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The Dark and the Darker Sides of the Market

Total transparency in financial trading can be costly.

The nostalgic image of traders standing around on the floor of the New York Stock Exchange, shouting at one another, throwing papers around is no more. Now unemotional computers are the traders, basing purchases on a tremendous amount of data.

The exchange market (or, for our purposes, the "lit market") is the best known platform to buy and sell equity shares. But it's not the only platform for trading. Since the 2000s, there are also "dark pools".

Although it may sound ominous, a dark pool is a legal mechanism typically used by large traders. It is an automated trading system that doesn't display orders to the public; a consolidated tape of trade execution details is released at a later point. Available shares are deliberately not advertised; buyers are matched via automated systems only when sellers are present. Prices are gleaned from the lit market. But some dark pools offer varying degrees of pricing to the publicly quoted prices on public equity exchanges.

The key difference between dark pools and the lit market is transparency. In lit markets, you can see the demand and supply. In a dark pool, they're not visible.

Over the last decade, there has been an expansion in trading in dark pools or off the lit market. In the United States, at least 30 percent of equity trading happens off the public exchanges. In Europe, off-exchange trading venues represent 40 percent of equity trading. Dark pools are also used in Australia, Canada and the United Kingdom.

Rise of the dark side

Dark pools have their purpose, but are they better than the lit market? In a recent article, **"Shades of darkness: A pecking order of trading venues"**, published in the *Journal of Financial Economics*, Albert J. Menkveld, Haoxiang Zhu and I set out to examine the heterogeneity among trading venues and when dark pools or the lit market are the best platform for trading.

When evaluating the various platforms, we propose a "pecking order" hypothesis. When executing orders, investors decide between dark and transparent trading venues by ranking them based on their associated costs and immediacy.

At the top of the pecking order are venues with the lowest cost and lowest immediacy. Those with the highest cost and highest immediacy go at the bottom. As a broker's need to trade becomes more urgent, they move from low-cost/low-immediacy venues to high-cost/high-immediacy platforms, we found.

Patience or money

For large institutions, selling blocks of shares can exact a toll, either in terms of cost or patience.

Costs depend on the type of platform. Selling on the lit market incurs transaction costs and a possible drop in price if large amounts of shares are sold off – a large transaction moves the price in an unfavourable way for the seller. In dark pools, the cost is limited, because prices aren't moving as quickly and large bulk trades aren't continually moving prices.

Immediacy or patience also varies with the platform: Selling quickly is easy on the lit market but patience is important in dark pools, as an investor must wait for a counterparty to come.

In the lit market, a trade can be done immediately but the costs are higher. In the dark market, one has to wait for a counterparty to arrive so there are waiting costs but the trading costs are lower.

A mutual fund may want to buy large quantities of shares and for such a large institution, dark pools might be a better option. There the fund only needs to wait for potential sellers and all positions will eventually be transacted at "fair" prices as referred by the lit market. The only catch is that the fund needs to be patient. Equally large selling demand might take hours if not days to cumulate.

If the fund needs to buy shares quickly, especially due to a market shock and high volatility, the lit market is preferable because what's on offer is clear and the buying fund can scoop up available shares quickly, but of course at an increasingly more expensive price.

Pecking order

We found that dark pools were top in terms of low-cost/low-immediacy. Yet not all dark pools are the same. The very top of the pecking order were those dark pools that used a mid-point for pricing shares. Whenever there is a match in this type of dark pool, the trading price is the middle point between the best-bid and the best-ask prices shown in the lit market. The ask price is always higher.

Just under the mid-point dark pools in the order are the non-mid-point dark pools, which allow transaction prices to fall anywhere between the best-bid and the best-ask prices. These in-between platforms, that aren't as dark or as transparent, traverse the spectrum in terms of cost and immediacy.

At the bottom is the lit market. This isn't to say the lit market is the worst; it's that trading is sent down the pecking order as shocks occur. The volume of shares becomes progressively larger further down the pecking order, especially when the market experiences volatility, stirring up investors' urgency to trade.

Using a data set of 117 stocks traded in October 2010, we found that right after an urgency shock, the total volume of shares drops significantly in the dark pools, while the lit venue sees significant increases. Dark pools are much more sensitive to shocks than the lit market.

The drawbacks of transparency

Different types of traders need different platforms. If you are very patient, the best thing to do is to go to a dark market. If you are facing urgent shocks (like a volatile market), and it is no longer meaningful to wait, it's best to pay to execute on the lit market.

As it turns out, transparency is not always good for the market. It is fair to hide demand if the market requires it. If regulators were to abandon dark pools, it would have a negative effect on the market as a whole. Essentially, certain types of investors who otherwise would be able to trade would, in fact, suffer from inefficient asset allocation due to the regulated transparency of trading venues.

The different platforms – the lit market, non-midpoint dark pools and dark pools – have been tailored to institutional demand. The market has worked out an efficient way to ensure that the dual priorities of cost and immediacy are balanced.

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