to the exchanges.

- **Internalization at the current levels in the markets siphons liquidity away from exchanges and hurts all investors:** The retail broker-dealer and executing dealer do not account for the spillover effects of their PFOF arrangements. Even if one accepts the premise that some retail order routing to executing dealers is beneficial, there is a widely recognized tension between short-term and trade-specific advantages that arise from less transparent trading methods, like internalization, and the long-term public interest served by driving securities trading into exchanges with trading protocols designed to support the price discovery process, increase secondary liquidity and capital allocation (to support initial capital formation), and build investor confidence in listed companies.

  Because internalization leaves the exchanges largely outside of the retail order flow (except as the executing dealers may use them to secure shares), the exchanges are essentially forced into their own profit maximizing strategies, which usually involve rebate programs (*e.g.,* maker-taker programs), order types, and trading protocols designed to benefit and attract the participation of executing dealers with substantial order flow. These exchange inducements further fragment, complicate, and distort our securities markets. Moreover, internalization at the level experienced with respect to retail order flow may disincentivize resting orders on the exchanges and perhaps widen the spreads quoted on the securities exchanges, adversely affecting all investors in the securities markets.[5]

- **Internalization at the current levels in the markets provides significant retail order information to a very small number of HFTs:** Because the executing dealers frequently internalize order flow, they frequently transact on incoming orders not through an order book with pre-trade transparency and a non-discretionary trade matching engine as one would find on an exchange but rather, through a proprietary order routing and trade matching system run by the executing dealer itself. Routing such significant retail customer order flow to a small number of executing dealers without regulatory standards, safeguards, and oversight applied to the exchanges presents almost irresistible opportunities for the executing dealers to monetize the informational advantages provided by access to retail trading interest. This concern is exemplified by the misconduct discovered in a FINRA enforcement case again involving Citadel Securities, which was found to have traded ahead of certain types of customer orders.

- **Executing dealers have become systemically important entities and could cause serious adverse market consequences:** PFOF concentrates trading activities in a small number of executing dealers that generate the vast majority of revenues and rebates for redistribution to retail broker-dealers. These executing dealers facilitate an almost alarming amount of trade volume in the U.S. equities and options

[5] In light of these consequences, we can think of no defensible reason to permit internalization of transactions at the NBBO or at any price that does not reflect a material price improvement from the NBBO.

markets. Citadel Securities, as one example, advertises that it fields approximately 26% of U.S. equities volume across 8,900 U.S.-listed equities, executes approximately 47% of all U.S.-listed retail volume, and represents 99% of traded volume in 3,000 U.S.-listed options names. Any prolonged disruption to a firm like Citadel Securities is certain to shake markets. For this reason, the Financial Stability Oversight Council should consider designating critical market-makers and executing dealers as systemically significant once they have a sufficiently critical market presence.

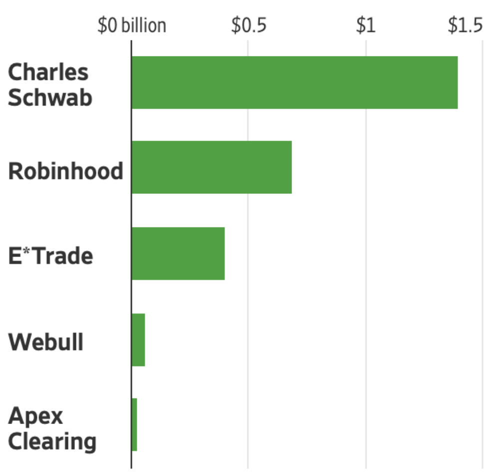
The Knight Capital meltdown should be the canary in the coalmine. In August 2012, Knight Capital Americas LLC ("KC") lost more than $460 million dollars from erroneously trading 397 million shares, resulting in a $3.5 billion in net long positions in 80 stocks and $3.15 billion in net short positions in 74 stocks. This is the single largest trading loss arising from a glitch in an automated order routing system and totaled more than NASA's losses from malfunctions of the Mars Climate Orbiter and Polar Lander.

B. The pricing and market structure distortions caused and influenced by PFOF are amplified by the fact that order routing kickbacks remain a nearly universal practice among retail broker-dealers.

The complexities and conflicts of interest associated with PFOF are unnecessary and could be solved with a small handful of regulatory changes. However, the scope and profitability of PFOF distortions make it clear that the retail broker-dealers and executing dealers will defend the practice vehemently.

