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Building Blocks of the Future

INTRODUCTION

The dark trading landscape faces fundamental change once again. The changes in MiFID II/MiFIR, including dark volume caps, likely will profoundly affect trading strategies, fundamentally altering how institutional investors interact with dark liquidity in Europe.

The impending restrictions will curtail many segments of dark trading, but they will not eliminate the need for participants to minimise market impact by executing block trades in the dark. The European Securities and Markets Authority (ESMA) has given special consideration to what it calls "large in scale" trades and will allow them to remain unaffected by the caps. The onus is now on the industry to trade in a way that is within the new rules while it makes use of the exemptions from the caps.

With the delay in implementation, the industry has been amassing an arsenal of solutions to a problem that will not arrive until 2018. This article examines changes in dark trading legislation from MiFID I to MiFID II, the growth of block trading trends in recent years, and market initiatives that have emerged as a result of the coming restrictions.

MIFID I AND PRE-TRADE TRANSPARENCY

MiFID I opened the execution of equity transactions to a variety of operators through three types of trading venue: regulated markets (RM), multilateral trading facilities (MTF) and systematic internalisers (SI). Any transactions concluded outside an RM or MTF, including those taking place on an SI, were considered over the counter.

To ensure effective price discovery, transparency requirements were imposed. Pre-trade transparency rules under MiFID I dictated that recognised trading venues publish information on the current bid and offer prices and the volume available at those prices in their systems, unless venues were made exempt by the application of certain waivers.

Four distinct pre-trade transparency waivers were introduced, any of which would allow a venue to be exempt from the pre-trade transparency obligation. These waivers present the key to successfully understanding MiFID II's impact on the dark trading landscape, so we briefly lay out their definitions below.

Reference price waiver	Most dark MTFs currently operate under the reference price waiver. When orders are matched, executions take place at a price derived from an external reference source such as the primary market best bid/offer or consolidated European best bid/offer. Under MiFID I, MTFs are able to trade at the bid, mid and offer.
Negotiated trade waiver	The negotiated trade waiver allows negotiated trades to be concluded off order book provided the transaction occurs at or within the current volume-weighted spread, or the price is subject to conditions other than the current market price of the share (e.g., a VWAP transaction).
Order management facility waiver	The order management facility waiver covers a specific scenario in which orders are held in an order management facility maintained by an RM or MTF, pending disclosure of those orders to the market. Use cases of this waiver include iceberg and stop-loss orders.
Large in scale waiver	For very large orders, the large in scale waiver allows dark trades to take place at any price. The definition of "large" is stock-specific, and goes up to €500,000 for large caps. This waiver has had relatively limited use in Europe until now because of the flexibility of the reference price waiver.

The growth of the dark MTF market in Europe since January 2010 demonstrates the widespread use of these waivers.

GROWTH OF DARK MTF MARKET SHARE

Source: ITG, Bats www.batstrading.co.uk

In addition to the waiver exemptions for MTFs and regulated markets, brokers have been permitted to operate systematic internalisers and broker crossing networks (BCNs) with few restrictions. The BCN framework has allowed brokers to transact significant volumes internally, ostensibly matching order flow "in the process of executing client orders." Brokers operating SIs technically have been subject to quoting obligations, although these have not been stringent enough to make these venues materially different from other dark venues.

Both structures have been used by several European brokers for matching client order flow and internally generated orders with more discretion and less regulatory burden than the MTF or RM frameworks.

MIFID II IMPACT

The revised Markets in Financial Instruments Directive is far reaching. It will affect all trading venues, all market participants and all asset classes. In this paper, we focus on the impact on equities.

One of the most fundamental changes will be the disappearance of broker crossing networks. As stated in the new regulation, "shares admitted to trading on a regulated market or traded on a trading venue shall take place on a regulated market, MTF or systematic internaliser."[1] This leaves several large European brokers looking for a new way to match client order flow.

Systematic internalisers will still be allowed, but the requirements will become more onerous. The quoting obligations have been clarified, and quantitative definitions based on trading volumes have been added.

