afme/ Davies

Cash Equities Clearing in Europe: Building a More Competitive and Integrated Market

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Executive Summary

European capital markets are at a pivotal moment. Policymakers and market participants alike are seeking to enhance resilience, competitiveness, and integration in support of long-term financing needs. While recent reforms have focused on derivatives clearing and settlement efficiency, the role of central counterparty (CCP) clearing in cash equities has been comparatively underexplored. This paper aims to address that gap, assessing the current market structure, the benefits and costs of CCP clearing, and opportunities to strengthen Europe's clearing ecosystem.

Current landscape

The European cash equities clearing market is characterised by diversity and fragmentation. Unlike the US, where a single CCP clears almost all equities trades, Europe operates a mix of vertical silo models, preferred clearing arrangements and interoperability frameworks. This diversity has delivered important benefits: competition has helped lower clearing fees, improved service standards, and expanded market access.

However, it has also introduced inefficiencies. Settlement fees – which are largely determined by central securities depositories (CSDs) – remain a significant structural cost. Market complexity is also heightened by uneven adoption of clearing, particularly among buy-side entities and smaller intermediaries.

Benefits and challenges of clearing

CCPs play a vital role in strengthening capital markets by reducing counterparty risk, supporting netting, and establishing common standards in risk management and settlement efficiency. These features help stabilise markets in times of stress and enhance overall market discipline.

At the same time, the use of CCPs is not without trade-offs. Participants can face additional costs in the form of margin requirements, collateral management, and clearing fees, which can weigh more heavily on smaller or less active firms. Clearing may also reduce flexibility in areas such as settlement choice. While interoperability offers a potential route to more integrated markets, it is currently limited by additional margining requirements, inconsistencies in risk management approaches, and reliance on clearing models that default most activity to the incumbent CCP, thereby restricting genuine user choice.

Regulatory and structural drivers

The regulatory framework has been central in shaping today's clearing landscape. MiFID and MiFIR introduced competition in post-trade services through open access provisions, while EMIR established the prudential standards governing CCPs, including rules for interoperability. Part of this framework was designed with derivatives in mind, leading to inconsistencies when applied to equities.

Looking ahead, Europe's move to T+1 settlement represents both a challenge and an opportunity. Compressed timelines will increase operational and funding pressures, but the transition also provides a chance to align CCP processes, accelerate automation and improve harmonisation. Comparisons with the US highlight Europe's higher costs and greater

complexity, but they also illustrate the risks of excessive concentration if all clearing activity was routed through a single CCP.

Key findings

- **Competition has lowered clearing fees,** but settlement fees remain high and are a major barrier to further efficiency.
- **Preferred clearing models restrict user choice**; interoperability could offer broader benefits but is constrained by the complexity of current margining structures.
- **The T+1 transition** has the potential to act as a catalyst for further automation, harmonisation, and alignment of CCP processes.
- **A single-CCP model for Europe is neither practical nor desirable.** It would increase concentration risk and weaker competition**.** Targeted reforms are more likely deliver efficiency while maintaining resilience and market diversity.

Recommendations

- **Enhance transparency and benchmarking of CSD settlement fees** to improve comparability and support cost efficiency across Europe.
- **Mandate broader adoption of CCP interoperability** to reduce fragmentation, wider user choice, and promote effective competition.
- **Re-evaluate interoperability frameworks** to remove unnecessary complexity in margining while maintaining robust risk safeguards.
- **Standardise margin methodologies and disclosure** to ensure greater transparency and comparability across CCPs.
- **Ensure CCP operations are aligned with T+1 requirements**, including timely netting and submission of settlement instructions, and support for partial settlement.
- **Encourage greater voluntary adoption of CCP clearing for OTC equities** to unlock system-wide efficiency and resilience.

Conclusions

Europe's cash equities clearing model has evolved considerably since the introduction of MiFID, but further reforms are required to ensure it can fully support the development of more competitive and integrated capital markets. Strengthening interoperability, improving transparency on settlement costs, and leveraging the move to T+1 as a driver of standardisation are key steps. These targeted improvements can deliver meaningful efficiency gains without resorting to structural consolidation into a single CCP. A competitive, resilient, and interconnected clearing landscape will also be essential to achieving the broader goals of the EU's Savings and Investment Union.

1. Introduction

1.1. Context

European capital markets have a renewed focus on economic resilience, competitiveness, and integration. Since the recent publication of the reports by Mario Draghi[1] and Enrico Letta[2] pushing toward market consolidation and the move to T+1 settlement, momentum has been building around the creation of deeper and more efficient European capital markets. Geopolitical tensions and growing recognition of capital markets' role in financing Europe's future are further amplifying this urgency.

In April 2025, the European Commission (EC) advanced its agenda by launching a targeted consultation on obstacles to capital markets integration, as part of its strategy for a Savings and Investment Union (SIU). The consultation covered some aspects of trading and related clearing topics, including the effectiveness of MiFIR's open access provisions and broader questions around improving integration, competition and efficiency of post trade services – clearing included. In parallel, the EC has launched an external project to explicitly examine the barriers hindering the consolidation of trading and post trading infrastructures[3].

Beyond these specific areas of focus at the Commission level in Europe, a review of the post trade ecosystem has also garnered significant attention in recent years, particularly around CSDs and settlement efficiency (see AFME's *Improving the Settlement Efficiency Landscape in Europe* report[4], 2023).

However, the specific role of clearing in equities markets has remained comparatively under-explored in recent years, particularly since the implementation of MiFID II/MiFIR. This is partly because both industry and regulators have focused heavily on derivatives clearing, driven by post-2008 G20 mandates, EMIR – which provided a comprehensive regulatory framework for all CCPs – and the evolving relationship between the European Union and the United Kingdom. Despite the focus on derivatives, there have been regulatory interventions in the cash equity space, regulatory interventions such as the Short Selling Regulation did attract attention at the time, as it required all CCPs to trigger a buy-in no later than four days after a settlement fail in shares. This marked a significant shift, especially considering that some CCPs had previously operated with much longer periods or had no mandatory buy-in mechanism at all.

As outlined further in the objectives, we aim for this paper to contribute to the discussion by examining the current market structure for cash equities clearing, challenges for participation and looking at potential improvements to the market.

1.2. Scope

To focus our analysis, this paper is primarily limited to equities markets in Europe (which covers the EU, the EEA and the UK). This scope reflects the availability of relatively consistent

[1] https://commission.europa.eu/topics/eu-competitiveness/draghi-report_en#paragraph_47059

[2] https://www.consilium.europa.eu/media/ny3j24sm/much-more-than-a-market-report-by-enrico-letta.pdf

[3] https://ted.europa.eu/en/notice/-/detail/364479-2024

[4] https://www.afme.eu/Portals/0/DispatchFeaturedImages/AFME_SettlementEfficiency2023_07%20final.pdf

data across these regions. While some data points might also include other ‘cash’ products – such as funds or bonds – we have highlighted these instances where relevant. Although the issues identified may be more specific to equities, many of the underlying topics are likely to apply to other cleared cash markets, such as fixed income, securities financing, repo and funds clearing, as well as to other jurisdictions beyond Europe.

1.3. Objectives

This paper aims to examine the evolving role of clearing in European cash equities markets, with a focus on:

- Assessing the current role of CCP clearing in the European Equities market.
- Exploring whether greater adoption of CCP clearing could deliver system-wide benefits across the trade lifecycle.
- Identifying the remaining barriers to wider adoption of clearing and proposing recommendations to overcome them or highlight areas for further investigation.

Through this lens, we seek to inform and influence market participants and policymakers by presenting a balanced, data-driven assessment of how clearing can play a central role in the next stage of capital markets development in Europe.

2. Clearing in European equities markets: Market structure and dynamics

2.1. Current landscape

The cash equities clearing landscape in Europe is shaped by a mix of market structures, regulatory approaches, and participant behaviours. Unlike in the US, where a single central counterparty (CCP) clears almost all equity trades, Europe has multiple CCPs serving different markets. This setup brings both benefits and challenges. On the positive side, having several CCPs has introduced competition, which has helped drive improvements in service and pricing. But it has also added complexity, with differences in processes, rules, and levels of clearing across countries and trading venues.

