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Orderly Markets

Evolution of EEA share market structure since MiFID II

ESMA Report on Trends, Risks and Vulnerabilities Risk Analysis

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Evolution of EEA share market structure since MiFID II

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Summary

Since the launch of the EU capital markets union initiative, new legislative and non-legislative proposals have aimed at fostering a single market for capital in the EU. These regulatory proposals, together with other external events including mergers, have shaped the integration and competition level of trading platforms. Making use of regulatory data, this article presents the evolution of the European share market microstructure from 2019 to 2022, with a specific focus on the impact of the UK's withdrawal from the EU, given its pivotal role in equity markets. The important decrease in trading volumes observed after 2021 was accompanied by four main changes: a decrease in the number of infrastructures trading shares, even though they remain elevated; a new distribution of trading, both by market type and by country, with a concentration of trading in a few EU countries; the relocation of domestic trading for many European countries; and the increased specialisation of venues. Confirming the transfer of volumes in a few countries, share trading remains highly concentrated on a few trading venues after the UK's withdrawal.

[1] This article was written by Lorenzo Danieli and Caroline Le Moign (ESMA). The article also benefited from discussions and analyses held at the Committee for Economic and Markets Analysis MiFID Task Force, as well as from precisions from colleagues from the Markets and Digital Innovation Department.

Introduction

Since the launch of the EU capital markets union (CMU) initiative in 2015, new legislative and non-legislative proposals have been made to create a single market for capital[2], including reviews of the main legislation of capital markets: the markets in financial instruments directive (MiFID II) and the markets in financial instruments regulation (MiFIR)[3]. The MiFID II / MiFIR package started applying in January 2018.

In 2020, the European Commission's assessment on CMU stated that '*while progress has been made […], EU capital markets remain fragmented [meaning] that European citizens and businesses are not able to fully benefit from the sources of funding and investment that capital markets can offer.*' Thus, an action plan was adopted in 2020 with a focus on integrating national capital markets into **a genuine single market**, followed up in 2022 with new legislative proposals aiming at streamlining the listing process on EU stock exchanges and clearing services.

In parallel, several events have affected European equity markets in the last years, such as the COVID-19-related market stress, and the withdrawal of the UK from the EU. Furthermore, equity markets also saw the increase in retail trading activity[4], mergers among important exchanges[5] and the evolution of their business models. If trading venues (TVs) continue to compete for listings and order flow, through fee structure or competing services (e.g. clearing and settlement, different trading protocols), their revenues from trade-data-related services have become more important (Duffie et al., 2022). In an upcoming ESMA working paper, we will test the significance of these main changes through a panel regression model, to test the descriptive statistics described in this article.

The aim of our analysis is to present the evolution of the European market structure making use of regulatory data, with a specific focus on share trading since 2019[6]. In the MiFIR review[7] that has been agreed in July 2023, one of three priorities for the review is to *'improv[e] the level-playing field between execution venues'*. Thus, identifying and understanding the evolution of the European market structure during the recent transformative years is key to assess this objective, and the new level of trading concentration. On the one hand competition among venues can lead to more innovative services and lower fees, on the other a fragmented trading landscape may also impact market liquidity. This article contributes to ESMA's work to promote effective and stable financial markets.

Share trading competition in the economic literature

The literature on trading venue competition highlights a trade-off between the positive effects that arise from increased competition, such as reduced spreads and increased price efficiency (O'Hara and Ye, 2011), and negative network externalities that arise when liquidity is dispersed among venues.

A consolidated market leads to better execution as more traders are present, leading to higher liquidity (Pagano, 1989). However, where traders are heterogeneous with respect to their beliefs and motives, different market structures can better serve their needs (Harris and Raviv, 1993). Increasing electronification has brought these views together, highlighting the crucial role of transparency: the market is virtually unfragmented to traders with informational access to all venues (Gresse, 2017). But fast-trading technology has also intensified competition for order flow between TVs, with the possible consequence of additional costs stemming from the speed race to react to information. Thus, while competition reduces

2 See [CMU-dedicated web pages on the Commission website](), presenting action plans, legislative proposals, packages already put in place and progress reports.

3 Directive 2014/65/EU on markets in financial instruments and amending Directive 2002/92/EC and Directive 2011/61/EU (recast); and Regulation (EU) No 600/2014 on markets in financial instruments and amending Regulation (EU) No 648/2012.

4 Retail traders appear to participate more in European stock markets, both in all-to-all trading mechanisms where they interact with all types of traders, or in venues operating retail-specific mechanisms (Aramian and Comerton-Forde, 2023). See ESMA (2022), *Key Retail Risk Indicators for the EU Single Market*. Reflecting the importance of retail risk monitoring, since 2020, ESMA has an additional specific mandate to develop 'retail risk indicators for the timely identification of potential causes of consumer and investor harm' (Article 9(1ab) of the revised ESMA regulation).

5 For instance, Euronext acquired Borsa Italiana in 2021 and the London Stock Exchange acquired the data vendor Refinitiv.

6 This article is a companion analysis to the Market Report on EU Securities Markets, which provides an overview of all equity and bond markets.

7 See Proposal for a Regulation of the European Parliament and of the Council amending Regulation (EU) No 600/2014.

trading costs, an increase in the number of TVs may also lead to more arbitrage opportunities and heightened adverse selection for liquidity providers, which respond to increased spreads (Baldauf and Mollner, 2021).

Another important feature of market fragmentation is that its benefits are not linear depending on the characteristics of the stocks, for example a moderate degree of fragmentation can be liquidity maximising for large capitalisation stocks (Degryse et al., 2015), but detrimental for small and medium-sized enterprises (SMEs) and other less-actively traded stocks (Lausen et al., 2021).