Regulated markets and MTFs will also undergo significant changes. The application of the reference price waiver will be restricted to trades at the midpoint only. Trading at the bid or offer will no longer be allowed under this waiver.

Another section of MiFID II that will affect regulated markets and MTFs introduces restrictions on the amount of dark trading taking place under two of the pre-trade transparency waivers: the reference price waiver and the negotiated trade waiver. Double volume caps, referred to by FCA Director David Lawton as the "clunky aggregate cap mechanism," present an entirely new mechanism for limiting dark trading.

[1] Article 25 (4) (a) of Directive 2014/65/EU

Under MiFID II, venues operating under the reference price and negotiated trade waivers will be subject to these volume caps:

- **4%** of the volume of trading in a stock **in a single dark pool.**
- **8%** of the volume of trading in a stock **across all dark pools.**

The caps apply only to transactions taking place on a trading venue—an RM or MTF—and not to OTC or SI transactions.

The caps have faced considerable criticism since announcement. Markus Ferber, member of the European Parliament leading work on the overhaul of MiFID I, noted, "My personal conviction is that the double volume cap will not function."[2] In addition to this, there are concerns that the specifics of the calculation used to activate the caps will cause some unusual trading patterns, and will lead to widespread bans on dark trading in many major stocks.

As clarified in the regulatory technical standards, calculation of the caps will be taken from data gathered since January 2017 and will be performed on an individual stock level over a 12-month rolling window. If the relevant cap is breached, the implication is punitive and binary; execution of that stock in the pool or all dark pools would cease for six months. Because of the difference between the rolling calculation window and the suspension period, some stocks could be banned for two consecutive six-month periods.

IMPACT OF DOUBLE VOLUME CAPS ON FTSE 100 STOCKS

RPW + NTW value traded as % of market total	No. of FTSE 100 securities in % band
0-8%	0
8-10%	0
10-15%	19
15-20%	43
20-25%	27
>25%	12
Total	101

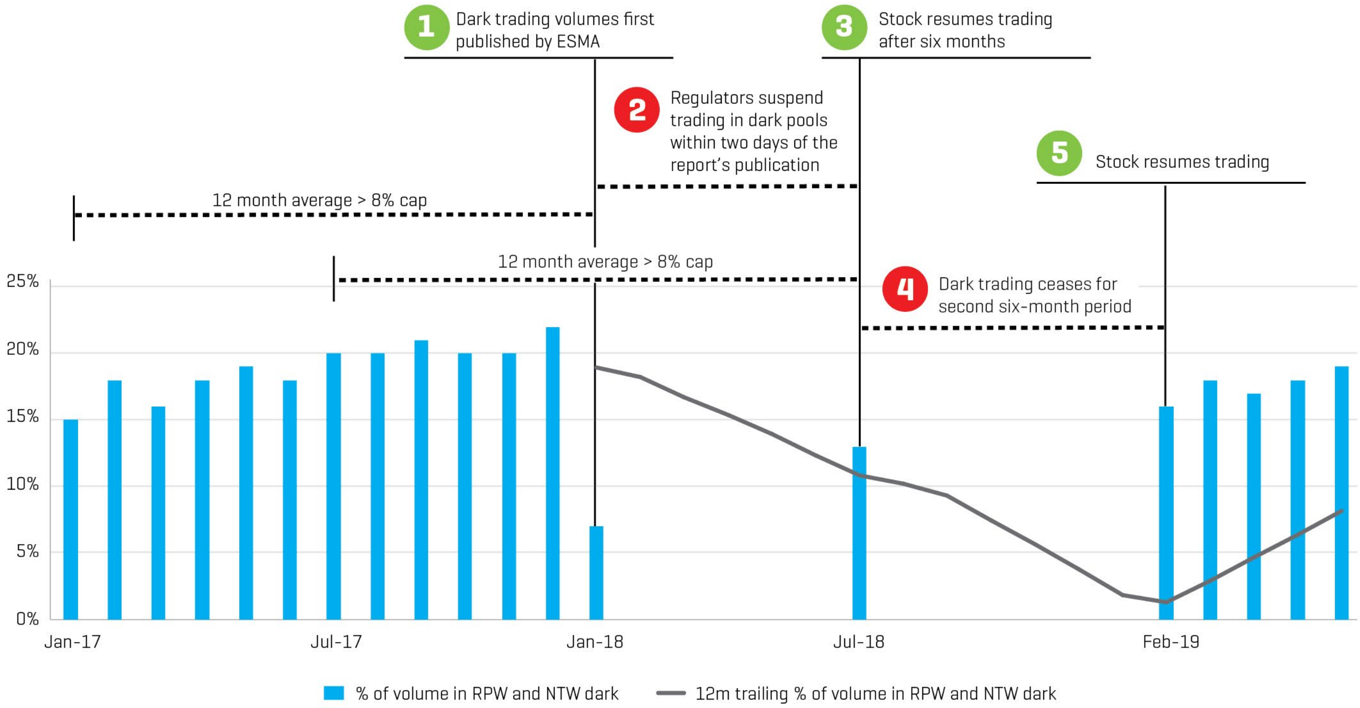
Source: LSE presentation, Transparency for equity instruments, November 2015