Clearing is well established in dealer-to-dealer trading, especially on exchanges, and historically it has primarily addressed intermediated orders executed through brokers, who are the only actors with direct access to the market. This structure has helped indirect participants, such as retail, to benefit from the market structure although they may have not always had the full benefits of CCP clearing. Understanding this context is important when looking at where clearing has worked well and where there is still room for broader adoption[5].

Competition in the European clearing landscape has delivered benefits in several areas; most notably, lower CCP clearing fees, improved venue connectivity, and enhancements in trade processing.

However, the usage of a CCP is still not widely adopted across all segments of the market or all trade execution methods. Outside of the standard model (a regulated market or an MTF linked to a CCP), the introduction of a CCP in order to benefit from central clearing can be both challenging and complex. In practice, this complexity, combined with the financial and operational obligations of clearing (e.g., such as posting margins and managing settlement flows) has meant there is limited appetite among some of the buy-side to seek direct access, even in markets where it is permitted. Several of these factors are explored further in this paper.

As noted in the AFME paper on settlement efficiency, the dealer-to-dealer segment is already largely cleared and exhibits high levels of STP, supporting efficient and reliable settlement.

Despite improvements, inefficiencies persist in the European cleared markets – including high settlement fees, misaligned incentives, and continued complexity and fragmentation. These challenges are becoming more pressing as Europe transitions to a shortened T+1 settlement

[5] It is important to note that, unlike exchange-traded derivatives (ETDs), there is no regulatory obligation for trading venues to offer central clearing for cash equities. The decision to clear lies with the venue and is not mandated by EMIR , which imposes a clearing obligation only for certain derivative instruments. Similarly, while MiFIR Articles 35 and 36 provide open access rights between CCPs and trading venues, they do not require equity trades to be centrally cleared. As a result, brokers and clearing members act as users of clearing infrastructure, without the ability to mandate or enforce clearing coverage across venues. Additionally, under the widely used principal-to-principal model in European equities markets, end-investors – including both retail and institutional clients – typically do not face the CCP directly. This differs from derivatives markets, where client clearing obligations are more clearly defined and the regulatory framework supports a direct client-CCP relationship. These distinctions are essential to understanding current adoption patterns and the structural limitations to broader clearing coverage.

cycle. In this context any pre-settlement uncertainty or fragmentation could have an amplified impact, particularly in light of the ongoing European policy initiatives.

2.2. The role of clearing in equities markets

2.2.1. What does a CCP bring to an equities market?

CCPs bring several key advantages to equities markets and play a vital role in strengthening the overall capital market structure. In developing markets, the introduction of a CCP typically helps the internationalisation of the market by enhancing confidence, risk standards and operational efficiency.

Risk mitigation is also at the heart of introducing a CCP to a market and supports risk transfer and management. The CCP acts as the buyer to every seller and as the seller to every buyer. This means the primary counterparty risk is on the CCP, as opposed to managing risk against multiple counterparties. The collection of margins, default funds, higher settlement priority (at least in T2S/CSD context) and loss-sharing rules, provide significant protection compared to a bilateral risk exposure, as the CCP guarantees the settlement of a given trade. The aggregation of exposures also allows for CCPs to look at the risk position of clients from a 'net' perspective, also significantly reducing the required margins for a portfolio and at a system level. For example, assuming a bank A is long and short the same quantity of an ISIN to two clients, and a 10% bilateral margin is required by each counterparty (both posting to each other). Using a CCP, whilst the risk profiles remain the same, Bank A removes its margin obligation, making the system overall more efficient[6].

An additional benefit of a CCP in equities markets is the ability to improve settlement through netting of trades. In a purely bilateral market, netting only occurs between each pair of trading counterparties, so a participant ends up with multiple net settlement obligations – one per counterparty. Even if the final net settlement amount is the same, each bilateral relationship generates separate obligations, increasing operational complexity and the risk of settlement fails. By interposing itself between all counterparties, a CCP aggregates all trades and produces a single 'net' obligation per ISIN for each participant, thus significantly reducing both operational burden and settlement costs, and optimising liquidity requirements.

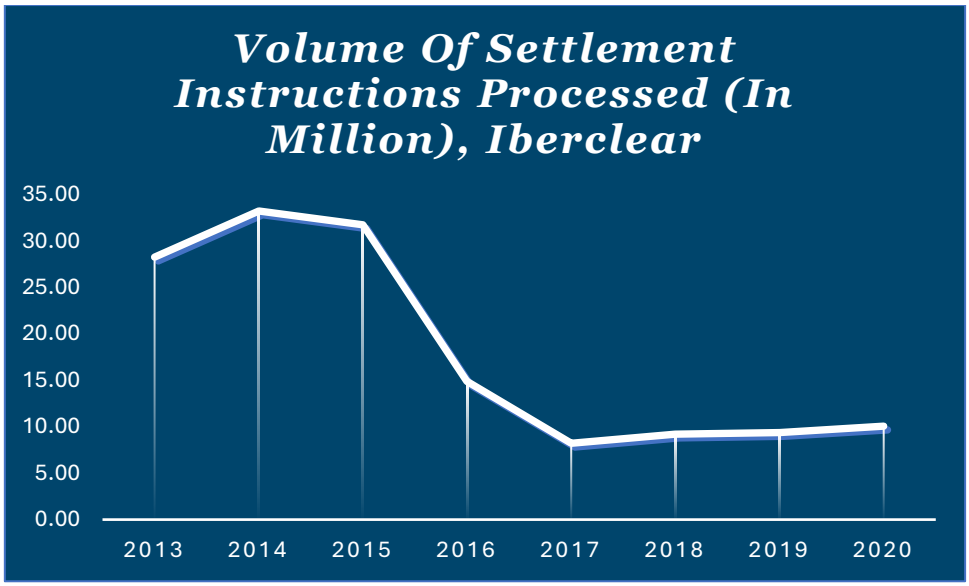
For example, when Spain introduced a CCP for its market in 2016, the number of "delivery instructions processed (total)"[7] in Iberclear fell from a volume of around 31.8 million to below 10 million annual instructions in the subsequent years, a significant reduction. Total trades in the period from 2010 to 2020 was approximately flat[8]. This demonstrates the efficiency gains that CCPs can bring to a market. A similar trend can be seen in the Croatian market when a CCP was introduced.

[6] This is for illustrative purposes; there will be additional costs not addressed in this example.

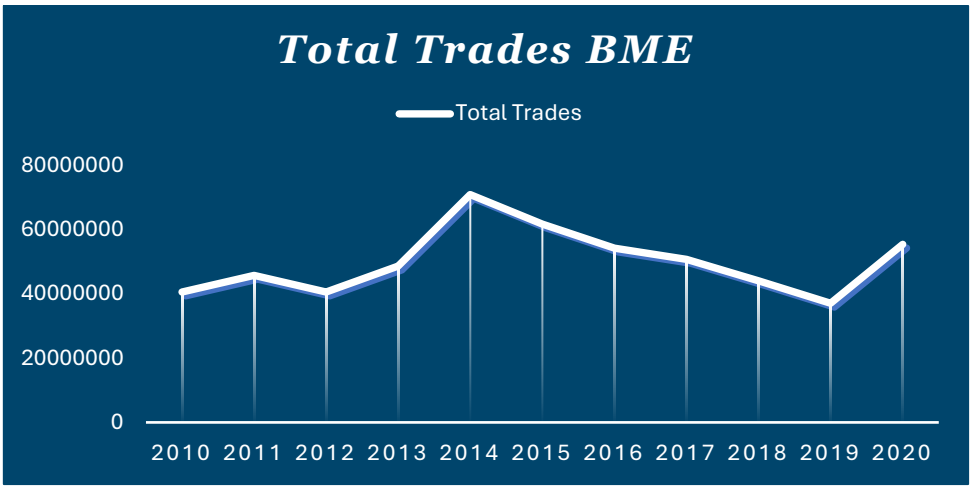
[7] https://data.ecb.europa.eu/publications/payments-statistics/3032564

[8] FESE Statistics Data, Secondary Equity Market, Combined Orderbook and Non-Orderbook trades

Volume of transactions processed at Iberclear	2015	2016	2017	2018	2019	2020
Number of settlement instructions	31.8M	14.9M	8.2M	9.2M	9.3M	10M
Annual % variation in number of settlement instructions	-4%	-53%	-45%	+12%	+2%	+7%



Source: ECB



Source: FESE

CCPs typically also provide levels of standardisation across key areas such as risk management, legal frameworks, reporting, and operational processes. From an

operational standpoint, this standardisation offers clear benefits, particularly for CCPs that operate across multiple markets.