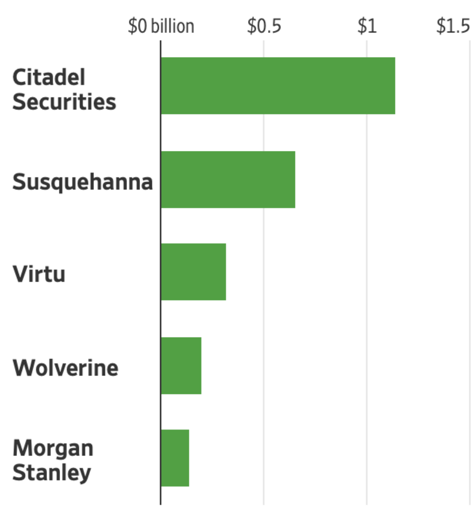
Consider the reported extent of PFOF just with respect to the order routing occurring between retail broker-dealers and the dominant executing dealers:

Estimate of PFOF Received, 2020
By Major Retail Broker-Dealer



Source: Wall Street Journal, Company Filings via JMP Securities
Note: Schwab Data Includes Order-Flow Revenue of TD Ameritrade.

Estimate of PFOF Paid, 2020
By Major Executing Dealer



Source: Wall Street Journal, Bloomberg Intelligence

PFOF creates unnecessary conflicts of interest that cannot be mitigated by "Best Execution" requirements and harms investors in ways that are not included in so-called "price improvement" statistics.

In the section that follows, we discuss in more detail the two most frequently relied upon but misleading industry arguments used to defend PFOF despite its harms to investors and markets.

A. <u>Neither the legal duty of "best execution" nor the NBBO sufficiently limits investor harms associated with PFOF and the resulting order-routing conflicts of interest.</u>

The broker-dealer and HFT industry relies primarily on two misleading contentions to suggest that PFOF is not harmful to investors. First, it contends that retail broker-dealers and executing dealers cannot route orders in a manner that is routinely adverse to investor interests because each has a "best execution" requirement imposed by the SEC and FINRA. Second, it contends that commission-free trading and so-called "price improvement" statistics demonstrate that retail customers are better off with PFOF and intermediation than they would be if orders were routed directly to the exchanges for execution.

In theory, neither of these arguments should surface in any Congressional hearings on PFOF and other distortive practices because in that setting, at least, industry executives are under oath and required to tell the "truth, *the whole truth*, and nothing but the truth." The <u>whole</u> truth is that PFOF and the associated intermediation of retail customer orders demonstrably harms investors.

1. <u>The "best execution" standard and the "best" price for securities are far more subjective than the industry would like you to think.</u>

The SEC and the Financial Industry Regulatory Authority ("FINRA") have adopted "best execution" regulatory frameworks designed to limit broker-dealer discretion with respect to the routing of customer orders. The framework is a recognition of the fact that many broker-dealers face significant conflicts of interest in their order routing practices, including conflicts presented by PFOF arrangements. The duty of best execution, in essence, requires that broker-dealers route customer orders in a manner that will result in the best execution reasonably available under prevailing market conditions. In practice, however, the duty of best execution has been reduced to a *general* requirement—applicable to all of a broker-dealer's customer orders *in the aggregate*—to periodically assess which order routing practices offer the most favorable terms of execution under the circumstances. This once practical standard is now unnecessarily forgiving: It does not reflect the reality that, today, retail order routing decisions can be assessed on an automated trade-by-trade basis for much, if not all, of the market.

In assessing best-execution requirements and practices, broker-dealers are permitted to consider multiple factors in their periodic assessment of execution quality, and among those many factors are whether order routing practices present an opportunity for price improvement, increase execution certainty, and increase the speed of execution. Under this subjective multi-factor test, the best execution standard is exceedingly difficult to monitor, much less enforce, in part because the SEC, FINRA, and the courts have been reluctant to impose best-execution requirements that would require broker-dealers to affirmatively connect to as many executing dealers and market centers as is necessary to provide retail customers a "best" available price across the markets. These complexities are only compounded by FINRA's unusually explicit acknowledgement that broker-dealers can and indeed *should* consider PFOF as part of their analysis of execution quality.[6] And these complexities also highlight one of the drawbacks arising from the fragmentation of our securities markets.

