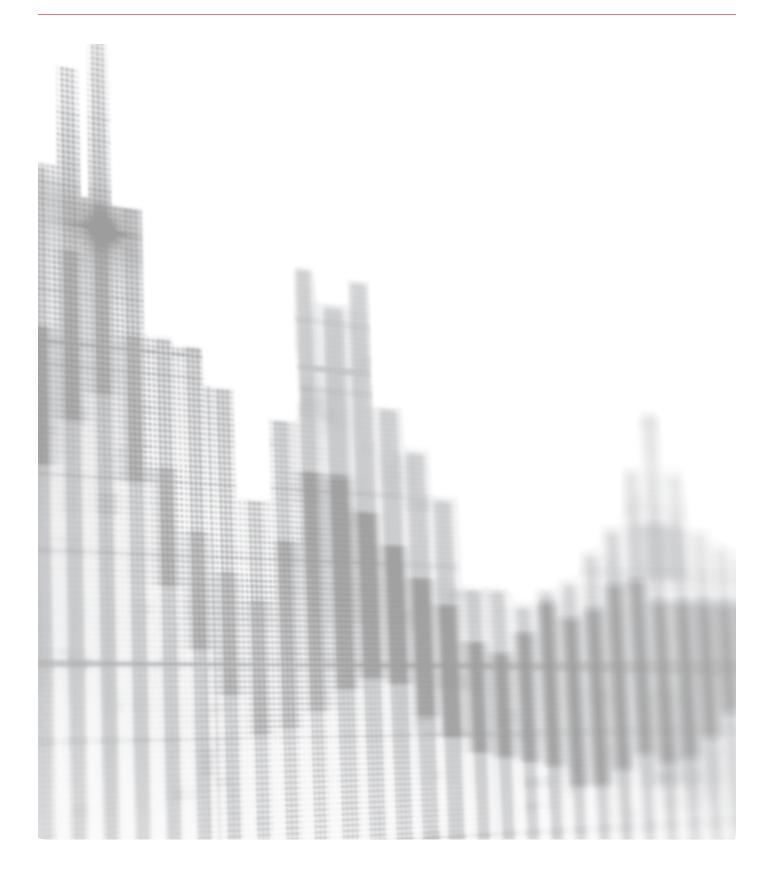


The Impacts of a New Liquidity Paradigm

MiFID II is reshaping the European financial marketplace, and fundamentally altering the relationships between its participants.



Executive Summary

Decades of regulatory upheaval have created a patchwork of exchanges, multilateral trading facilities (MTFs), over-the-counter (OTC) liquidity providers and dark pools. Advances in technology and the introduction of MiFID II are now redefining roles and expanding the relationships between participants. As a result, smart aggregation and the creation of personalised liquidity pools are creating the opportunity for trading experiences as individual as pages on social media.

Welcome to the new world of equities trading, one in which proprietary trading groups will provide prices directly to clients, banks will fine-tune their risk-taking businesses, and mutual self-interest will ensure that technological advances, when correctly applied, result in more profitable outcomes for both traders and investors.

The implications of these changes are significant: clients can now benefit from the relative value of their relationships, while being able to aggregate personalised pricing from a range of sources into their own personal limit order books. This is creating a new way of looking at the world, one in which performance can be seen as maximising, and executing on available liquidity.

This evolving market structure not only signals superior pricing opportunities but greater access to liquidity as traditional intermediaries and principal trading groups unclutter the marketplace to deliver much improved and more targeted execution.

The changes in the trading landscape could be as stark as in 1986, when London's Big Bang eliminated the role of jobbers and radically redefined the role of stockbrokers. This time, it is the role of trading venues and institutions that will be transformed, as both clients and liquidity providers benefit from the ability to target liquidity and pricing down to the individual strategy level.

These advances would not be possible without much-improved processing power and Artificial Intelligence, enabling systems to manage the sheer complexity of real-time pricing across hundreds and thousands of broker and client relationships, as well as a growing number of execution venues and variety of trade types.

While the sophistication and choice available to participants has increased sharply, so has the capability of analytics to manage this new paradigm. This will create an opportunity for platform-neutral agency brokers such as Instinet to act as curators of market liquidity, whose role is made even more relevant by the MiFID II requirement to ensure 'sufficient' rather than 'reasonable' steps are taken to provide best execution.

For many in the foreign exchange and fixed income markets, whilst less transparent than equities, it may seem somewhat familiar territory, as they have become accustomed to multiple execution protocols and venues, as well as the ability to tier pricing to individual clients based on size, relationship, existing positions and opportunity.

