

EUROPEAN MARKET MICROSTRUCTURE SURVEY

Survey of volumes, market share and other matters.
Q2 - 2020

Author: Richard Hills

Last modified: July 2020

Contact: marketstructure@big-xyt.com

INTRODUCTION

The objective of the microstructure review is to present and discuss our observations on the evolution of trading volumes and the mix of liquidity pools that make up the European equity market. We publish this review on a quarterly basis with monthly updates.

This data is taken from our Liquidity Cockpit toolkit, which provides daily, monthly, quarterly and annual data on volumes by type of liquidity pool and by trading venue. We also provide many detailed data and metrics on the market, such as volume curves, spreads, venue price reversion measures, EBBO presence and many more.

There is a small methodology change since the Q1 review. We have eliminated SI related volumes for shares that are not part of a major large, medium or small cap index (for example US names traded on risk by European brokers). This gives a more accurate view of European equity trading and is part of our ongoing efforts to cast light on off order book trading.

If there is something that catches your eye in our review, or you would like to explore some of the ideas further, please get in touch via marketstructure@big-xyt.com

IF YOU ARE NEW TO EUROPEAN EQUITY MARKET MICROSTRUCTURE OR WANT TO KNOW MORE ABOUT THE TERMS AND CLASSIFICATIONS IN THE REVIEW, YOU WILL FIND EXPLANATIONS ON THE LAST PAGE.

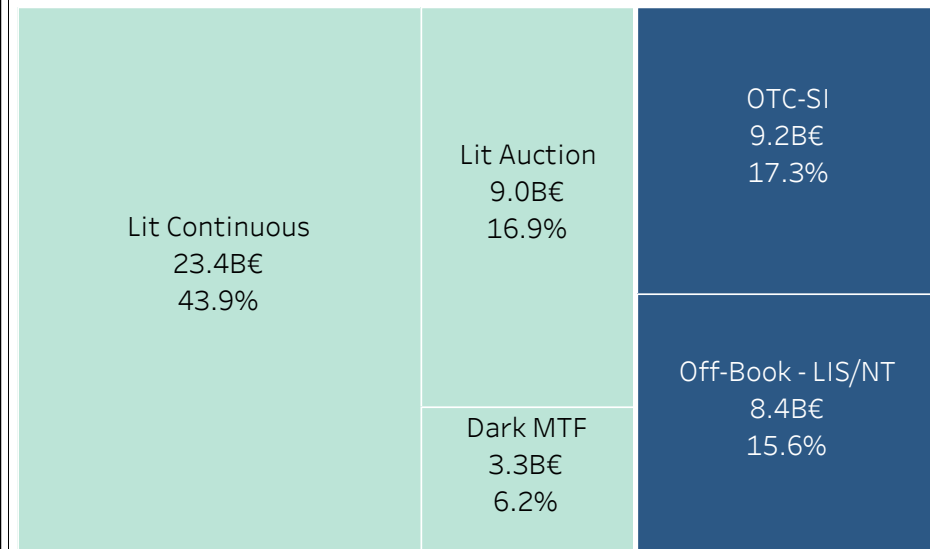
PREVIEW: European equity market volumes and proportions.

2020 trading volumes are 27% higher than 2019 and 7% higher than 2018.

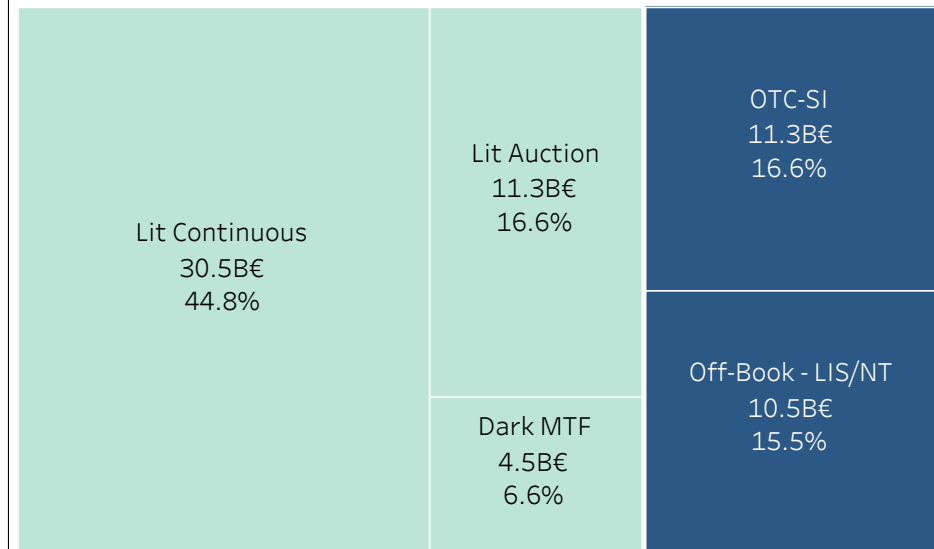
Following Q1's spike to 73B€ per day (a 35% increase on Q4), Q2 fell back 15% to 62B€, still 4B€ per day above the long term pattern of 58B€. From 2019, all liquidity pools have significantly increased value traded although the sands of volume distribution hardly shifted at all. The ongoing saga of the deflating market share of intraday Lit order book trading was temporarily reversed in Q1 when it gained 5% but most of this was given back in Q2.

While some respite from the long term deflation of trading volumes is welcome, spikes like this are a double edged sword. On the one hand, they provide a much needed boost to the finance industry's service providers like Exchanges, broker/dealers and depositories. But they do not normally spell good news for investors. As amply demonstrated in Q1, volume spikes are normally driven by economic shocks, short selling and higher volatility, which send investors fleeing for lower risk investments or other regions followed by long periods in the doldrums.