In addition, CCPs help reinforce market discipline. Given their systemic importance, failures at the CCP level can have severe consequences, which contributes to consistently low fail rates for centrally cleared activity. The buy-in process is also more robust in a centrally cleared environment, as CCPs manage this process directly, providing a streamlined operational set up for executing and enforcing buy-ins.

CCPs also support activity on the trading venue side of the market, as new venues can leverage existing clearing infrastructure and benefit from the standardised processes already in place across other markets. A recent example is Spotlight stock market in Sweden, which introduced central clearing to take advantage of these operational and risk management benefits[9].

2.2.2 What are the impacts / consequences of a CCP?

Despite the significant benefits, not all trading activity is subject to central clearing, and the incentives for direct participation vary. In equities, the main driver is the way an order is executed: trades on regulated markets (RMs) and multilateral trading facilities (MTFs) are routinely routed to a CCP, while bilateral transactions executed over-the-counter (OTC) may or may not be novated to a CCP, depending on the arrangements in place. For clients' orders, best execution requirements are an additional determinant of how trades are executed and potentially cleared.

While asset managers or institutional investors may benefit indirectly from central clearing, not all of their trades may be routed through a CCP. This reduces consistency in risk management and transparency across the market, suggesting that broader access to clearing could provide additional benefits. Because CCPs are accessed through specific intermediaries, questions arise about how buy-side firms can connect to them and what membership requirements may apply.

From an operational perspective, however, buy-side firms that rely on intermediaries or general clearing members, rather than seeking direct CCP membership, benefit from the aggregation of client flows across venues. Brokers reconstitute these orders and deliver them efficiently to the end client's custodian – both for centrally and non-centrally cleared transactions – helping to reduce the overall number of settlements.

While in other asset classes, such as Securities Financing Transactions (SFTs), the economics are shifting, and some buy-side firms have begun to adopt clearing directly, in equities the indirect model remains prevalent. As a result, the broader systemic benefits of central clearing are not always visible at the level of individual firms.

The key impacts of using a CCP are primarily financial; most notably, the requirement to post margin can introduce funding costs, collateral upgrade costs, or opportunity costs. While these costs are not uniformly present in all forms of bilateral trading, certain bilateral transactions may also be cleared through a CCP, depending on the trading venue and arrangements in place. There are also additional fees charged by the CCP; indeed, since the nature of CCP fee structures is often volume-based, smaller

[9] https://spotlightstockmarket.com/en/market-overview/news/news-article/?id=106921&publisher=369

participants often pay more per trade than larger ones (e.g. 0.06 EUR for a low volume client versus 0.0035 EUR for a high-volume client).

CCPs can also introduce a loss of flexibility for market participants in terms of settlements. For example, in bilateral trades, the place of settlement (PSET) can be freely agreed between the counterparties. In contrast, under central clearing, a combination of the CCP and/or the trading venue can determine the place of settlement, which may not align with the participants operational preferences or existing arrangements. Article 37 (2) of MiFID II provides the right for members of a trading venue to designate settlement location, but this is conditional on a settlement link being available, which users are unlikely to be able to direct in practice. For end-clients, such as retail investors or asset managers, this constraint is generally managed through intermediaries: brokers and custodians aggregate flows executed across different venues, reconstitute the order, and deliver the final position to the client at their designated place of custody.

There is also an EU-specific angle to consider. With multiple CCPs operating across different markets, the trade-off between cost and benefit may be tilted for certain participants, as they may be required to post margins in multiple CCPs depending on their activity.

Another critical consideration is the centralisation of risk from CCPs. As more and more activity shifts to a CCP, they become increasingly systemically important and potential single points of failure. While regulatory initiatives have been made to address these risks – such as the EU's CCP Recovery and Resolution framework, concentration risk remains a key concern. For this reason, AFME does not support the creation of a single CCP for the EU and continues to advocate for a competitive landscape. This topic is explored further in the paper.

2.3 Infrastructure Landscape

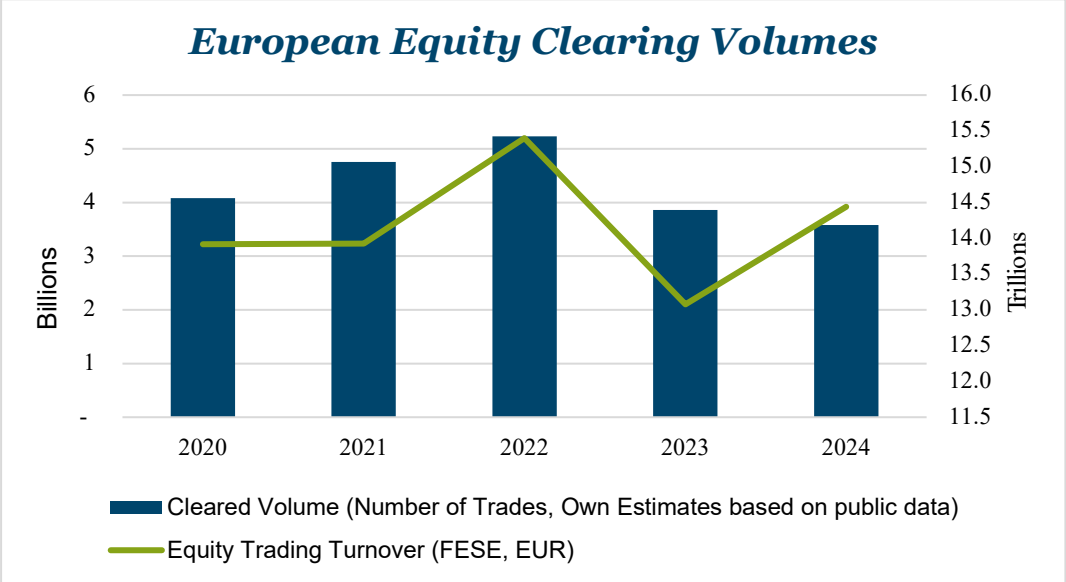
2.3.1 CCP Overview

The CCP landscape is complex in Europe, comprising 12 CCPs across the EU, the EEA and the UK, based upon current authorisations. Since the introduction of EMIR authorisations in 2014, this number has remained relatively stable, though BME Clearing and AthexClear were authorised in 2015, and SKDD-CCP became the most recent addition in 2021.

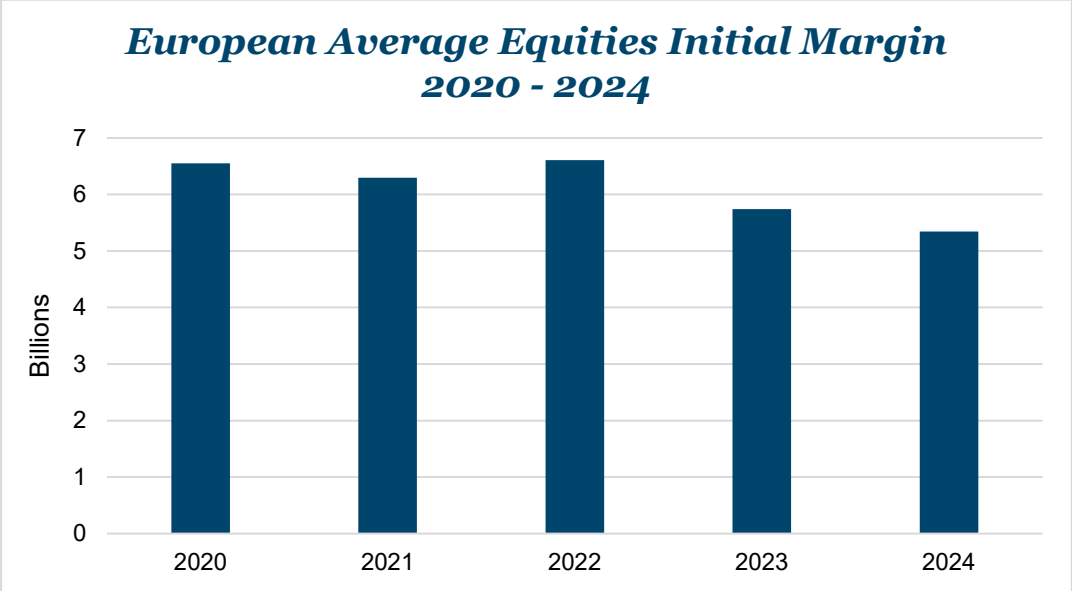
These CCPs broadly fall into two 'models':

- **Interoperable CCPs[10],** which are connected across venues to allow cross-CCP netting and access, and
- **Vertical silo-style models**, where CCPs focus primarily on clearing activity for group-owned exchanges and venues, often under preferred clearing arrangements or direct connectivity.