How prevalent will such breaches be? Several studies have indicated that current levels of dark trading would have a significant number, if not the majority, of stocks breaching at least one of the caps. Research conducted by the London Stock Exchange in November 2015 found that at prevailing levels of dark trading, all stocks composing the FTSE 100 index would exceed the 8% threshold, and up to 80% of stocks in other major European indices would also exceed the threshold. There are limited incentives for individual venues to curtail dark trading to avoid a breach, so all signs indicate these caps are not a purely academic deterrent—they will be breached by a significant number of stocks.

[2] Trade Tech 2015 panel session

Here we consider a stock trading in dark pools at an average of 20% in 2017. This would lead to the following scenario.

DARK CAP SUSPENSION SIMULATION



Source: ITG

The ability to make use of non-displayed liquidity is crucial to reducing implicit execution costs. We expect investors to look to other ways of trading in the dark that will not contribute to or be affected by the caps. We now examine the most significant one of these, the large in scale waiver.

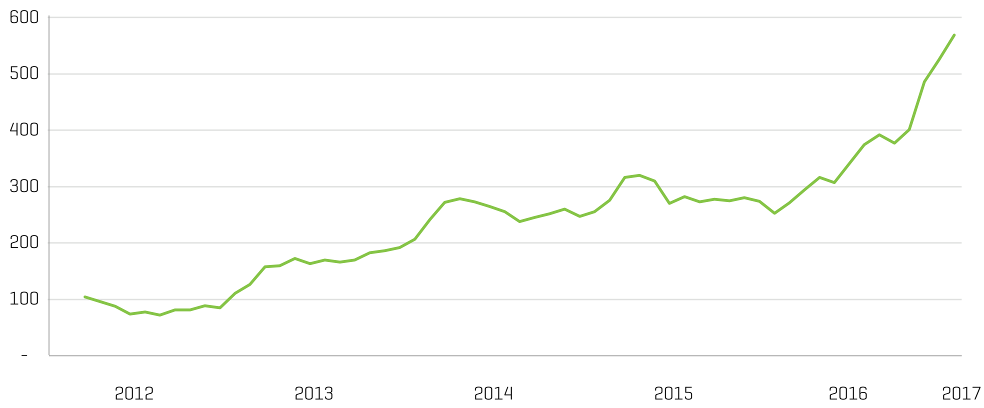
BLOCK TRADING AND THE LARGE IN SCALE WAIVER

Block trading refers to the execution of trades that are significantly larger than those that occur on pre-trade transparent venues such as exchanges. ESMA has acknowledged the benefit to investors of being able to trade large quantities of stock without the associated market impact. It has treated this as a separate category since MiFID I and has assigned it its own waiver, the large in scale waiver.