But for equity market participants, the prospect of thousands of buyers and sellers developing new and deeper relationships signals the start of an even more open and transparent environment. For market participants that embrace this brighter future, take advantage of technological advances and identify the opportunities that regulation has created, the potential to reshape the way they do business is almost limitless.

The New Normal: Equities Trading as You Want It

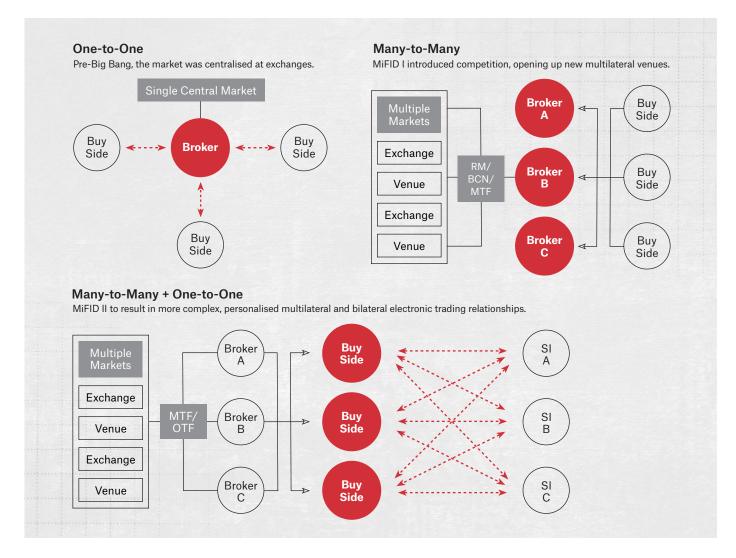
While Big Bang created the broker-dealer and MiFID I spurred competition, for years it has remained a multilateral world. That's about to change. The combination of more wide-ranging regulation of the markets and a quantum leap in technology has presented new and exciting opportunities that will transform the current landscape. The result: individual, smarter trading experiences, and a levelling of the marketplace.

The ability for a buy-side client to fine-tune their liquidity options is even more important given the tougher MiFID II requirement for best execution, calling for 'sufficient' rather than 'reasonable' steps to be taken. An increasing range of execution options,

and an expanding set of relationships required to access all of the available liquidity opportunities, places institutional clients under pressure to pro-actively manage an array of highly tailored liquidity feeds. With such an enormous set of real-time data, measures like weighted average price are no longer good enough, and participants need to deploy scientifically robust methods to ensure adequate sample selection and statistically sound results.

The new and revitalised ecosystem will reshape the role of liquidity providers, transform the use of dark pools and usher in a much wider range of trading alternatives for clients.

THE TRADING MODEL IS EVOLVING, AGAIN.



Changing of the Guard

In this new marketplace, the role of participants such as high-frequency traders and market making firms will change and their importance as intermediaries will become more apparent. These proprietary trading firms commit their own capital to supply liquidity using sophisticated algorithmic techniques, providing automated pricing in thousandths of a second, while also delivering semi-automated pricing on less-liquid instruments such as small-cap stocks and ETFs.

Today some of these firms are authorised by the FCA as systematic internalisers (SIs), but in the future all OTC liquidity providers for equities will need to be authorised as such. For the more technologically advanced firms, this represents a real opportunity, but MiFID II also signals the end of the broker crossing network (BCN) regime, which has evolved in Europe and Asia largely as a result of the absence of regulation around trading venues. The relative lack of regulation has meant that application of best execution rules has sometimes been opaque, and while BCNs have tried to distinguish themselves based on the access to liquidity and protection against 'toxicity', the differentiation between many venues has been unclear.

In the future, a multilateral trading venue must be authorised as an ATS in the US, a PTS in Japan, a multilateral trading facility (MTF) or an organised trading facility (OTF) in Europe—creating a more transparent model and making it easier to measure toxicity and opportunity cost.

SYSTEMATIC INTERNALISERS (SI) VERSUS THE BROKER CROSSING NETWORK (BCN).