Market Size 2019 ADVT



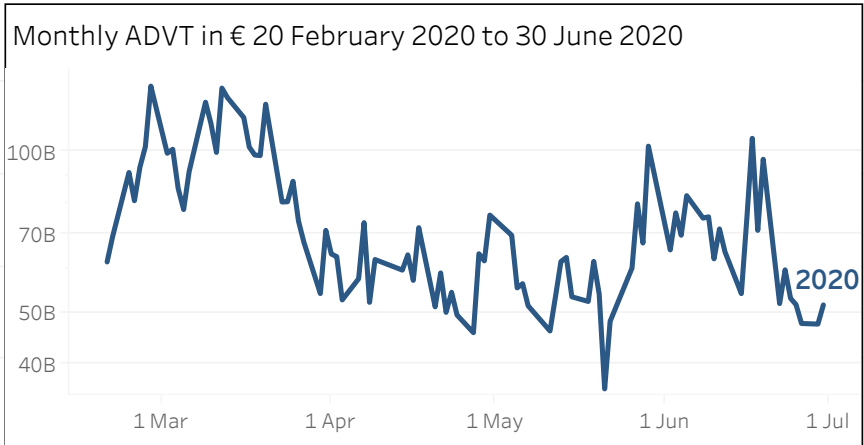
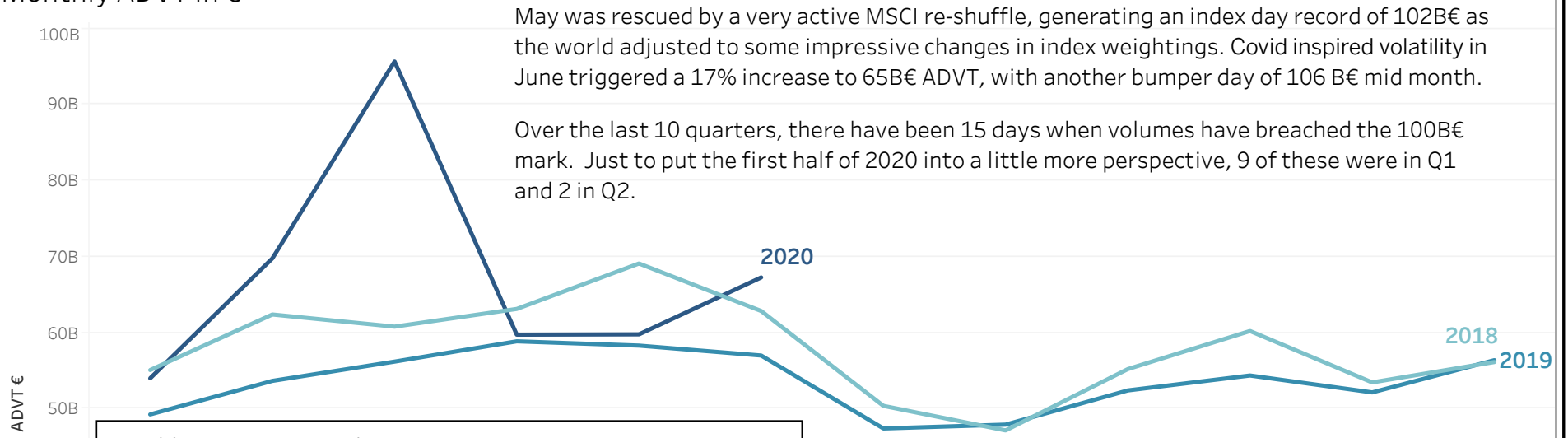
Market Size 2020 ADVT



Quarterly Market Overview

Q2 volumes were subdued until but thanks to a spike in June were still 17% higher than 2019.

Monthly ADVT in €



	2018			2019			2020		
	Traded Value €	ADVT €	% Chg ADVT	Traded Value €	ADVT €	% Chg ADVT	Traded Value €	ADVT €	% Chg ADVT
Q1	3,732B	59B		3,332B	53B	-7%	4,683B	73B	35%
Q2	3,891B	65B	9%	3,422B	58B	10%	3,679B	62B	-15%
Q3	3,245B	51B	-22%	3,192B	49B	-15%			
Q4	3,451B	57B	12%	3,302B	54B	10%			
Average	3,580B	58B		3,312B	53B	-7%	4,181B	68B	27%

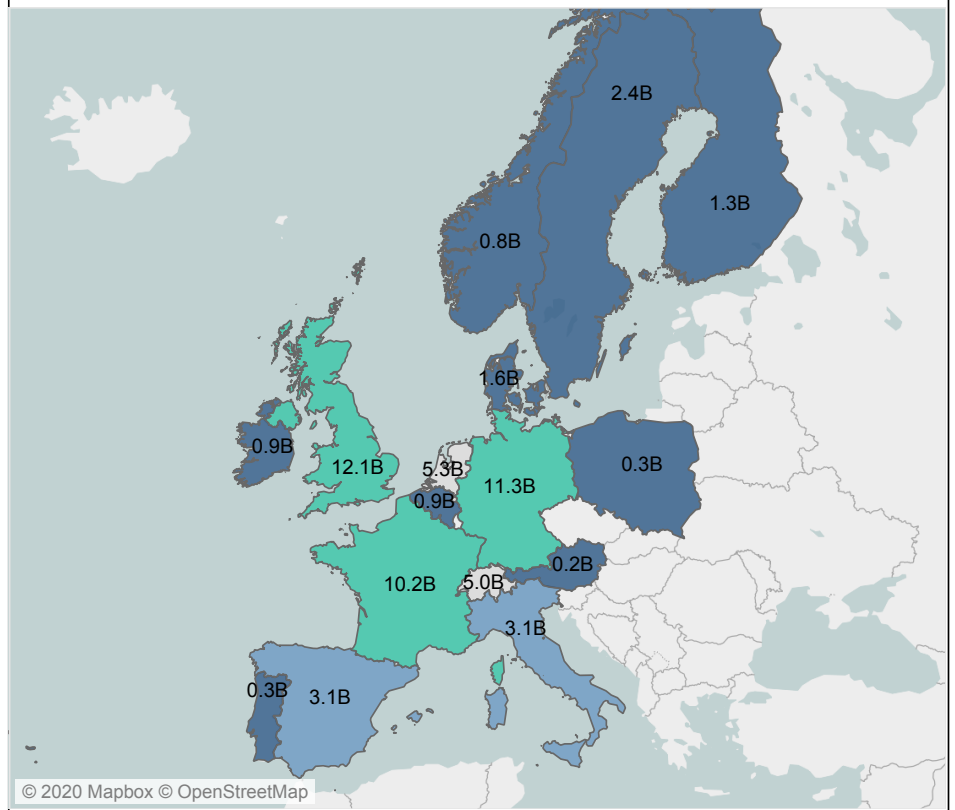
Country Volumes

Are investors more reticent in countries hardest hit by Covid-19 ?

As volumes head back towards pre-Crisis levels, we notice a regional flavour. For the most affected countries, April and May volumes fell below January levels, perhaps as investors were slower to return. These are also the indexes that remain 15% or more off their Q4 highs. Higher volumes in June can be read either as further sell offs in reaction to ongoing Covid scares, or as returning confidence. You have to look at individual shares to see that detail, which can be found in our Liquidity Cockpit tools.