Analysing the mergers, the economic literature points towards overall positive effects on stock liquidity, which are, however, concentrated on stocks with large market capitalisation or foreign exposure (Nielsson, 2009, on the Euronext mergers during the 2000s). In terms of overall market structure, exchange mergers do not lead to significant increase in industry concentration in the long term (Otchere and Abukari, 2020, analysing six trading venue mergers in the EU and the US).

Evolution of EEA share market structure

Using transparency data reported from 2019 to 2022, this section analyses the evolution of the European Economic Area (EEA) equity market structure following the implementation of MiFID II[8]. This dataset includes reference data from the Financial Instruments Reference Database System (FIRDS), and additional reference and trading activity information from the Financial Instruments Transparency System (FITRS)[9].

These figures are also compared to the US microstructure using public and commercial data on share trading in the US. In order to show the impact of the UK's withdrawal from the EU, our analysis presents the evolution of the EEA including UK numbers until the end of the transition period at the end of 2020, and without afterwards[10]. This article focuses on the microstructure of share trading in the EEA and does not integrate volumes traded for other equity instruments such as exchange-traded funds.

In the EEA and according to MiFID II / MiFIR, shares can be traded on exchange or off exchange. On-exchange trades can be carried out on TVs, through a regulated market (RM) or a multilateral trading facility (MTF). Off-exchange trades can be carried out through a systematic internaliser (SI) or over the counter (OTC)[11].

The **share trading obligation** (STO) was introduced in the MiFIR framework[12] in order to increase market transparency by shifting OTC share trading onto lit trading platforms. Investment firms that undertake trading in shares have to ensure that trading takes place on a RM, MTF or SI, or a third-country TV assessed as equivalent, except for infrequent or exceptional trades that do not contribute to the price discovery process.

The UK had a pivotal role in European securities trading, and its withdrawal from the EU brought a significant drop in overall trading in 2021. Trading volumes on UK TVs in 2019 and 2020 accounted respectively for 50 % and 69 % of share volumes traded on exchange in the EEA + UK. Since all EEA shares are within the scope of the STO[13], this meant that all EEA shares had to be traded on EEA or equivalent third-country venues. Thus, the end of the transition period and the STO translated into an

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8 The perimeter includes all EEA countries since MiFID II / MiFIR are texts with EEA relevance. For further information on European markets, including on all equity and bond instruments, see ESMA (2021), *EU Securities Markets – ESMA annual statistical report*.

9 See ESMA (2020), *EU Securities Markets – ESMA annual statistical report* for a presentation of the data collection and treatment. See also the ESMA website to access the data registers.

10 The UK, which remained part of the EU single market as part of the transition period stipulated in the EU–UK Withdrawal Agreement, continued to submit data to the MiFID II reporting system throughout 2020. In all the charts, the perimeter is always described: when 'EEA' is mentioned, the perimeter is the current EEA perimeter of 30 countries; when 'EEA + UK' is presented, the perimeter is EEA pre-withdrawal of the UK, meaning the EEA with 31 countries, including the UK.

11 RMs are multilateral systems operated by a market operator, which bring together multiple third parties buying and selling interests in financial instruments, in accordance with its non-discretionary rules, and in a way that results in a contract. MTFs are another type of non-discretionary venue, very similar to RM, but they can be operated by an investment firm or a market operator. SIs are investment firms that, on an organised, frequent, systematic and substantial basis, deal on own account when executing client orders, proposing a bilateral discretionary system. They offer an avenue for trading outside a lit market, but without the liquidity disadvantage of pure bilateral OTC transactions.

12 Article 23 of Regulation (EU) No 600/2014.

13 ESMA clarified that in the context of Brexit, the STO applies to all EEA shares, aside from EU investment firms trading EEA shares on UK TVs in pound sterling – fewer than 50 shares.

important drop in share trading in 2021, from EUR 25.0tn in the EEA + UK to EUR 13.5tn in the EEA (– 46 %), since many EEA shares were mainly traded in the UK (see following sections). In comparison, UK shares were only seldom traded on EEA TVs, with 11% of UK share volumes traded on EEA TVs on average in 2019/20.

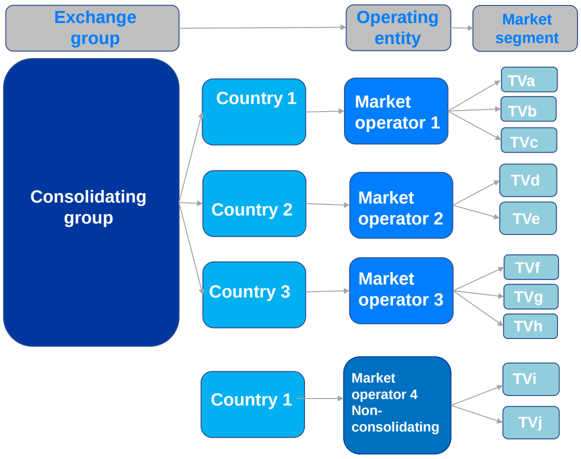
This important decrease in volumes was accompanied by four main changes of the EEA market structure: a decrease in the number of infrastructures trading shares, even though they remain elevated; a new distribution of trading, both by market type and by country; the relocation of domestic trading; and the increased specialisation of venues. However, the concentration of trading on a few venues remains elevated.

High number of EEA groups and infrastructures, even after 2021

For TVs, the market structure in Europe encompasses three layers of consolidation. **Exchange groups** represent the highest level of consolidation among stock exchanges (Chart 1). They are the parent company of a set of operating entities (from one or multiple countries) that work with the same set of group-specific rules, single disclosure and governance regimes, and single tax treatment (Wright and Hamre, 2021). All those entities are identified through international indicators called market identifier codes (MICs)[14].