---

[6] Consider the FINRA's supplementary material explaining requirements relating to the "regular and rigorous review of execution quality" under FINRA Rule 5310: "In reviewing and comparing the execution quality of its current order routing and execution arrangements to the

In short, the SEC and FINRA's best-execution requirements, while critical, have not kept pace with order routing technology and are too malleable and difficult to enforce (absent the most egregious abuses) to mitigate the conflicts of interest presented by PFOF arrangements. Although we cannot say that PFOF induces broker-dealers to violate their duties of best execution, we can say that PFOF presents conflicts of interest that the best execution standard—as currently drafted, interpreted, and applied—would do almost nothing to mitigate. Worse, because the SEC and FINRA best-execution framework is used to justify reliance on the national best bid or offer as the benchmark for price improvement statistics, it provides broker-dealers with regulatory cover to mislead investors. We discuss this concern in the section that follows.

2. <u>PFOF does not always promote so-called "price improvement" and even when it does, the benchmark for measuring the claimed "improvement" is misleading.</u>

The retail broker-dealers and executing dealers claim that PFOF and preferential intermediation of retail order flow within the best execution framework results in "price improvement" for customers. The contention is usually reasoned as follows. The HFTs—the executing dealers—receive retail customer orders that would be executed on displayed orders if routed directly to exchanges. Judged by a measure of spreads in the markets—the national best bid and offer—customers fare well because many trades are internalized against other customer orders and HFT inventory inside of the publicly displayed spread. Furthermore, by subsidizing platform expenses of the retail broker-dealers, customers are benefitted in the form of low or no-commission trading, and customer execution costs are implicitly reduced by avoiding exchange fees assessed on liquidity takers. The broker-dealers contend that this saves investors collectively millions of dollars in fees and execution costs that they otherwise would be required to pay. Finally, because of best execution requirements, it is argued, the HFTs essentially do not have the flexibility to trade outside of the publicly displayed spread.

Does this sound too good to be true? It is.

a) <u>The industry-claimed price improvements are measured against the wrong benchmark, which distracts from the costs to investors and significantly overstates the supposed savings</u>.

Price improvement, by definition, must be defined relative to a benchmark—that is, the price must be improved relative to some other price. To put it simply, in the equities markets, price improvement is measured against the wrong benchmark—the national best bid or offer, the NBBO. Despite its name, the NBBO frequently, and quite counterintuitively, does not represent the "best" bid or offer available on U.S. securities exchanges. In fact, in some equity categories, the exchange-run proprietary data feeds operating alongside consolidated core data feeds from the securities information processors ("SIPs")[7] *regularly* display "odd-lot" orders that are superior to the NBBO at the top of local order books. This is problematic in light of the multi-year trend towards increased odd-lot trading across the markets.[8] In recent months, for example, the odd-lot rate—which is the total number of odd-lot equity trades relative to the total number of equity trades—has exceeded 55%, meaning more than half of the trades on executable orders is not reflected in the NBBO (*see* Figure 1). For stocks priced above $500 per share, odd-lot orders have been superior to the NBBO as often as 75% of trading days.[9]

---

execution quality of other markets, a [broker-dealer] member should consider . . . the existence of internalization or payment for order flow arrangements."

[7] The SIPs are utility-like aggregators responsible for consolidating certain order book information from the securities exchanges and for calculating and publicly disseminating real-time trade information, including the NBBO.

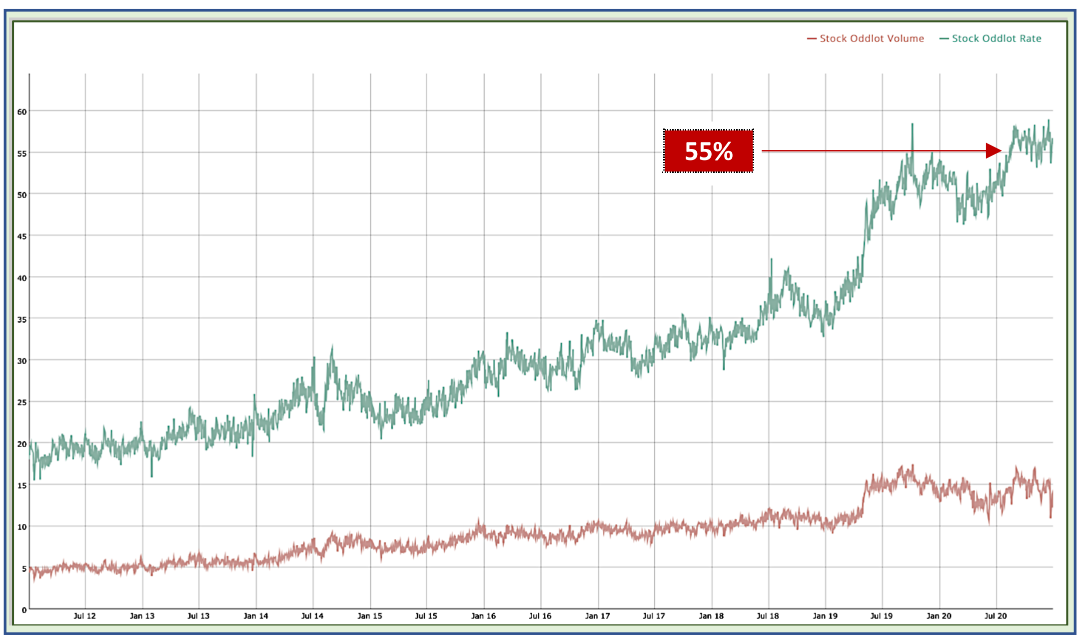
[8] A combination of factors, including technological developments and the related expansion of retail trading, likely has led to the increase in the use of odd lots to trade securities. The term "odd-lot" means any order for a number of shares that does not constitute a "round lot." Until recently, the term "round lot" usually meant an order for 100 shares, but the SEC recently adopted revisions to its rules to set forth smaller round lots in certain equity categories.