Potential Advantages

- Unlike a BCN, an SI will offer pre-trade transparency
- Tailored liquidity—less toxic business means better quotes
- No incentives—an SI cannot rebate for trading, otherwise it would be subjected to payment for order flow constraints
- Transparency of counterparty
 —you don't know who you are trading with in a BCN
- Expectation SIs will offer multiple quotes in price and size
- Quotes above SMS are private

Potential Disadvantages

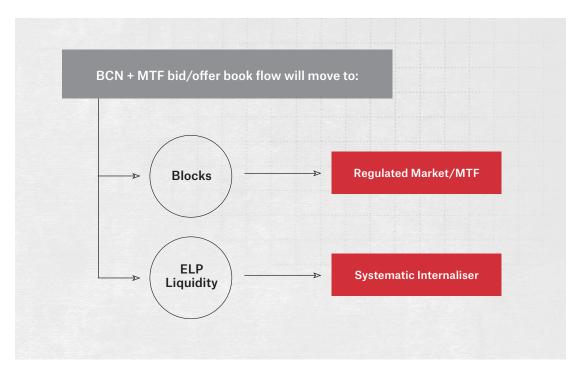
- Information is provided to the SI
- Orders are no longer multilateral, so clients cannot cross directly
- No benefit to resting orders against an SI (Principal Trading book)
- SIs have the ability to 'last-look'
 —can choose whether to fill an order or not
- Sls are not obliged to trade

The changes for dark pools are perhaps as great as any other area under review. In the future the opportunities to trade in nontransparent off-exchange pools of liquidity, where participants are unsure as to the nature of the counterparties they were interacting with, will be significantly limited. Whilst dark trading can continue on an MTF, where there are specific pre-trade transparency waivers for 'Large in scale (LIS)', 'Negotiated Trade' and 'Reference Price', the Reference Price waiver only allows for matches at the midpoint, open or close price of the primary exchange for the share. A significant portion of dark MTF trading currently occurs at bid and offer reference prices so this will cease, except for orders greater than LIS. It is for these larger trades, where the benefits of venues offering access to Indications of Interest (IOIs) functionality and Request for Quote (RFQ) models are particularly pronounced.

In addition MiFID II further constrains trading on dark pools by setting a limit on amount of trading done under a reference price waiver to a maximum of 8% of order flow in shares to be executed in the dark. Under the new regulation, a proprietary trading firm can establish an SI, enabling them to act as principal, trading directly with clients on an OTC, disclosed basis. It is potentially good news for clients, as they will be able to access new liquidity sources, but it further fragments the market, and SIs retain the ability to take advantage of the fact that they are not obliged to trade when they receive an order, giving them a 'last look'.

While trading with proprietary trading firms through an SI will work for some clients, the central limit order book (CLOB) still works well for many smaller orders, particularly in liquid securities.

NEW STRUCTURES MEAN NEW PATHWAYS TO LIQUIDITY.



With so many choices, how can participants be sure they have the right trading strategy?

Less sophisticated clients often prefer to compete on a level playing field, on a central limit order book—the exchange model; otherwise the information they disclose in a bilateral relationship can be used against them. That can be even more pronounced with the RFQ model, which guarantees that multiple liquidity providers benefit from full knowledge of trading intentions.

Overall the challenges can be greater for sophisticated market participants looking to trade more than the available liquidity at the 'touch', or best price. In this case, the trade-off between information disclosure and best execution is often not so clear-cut, and it's here that a solid understanding of the relative incentives is so important.

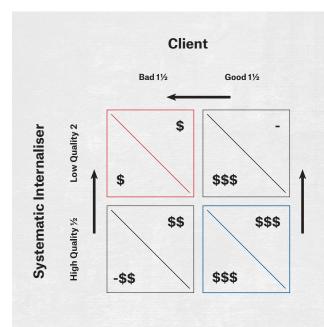
So how might it work? Let's take the case of an SI. If an SI views the client relationship as a one-off trade, they are incentivised to act entirely in their own interest, and perhaps employ their option to decide whether or not to have a 'last look' at the market price when they receive an order. This option allows the SI to have the final say on whether they will execute at a particular quoted price and size.

The client knows this, so they also might act rationally in response, sending only a portion of their order to the SI, leaving them exposed to the market. If they both view the relationship as long-term and mutually beneficial, there are mutually reinforcing incentives to behave 'well'. In this scenario, the client sends the whole order, while the SI honours their quote while not taking advantage of any information asymmetry.

The ability to customise trading, down to the individual strategy, gives the power to participants to calibrate exactly who, how and when their orders get executed, lit or dark, depending on their needs and risk tolerance. It also increases the value of relationships.

In this new market structure, where the customer once again sits centre stage, it is in no-one's interest to burn any bridges.

SI GAME THEORY.