[10] EMIR: 'interoperability arrangement' means an arrangement between two or more CCPs that involves a cross-system execution of transactions



Source: FESE[11]



Source: CCP Quantitative Disclosures[12]

[11] FESE Data source from https://www.fese.eu/statistics/european-equity-market-report/ accessed 2 September 2025. Estimates of cleared volumes from various exchange and CCP sources.

[12] Data sourced from CCP Quantitative Disclosures (PQD 6.1.1). Efforts have been made to isolate the equity specific margins per CCP, but this is an estimate. Due challenges in isolating specific equity margin information in 6.1.1 data, we have excluded Eurex Clearing, LCH SA and Euronext Clearing.

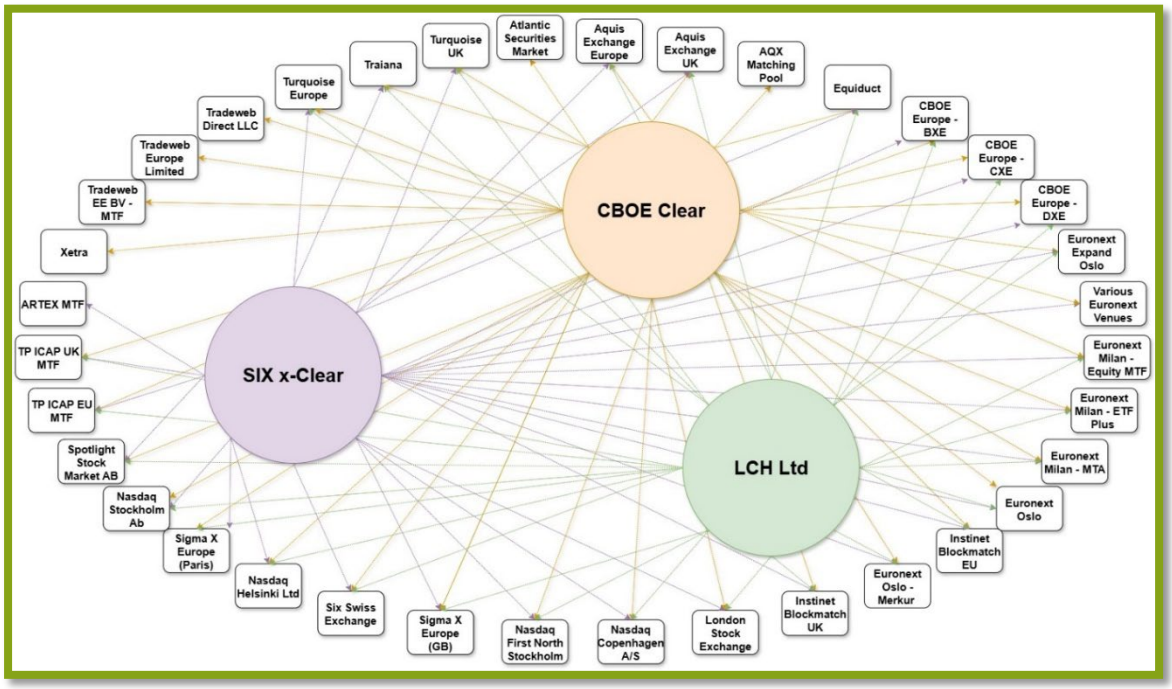
2.3.2 Venue Relationships

Europe has a high number of trading venues. According to ESMA data[13] (end-2022), there were 59 Regulated Markets, 96 MTFs and 49 Systematic Internalisers operating in the equities space, excluding the UK, which also has a high number of venues. France currently accounts for the largest share of equity trading activity within Europe. Based on the ESMA registers, the number of venues does not appear to have altered significantly since this data was published.

The following are the broad market structure relationships between venues and CCPs:

- **Primary Silo Venues**, often primary markets, which typically connect to a single, affiliated CCP (under a preferred clearing or exclusive arrangements).
- **Interoperable Primary markets** clearing and settling via interoperable CCPs
- **MTFs** also typically clearing and setting via interoperable CCPs, though can operate in a silo and clear at a group CCP
- **Systematic Internalisers** typically uncleared activity, unless sent for clearing using an OTC reporting channel (e.g. Traiana).

Diagrammatic visualisation of the venue connectivity to interoperable CCPs in Europe[14]



[13] ESMA50-524821-3149 EU Securities Markets 2023

[14] Euronext venues consolidated. Certain venues will also be linked to other CCPs not pictured, for example, Xetra is linked to Eurex Clearing.

Market structure has been shaped by historic relationships and commercial factors. Primary exchanges have traditionally been the main listing venues and trading locations for domestic equities, and thus, trading and clearing activity in these venues tend to remain on these venues and related CCPs. By contrast, many of the largest MTFs, aim to maximise trading coverage and flexibility, making the choice of interoperable CCPs their preferred model. Venues will decide on the CCP structure that best supports their interests.

There is also an expansion to support OTC activity being routed to clearing. Several OTC matching platforms also support routing to clearing, enabling trading participants to better manage their overall exposures across venue and non-venue activity. These venues can also have an impact on the CCP functioning, and submissions into clearing can trigger later/out of hours margin calls for users.

Access requirements for venues from CCPs, will vary depending on the operating model. However, the most critical aspect will be technical linkages, most notably enabling trades from the venues to flow into the CCP systems or rejecting if instructions are not valid at the CCP.

2.3.3 CSD Coverage

CCP arrangements with CSDs are another key interconnection in the post-trade infrastructure. Depending on the nature of the CCP (Silo/Preferred/Interoperable), this may require an extensive network of CSD–CCP linkages as part of the operating model. A CCP determines how to settle its netted positions by either: becoming a direct participant in one or more CSDs or using a settlement agent to access the CSD indirectly. This choice affects the CCP's operational flexibility and its ability to manage settlement across jurisdictions.

The relationship between CCPs and CSDs is further shaped by T2S (TARGET2-Securities), where some CCPs have become Directly Connected Parties (DCPs) to gain greater oversight and control of settlement. In T2S, all settlement instructions – whether cleared or bilateral – are taken into account together during technical netting to maximise optimisation. However, in case of insufficient securities, CCP instructions are given priority in the allocation of the available stock. One of the benefits of CCP-cleared trades is therefore this preferential treatment in settlement when resources are constrained.

CCPs may also request functionalities from CSDs to support their operational needs. One example is the Power of Attorney (PoA) functionality, which allows CCPs to instruct on behalf of their participants, streamlining the settlement process and reducing operational overhead. Auto-partial and hold functionality for settlement is another area that CCPs can request. Many of these operational areas are being revisiting under T+1 but the lack of provision at the CSD level impacts the ability of CCPs to provide this to users.

As highlighted in the Spanish market example earlier, the introduction of a CCP can reduce the volume of settlement instructions in the market. This is achieved through multilateral netting, where a CCP issues a single net instruction instead of processing multiple instructions from multiple parties. While netting can also be applied outside CCPs, the use of a CCP allows netting to take place across a wider pool of participants, thereby magnifying its impact.

2.3.4 Markets without CCPs

As alluded to earlier in the paper, the market for clearing services in Europe continues to evolve, with SKDD-CCP in Croatia being the most recent entrant (2021). There are also plans to launch an equities CCP in Romania that are well advanced[15]. Whilst there are strong reasons for these markets to move toward CCP models for the domestic market, it shows a trend that fragmentation is increasing in the European market, not decreasing. The EBRD had looked at the role of clearing in a previous study and concluded that a single CCP for the region would be the most economical method of CCP formation in the region, but this model does not appear likely to emerge based on current trends.[16]

The primary reasons markets launch CCPs are to benefit from the CCP risk mitigation and netting capabilities. Critically, not all equities may fall within the scope of a CCP, and CCPs retain the discretion to exclude or withdraw their guarantee for instruments deemed too risky. Nevertheless, one of the key drivers for smaller markets in establishing CCPs has been the limited support available to domestic participants, whether perceived or real. For example, minimum clearing fees at the clearing member level or membership fees at the CCP level can act as a disincentive to join larger markets. The opening up of these markets to interoperability would enable domestic participants to maintain clearing access whilst simplifying access for the international participants.