[9] *See* B. Redfearn, Former Director of the Securities and Exchange Commission's Division of Trading and Markets, Equity Market Structure 2019: Looking Back & Moving Forward (Mar. 8, 2019).

In short, orders used to constrain and mitigate broker-dealer discretion and conflicts of interest for the benefit of retail investors do not necessarily reflect market realities. That is why misleading claims of price improvement through internalization and PFOF arrangements must be scrutinized carefully. There can be so-called “price improvement” from the NBBO, while investors are getting fleeced relative to the true market—either the prices reflecting the “inside” or odd-lot best bid or offer or a price inside of the NBBO that would have been available from a competing executing dealer or trading venue absent PFOF. As a consequence, the public dissemination of so-called “price improvement” statistics based on such orders in no way should suggest that retail investors received fair prices on their fills through the publishing broker-dealers.

In addition, the lack of odd-lot data in the NBBO all but ensures that executing dealers and institutional traders can protect their profits by purchasing proprietary data from the exchanges and taking advantage of other forms of privileged access to securities markets, both of which enable them to simultaneously and regularly trade at and inside of the NBBO. The HFTs need not demonstrate trade-by-trade price improvement under best-execution requirements, as we just discussed, but rather, must give periodic general consideration to execution quality in the aggregate. Under those circumstances, it would not be difficult for an HFT to program order routing software to facilitate price improvement on trades most of the time, while randomly filling orders at the NBBO enough of the time to maximize the spread on such trades.

Figure 1. Stock Oddlot Volume and Stock Oddlot Rate



Source: U.S. Securities and Exchange Commission

The conclusion from this discussion is inescapable: Limiting the NBBO solely to round lots means that the displayed prices, and spreads, in the exchange markets do not reflect the prices retail customers often could and should receive, and they probably never reflect the prices that HFTs receive as an average price. According to the SEC’s own analysis, so much trading occurs inside of the NBBO spread that it is not only misleading but ridiculous to judge the efficiency and fairness of execution, compliance with best execution requirements, and extent of “price improvement” by reference to the NBBO.

b) With PFOF and the NBBO, what investors don't know *will* hurt them.

The NBBO is meant to facilitate the securities equivalent of a rule that any time Amazon sells you a particular widget, it must route your order to the best priced competitor willing to sell that particular widget to Amazon customers. It's a rule that, in essential concept, would require retailers to sell you widgets with an automatic, nationwide price match across sellers in the market; imagine how much that would save consumers! But again, that is theory, and given technological limitations of the markets when the NBBO rules were written, it was a good in practice for many years, saving investors significant sums of money by limiting the discretion that broker-dealers could otherwise exercise in accepting retail orders for execution.

Now, imagine if the price-match rule remained in place but did not provide you the best price. Imagine if you shopped at Amazon all along believing that the rules of the market required Amazon to automatically route you to the seller with the best priced widget only to find out later that it routed you not to the best available price but instead to a worse price. Furthermore, imagine if Amazon gave you this worse price with little or no explanation of what it was doing and even accepted hundreds of millions of dollars from the retailers selling you the widgets in exchange for sending your orders to be filled at the worse price . . . rather than a lower best price.

Finally, to add insult to injury, imagine that Amazon repeatedly asserted in an almost Orwellian fashion that it was doing you a favor—providing you "price improvement" —by sending you to sellers paying Amazon to provide you with worse prices.