Exchange groups are composed of **market operators** that may run one or more TVs (market segments). Operating entity MICs identify market operators, and **market segment** MICs classify a section of the market operator, usually a specialisation in one or more specific instruments (equity, bonds, derivatives, SME shares, etc.)[15]. There are also cases in which a market operator does not have a parent company and is therefore considered as non-consolidated. Off-exchange SIs do not have the same structure: as investment firms, they are not part of an exchange group but frequently operated by large banks. By combining the information on TVs publicly available on the ESMA registers with publicly available information on their parent companies, it is possible to trace the ownership structure of consolidated groups[16].

Chart 1
Example of on-exchange equity market structure



The **number of consolidated groups remains elevated** at the end of 2022, even though some mergers have occurred since the application of MiFID II (Chart 2). The number of groups with EEA operators trading shares slightly declined from 40 groups in 2019 to 37 in 2021 and 2022 – out of which 26 groups are domiciled in the EEA, four in the UK and seven outside the EEA (mostly in Japan, Switzerland and the US). Among these groups, few have only one single TV trading share (nine in 2019 and 2020, and eight in 2021 and 2022), and the largest group included seven market operators and 34 TVs trading shares in 2022.

On-exchange volumes from groups domiciled in the EEA have increased from 30 % in 2019/2020 to 39 % in 2021/2022, with a comparable decrease of volumes from groups in the UK (– 8 percentage points (ppt) from the 2019/2020 simple average to the 2021/2022 simple average) and outside of the EEA (– 1 ppt). UK-domiciled groups concentrate the largest share of dark trading on exchange (57 % of trading under pre-

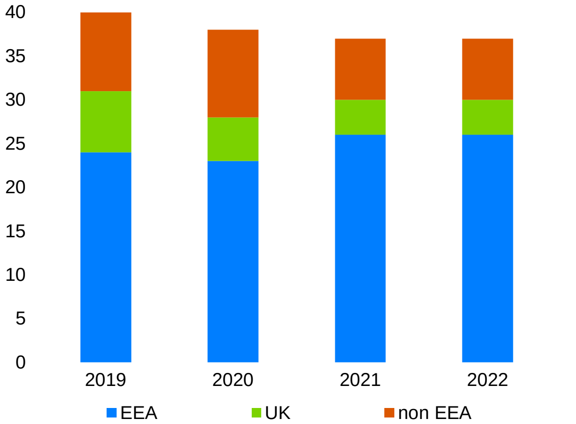
[14] For the definitions presented in the paragraph, see International Organization for Standardization 10383 [frequently asked questions](), November 2020.

[15] For example, the operating MIC for the [Athens Exchange Group]() is 'ASEX'. Under ASEX, there are five associated market segment MICs: ENAX (alternative market, where investors can trade in stocks), HOTC (OTC market), XADE (RM, where instruments available for trading are futures, options and repos), XATH (RM, where investors can trade – among other things – in stocks, exchange-traded funds and bonds), XIPO (specialised in initial public offerings).

[16] Each TV has a legal entity identifier that enables unique identification of legal entities participating in financial transactions, which can be matched with 'level 2' data available on the Global Legal Entity Identifier Foundation (GLEIF) website. These data include information on legal entities that report their 'direct accounting consolidated parent' together with their 'ultimate accounting consolidated parent'. See GLEIF '[Level 2 data: Who owns whom]()'.

trade waivers and 97 % of trading under post-trade deferrals in 2021/2022 – see the following subsections for definitions).

Chart 2
Number of groups trading shares, by domicile
High number, slight decrease since 2019

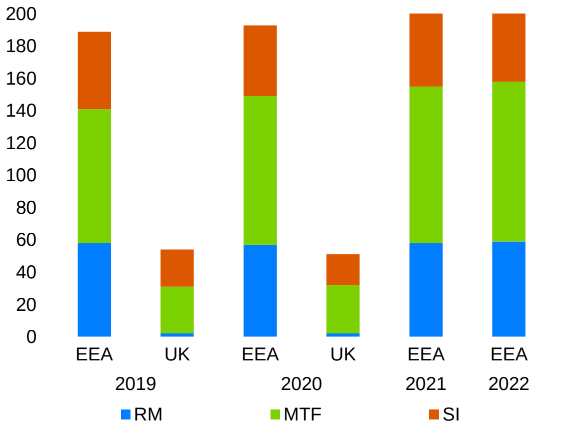


Note: Number of unique groups with venues trading shares in the EEA, by country domicile.
Sources:FITRS, GLEIF, ESMA.

The European share trading landscape is characterised by a **high number of infrastructures** split among RMs, MTFs and SIs (Chart 3). By the end of 2020, there were 181 TVs (59 RMs, 122 MTFs) and 63 SIs trading shares in the EEA + UK[17]. Among them, a large number were domiciled in the UK (30 MTFs, two RMs and 19 SIs).

After the withdrawal of the UK from the EU, the number of active EEA infrastructures decreased only slightly. At the end of 2020 there were respectively 57 RMs, 92 MTFs and 44 SIs in the EEA. In terms of new authorisations, two new RMs, nine new MTFs and 21 new SIs were authorised in the EEA in 2021 and 2022, with some of those infrastructures not or not yet trading shares. Hence, the number of active infrastructures stood at 158 TVs (59 RMs, 99 MTFs) and 47 SIs at the end of 2022.

Chart 3
Number of venues and SIs trading shares
High number of infrastructures, also after Brexit



Note: Number of unique venues and SIs trading shares in the EEA and UK, by type.
Sources: FITRS, ESMA.