[15] https://bvb.ro/FinancialInstruments/SelectedData/NewsItem/BVB-Stadiul-proiectului-de-autorizare-a-CCP-RO-Bucharest-S-A-/68D65
[16] https://www.oliverwyman.com/our-expertise/insights/2015/sep/regional-central-counterparty.html

3. Regulatory Landscape (Equities clearing focus)

3.1 Role of MiFID, MiFID II/MiFIR in the current structure

Regulation has played a key role in shaping the structure of the European cash equities clearing market. A foundational change came with MiFID[17] in 2004, which enabled the competitive operation of alternative trading structures, such as MTFs and Systematic Internalisers (SIs), by removing the 'concentration rule'[18]. This rule had allowed Member States to require investment firms to execute on regulated markets or national stock exchanges. Its removal opened the door for equities from a given 'home market' to be traded on alternative secondary venues.

To support this change, MiFID introduced provisions, namely Articles 34, 35 and 46, that enabled investment firms and market infrastructures to access CCPs and settlement systems across Members States. These articles established the right of access to CCPs and the designation of systems for the settlement of financial transactions on regulated markets. While these rights were subject to certain conditions, including the ability to restrict access on commercial grounds, they marked a significant step towards cross-border competition. Article 35 defined access rights for MTFs to CCPs, while Article 46 allowed regulated markets to connect with CCPs in other member states.

These rules transformed the market structure and were effective in shifting activity from primary markets to alternative trading venues. MiFID II and MiFIR[19], adopted in 2014, further developed these rules and shaped the current market structure – although EMIR (outlined below) also played a key role in the interim period.

MiFID II and MiFIR built upon the core principles established by MiFID. Articles 37, 38 and 55 largely replicated the original MiFID provisions (Articles 34, 35 and 46) maintaining the framework for access to clearing by investment firms, regulated markets and MTFs.

While MiFID focused on preventing Member States from restricting access to post trade services, MiFIR shifted the emphasis toward eliminating commercial barriers to competition. Recital 38 of MiFIR explicitly states the intention to remove *"…commercial barriers that can be used to prevent competition in the clearing of financial instruments*". This objective was pursued through the introduction of 'open-access' provisions – Articles 35 and 36 of MiFIR – which, in broad terms, codified the rights of CCPs to access trade feeds from trading venues, and of trading venues to access CCPs.

The MiFIR rules also sets out trading obligations for derivatives and shares (with certain exceptions). The rules also provide a clearing obligation for derivatives traded on a regulated market, whereas no such requirement exists for shares or cash instruments in the rules.

Whilst the intention is clear in articles 35 and 36, there are several opportunities for venues or CCPs to refuse to provide access. Notably, liquidity fragmentation (Recital 40) can be a reason

[17] Directive - 2004/39 - EN - mifid - EUR-Lex

[18] https://ec.europa.eu/commission/presscorner/api/files/document/print/fr/memo_07_439/MEMO_07_439_EN.pdf

[19] Directive - 2014/65 - EN - mifid ii - EUR-Lex & Regulation - 600/2014 - EN - mifir - EUR-Lex

for trading venues to refuse access to a CCP. This means that either a transaction cannot clear due to an absence of a shared clearing solution between all participants, or clearing members are forced to hold positions at multiple CCPs.

The RTS[20] further sets out the various conditions for venues and CCPs to accept or deny access requests. These are fairly detailed but have some broad rules for refusal including 'operational risk and complexity'. ESMA is required to report if a lack of interoperability is the reason for denying an access request, and we could not identify any records of these cases.

We could not identify a clear data source to analyse the linkages in 2014 versus the linkages today, but anecdotally, these rules appear to have had limited impact in opening access between CCPs and venues.

3.2 Role of EMIR

Another key piece of legislation with regards to the equities clearing markets is EMIR and its subsequent iterations. Whilst this did not fundamentally alter the market structures for clearing, it codified the standards and expectations for central counterparties. For example, defining interoperability under Article 2(12). Interoperability was further specified under Art 51 to 53, setting out the requirements for risk management. One of the challenges for interoperability is this rigidity of the framework, in particular, Article 41requiring CCPs to call and collect margins from interoperating CCPs. This creates additional margin for those members electing to clear on interoperable CCPs. Further, the latest iteration of EMIR ("EMIR 3") has also restricted CCPs from become members of other CCPs as opposed to interoperability. Whilst clearly prudent, these rules limit the feasibility of innovation between CCPs, in a risk appropriate manner. For example, there are examples in other markets of CCPs cross margining across markets and coordinating on default management.

In addition, many of the rules are primarily designed for derivatives. For example, porting of positions makes sense for 30yr swap positions, but not really for an equity clearing, especially in a T+1 environment. This is because the reality is that a trade will likely settle and close in advance of any porting activity being able to occur. Reviewing the EMIR rules with a focus on ensuring the rules are suitable for the underlying products could help improve the competitiveness of the European market.

3.3 T+1 Impact on Clearing

Europe is planning to shorten its standard settlement cycle from T+2 to T+1 by 2027, with central counterparties (CCPs) among the key market participants affected.

The experience of the US market has already provided a clear indication of the impact of T+1 on clearing. One notable outcome has been a reduction in required clearing fund, with NSCC reporting a reduction of 23% of the clearing fund when compared to a T+2 environment[21]. A similar level of reduction is expected for European CCPs once T+1 settlements are implemented.

[20] Delegated regulation - 2017/581 - EN - EUR-Lex

[21] https://www.sifma.org/wp-content/uploads/2024/09/T1-After-Action-Report-FINAL-SIFMA-ICI-DTCC.pdf

Although not a core focus of industry discussions, this reduction is also likely to lower interoperable margins, thereby reducing the absolute cost of clearing through such arrangements. However, since margin reductions typically lead to a decrease in collateral fee income, CCPs may look to recover these costs elsewhere.

From an operational standpoint, T+1 will also introduce challenges for cash equities clearing, particularly on the clearing member side. Shortened timeframes will affect key processes such as reconciliation, which may require further automation. CCP netting cycles may also need to be adjusted to ensure that reports are delivered in time. There is also a risk that there is an increase in late margin calls, as CCPs look to ensure margins are in place prior to next day settlements

This said, clearing could become an enabler for T+1 thanks to the standardised processes used by the CCPs. While shifting more activity into the clearing house may reduce flexibility, it also helps ensure that flows are aligned with T+1 requirements. Crucially, however, CCPs cannot achieve timely settlement on their own: an optimised T+1 process requires both the ‘market leg’ cleared through the CCP and the corresponding ‘client legs’ to converge within the same settlement cycle. When this alignment is achieved, clearing can offer certain client groups an effective pathway to achieve T+1 readiness and by also ensuring trades are matched and submitted for clearing on trade date.

4. Comparison to US Market Structure

Proposals in the Draghi report for a single CSD and CCP in the EU appear to draw strong inspiration from the US market structure. However, the historical development of market infrastructure in Europe differs markedly from that of the US. As such, our general view is that this model may not be suitable for the European context.

From a practical standpoint, many European infrastructures are now often part of publicly traded groups, which further complicates the feasibility of implementing a unified model. Nonetheless, we believe it is important to examine the market in more detail and assess the current market structure to inform this discussion.

4.1 Structural arrangement

The US equity market features a diverse range of trading venues, comparable to the landscape in Europe. According to the SIFMA equity market survey[22], there are 16 registered exchanges in the US, alongside numerous Alternative Trading Systems (ATS), over-the-counter (OTC) venues and Single Dealer Platforms. Notably, the share of trading activity executed *off-exchange* in the US has been steadily rising, reaching 47% of total average daily volume (ADV) in 2024 – a trend that has continued since data collection began in 2007.[23]

However, the most significant structural differences between the US and Europe emerge on the clearing and settlement side. In the US, all equity trades designated for clearing are routed through the National Securities Clearing Corporation (NSCC), with the Depository Trust Company (DTC) acting as the CSD for equities. This setup results in a far simpler post trade infrastructure compared to the more fragmented European model.