Electronic block trading has grown significantly in recent years as investors have adopted a range of block trading tools, including desktop conditional order systems such as ITG's POSIT Alert and block trading algorithms such as ITG's POSIT Marketplace and Dark Allocator. A 2015 study by Alistair Cree and Colleen Ruane confirmed that use of large in scale (LIS) liquidity varied significantly among algo strategies.[3]

[3] Cree and Ruane, 2015, MiFID 2: Impact of Dark Caps on Algorithmic Trading Strategies, http://www.itg.com/thought-leadership-article/mifid-2-impact-dark-caps-algorithmic-trading-strategies/

THE EVOLUTION OF DARK BLOCK TRADING



Source: Normalised total value traded across European block trading platforms—POSIT Alert, Turquoise Block Discovery and Liquidnet—using three-month moving average.

While some of these platforms have operated under the soon-to-be-restricted reference price waiver, their block nature should allow the use of MiFID II's LIS waiver with minimal changes. This move would grant them exemption from both the calculation of the caps and any subsequent suspension of dark trading.

To qualify for exemption under the LIS waiver, orders in these systems will need to be above the size as defined by ESMA. This stock-specific threshold depends on the security's average daily turnover (ADT). LIS threshold definitions were put under increased scrutiny when industry participants became aware of their increasing relevance. Following an industry consultation in December 2014,[4] ESMA created an additional class of illiquid securities, with new criteria, in its LIS definitions.

LARGE IN SCALE THRESHOLD DEFINITIONS

Average daily turnover (EUR)	ADT < 50,000	50,000 ≤ ADT < 100,000	100,000 ≤ ADT < 500,000	500,000 ≤ ADT < 1,000,000	1,000,000 ≤ ADT < 5,000,000	5,000,000 ≤ ADT < 25,000,000	25,000,000 ≤ ADT < 50,000,000	50,000,000 ≤ ADT < 100,000,000	ADT ≥ 100,000,000
Minimum size of orders qualifying as large in scale compared with normal market size (EUR)	15,000	30,000	60,000	100,000	200,000	300,000	400,000	500,000	650,000

Source: MiFID II RTS 1, Annex II, Table 1 (http://ec.europa.eu/finance/securities/docs/isd/mifid/rts/160714-rts-1-annex_en.pdf)

[4] "The currently proposed thresholds have a disproportionately negative impact on the lower ADT classes." See ITG response to ESMA Consultation Paper on MiFID II/MiFIR (reference ESMA/2014/1570)

In addition to waiver changes for existing platforms, numerous other initiatives have recently sprung up to provide alternatives to trading under the reference price and negotiated trade waivers.

MARKET INITIATIVE	What is it?	Who's doing it?	How does it work?	Why will it be exempt from the caps?	How has the industry responded?
Turquoise Plato Block Discovery™	Initially launched in October 2014 as Turquoise Block Discovery™ and renamed following a cooperation agreement with the Plato Partnership finalised in September 2016, Turquoise Plato Block Discovery™ offers a conditional order service designed to facilitate trading of larger blocks than traditional dark pools.	Turquoise, the equity trading venue that is majority-owned by the London Stock Exchange, in cooperation with the Plato Partnership, a not-for-profit industry group comprising asset managers and broker dealers.	The service sits on top of the Turquoise Plato Uncross™ offering, and matches standing block liquidity and conditional orders at randomised intervals.	Though currently operating under the reference price waiver, Turquoise Plato Block Discovery™ is designed to support block executions and so is expected to transition to using the large in scale waiver to qualify for exemption. Orders participating in the service are already subject to a minimum order threshold, expressed as a % of LIS.	Significant buy-side interest helped gather the support of the sell side, with several brokers including ITG interacting with the service from day one. As of November 2016, 25 sell-side firms are offering access to the service through either block indications (conditional orders) or block discovery notifications (firm orders explicitly opting in to interact with the service).[5] Several of these have integrated the service into their algorithms, with the ability to enable this on a client-by-client basis.
Bats LIS	An indication of interest (IOI) negotiation and execution platform for large in scale trades, announced in August 2016. The first phase (sell-side) went live in December 2016. The second phase (buy-side) is expected to go live in March 2017.	Bats Europe, the largest stock exchange operator in Europe, together with BIDS Trading, operator of an existing broker-sponsored block trading network in the U.S.	Participants submit IOIs to the Bats LIS system to identify potential matches. When a match is identified both parties choose a designated broker for clearing, and the trade takes place on-exchange. Buy-side participants can control IOIs through their EMS or OMS.	Order size is restricted to a minimum of LIS, making trades eligible for exemption under the LIS waiver.	As of February 2017, there are 8 brokers live on the platform, with another 7 expected to go live by the end of Q1 2017.[6] BIDS's success in the American market has shown the viability of the model, however it is unclear how much drive there will be for a broker-sponsored trading model within European market structure and regulation, especially in the context of unbundling. Though the level of activity on the platform is relatively limited so far, with €82m traded in the week of the 6th of February, this is a promising start for a new venue of this type.
Bats Europe periodic auctions	A periodic auction book, launched in October 2015.	Bats Europe, the largest stock exchange operator in Europe.	A lit order book operating in parallel to the continuous order book, holding very short regular auctions with prices collared by the EBBO. The frequency of the auctions is between 100 milliseconds and five minutes, depending on the liquidity of the stock. Because of the extremely short duration of the call period, randomised end time, and lack of indication at the start of an auction, the potential for pre-trade information leakage is limited. Minimum order size allowed is currently €3000. Allocation is done on a price-size-time basis.	The indicative price and size of each auction is published, so the mechanism is considered pre-trade transparent and thus the caps do not apply.	As of February 2017, there are 13 brokers participating regularly in the Periodic Auctions book. On 21 October, Bats introduced a new Minimum Acceptable Quantity (MAQ) feature, a welcome addition bringing the available functionality more in line with traditional dark pools. At the end of January the minimum duration for 992 securities was reduced, with 28% of securities now having the lowest minimum duration of 100ms. €357 million traded in the Bats Periodic Auctions book in January 2017.