The European share trading landscape appears to be significantly **more fragmented if compared to the US markets**, where only 24 national stock exchanges were active at the end of 2022 – out of which 20 belong to only four groups[18]. Different historical evolution and regulatory choices help to explain the current market structures, such as the introduction since 2005 in the US of a central data consolidation system for pre- and post-trade transparency information and a dynamic best execution rule[19]. This difference is also a reflection of the European jurisdictions that have each grown national markets, as wells as the many types of infrastructures in the EU regulation that can propose specific trading characteristics (see for instance the differences between RMs and MTFs in the sub-section *Increase in trading specialisation of venues*).

Despite the larger number of infrastructures, **trading activity in the EEA remains comparatively low** in comparison to the US. Trading volumes in shares in the US amounted to EUR 86.3tn in 2022, compared to EUR 13.4tn in

[17] In this article we report the number of TVs and SIs (identified with segment MICs) on which share trading occurred at least once during the reporting year.

[18] See the [US Securities and Exchange Commission website](). The four groups are Cboe Global Markets, Intercontinental Exchange, Nasdaq and Miami International Holdings. The four remaining exchanges are independent, with most of them recently created, with the explicit aim to improve transparency and competition for smaller investors (e.g. IEX or Members Exchange).

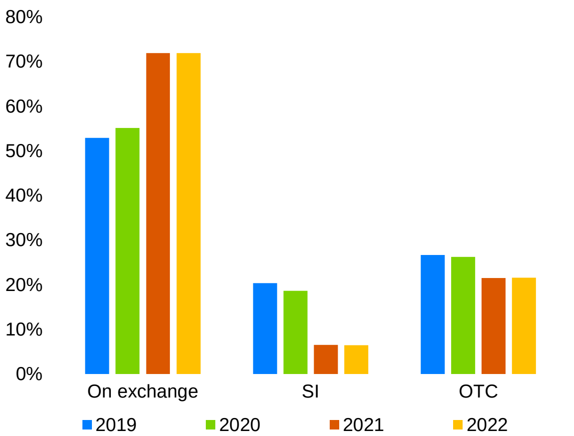
[19] The US microstructure was always much more concentrated: in 2000, the New York Stock Exchange and NASDAQ accounted for 95 % of US on-exchange trading volumes. The Regulation National Market System implemented in 2005 increased competition between venues: by mandating connectivity between the markets, it removed the barriers to entry and increased competition (Haslag and Ringgenberg, 2022). By 2016, NYSE and NASDAQ accounted for less than 30 % of US volumes. The American market capitalisation is also more important than the European one.

the EEA (6.4 times less). Even before the UK's withdrawal, US share trading volumes were close to three times higher than in the EEA + UK (EUR 71.7tn compared to EUR 25tn).

Changing trading landscape after 2020

While turnover volumes were equally distributed across market types in 2019 and 2020, the trading landscape shows a significantly **higher share of on-exchange trading** (from 53 % and 55 % in 2019 and 2020 to more than 70 % both in 2021 and 2022). The largest change was observed off-exchange, with the **share of SI** activity more than halving since 2021 (7 % and 6 % of share turnover volumes in 2022), as the majority of SIs that were authorised in the EEA + UK were domiciled in the UK. OTC trading slightly declined by 4 ppt to 22 % of total shares' volumes in 2021 and 2022 (v 27 % in 2019 and 26 % 2020).

Chart 4
Annual turnover volumes by market type
On-exchange trading increased after Brexit



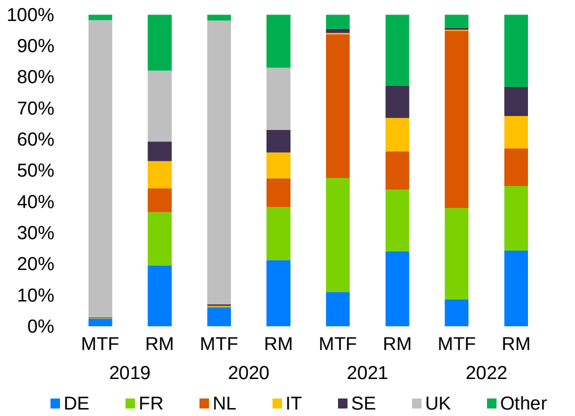
Note: Share of annual turnover volumes in shares by market type, in %. In 2019 and 2020 the perimeter is the EEA + UK, in 2021 and 2022 the EEA.
Sources: FIRDS, FITRS, ESMA.

On-exchange volumes were almost equally distributed between RMs and MTFs prior to the UK's withdrawal (29 % of overall shares' volumes on RMs and 27 % on MTFs in 2020), while there has been a greater amount of activity on RMs since then. RMs have increased their market share, with 40 % of total share trading in the EEA in 2021/2022, while MTFs have increased theirs only slightly, to 32 % in 2021/2022.

The changing composition of the structure of on-exchange trading is explained by the fact that MTF trading was highly concentrated in the UK, with 30 UK MTFs in 2020 out of a total of 122 MTFs in the EEA + UK, concentrating an average of 93 % of the trading volumes on MTFs in 2019/2020 (Chart 5).

Since the UK's withdrawal, the **concentration of MTF trading** remained concentrated within three countries, making up 95 % of MTF trading in 2022: the Netherlands (57 %), France (29 %) and Germany (9 %). This is linked to the migration of some of the volumes traded on UK MTFs to the Netherlands' MTFs (volumes multiplied by 633, from EUR 3.5bn on average in 2019/2020 to EUR 2.2tn on average in 2021/2022) and to France's MTFs (volumes multiplied by 121, from EUR 11.6bn to EUR 1.4tn).