While precise figures for equity-specific clearing volumes in the US are not publicly available, we can use available data to form a view. Using the CBOE data[24] we find the reported average daily value of equities trades between 11 April and 14 May 2025 was $710.6bn. Based on review of 2024 data, this is broadly representative of the typical value of equities trading activity over the preceding 12 months. In contrast, NSCC's annual reports and PFMI quantitative disclosure indicate an average daily value of cleared activity of approximately $2.2trn in 2024. It's important to note, however, that this figure also includes cleared transactions in corporate and municipal debt, American Depository Receipts (ADRs), exchange traded funds (ETFs), and unit investment trusts (UITs) in addition to equities. NSCC does state that "virtually all broker-to-broker trades involving equities" are cleared through its platform [25].

Despite the lack of equity-specific granularity, we can infer some key characteristics. A large proportion of NSCC-cleared activity – around two-thirds by value – originates from OTC

[22] https://www.sifma.org/wp-content/uploads/2024/03/SIFMA-Insights-Equity-Market-Structure-Compendium_as-of-2-26-1.pdf

[23] https://www.sifma.org/wp-content/uploads/2024/03/SIFMA-Insights-Equity-Market-Structure-Compendium_as-of-2-26-1.pdf

[24] Cboe Global Markets, https://www.cboe.com/us/equities/market_statistics/market/2025-05-14/

[25] https://dtcclearning.com/products-and-services/equities-clearing.html#:~:text=NSCC%20provides%20clearing%2C%20settlement%2C%20risk,and%20unit%20investment%20trust%20(UIT)

sources[26], while the distribution by trade volume is more balanced, suggesting that exchange activity is dominated by smaller-value trades.

One of the key differences in the US markets, is the greater usage of 'trade capture' as the first stage of the clearing process[27]. This stage involves aggregating trade data from multiple trading venues and capturing affirmed EB-PB transactions, making any necessary amendments, before submitting to NSCC on a 'locked-in' basis. This step has proven particularly valuable in a T+1 environment, helping to identify and resolve issues before submission in the post-trade workflow.

4.2 Cost and efficiency outcomes

A recent AFME report[28] on CSD fees in major European markets highlighted that overall cost to settle in European CSDs is, on average, 65% more expensive than in North American CSDs. Given that settlement fees constitute a significant component of overall post-trade expenses, this cost differential helps explain why post-trade costs in Europe are comparatively higher.

In terms of overall value traded, the US market is significantly larger. Utilising CBOE data[29], during the same period (11 April and 14 May 2025), the average value of equities traded across OTC and exchange venues in Europe was 101bn EUR ($113.21bn). This difference in scale is highly relevant. Deutsche Boerse[30] has previously highlighted a relationship between the number of transactions and the cost of a transaction, suggesting that economies of scale are a key reason of transaction fees are lower in the US. This raises a familiar causality question: are lower costs leading to more activity, or does higher activity enable lower costs?

In assessing this question, it is important to also consider the potential drawbacks of a single-CCP model. From a commercial standpoint, a single-CCP infrastructure model may operate in a monopolistic manner, thus having fewer incentives to innovate, offer competitive fees invest in technology, or enhance client services. More critically, a single CCP aggregates risk into one central point, offering only a single view of market exposure. This runs counter to the diversification and resilience goals underpinning many European regulatory initiatives such as CCP Recovery and Resolution and the Digital Operational Resilience Act (DORA), albeit the latter more from a technology perspective. As the DTCC group is primarily member owned, there arguably is a stronger protection for the interests of the users in this governance model.

Another structural difference between Europe vs the US markets lies in the fee models. The US clearing model typically charges on a 'per million dollars' basis – akin to the FX market – rather than by transaction volume / number of trades, as is more common in Europe. This risk-based pricing underscores that, in the US model, the value of trades is more relevant to CCP income than sheer trade volume.

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[26] PFMI Quantitative Disclosure 23.1, Q1 – Q4 2024. We note that the usage of OTC could also include ATS and other venues, akin to MTFs in Europe, making direct comparison even more challenging.

[27] https://www.dtcc.com/-/media/Files/Downloads/legal/policy-and-compliance/NSCC-DISCLOSURE-FRAMEWORK-2024-Q3-Q4.pdf

[28] https://www.afme.eu/media/uimf2rk1/afme_csdcost25_04.pdf

[29] CBOE Europe, Market Share Portal

[30] https://www.deutsche-boerse.com/resource/blob/66338/a9b56be08e3f9281765c81d47bdfae3f/data/the-european-post-trade-market-0205_en.pdf

While the US model continues to be examined as a potential reference point, AFME and its members maintain that fostering competition and dismantling national barriers remains the most effective strategy for improving Europe's post trade landscape, especially given its existing structure.

5. *Equities Settlement Models*

5.1 Outline of different models (Bilateral, PB intermediated, Cleared)

Across the European cash equities clearing and settlement landscape, there are various methods to settle a transaction. The choice between on-venue and off-venue execution – and the corresponding settlement model – is influenced by a mix of regulatory, venue-specific rules, counterparty relationships and transaction-type factors.

- CCP-Cleared (On-Venue) Settlement

  The majority of equities flow in Europe is cleared and settled through Central Counterparties (CCPs). Trades executed on regulated trading venues or Multilateral Trading Facilities (MTFs) are typically routed to a CCP for clearing – where risk management and netting take place – and then settled via Central Securities Depositaries (CSDs).

  Under this model, CCP's direct counterparties are its clearing members, who principally face the CCP on a net basis. It is the responsibility of the clearing members to manage the relationship with their own underlying clients (investors, brokers, or RTOs). Settlement between the CCP and its clearing members is often carried out under a Power of Attorney (PoA) arrangement, although practices can vary between CCPs. Clearing members pay fees to CCPs for clearing and related services (further outlined in section 7).

  This model is highly efficient in the CCP-clearing member chain: numerous gross transactions are compressed into a single net instruction per ISIN. In practice, Operations teams reconcile their internal books and records against the CCP's instructions, and then ensure those instructions are correctly transmitted and settled in the relevant CSD. This reduces the need to 'pre-match' each individual settlement instruction at the market infrastructure level. However, it does not eliminate the need to reflect and settle the underlying client-level transactions between clearing members and the client's custodians. In other words, CCP netting optimises flows within the market infrastructure, but does not replace client-side settlement processes.

- Bilateral Settlement

  Bilateral settlement volumes primarily consist of transactions agreed with Systematic Internalisers (SIs) or OTC counterparties. SIs are typically investment firms that deal on their own account by executing client orders outside of regulated markets or MTFs. These trades are not routed via a CCP and settle directly between buyer and seller.

  Settlement instructions are typically sent directly by the trading principals to the CSD or their agent bank on a gross basis via Swift messaging. The counterparty is expected to match the instruction the other side. While some large institutions may engage in bilateral netting with trusted SI counterparties via bilateral netting agreements, this is not standard practice.

- Prime Brokerage Settlement

OTC volumes also include activity from Prime Brokerage (PB) arrangements. In this model, buy-side firms often separate execution and settlement by using different brokers: Executing Brokers (EBs) handle the trade execution, while Prime Brokers (PBs) manage settlement, financing and custody – e.g., the client may route executions via a differing Executing Broker due to best pricing.

A 'Give-up' agreement exists between the EB and PB, allowing the trade to be handed off to the client's respective PB for settlement and synthetic exposure (via Swap arrangements). Prime Brokerage flows are bilateral in nature and often bespoke, involving synthetic exposures or margin-financed positions which do not typically fit with the CCP clearing model, which requires standardised booking flows. There are also differences between US and European Prime Brokerage agreements and regulatory standards. In the US, PBs can disaffirm trades back to the executing broker if needed, which may have promoted greater usage of clearing.

PBs also provide a broader range of services not typically offered by CCPs – such as custody, securities Lending, delta-one swaps or synthetics, and consolidated reporting.

5.2 Outlining the flow between the OTC and Cleared Markets

A common scenario faced by large dealers involves one leg of a transaction being centrally cleared and netted through a CCP, while the corresponding leg – often facing a diverse set of clients (such as asset managers, hedge funds, pension funds, corporates or retail flows) – is settled bilaterally on a gross basis.