Country	Q1			Q2		
	January	February	March	April	May	June
Austria	0.2B	0.3B	0.4B	0.2B	0.2B	0.3B
Belgium	0.8B	1.1B	1.4B	0.8B	0.8B	1.1B
Denmark	1.4B	1.6B	2.2B	1.5B	1.8B	1.7B
Finland	1.2B	1.6B	1.9B	1.3B	1.3B	1.4B
France	9.2B	12.4B	17.0B	9.7B	9.1B	11.6B
Germany	8.2B	10.5B	15.3B	10.2B	10.4B	13.2B
Ireland	0.6B	1.0B	1.4B	0.8B	0.8B	1.0B
Italy	3.4B	4.4B	5.5B	2.6B	2.9B	3.7B
Netherlands	4.2B	5.8B	7.6B	5.5B	5.3B	5.2B
Norway	0.7B	1.0B	1.1B	0.8B	0.9B	0.8B
Poland	0.2B	0.2B	0.3B	0.3B	0.2B	0.3B
Portugal	0.2B	0.3B	0.4B	0.3B	0.3B	0.2B
Spain	3.2B	3.9B	4.9B	2.7B	2.9B	3.7B
Sweden	2.1B	2.4B	3.4B	2.4B	2.3B	2.4B
Switzerland	4.1B	5.8B	9.0B	5.2B	4.7B	5.1B
UK	11.3B	13.7B	18.9B	12.4B	12.0B	12.0B

Volumes Map Q2 2020



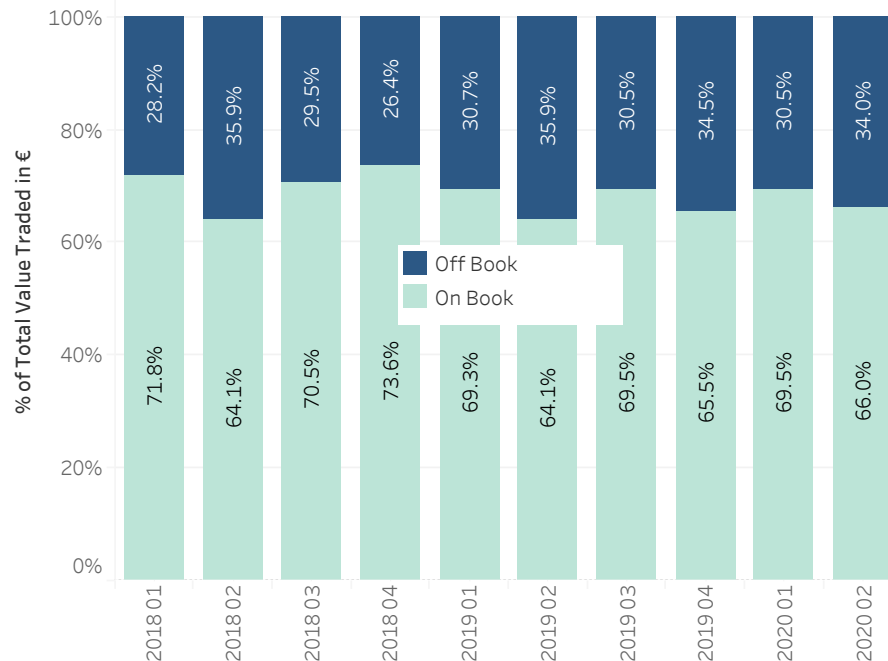
Fragmentation Overview

The Order Books gave up 3.5% market share to Off Order Book trading in Q2, returning the gains of Q1.

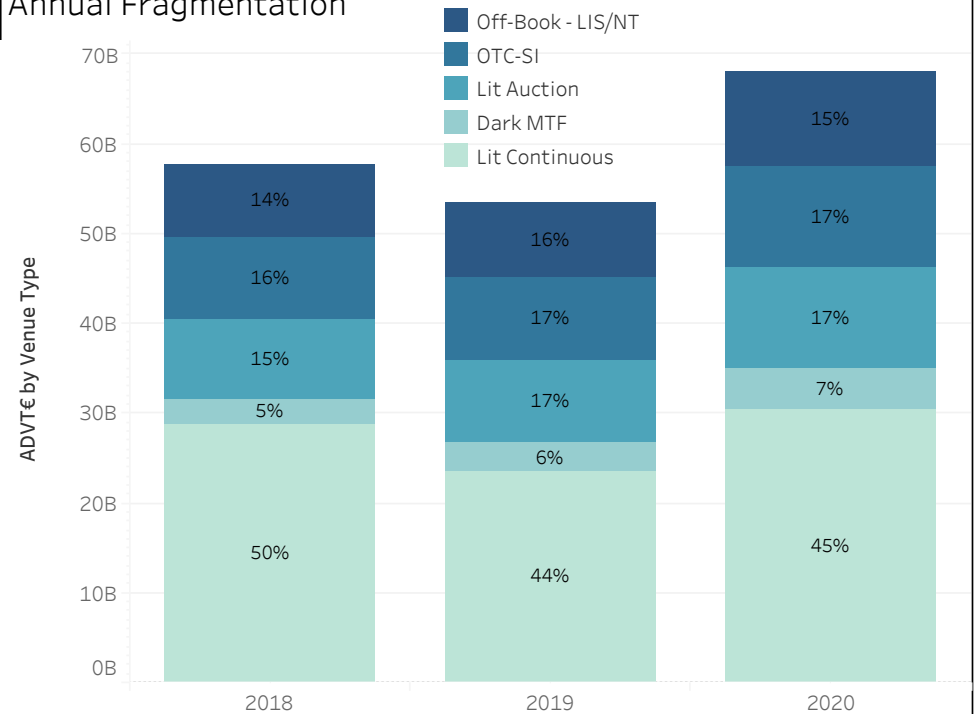
A major aim of MiFID2 was to encourage trading on public Order Books, preferably Lit ones, to strengthen price formation. Ongoing reviews by ESMA and others of the level of dark caps and SI trading may soon result in changes.

The main feature in the fragmentation story is how the Lit Continuous sessions of Order Book trading have lost at least 4% market share since MiFID2 began, and 6% in 2019. As volumes have exceeded 2018 levels this year, this seems to indicate a permanent transfer of liquidity. We can see the redistribution is fairly even across the other main 4 types of liquidity pool.

Market Share OnOrder book v Off Order Book



Annual Fragmentation



Fragmentation by Liquidity Category

The tug of war: Lit Continuous trading v the rest.

As noted in previous reviews, Lit Continuous trading is the most sensitive to changes in overall market volumes. It decreases the most when volumes dry up and vice versa. Both Q1 and Q2 have illustrated this point further, with very high volumes in June pushing up flagging volumes in April and May to the benefit of Lit Continuous market share.