Chart 5
Annual trading volume by venue domicile
UK dominated MTF turnover pre-Brexit



Note: Annual trading volumes in shares by market type and trading venue domicile. Share of the total, in %.
Sources: FIRDS, FITRS, ESMA.

Turnover volumes on RMs remained more evenly distributed among EEA countries (Chart 5). If the two UK RMs were gathering 21 % of share trading on EEA + UK RMs in 2019/2020, Germany (21 % on average in 2019/2020) or France (17 %) also had significant shares of RM trading. After the UK's withdrawal, domestic trading on RMs increased in general. Germany and France continued to have the highest share of RM volumes on average in 2021/2022 (24 % and 20 % respectively), followed by the Netherlands (12 %) and Italy (11 %).

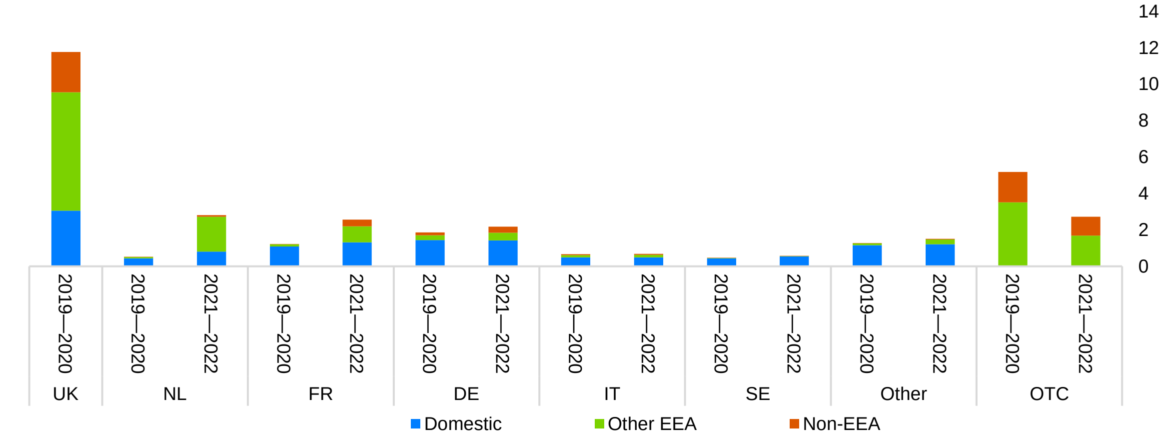
Relocation of domestic trading

The evolution of share market microstructure after Brexit is also characterised by a change in trading patterns related to the domicile of the traded shares. In this article, we characterise shares by issuer domicile, with 'domestic share' meaning that the domicile of the share is the same as the domicile of the TV or SI it is traded on; 'other EEA share' or EEA 'cross-border trading' when the share domicile is different from the domicile of the TV or SI, but from another EEA country; and 'non-EEA share' when the share has an issuer from outside the EEA[20].

Chart 6

Shares volumes by issuer and venue domicile

Decrease in non-EEA shares volumes, concentration of EEA cross-border trading



Note: Average share turnover on venues and SIs, EUR trillion, in shares with an issuer from the same country (domestic), from another EEA country (other EEA) or outside the EEA (non-EEA), for 2019/2022 and 2021/22.
Sources: FIRDS, FITRS, ESMA.

Overall, **a decrease of trading of non-EEA shares** is observed after the UK's withdrawal, since most of those transactions took place in the UK. Turnover of non-EEA shares decreased by – 54 % after Brexit, from EUR 4.1tn in 2019/2020 to EUR 1.9tn in 2021/2022. This decrease is particularly large on venues and SIs, with a – 64 % decrease (from EUR 2.4tn to EUR 869bn) (Chart 6). In 2019/2020, 90 % of those volumes on venues and SIs were traded on UK TVs or SIs (EUR 2.2tn), with other volumes in Germany (EUR 161bn, 7 %).

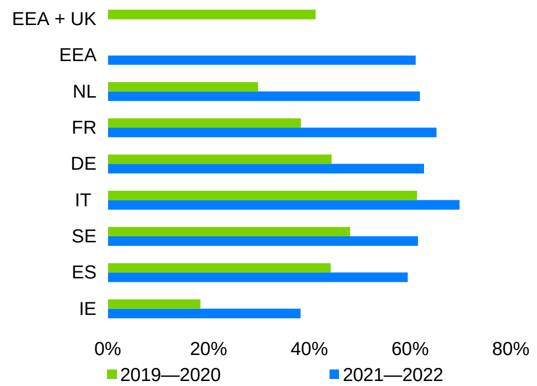
In 2021/2022, non-EEA shares were mostly traded on French (41 %) and German (37 %) TVs and SIs. This translated into large surges of non-EEA volumes in France, with non-EEA turnover growing from EUR 6.5bn to EUR 361.2bn in France, and from EUR 161bn to EUR 322.8bn in Germany on average from 2019/2020 to 2021/2022 (multiplied by 55 and doubled respectively). Non-EEA shares were also traded OTC, with an increase of this trading type after 2021 (from 40 % of overall non-EEA volumes in 2019/2020 to 54 % in 2021/2022).

Similarly, intra **EEA cross-border trading decreased** and migrated towards a few countries. Before the UK's withdrawal, 90 % of intra-EEA cross-border trading volumes were observed on UK TVs and SIs, with EUR 7.2tn on average in 2019/2020. Cross-border share trading on TVs and SIs halved to EUR 3.7tn on average in 2021/2022. The volumes are mainly concentrated in the Netherlands (52 %), France (24 %) and Germany (12 %). This new specialisation in trading shares from other Member States was accompanied by an increase in EEA cross-border volumes in the Netherlands and France (respectively multiplied by 25 and 6.5).