This split leads to several inefficiencies. For example, a broker may net to zero with the CCP, yet still face dozens of gross settlement instructions to individual clients. Each of these instructions must be managed independently, adding operational complexity and risk. From a liquidity perspective, the cleared side benefits from multilateral netting and consolidated funding, as well as the CCP's settlement discipline tools such as the buy-in process, while the bilateral side requires full funding for each gross instruction, creating liquidity strain and higher funding costs, particularly in the case of partial settlements.

It is important, however, to distinguish between *OTC settlement* (i.e., bilateral settlement outside CCPs) and *OTC transactions* (which can, under certain conditions, be novated into the CCP). CCP netting is only possible because of novation: the CCP interposes itself and becomes the counterparty to each clearing member, allowing all trades with that member to be netted. Outside the CCP perimeter, such netting would have to occur at the level of each investor or custodian relationship. This is far more limited in practice, both because MiFID II requires strict protection of client assets and because the diversity of clients and custodians inevitably reappears at the settlement stage.

That said, some limited mechanisms do exist outside CCPs – such as bilateral or custodian-level netting, or pair-off practices – but these are specific and conditional, rather than a substitute for multilateral CCP netting.

Finally, even within CCP-cleared flows, settlement is not always reduced to a single net per ISIN per day. General Clearing Members often maintain separate nets for different brokers or flows, partly to manage the allocation of securities in the event of a settlement fail.

6. Clearing Access Models: Interoperability, Preferred Clearing and Single CCP

6.1 Overview

One of the key structural considerations in the European equities markets is the role of interoperability between CCPs. An interoperability arrangement allows trading members to execute trades with one another on the same trading venue, while choosing to clear those trades through different CCPs. The CCPs then manage the obligations between themselves. From a regulatory perspective, EMIR defines interoperability as "an arrangement between two or more CCPs that involves a cross-system execution of transactions".

Whilst interoperability has long been discussed, the topic has come to the forefront following recent decisions to implement a preferred clearing model as opposed to interoperate. This preferred clearing model represents an intermediate step between a full vertical silo (single CCP) and an open, fully interoperable structure.

The origins of interoperability can be traced back to MiFID[31], when the emergence of Multilateral Trading Facilities (MTFs) as a new venue for equities, created a demand for more flexible, cross-border clearing arrangements, beyond the traditional single CCP models. In 2006, there was an industry-led agreement[32] to standardise CCP access, to facilitate interoperability and support greater competition and user choice in post trade infrastructure.

Interoperability was later embedded in regulatory frameworks (i.e., EMIR and MiFID II). EMIR sets the risk and prudential requirements for CCPs[33] engaged in interoperability arrangements, while as per our regulatory section, MiFID II / MiFIR introduces open access provisions and venue access obligations, requiring trading venues to admit multiple CCPs under certain conditions. More recently, EMIR 3 has also specified that CCPs cannot become direct clearing members of other CCPs except outside regulated interoperability arrangements[34], and it has expanded the scope of interoperability to derivatives markets.

In the current market landscape, we observe:

- Three CCPs operating in full interoperability arrangements
- Two CCPs offering partial or limited clearing activity via another CCP; and
- Six CCPs operating in a vertical silo model.

Due in part to the lack of participation in each other's default funds, and the need to fund inter-CCP initial margin, the margin requirements for interoperable CCPs tend to be higher than for CCPs operating under siloed or non-interoperable models.

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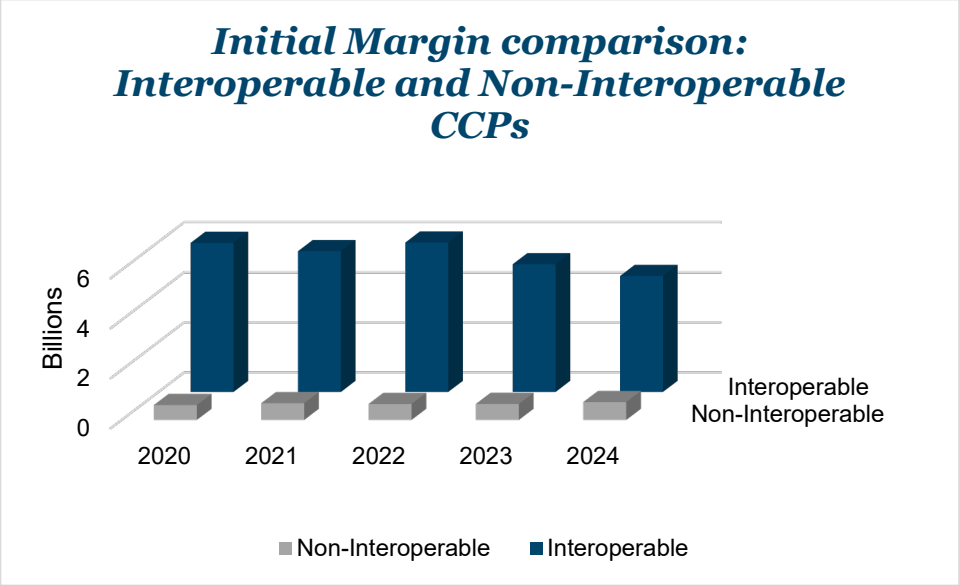
[31] Directive 2004/39/EC of the European Parliament and of the Council of 21 April 2004 on markets in financial instruments

[32] https://www.kdd.si/_files/45/20061109_press_release_code_of_conduct.pdf

[33] Title V, Articles 51 to 54, REGULATION (EU) No 648/2012 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL

[34] EMIR 3, Title IV, Chapter 1, Article 26 "Without prejudice to interoperability arrangements under Title V or the conduct of its investment policy in accordance with Article 47, a CCP shall not be or become a clearing member, a client, or establish indirect clearing arrangements with a clearing member with the aim of undertaking clearing activities at a CCP".

EMIR 3 has highlighted some transparency issues with the current CCP models and proposed rules to address these. As part of these rules, it is anticipated that all CCPs provide margin simulation tools, from single CCP through to the interoperable CCPs. In the context of interoperable CCPs, the hope is the new regulations will provide more transparency on the additional interoperable margin called from members. One of the key challenges for members is being able to allocate this back down to client level, especially for some of the add-ons (if applicable).



[35]

6.2 Single CCP

The single CCP, vertical silo model, refers to a market structure whereby the trading venue mandates the exclusive use of a single, vertically integrated central counterparty (CCP) for all trades executed on that venue. In most cases, the trading venue and the CCP are part of the same corporate group ownership structure. Under this model, participants are not permitted to choose an alternative CCP for clearing, and interoperability between CCPs is not supported.

This model has several advantages. It supports integration between trading and clearing operations, enables cross-subsidisation of services between the venue and the CCP, and arguably simplifies default management processes by limiting CCP's exposure to a single venue. Whilst somewhat theoretical, the model is also seen as the most efficient from a margin and settlement standpoint, as it allows for maximum netting opportunities across the full trading activity for that market.

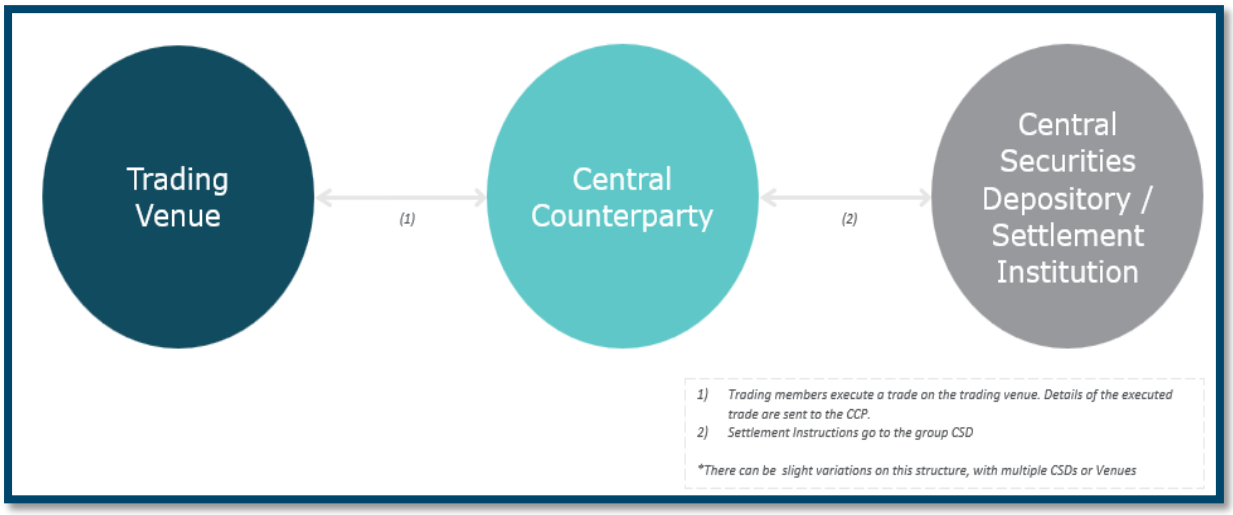
However, the structure also raises concerns. The venue and the CCP may act in a monopolistic manner, thereby reducing the incentives for innovation and service improvements. Additionally, it may deter international investor participation – thus limiting the

[35] Please refer to footnotes above. This is an estimate and due to an inability to isolate equities margin in CCP Public Disclosures (6.1.1), we have excluded Eurex and Euronext Clearing from this analysis.

growth of the marketplace – as access to alternative clearing routes is restricted and the model does not align with the principles of open access and competition.