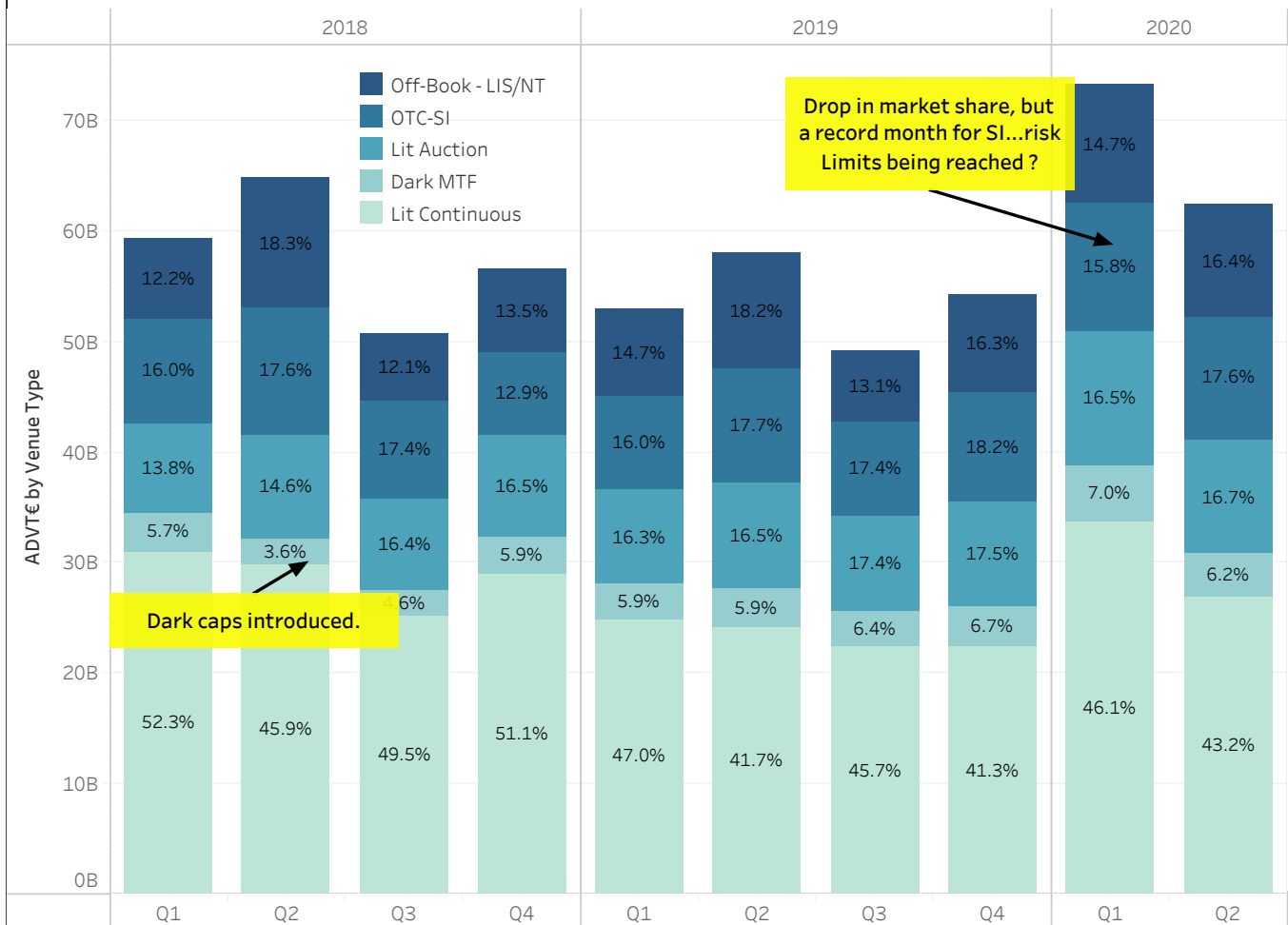
As can be seen in the chart, the long term trend away from Lit Continuous trading has not been stemmed by the last few months. The change in distribution is slow and meandering, but over time we see a steady leak to all other types of trading venue.

Compared with Q1 2018:

- 2.9% to the Auctions,
- 1.6% to SI trading,
- 4.2% to off order book crossing,
- less than 1% to dark trading.

We will look particularly at the Auctions and SI trading in this review.

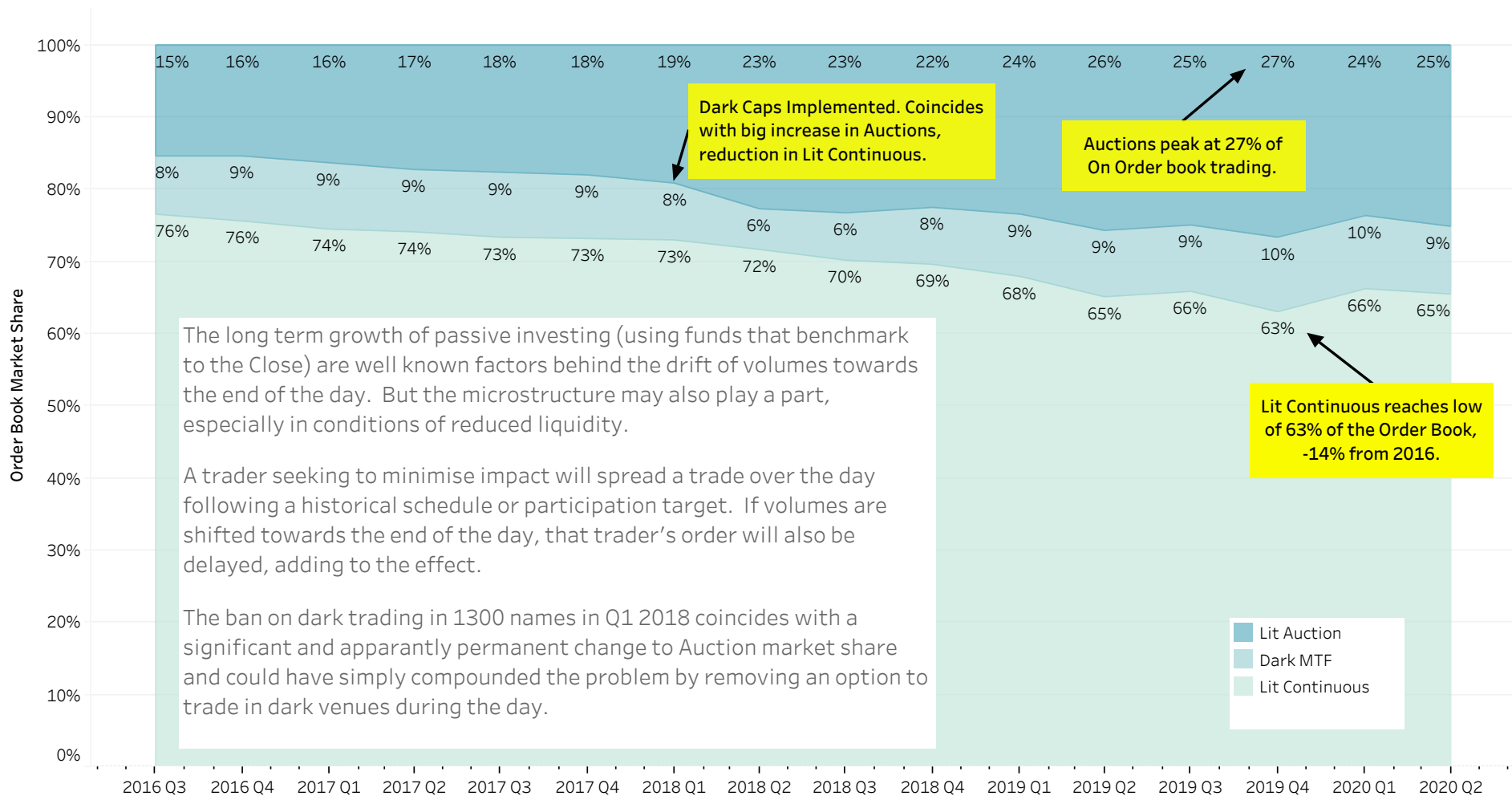
Quarterly Fragmentation



Fragmentation of the Order Book

The march of the end of day auctions resumes.