Another transformation is the **relocation of domestic shares trading**. Before the UK's withdrawal, only 41 % of the volumes of the shares issued in an EEA country were traded on the TVs or SIs of the same country (Chart 7). For instance, 30 % of Dutch shares volumes on venues and SIs were traded in the Netherlands in 2019/2020, and similarly 38 % of French shares volumes on venues and SIs were traded in France. This means that on average in the EEA, 59 % of the domestic shares trading was occurring in other EEA countries' TVs and SIs in 2019/2020, with the vast majority of those volumes in the UK (see previous chart).

20 The regulatory dataset does not allow the domicile of transactions happening OTC to be characterised, thus it is not possible to compare the domicile of the share issuer and the domicile of the OTC transactions. Only venues and SIs domicile is taken into account.

Chart 7
Share of domestic shares trading by country
Domestic trading of shares increased



Note: Domestic share trading on domestic infrastructures, in % of total domestic share trading on all venues and SIs, for 2019/2020 and 2021/2022. Lecture: In 2019/2020, 18% of trading volumes in Irish shares were traded on Irish venues or SIs. In 2021/2022, 38% of the Irish share volumes on all venues and SIs were traded on Irish venues or SIs.
Sources: FIRDS, FITRS, ESMA.

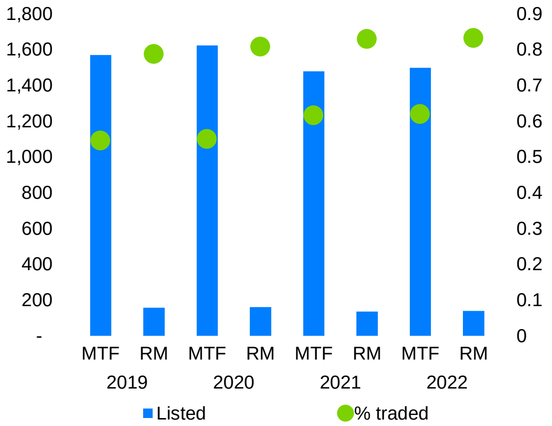
This situation, observed on average, was not similar in all EEA countries, with some smaller Member States observing more than 95 % of their domestic shares traded on their domestic TVs and SIs in 2019/2020 (e.g. Estonia, Latvia, Lithuania, Slovenia or Slovakia). From 2021, a relocation of domestic share trading is observed on average, with 61 % of volumes on TVs and SIs traded in the same country as the issuer of the shares. This relocation is particularly noticeable for the Netherlands (+ 32 ppt between the 2019/2020 and 2021/2022 average), France (+ 27 ppt), Ireland (+ 20 ppt) and Germany (+ 18 ppt).

Increase in trading specialisation of venues

Venues tend to specialise by proposing different **trading characteristics**, with some that are observable in the transparency data, such as trading certain domestic shares or shares from small or large companies. Introduced by MiFID I, MTFs adopted a similar microstructure as RMs, characterised by a visible order book and the presence of central clearing counterparties, with some proposing more diverse trading protocols. Several MTFs operate as dark book only. Since their creation, those trading platforms are also competing on fees and technology, as well as on the number of instruments available for trading by offering a wide range of EEA and non-EEA securities (Fioravanti and Gentile, 2011).

On average, the **number of shares available** for trading on MTFs is 10 times higher than on RMs in 2019 and 2020 (around 1 600 v 160), and 11 times in 2021 and 2022 (around 1 500 v 140) (Chart 8). Nevertheless, only half of these shares available were actually traded on MTFs (55 % in 2019 and 2020, 62 % in 2021 and 2022), whereas 83 % of the shares available for trading on RMs were traded on RMs in 2021 and 2022 (80 % in 2019/2020).

Chart 8
Average number of instruments available to trade
Far higher number of shares available on MTFs



Note: Average number of shares available for trading (lhs) and share of traded stocks by market type (rhs).
Sources: FIRDS, FITRS, ESMA.

The second main trading characteristic of MTFs is their **specialisation in foreign trading**, meaning a major part of their volumes comes from trading shares issued in an EEA country different from the MTF domicile and non-EEA shares. In this respect, domestic trading accounted for only 21 % of MTF share trading in 2019/2020 and 18 % in 2021/2022 (Chart 9), while trading of shares from other EEA Member States amounted to 65 % (vs. 68 % in 2019/2020) and non-EEA share trading to 14 % (vs. 11 % in 2019/2020).

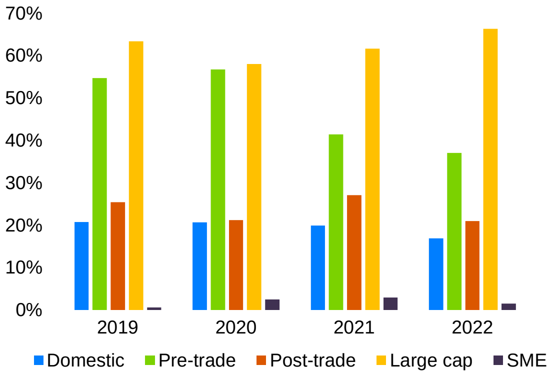
MTFs are the main venue for **trading in SMEs shares**[21], especially since the introduction of the possibility for SMEs to be listed on growth markets in MiFID II / MiFIR as part of the CMU agenda, which provides for a lighter reporting

[21] Based on Article 4 of MiFID II, SMEs are defined in this article as the listed companies the market capitalisation of which is below EUR 200 million.

burden and reduced compliance costs for SME listing[22].