[5] Turquoise website: http://www.lseg.com/turquoise-plato-block-discovery/broker-list
[6] http://www.bats.com/europe/equities/trading/lis_broker_list/

MARKET INITIATIVE (CONT)

	What is it?	Who's doing it?	How does it work?	Why will it be exempt from the caps?	How has the industry responded?
Large In Scale trades on UBS MTF	An additional pre-trade transparency waiver introduced into UBS MTF on 16th January 2017.	UBS MTF, the dark multilateral trading facility operated by UBS.	Most of the mechanics of the MTF remain unchanged, but trades which meet the LIS size requirements are consummated under the LIS waiver. Other trades will continue to take place as RPW.	Trades taking place under the LIS waiver are exempt from the caps.	Based on the first 15 days of trading since the introduction of the new waiver, approximately 1% of value traded in UBS MTF has taken place under the LIS waiver. Of the trades done under RPW in January 2017, around 30% of value traded was done at the bid or offer. It is not yet clear what will happen to these trades after January 2018, as bid and offer trading under RPW will no longer be possible.
Euronext Block MTF	A new block-focused dark MTF, scheduled for launch mid-2017.	Euronext, operator of the primary stock exchanges in Amsterdam, Brussels, Lisbon and Paris and of Smartpool, the London-based dark MTF which will be revamped into a new block trading MTF.	Euronext Block MTF will accept only LIS orders, on either a firm or conditional basis. There will be optional functionality allowing IOIs to be displayed to selected counterparties, with the sender having control over who receives IOIs.	Trades taking place under the LIS waiver are exempt from the caps.	With the service officially announced on 15 February 2017 and the launch currently scheduled in mid-2017, the list of firms who will connect to the service is not yet known. However, interest could be significant if Euronext manages to fully engage its member base.
LIS on SETS order book	Hidden orders within the LSE SETS lit order book.	London Stock Exchange Group.	Block orders can be sent to the LSE's lit order book but will remain concealed from other participants provided they meet the LIS thresholds. The orders can have a limit applied, or be pegged to the midpoint of the best bid and offer. In a sense, this offering could be viewed as a dark order book sitting within the main LSE lit market order book, therefore interacting with both dark and lit contra liquidity. In addition to resting orders, midpoint IOC orders and aggressive IOC orders can also interact with this order type.	Orders must be large in scale to be posted to the book, and so can become exempt under the LIS waiver.	There is no information available on the number of members using the service. The total value traded in the four month period spanning October 2016 to January 2017 was over £265m. Value traded in January 2017 was £63.8m, an increase of 66.2% on January 2016.[7]
Deutsche Börse volume discovery orders	An enhanced iceberg order type to allow execution of large orders within the Xetra book, launched in December 2015.	Deutsche Börse, the operator of Xetra.	The new volume discovery order allows the hidden part of an iceberg order to be executed (matched) against other volume discovery orders (VDOs) at the midpoint of the bid-ask spread in the order book through a second limit. An optional minimum executable quantity ensures that only large orders will qualify for matching.	Midpoint executions from volume discovery orders benefit from exemption under the LIS waiver. Executions at the bid or offer due to normal iceberg behaviour continue to take place under the order management facility waiver.	It is not clear how many brokers are connected to the service. Deutsche Börse has provided exchange members with an incentive to use the service—no trading fees for VDO executions for the first year.
Euronext hidden orders and iceberg enhancements	A new service allowing market participants to execute large-in-scale hidden orders and enhanced iceberg orders on Euronext's central order book, announced in June 2016.	Euronext, operator of the primary stock exchanges in Amsterdam, Brussels, Lisbon and Paris.	Market participants will have the option to specify a second limit on their iceberg orders for crossing at mid, as well as to randomise their display sizes to avoid detection. In addition, the central order book will support completely hidden orders at multiple price levels.	Both hidden orders and enhanced iceberg orders will benefit from exemption under the LIS waiver.	As of February 2017 regulatory approval is still pending. When the service goes live, currently planned for Q2 2017, member firms will have access through their existing connectivity to Euronext.