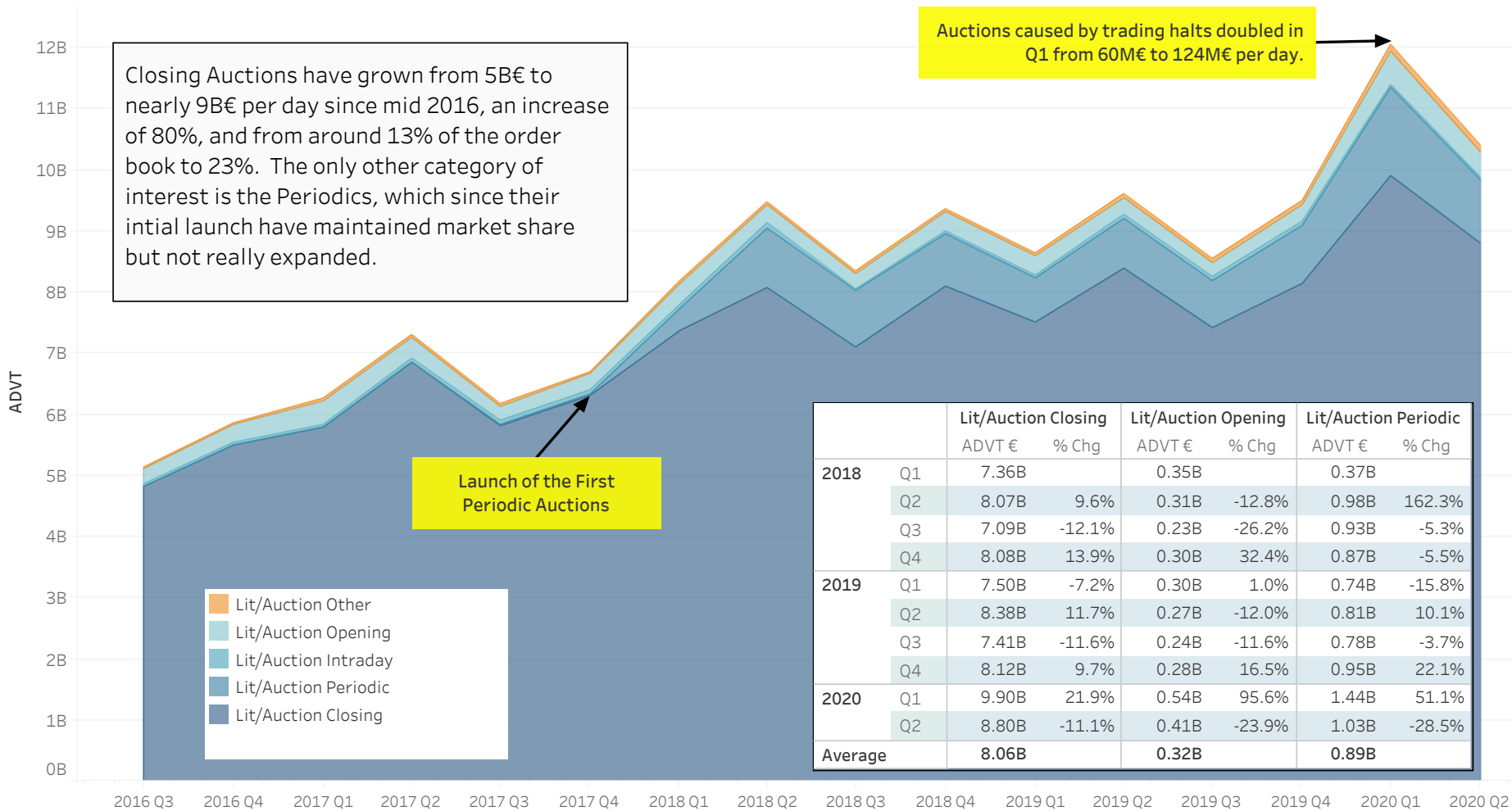
Order Book Market Share



INSIDE THE AUCTIONS

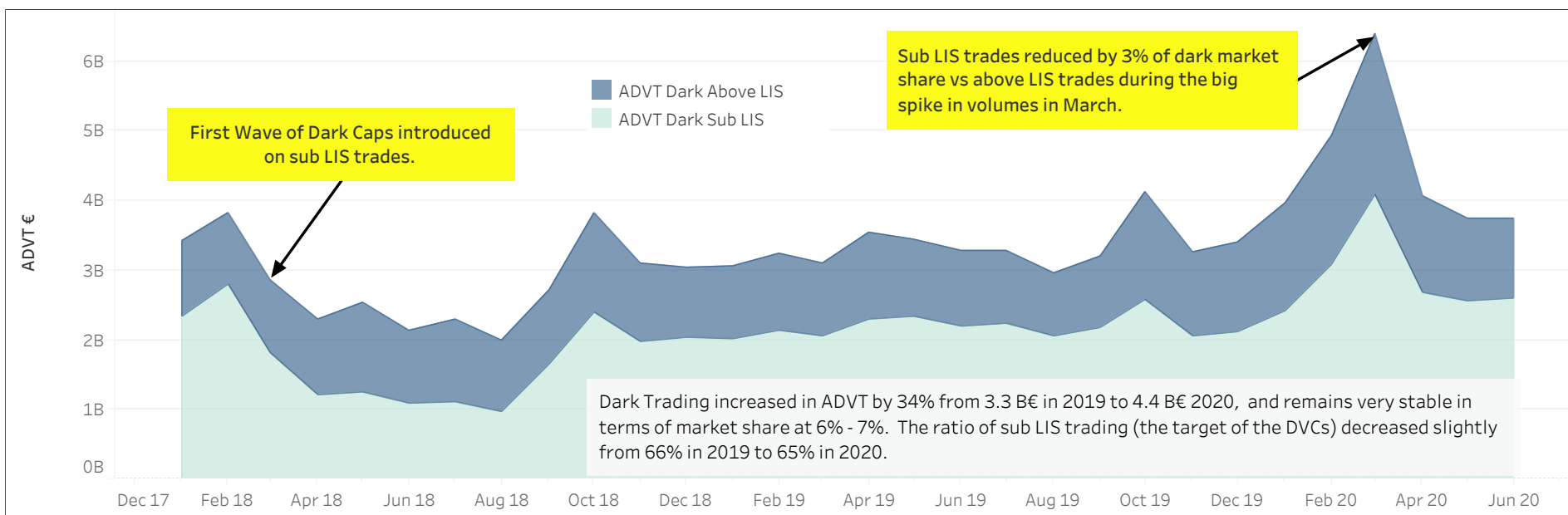
The Close continues to dominate.