Overall, SME trading volumes were higher on MTFs than on RMs. Although this difference was small before the UK's withdrawal (SME trading volumes amounted to 1.5 % and 1.3 % of MTFs and RMs volumes respectively in the EEA + UK on average in 2019/2020), the activity in SME shares on MTFs increased afterwards. SME volumes represented 2.2 % of MTF shares' volumes on average in 2021/2022, while this share went down on RMs to 0.7 % of RM shares' volumes in 2021/2022.

Chart 9
MTF share trading by characteristics
MTFs specialised in foreign, SME, dark trading



Note: Annual turnover in shares on multilateral trading facilities. Domestic = turnover in 'domestic' shares. Large cap = turnover in shares with a market capitalisation larger than EUR 20bn. SME = turnover in shares with a market capitalisation smaller than EUR 200mn. Pre-trade = turnover under pre-trade waiver. Post-trade = turnover under post-trade deferral.
Sources: FIRDS, FITRS, ESMA.

The UK dominated SME trading in 2019 and 2020 with respectively 35 % and 39 % of the total trading in SMEs. SME volumes continued to be concentrated after the UK's withdrawal, mainly in French and German venues and SIs (20 % and 16 % of SME volumes on average, respectively, in 2021/2022), with also an increase in OTC trading (from an average of 15 % in 2019/2020 to 41 % in 2021/2022).

MTFs are also **specialised in dark trading**. Under the MiFID II / MiFIR framework, market operators and investment firms are required to publicly provide both the current bid and offer prices and the depth of trading interests at those prices (pre-trade transparency), along with the price, volume and time of the executed transactions (post-trade transparency), both as close to real time as is technically possible.

'Dark trading' is defined as trading under pre-trade waivers, meaning when the pre-trade transparency requirements are waived by national competent authorities. For equity instruments, MiFID II / MiFIR allow the pre-trade transparency obligations to be waived (in particular for transactions that are large in scale compared to the normal market size, for using the available reference price or for systems that formalise negotiated transactions) and allow post-trade transparency publication to be deferred, mainly for large-scale transactions[23].

Trading under waivers and deferrals has decreased since the UK's withdrawal, especially trading under pre-trade waivers (dark trading). The decrease in trading under post-trade deferrals went down in the same levels as the overall trading volumes, from EUR 4.4tn on average in 2019/2020 to EUR 2.6tn in 2021/2022 (– 43 %), whereas trading under pre-trade waivers decreased by – 55 %, from EUR 4.0tn in 2019/2020 to EUR 1.8tn in 2021/2022[24].

This type of trading is also increasingly concentrated on MTFs after 2021: 92 % of all volumes in shares traded under pre-trade waivers and 40 % under post-trade deferrals in 2021/2022 occurred on MTFs (v respectively 90 % and 34 % in 2019/2020 for pre- and post-trade waivers and deferrals volumes). The rest of trading under pre-trade waivers happens on RMs (8 % of volumes under pre-trade waivers in 2021/2022), while deferred volumes are also

[22] Market operators can apply for their MTF to be registered as an SME growth market, provided that 50 % of the issuers with shares available for trading on their MTF are SMEs.

[23] See ESMA (2022), *Annual Report 2022 Waivers and Deferrals*, for more detailed information on pre- and post-trade deferrals and their implementation, along with statistics of volumes and transactions under each waiver and deferral. Article 4 of MiFIR sets out four different type of pre-trade transparency waivers for equity instruments: the reference price; negotiated trade; large-in-scale and order management facilities waivers. In terms of numbers of waivers, large-in-scale waivers are the main type.

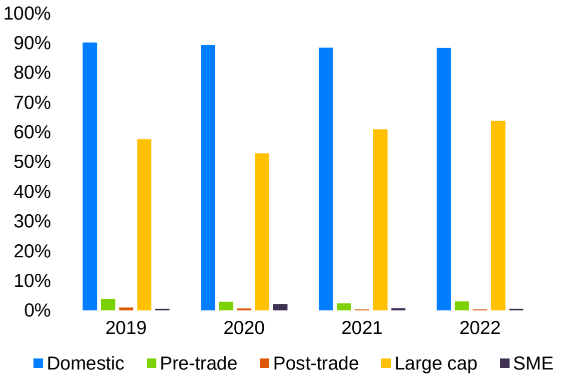
[24] Turnover statistics for pre trade waivers and deferrals are only presented for MTFs and RMs. In general, there are no waivers for OTC-trading given that OTC-trading is not subject to pre-trade transparency. There are exceptions for SIs, where the concept of standard market size (SMS) applies for determining the quoting obligations. MiFID II requires that SIs publish bid and offer prices for a size at least equal to 10 % of the SMS for liquid shares and equivalent liquid instruments (such as ETFs and certificates). However, SIs are free to propose to their clients, in addition to their public quotes, bilateral quotes that are not subject to pre-trade transparency when they are higher than the SMS.

observed OTC (55 % of volumes under post-trade waivers) and on SIs (4 % in 2021/2022).

Trading under waivers or deferrals therefore represents the majority of MTF volumes: 39 % of MTFs volumes in shares came from volumes under pre-trade waivers and 24 % from volumes under post-trade deferrals in 2021/2022 (respectively 56 % and 23 % in 2019/2020). In comparison, on RMs, trading under pre-trade waivers represented only 2 % of share volumes in 2021/2022 (3 % in 2019/2020) and 0.3 % for volumes under post-trade deferrals (1 % in 2019/2020).

Finally, and contrary to MTFs, RMs specialise in trading quasi-exclusively **domestic shares** (i.e. shares from an issuer of the same country as the venue). This characteristic remained stable over time, with 90 % of domestic trading on average in 2019/2020 and 88 % in 2021/2022. This is linked to RMs being most often the primary market where companies issue their stock.

