Are all SORs created equal?: How SORs hunt dark liquidity

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As the market matures – encouraged by the drive for regulations that seek to bolster standard, fairness and efficiency – it becomes clear that there is a lot of room for improvement at several levels of the execution chain.

Any manual interception of an order during the execution process should be questioned.

The context for this article is smart order routing (SOR) logic and in particular, the use of dark pools when executing larger institutional block trades.

In order to analyse this subject, we first provide a definition of the terms execution and dark.

Execution
The decision to trade is largely governed by three levels of decision, ranging from the initial decision to buy/sell to market microstructure considerations:

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Decision (Portfolio/Fund manager)

The strategic decision made by a portfolio manager to move in to or out of a position leads to macro level instructions of what instruments to buy/sell, quantities, etc.

Macro Level (Trader, Algorithm)

The large order is then divided into smaller, more manageable parts using a certain algorithm that reflects the desired strategy. Each smaller part is then transmitted to the micro level of execution.

Micro Level (SOR, Market access)

The micro level focuses on the optimal execution strategy for each individual slice of the larger order in the best possible way using all available markets and execution channels.

Dark multilateral trading facilities

Dark multilateral trading facilities (MTFs) are matching engines that don't display any pre-trade information of resting orders to anyone and are regulated under MiFID with equal access and rules for everyone. To ensure a fair price discovery mechanism, dark pools base their execution prices on the primary exchanges' mid, bid or ask price. Execution is transparent and easy to benchmark.

Grey pools (Broker crossing networks)

Investors are most likely willing to pay a premium price to complete the order at once with no risk-in-time or price impact. Some dark pools match on order price and volume limits only without using a reference price such as the primary mid/bid/ask used by dark MTFs.

However, these are not transparent, and harder to benchmark – you need to trust the provider is not seeking to profit from both commission and spreads. These venues are often referred to as 'grey pools' and may face problems in the future as regulators show increasing interest in tightening the regulation of these venues. Fair, equal, and predictable behavior is on top of the agenda today – pushing for more automation and standardisation.

How SORs hunt dark liquidity

Dark is used differently at the micro level compared to the macro level and it is important to optimise the use of dark in both channels. However, a common mistake is to focus on only one part of the full chain as we will describe later on.

The use of dark pools at macro level (Algorithmic execution)

As described, executing a large block order typically involves

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dividing it into smaller parts (slices) that are executed over a period of time, for instance through using an algorithm. Only a small portion of the total order (one slice) is active in the lit market, while the bulk of the order 'rests' in the algorithm.

This is where dark in its first form enters the scene.

At the macro level, dark is a term for the part of an order a broker executes by trying to find a match for the order among its customer base, without causing market impact.

The hunt for efficiency, combined with the trend towards standardised, transparent and equal treatment of customers via new regulations, has led to an automation of this process through the use of electronically operated dark pools.

The part of the order that is not traded in the lit market is usually allowed to sweep a number of dark pools, carefully selected to avoid unwanted information leakage and in conjunction with anti-gaming strategies.

The use of dark pools at the micro level (SOR)

When the algorithm is executing slices that are considerably smaller than the big chunk at the macro level, it may decide to send an aggressive order to the SOR. Here

another type of dark execution – one which attempts to save half a spread in a mid-point dark pool before hitting the lit markets – is used.

The spread in Europe is somewhere between five and 20 bps, so this equals savings between 2.5 bps to 10 bps compared to losing the entire spread by being aggressive. We can trade at the mid price to save spread, but bid/ask price points are also interesting, since there may be more volume available at the offer price in the dark compared to lit. This enables investors to beat the weighted EBBO (European best bid and offer when volume is taken into account).

Are all SOR created equal?

As expected, routers comes in various shapes and sizes and are different based on a number of factors:

The creator/owner

Some routers are created by the buy side for their own use, but more commonly a SOR is provided by the sell-side for its customers, internal prop flow or a combination of the two. SORs are also offered by agency brokers that serve many sell- and buy-side customers that have different needs. There are also technology providers that

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sell standard products or offer routing customisation. Depending on the provider, the SOR will have different objectives and functionality.

The SOR maturity
An early-generation SOR will be more blunt and static. Later versions tend to be more dynamic and comprehensive, cleverly combining lit and dark volumes as well as preventing gaming attempts. This development never ends, not even with advanced mathematical chaos theories predicting cause and effect.

Degree of specialisation
Is execution the key consideration that the SOR provider focuses on, or is it just an enabler of another business? At a specialised firm, even top management will be involved in the design and quality of a router and frequently monitor SOR benchmarks.

Scale
Both an increase in, and diversification of, flow will speed up the learning curve for SOR providers. It will also provide a larger set of data to analyse in order to further develop and optimise the SOR logic.

Vertical integration
Does the SOR provider control reference data, gateways to market, market data, network and the full chain up to the SOR level, or do they only focus on the development of the SOR? This is critical to the provider's control and understanding of the whole process.

Business/price model
The result and focus of management and the entire organisation will be widely different if the SOR provider makes money on consulting hours, basis point commission on flow they get for providing research, or ideally if they are paid for the actual benchmarked performance of their execution.

Depending on the model chosen, the focus may turn to lower internal costs – internalising flow (to make money on scale and possibly make money on spreads), or hopefully a transparent good execution that is well benchmarked.

A commission model may create a principal versus agency problem where a customer wants best execution at the cheapest cost and the provider has to lower cost to get a decent margin. Since cost is easy to measure and quality is hard,

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a cost focus is common, which compromises execution quality. Full transparency would require the SOR provider to report the actual cost of routing to each customer plus a totally visible margin.

Benchmark

The selection of a benchmark has the same dramatic impact as business model. At a micro level, the focus is around beating the EBBO, offering price improvement and spread capture. At the macro level, benchmarks usually include implementation shortfall, VWAP, and other market impact measures. One extremely important aspect is the criteria needed to include or exclude venues in different benchmarks.

Summary

We have explained that all SORs are certainly not created equal and the underlying factors that contribute to their differences. It is essential to know who you are trading with, and their execution intentions. The important thing is to make a well-informed decision with the least amount of tradeoffs possible. Dark pools are rapidly increasing in numbers as institutions fight to keep internalising flow despite impending regulations. At the same time, huge orders face have a harder time in finding each other. Pegging executions at the mid/bid/ask is an easy, well working mechanism; but an opportunity to trade is missed since big investors are likely willing to pay a premium price if more volume can be done at once. But no one has yet managed to implement this with trust, transparency and efficiency. As pure agency brokers, we are waiting for 'the pure and transparent agency large in scale order matching' – that would bring down the cost for execution to a fraction of today. ■

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