[7] Data provided by LSE.

All of these initiatives are examples of welcome innovation in the dark trading space in response to coming regulatory changes, giving investors new tools to find liquidity when the old ones become constrained or outlawed. Meanwhile, the old tools are still serving the industry's needs, so some of these initiatives have seen limited uptake thus far.

Turquoise Plato Block Discovery, arguably the initiative with the highest level of backing from both sides of the industry, recently celebrated a record month with €1.7bn traded in January 2017. This is the result of consistent growth, and the service is well on its way to becoming a significant source of liquidity in the new regulatory environment.

BREXIT AND MIFID II

On June 23, 2016, citizens of the United Kingdom voted 52% to 48% to leave the European Union, creating uncertainty around the future of the U.K.'s place in Europe. While the exact outcome of a potential Brexit is not known, and setting aside the possibility of a second referendum, one likely model would result in the U.K.'s adopting the full set of rules imposed on other EU firms in MiFID II.

Regardless of the regulatory model adopted post-Brexit, the U.K. has an extensive negotiation process ahead to finalise a withdrawal agreement with the remaining 27 member states of the EU. The negotiation period allowed under the Lisbon Treaty extends to two years from the invocation of Article 50, which at time of print is yet to occur. This leaves March 2019 as the likely earliest date for the U.K. to leave the EU, more than a year after MiFID II takes effect. We therefore fully expect the regulatory changes discussed in this paper to apply to the U.K. as they will to other current EU member states.

CONCLUSION

Dark trading in Europe has grown significantly in recent years, with increasing adoption by investors looking to minimise market impact on large orders. A variety of tools, from broker algorithms to blotter-sweeping desktop applications, have become indispensable components of the modern liquidity-seeking trader's workflow. Brokers, exchanges and other technology providers have invested in building algorithms, desktop tools, MTFs, SIs and BCNs, and to some extent have all become a part of the European dark marketplace.

MiFID II will impose a significant limitation on many of these aspects of dark trading. The disappearance of BCNs, restriction of the reference price waiver to midpoint, and introduction of double volume caps will all change the dark trading landscape in their own ways. In the inevitable event of a suspension of dark pool trading triggered by the volume caps, investors will be restricted to a few specific ways of finding liquidity in the dark, most notably the use of large in scale orders.

The possibility and reality of these restrictions will force investors to access dark liquidity in a more deliberate way, and the industry is well on its way to providing the tools to allow investors to do this. The continued availability of current market structure solutions has limited the need for these new tools, but this is expected to change as soon as the new regulation comes in.