Chart 10
RM share trading by characteristics
RMs specialised in domestic, large-cap. trading



Note: Annual turnover in shares on regulated markets. Domestic = turnover in 'domestic' shares. Large cap = turnover in shares with a market capitalisation larger than EUR 20bn. SME = turnover in shares with a market capitalisation smaller than EUR 200mn. Pre-trade = turnover under pre-trade waiver. Post-trade = turnover under post-trade deferral.
Sources: FIRDS, FITRS, ESMA.

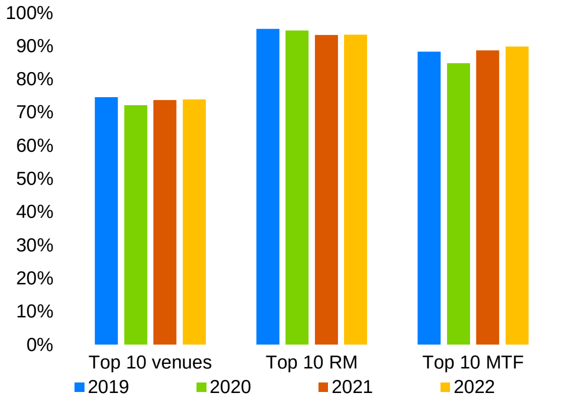
By instrument size, the majority of turnover volumes on MTFs and RMs is in **shares from very large capitalisation companies** (with a market capitalisation above EUR 20bn). It accounted for more than half of total trading volumes on each market type in 2019/2020 (55 % on average on RMs and 61 % on MTFs). After the UK's withdrawal, RMs increased their specialisation in trading very large cap. shares, which represented 62 % of the volumes traded on RMs in 2021/2022 (64 % on MTFs in 2021/2022). Overall, RMs increased their share in total large-cap. volumes in the EEA, reaching 39 % in 2021/2022 (25 % on average in 2019/2020), when MTFs share went from 27 % to 31 %.

High level of on-exchange trading concentration remains

Share-trading activity on exchange is mostly concentrated on few large TVs. The first 10 TVs in shares turnover volumes have gathered almost three quarters of on-exchange volumes in shares since 2019. Even after 2021, the top 10 recorded 74 % of all on-exchange turnover in 2021 and 2022, with five new venues joining this ranking.

Concentration is particularly high for the top 10 RMs, which concentrated 95 % of RM volumes in 2019 and 2020 (93 % in 2021 and 2022). The 10 largest MTFs in terms of turnover volumes were all from the UK in 2019 and 2020, and concentrated respectively 88 % and 85 % of MTFs volumes. After 2021, the first 10 MTFs were domiciled in four different countries but were even more concentrated (89 % of MTF volumes in 2021 and 90 % in 2022).

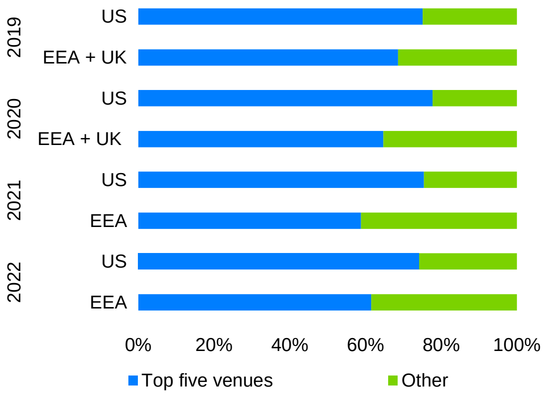
Chart 11
Share trading concentration by market type
Very high trading concentration, especially on RMs



Note: Share of on-exchange share trading on first 10 venues, RM and MTF by turnover volumes, in % of each market type by turnover volumes.
Lecture: In 2022, the first 10 RMs concentrated 93% of share turnover volumes traded on all EEA RMs.
Sources: FITRS, FIRDS, ESMA.

The **trading concentration in the US**, even with a smaller number of venues, appears higher. The first five venues accounted for 74 % of US on-exchange share turnover in 2022, a concentration that has remained stable in the last years (76 % on average since 2019). Considering a similar perimeter, the first five venues trading shares concentrated 67 % of the EEA + UK volumes on average in 2019/2020, with the majority of them established in the UK[25]. After the UK's withdrawal, the concentration level declined to 60 % on average in 2021/2022, with an increased number of venue domiciles.

Chart 12
Annual on-exchange turnover on EEA and US venues
Higher concentration of trading in the US



Note: Share of annual on-exchange turnover volumes in shares on the top five US venues, compared to EEA + UK venues in 2019 and 2020 and EEA venues in 2021 and 2022, in % of on-exchange trading volumes.
Sources: FIRDS, FITRS, Refinitv Eikon, ESMA.

Conclusion

European market structure has changed in an important manner since the implementation of MiFID II / MiFIR. Making use of the regulatory transparency data, this article analyses the evolution of the EEA share market structure from 2019 to 2022.

Given its pivotal role in stock markets, the impact of the UK's withdrawal led to a major decrease in trading volumes, and a decrease in the number of infrastructures trading shares, even though they remain elevated.

Since the beginning of 2021, a new distribution of trading has been observed, both by market type and by country, as well as the relocation of domestic trading; and an increased specialisation of venues. In an upcoming ESMA working paper, we will test the significance of these main changes through a panel regression model, to test the descriptive statistics described in this article. By identifying the evolution of trading concentration and share trading competition during the recent transformative years, this article contributes to ESMA's work to promote effective and orderly financial markets.

[25] To allow for comparability with US figures that are available at the operating entity levels, numbers are presented here at the operating MIC level for the US and the EEA, as opposed to the previous subsection where the number of venues is presented at the segment MIC level. This is a natural choice given that the Refinitiv Eikon market share reporter used for US data provides figures at the operating MIC level.

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