Everyone would correctly see that practice as wrong, but that is in effect how the PFOF practices work.

Conclusion

Robinhood's competitor, the retail broker-dealer Public, recently announced that it will abandon PFOF to—in its words—"remove this conflict of interest from our business model" and "align our incentives with those of our members." Public has determined to instead route orders directly to the exchanges for execution. We commend that decision, although much more would need to be done by the SEC to protect investors from second-order consequences even if all retail broker-dealers determined to do the same.[10] However, because there is so much money at stake, that is exceedingly unlikely. In fact, Robinhood appears to be doubling down on its practices, reportedly registering a new in-house team to begin lobbying on February 5, 2021 to protect its business model and revenues. This should not be surprising as legislative or regulatory action to protect the public interest and Main Street investors from these conflicts of interest would seriously threaten Robinhood's financial future.

Despite its many skirmishes with the law, Citadel Securities—***the single largest PFOF rebate generator across the executing dealers***—has correctly identified the multiple problems with PFOF. Consider its comments in a 2004 comment letter:

> Citadel Group urges the Commission to ban payment for order flow. This practice distorts order routing decisions, is anti-competitive, and creates an obvious and substantial conflict of interest between broker-dealers and their customers. Broker-dealers accepting payment for order flow have a strong incentive to route orders based on the amount of order flow payments, which benefit these broker-dealers, rather than on the basis of execution quality, which benefits their customers.

[10] Prohibiting broker-to-broker PFOF is a necessary first step but insufficient. The SEC must also address a number of issues relating to internalization generally and the distortive effects of exchange-based liquidity rebates, fee programs, and order types designed to attract and accommodate HFTs.

> Furthermore, the parties making such payments . . . are forced to find other ways to recoup the amounts of such payments, whether through wider spreads or a reduction in other benefits that otherwise could, and should, be provided to customers.
>
> Payment for order flow is a practice that on its face is at odds with a broker-dealer's obligations to its customers. A broker-dealer has a fiduciary obligation to obtain the best execution reasonably available for its customers' orders under prevailing market conditions. We do not believe that a broker-dealer that accepts payment for order flow and does not pass such payments on to its customers (either directly or through reduced execution fees or commissions) can consistently fulfill its best execution obligations.
>
> In practice, the conflict of interest caused by payment for order flow may lead broker-dealers to execute customer options orders at a "defensible" price, rather than aggressively pursuing the best possible price and seeking price improvement opportunities. Gradually, this results in the erosion of market efficiency and wider bid/ask spreads . . .
>
> Because payment for order flow creates fundamental conflicts of interest that cannot be cured by disclosure, the Commission should ban payment for order flow altogether.

We agree with *that* Citadel Securities—the one that recognized the serious problems caused by PFOF. However, it seems that Citadel Securities has since adopted a "can't beat 'em, join 'em" philosophy, likely motivated by the SEC's multi-decade failure to address incurable conflicts of interest and protect investors by prohibiting PFOF.

Let's hope the SEC will take a fresh look at the PFOF issues under its new leadership. The incentives are clear—unless there are far more meaningful restrictions and prohibitions on broker-dealers that prioritize their bottom line over their customers' best interests, investors cumulatively will continue to lose billions of dollars a year from inferior execution. That total, one penny at a time, almost certainly exceeds the savings for many investors derived from commission-"free" trading and investing. Put differently, "commission-free trading" is not the same thing as "free trading." The PFOF practices subsidizing "commission-free trading" decidedly harm investors and markets far in excess of any benefit, which should be clear from all the money retail broker-dealers and HFT firms are making from retail order flow.

Better Banks | Better Businesses
Better Jobs | Better Economic Growth
Better Lives | Better Communities

Better Markets is a public interest 501(c)(3) non-profit based in Washington, DC that advocates for greater transparency, accountability, and oversight in the domestic and global capital and commodity markets, to protect the American Dream of homes, jobs, savings, education, a secure retirement, and a rising standard of living.

Better Markets fights for the economic security, opportunity and prosperity of the American people by working to enact financial reform, to prevent another financial crash and the diversion of trillions of taxpayer dollars to bailing out the financial system.

By being a counterweight to Wall Street's biggest financial firms through the policymaking and rulemaking process, Better Markets is supporting pragmatic rules and a strong banking and financial system that enables stability, growth and broad-based prosperity. Better Markets also fights to refocus finance on the real economy, empower the buyside and protect investors and consumers.

For press inquiries, please contact us at press@bettermarkets.com or (202) 618-6430.

© 2021 Better Markets, Inc. All Rights reserved.