Game theory, in its strategic form, can help us better understand the incentives and payoffs at play between the client and the SI. The best strategy for each party will depend on whether the trading is a repeated or a one off interaction.

SI Strategies:

- High Quality: honours quotes
- Low Quality: employs last look

Client Strategies:

- Bad: sends only a portion of the order and follows on to the exchange
- Good: sends the whole order to be traded at the price quoted by the SI

One-Off Game

- Low Quality is a dominant strategy for the SI
- Client knows this so rationally decides to be a bad client!

Repeated Game

- In a repeated transaction both sides can agree on a strategy up front which is mutually advantageous
- Good and High Quality is self policing provided the client has the correct data!

Aggregating Liquidity: The Agency Model

With the power of computing, and the catalyst of regulation, liquidity aggregation is much more than simply consolidating a few price feeds. It requires careful navigation of the opportunities as market impact and the need to minimise information leakage remain crucial to clients. The role of platform-neutral brokers and other technology providers has emerged as vital in the new ecosystem.

A CENTRAL DATA AND LIQUIDITY AGGREGATOR

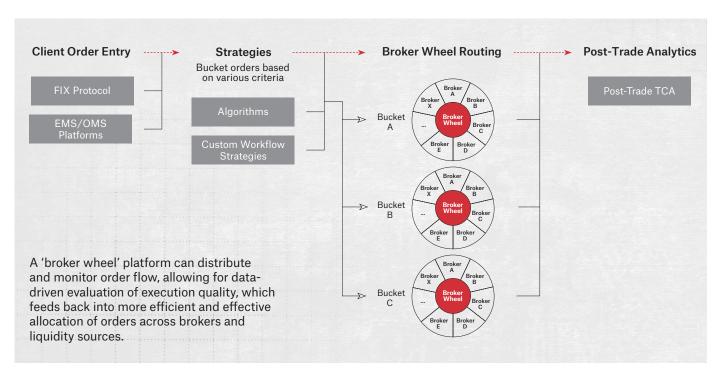
Within the new market framework, technology leadership can allow an agency broker to act as a central liquidity 'aggregator', consolidating and managing feeds and quotes from the participating SIs and other venues. From this position as a neutral execution provider, it can offer a holistic view of available

liquidity, a more efficient way to select and access counterparties, and, perhaps most importantly, it can offer a better way to evaluate prices and execution quality to the benefit of clients and their investors.

INNOVATIVE PLATFORM-NEUTRAL ROUTING

To help optimise execution quality, agency brokers manage order routing across third-party brokers and SIs. Decisions on broker selection, benchmarking and algo parameters can be automated by a 'broker wheel' platform that distributes and monitors order flow. This order management process allows for data-driven evaluation of execution quality, which feeds back into more efficient and effective allocation of orders across brokers and liquidity sources.

TARGETING BEST EXECUTION.



With MiFID II just months away, firms are realising the need to change their business models to take advantage of the new trading opportunities. While dark pools will most probably dry up, there will be no shortage of liquidity. Indeed, the pricing power of proprietary traders will create a range of liquidity options, which will re-arm and empower institutional clients. However, thriving in a more tailored, individualised world will require managing a vast array of data, deploying well thought-out trading

strategies and cultivating new industry partnerships.

As the landscape shifts, decisions on liquidity aggregation and smart order routing will grow in importance. For a firm like Instinet, it is an era of increased responsibility, a time to provide institutional clients with the benefits of independent, objective advice, backed by nearly 50 years' experience as the world's first financial technology firm.

THE PATH TO MIFID II

Big Bang: Member State Legislation

- · Multi-lateral trading between Brokers and Jobbers
- EU started process of introducing a more uniform system of regulation

1993: Investment Services Directive

- · Bi-lateral trading between Broker Dealers
- Adopted freedom of capital movement among Member States and introduced 'passporting'

2007: MiFID I

- · Multilateral trading on MTFs introduced
- Competition to exchanges, end of monopolies, OTC and other venue trading allowed across EU
- · Best-Ex requirements introduced

2018: MiFID II

- · Bilateral trading on SIs and RFQs
- Strict control of multilateral matching to control conflicts of interest including end of BCNs
- · Full unbundling of research and vendor products
- Trade obligations tightened, forcing use of SIs for OTC trading and flow onto MTFs/RIEs
- Introduction of Dark Caps will change dark trading dynamics—move to LIS
- Enhanced Best Execution requirements
 protect investors and increase accountability
 of execution decisions for both buy and sell side.
 All reasonable steps becomes all sufficient steps

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