Auction Volume since 2016



Dark Trading

Stable in market share with a little growth in the proportion of trades below LIS.

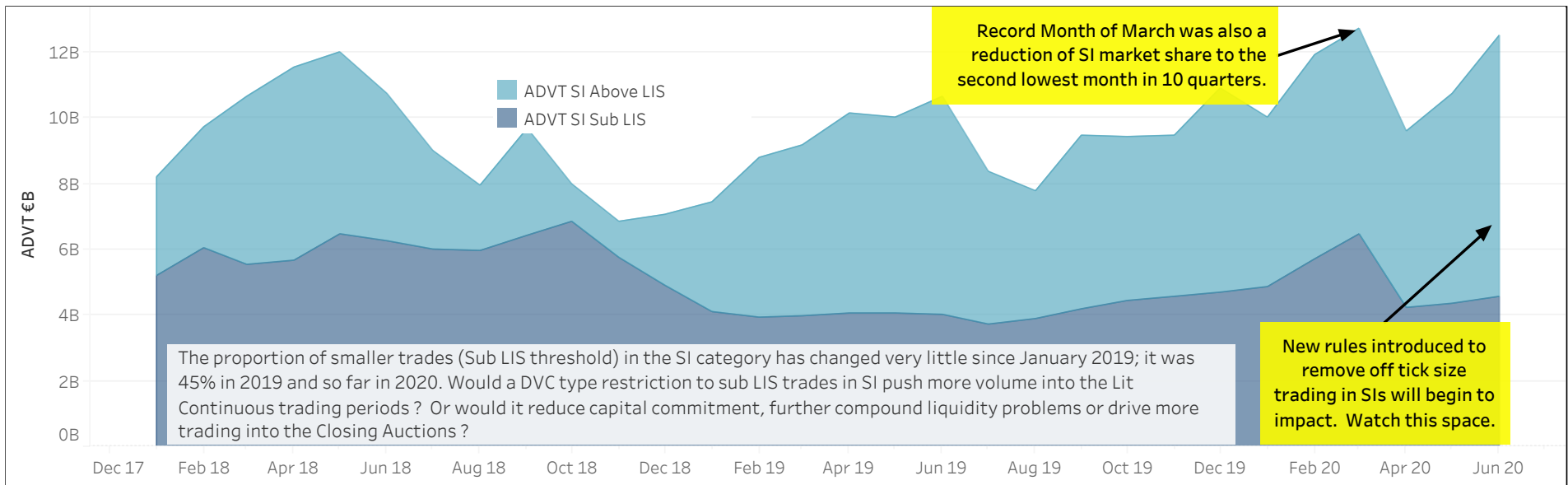


Dark Scorecard

	2018				2019				2020			
	ADVT Dark MTF	ADVT Dark Above LIS	ADVT Dark Sub LIS	Sub LIS% of Dark Total	ADVT Dark MTF	ADVT Dark Above LIS	ADVT Dark Sub LIS	Sub LIS% of Dark Total	ADVT Dark MTF	ADVT Dark Above LIS	ADVT Dark Sub LIS	Sub LIS% of Dark Total
Q1	3.36B	1.06B	2.30B	68.5%	3.12B	1.06B	2.06B	66.0%	5.10B	1.91B	3.19B	62.6%
Q2	2.31B	1.13B	1.18B	51.1%	3.42B	1.14B	2.28B	66.6%	3.85B	1.24B	2.61B	67.8%
Q3	2.32B	1.09B	1.23B	52.9%	3.15B	0.99B	2.16B	68.5%				
Q4	3.34B	1.20B	2.14B	64.1%	3.61B	1.35B	2.26B	62.7%				
Average	2.83B	1.12B	1.71B	60.5%	3.33B	1.14B	2.19B	65.9%	4.47B	1.57B	2.91B	64.7%

Systematic Internalisation

Limited change in Market Share in 10 quarters. Little change in Sub LIS proportion of SI either since early 2019.



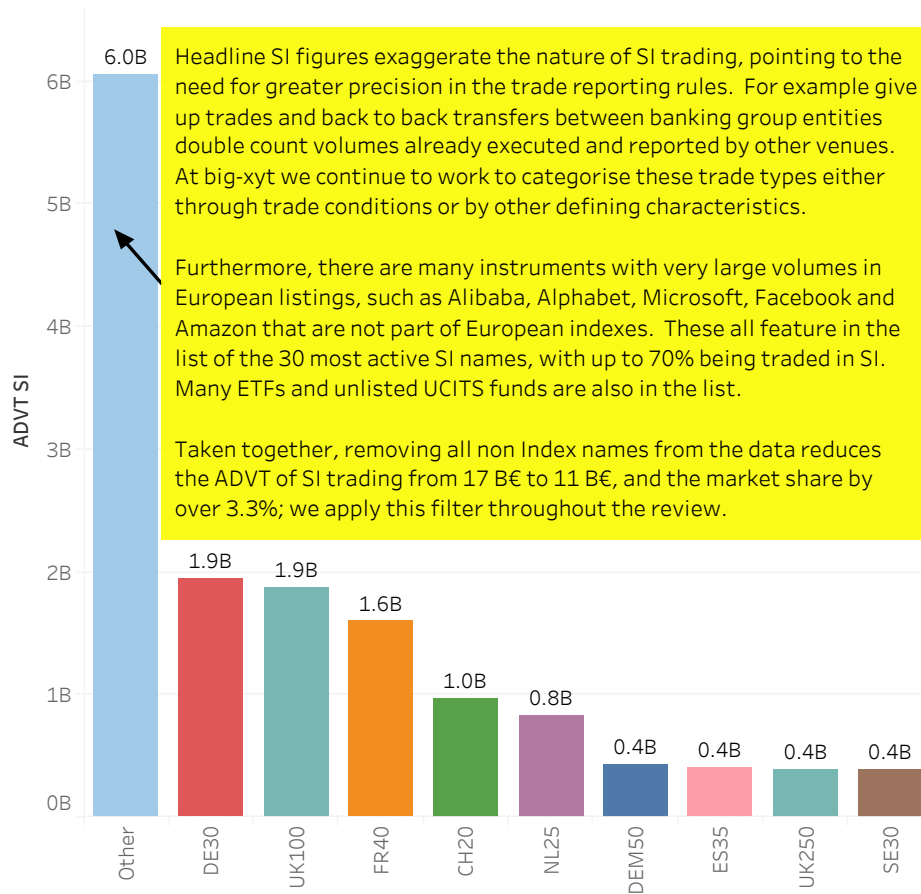
SI Scorecard

	2018				2019				2020			
	ADVT SI	ADVT SI Above LIS	ADVT SI Sub LIS	Sub LIS %	ADVT SI	ADVT SI Above LIS	ADVT SI Sub LIS	Sub LIS %	ADVT SI	ADVT SI Above LIS	ADVT SI Sub LIS	Sub LIS %
Q1	9.5B	3.9B	5.6B	58.7%	8.4B	4.4B	4.0B	47.4%	11.5B	5.9B	5.7B	49.2%
Q2	11.4B	5.3B	6.1B	53.7%	10.3B	6.2B	4.0B	39.4%	11.0B	6.6B	4.4B	39.9%
Q3	8.8B	2.7B	6.1B	69.1%	8.5B	4.6B	3.9B	45.9%				
Q4	7.3B	1.4B	5.9B	80.6%	9.9B	5.3B	4.5B	46.0%				
Average	9.3B	3.3B	5.9B	65.5%	9.3B	5.1B	4.1B	44.7%	11.3B	6.2B	5.0B	44.6%

Systematic Internalisation

Non index names account for 6B€ of SI reported trading every day.

SI Country Distribution (All)



Headline SI figures exaggerate the nature of SI trading, pointing to the need for greater precision in the trade reporting rules. For example give up trades and back to back transfers between banking group entities double count volumes already executed and reported by other venues. At big-xyt we continue to work to categorise these trade types either through trade conditions or by other defining characteristics.

Furthermore, there are many instruments with very large volumes in European listings, such as Alibaba, Alphabet, Microsoft, Facebook and Amazon that are not part of European indexes. These all feature in the list of the 30 most active SI names, with up to 70% being traded in SI. Many ETFs and unlisted UCITS funds are also in the list.

Taken together, removing all non Index names from the data reduces the ADVT of SI trading from 17 B€ to 11 B€, and the market share by over 3.3%; we apply this filter throughout the review.

SI Names Full Scope

Stock	Rank	ADVT SI	ADVT €
National Westminster Ba..	1	443,892,243	443,892,243
Apple Inc	2	264,817,137	410,021,669
Sap SE	3	233,047,791	1,193,289,102
Bayer AG	4	210,242,035	1,005,836,953
Roche Holding AG	5	205,751,546	1,152,629,671
Siemens AG	6	197,934,207	936,251,627
Allianz SE	7	180,928,709	905,098,065
Lloyds Banking Group plc	8	180,681,437	180,832,362
Nestle SA	9	179,985,217	1,035,366,007
ASML Holding NV	10	160,786,698	986,359,230
Sanofi	11	157,063,082	885,759,907
Novartis AG	12	148,336,908	842,401,029
Total SE	13	143,965,099	912,164,377
Unilever NV	14	130,096,074	777,778,018
Basf SE	15	129,857,876	708,728,052
Microsoft Corporation	16	120,265,934	256,565,172
Deutsche Telekom AG	17	117,943,662	593,962,047
Lvmh Moet Hennessy Vuit..	18	116,550,650	813,990,091
BlackRock Asset Manage..	19	111,940,299	168,982,653
Adidas AG	20	107,351,242	651,475,993
Muenchener Rueckversich..	21	103,739,316	457,883,572
Royal Dutch Shell Plc	22	96,082,457	1,005,074,543
Linde Plc	23	95,639,931	643,540,161
Airbus SE	24	94,449,960	762,221,417
Volkswagen AG	25	94,357,779	526,424,391
Amazon.com Inc.	26	93,800,179	222,603,601

Systematic Internalisation

SI Trading is highly concentrated on liquid names.

SI Country Distribution (Index Only)



SI Names Index Only

Stock	Index	Rank	ADVT SI	ADVT €
Sap SE	DE30	1	233,047,791	1,193,289,102
Bayer AG	DE30	2	210,242,035	1,005,836,953
Roche Holding AG	CH20	3	205,751,546	1,152,629,671
Siemens AG	DE30	4	197,934,207	936,251,627
Allianz SE	DE30	5	180,928,709	905,098,065
Nestle SA	CH20	6	179,985,217	1,035,366,007
ASML Holding NV	NL25	7	160,786,698	986,359,230
Sanofi	FR40	8	157,063,082	885,759,907
Novartis AG	CH20	9	148,336,908	842,401,029
Total SE	FR40	10	143,965,099	912,164,377
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Airbus SE	FR40	19	94,449,960	762,221,417
Volkswagen AG	DE30	20	94,357,779	526,424,391
Daimler AG	DE30	21	86,647,777	551,919,700
Novo Nordisk	DK25	22	73,606,704	390,138,379
HSBC Holdings plc	UK100	23	72,476,390	430,860,663
ST Microelectronics	FR40	24	72,328,929	386,172,364
L'Oréal	FR40	25	72,287,244	458,666,326
BNP Paribas	FR40	26	72,202,752	550,204,746
Danone	FR40	27	71,741,555	408,383,856

Systematic Internalisation

Here we look at trade sizes to get a better view on different uses of SI.

SI Trade Size Distribution



The challenge in understanding SI trading is that there are so many different trading scenarios wrapped into one reporting category. We have already provided greater clarity on SI trading through detailed classification of trade conditions from reports. The next steps are to use other metrics, such as trade sizes to gain insights as to how SI interacts with the lit markets. Here we look at some emerging patterns.

The graphs show IT40, FR40 and DE30 names as an illustration of a study of all main indexes. Some interesting facts and figures emerge:

- 1) 45K trades are above LIS, 1% of the total number, with a widely dispersed size averaging 3.5M€ and ~75% of all SI traded value. These are the biggest blocks and arguable the most opaque. It's likely that the MSCI rebalance introduced even greater diversity of trade sizes in this category during Q2.
- 2) 10M trades are between SMS and LIS, 18% of the total number with an average size of ~30K€, well below the LIS threshold, and ~15% of SI traded value. These are probably a combination of electronic and voice executed deals (such as facilitation trades).
- 3) 47M trades are sub SMS, 81% of the total number, with an average size of around ~3K€, well below the SMS thresholds. It is tempting to conclude that these are mostly electronically executed.

IT40 has a low rate of SI trading by value - 15% of FR40, probably because of the additional FTT rate on non order book trades.

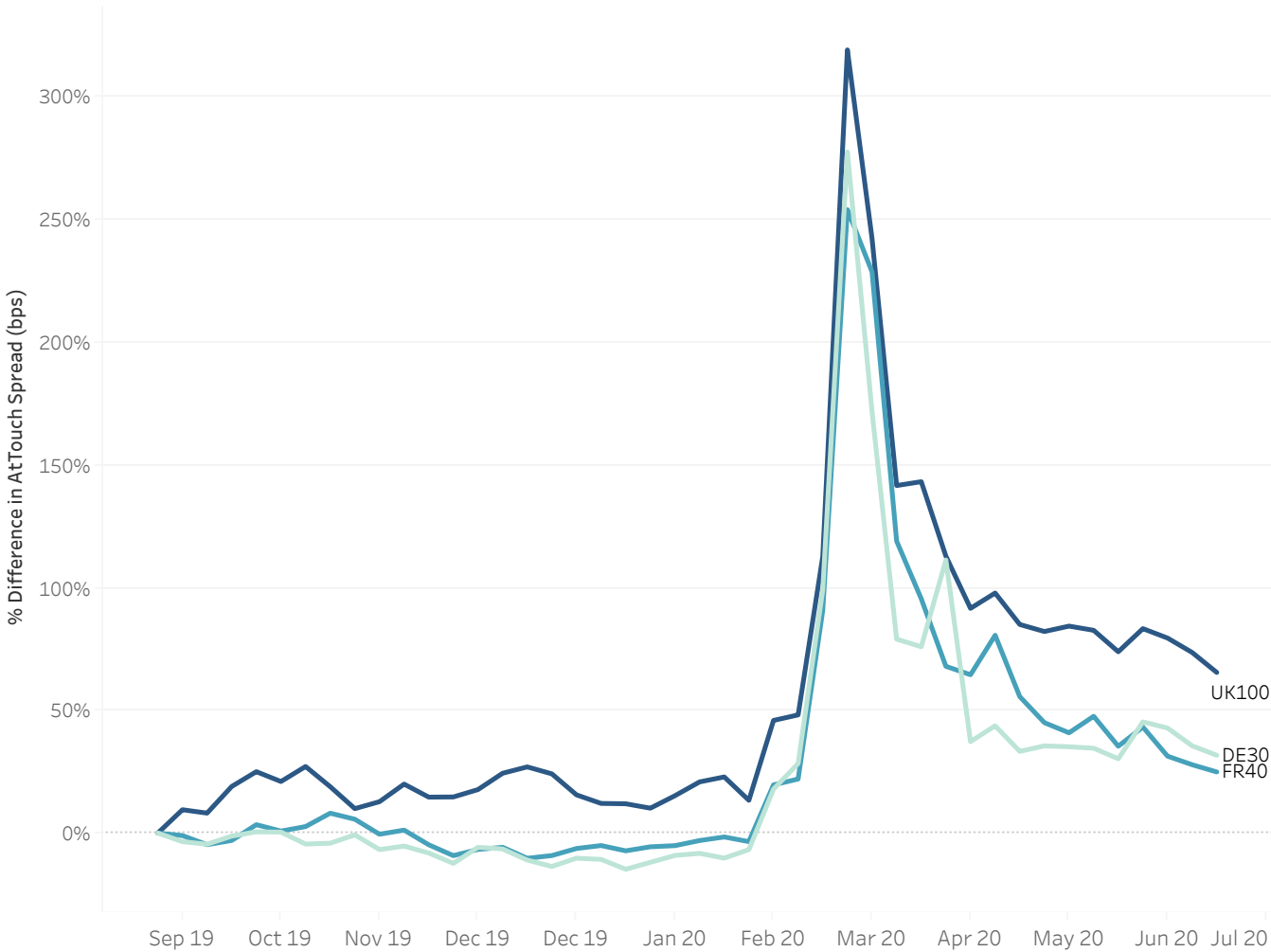
Most of the index heavy weights double their trade sizes below LIS versus the norms.

Note: The data shown here covers all SI trades reported in 2020, of which there are around 60M. Note that we have expanded the SI perimeter for this analysis to capture all trades, and not just those within market hours and the totals will show more above LIS trades than on previous slides.

POST SCRIPT

They think it's all over...

Spreads Across Trading Venues for Index DE30, FR40, UK100



We commented at the end of May that although the markets seem to have returned to a low volume business as usual environment, the quality metrics remind us of the need for caution. Volatility (and volumes) returned with a vengeance in June and spreads remaining elevated. DE30 volatility suffered some very significant moves with the Wirecard issue which we have excluded from the data. We'll blog about that later this week.

Follow spreads and many other market quality metrics in the Liquidity Cockpit for Enterprise at this address; <https://big-xyt.com/liquidity-cockpit/>. If you do not already have access, or you have questions or comments, we can be contacted at sales@big-xyt.com.

MICROSTRUCTURE 101: Terms and classifications used in the review.

There are 6 main types of trading category, divided between On Order Book and Off Order Book. We only use the first 5 in the review.

All Types of Trading	<p style="text-align: center;"><u>On Order Book</u></p> <p><i>Trades are conducted electronically on an Exchange or Multilateral Trading Facility where all participants trade on equal terms (price, size and time). All trades are published immediately by the trading venue.</i></p>	<p style="text-align: center;"><u>Lit Continuous</u></p> <p><i>Lit Continuous trading includes the continuous trading period on Regulated Exchanges (RMs) and Multilateral Trading Facilities (MTFs), where the order book is published, and excludes any type of auction.</i></p>
	<p style="text-align: center;"><u>Auctions</u></p> <p><i>There are six types of Auction; OPEN, CLOSE, Intraday (normally just the midday auctions on Deutsche Borse and LSE), Trading Halts or Circuit Breakers (called 'Other' in our review) and Periodic Auctions (micro auctions that continue throughout the day every few seconds or less).</i></p>	<p style="text-align: center;"><u>Dark Trading</u></p> <p><i>Dark Trading is always on electronic books in a MTF. There are two main types - continuous trading, where orders are firm and matched immediately on arrival and conditional trading where orders are indicative until a match is found at which point participants are required to confirm the orders before execution. The execution price must be the mid price of the Lit order books.</i></p>
	<p style="text-align: center;"><u>Off Order Book</u></p> <p><i>Trades are negotiated 'bi-laterally' between a broker/dealer or market maker and their client or between two dealers; they may be either electronic or manual.</i></p> <p><i>Once a trade is executed it must be reported to an approved trade reporting facility and published to the market, normally within 1 minute. Apart from true OTC trades, all types of trade are considered to be 'On Exchange'.</i></p>	<p style="text-align: center;"><u>Systematic Internalisation ('SI')</u></p> <p><i>Trades conducted between a broker/dealer and their clients where the broker/dealer is acting as principal or between principals. In return for making continuous prices in shares (which must be published to the market), an SI is entitled to execute trades bi-laterally away from an Order Book. This can include telephone or screen based trading and electronic trading.</i></p>
	<p style="text-align: center;"><u>On Exchange / Off Order Book Crosses</u></p> <p><i>Off Book Crosses are manually arranged by brokers between their clients. This may be by any means but may not be automated. Because they are immediately reported they are still considered to be "On Exchange".</i></p>	<p style="text-align: center;"><u>Over the Counter - 'OTC'</u></p> <p><i>The rules permit some trades to be conducted away from an Exchange, MTF or SI, mostly when they do not contribute to price formation. This remains an opaque segment of trade reporting and WE EXCLUDE THIS CATEGORY FROM THE REVIEW.</i></p>