As described earlier, the model remains prevalent amongst the majority of CCPs in Europe. The US model also follows a version of the vertical model in that a single CCP (NSCC) clears the majority of equity trades. However, unlike in Europe, the CCP in the US is not owned or operated by any trading venues, making the governance structure more neutral and distinct from the vertically integrated European approach.

Vertical Silo operating model



6.3 Preferred Clearing

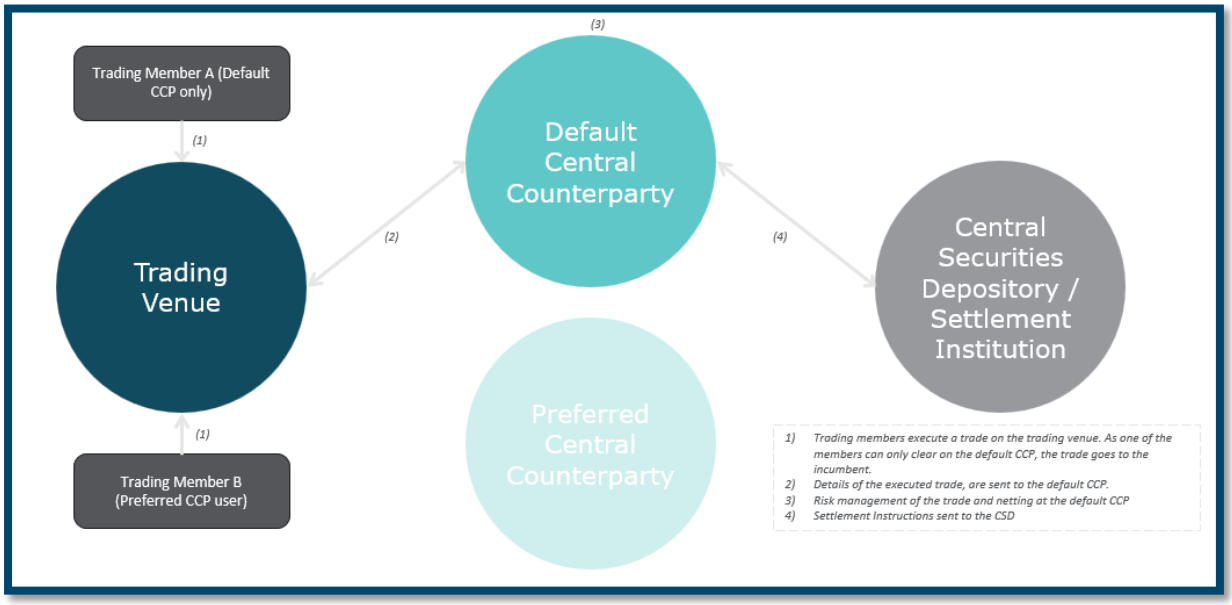
Preferred clearing allows trading members to nominate a preferred CCP of their choice for clearing their trades on inter-operating platforms. While each trading venue typically designates a default CCP, which clears the majority of on-exchange trades, participants can sometimes opt to clear through an alternative, preferred CCP, where supported.

However, the effectiveness of this model is limited in practice. Even when an alternative is technically feasible, trades tend to default to the venue's incumbent CCP unless both counterparties to a given market execution have elected the same preferred CCP. Because trading members cannot predict in advance which counterparties their orders will interact with, they often end up with part of their flow settling at the preferred CCP and part at the default CCP. As a result, clearing members still need to maintain access to the default CCP, thereby undermining the participants' ability to drive CCP choice in practice. For example, a trade executed on a venue supporting preferred, will only be cleared on a preferred CCP if both trading parties have explicitly selected the same CCP as their preferred CCP. If one party has chosen a different CCP, or has not expressed a preference, the trade will be cleared by the default CCP, which is the incumbent for that market. This can lead to uncertainty in costs, as the CCP of choice cannot be explicitly controlled.

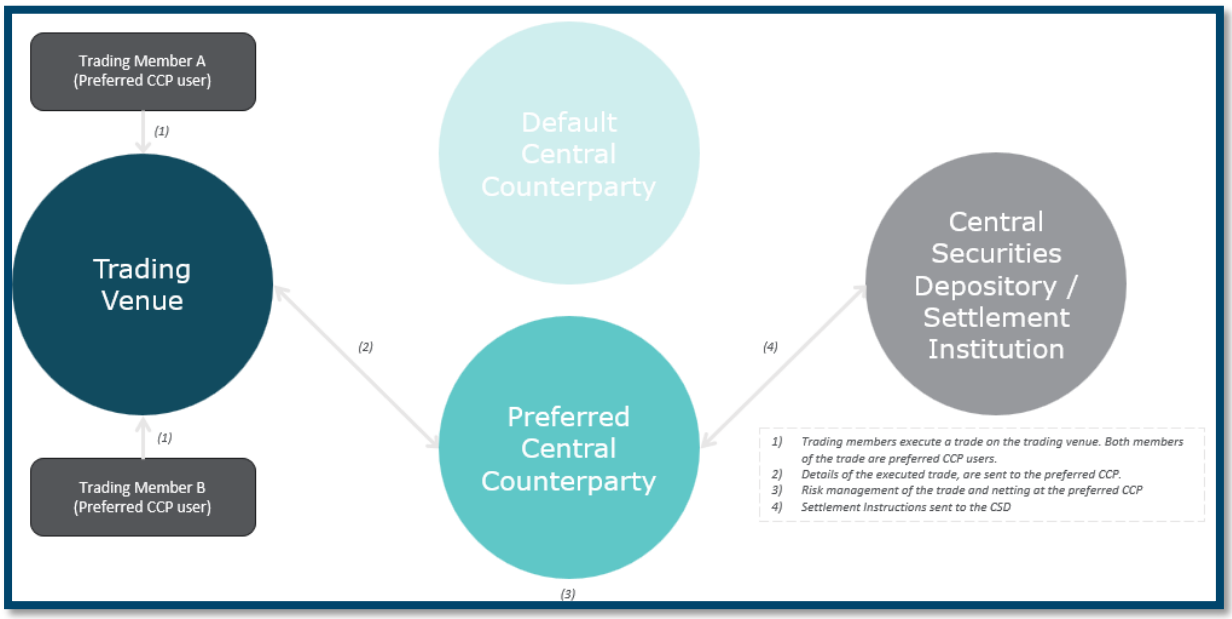
There is a variation on this model, “interoperable preferred” whereby each party can choose its preferred CCP. It is only if at least one party chooses the default CCP that the trade will flow to the default CCP. This was previously utilised for Equiduct (ESES), but we are not aware of it being in extensive use.

Preferred CCP operating model

Scenario 1



Scenario 2



This model does offer counterparties a degree of user choice over where they clear a trade for given market, but its effectiveness is constrained. In anonymised trading environments, where participants are unaware of their counterparties at the point of execution – the likelihood of trading against a counterparty with the same CCP preference is low, meaning that most of the activity continues to be routed to the incumbent CCP.

AFME working group member estimates are that typically 85-95% of activity remains on the incumbent CCP, despite the presence of multiple interoperable CCPs. We caveat that this can be higher for certain participants if they contribute a large amount of the liquidity on an exchange, due to increased participation in the matching process. As a result, while preferred clearing offers more flexibility than a strict vertical silo model, its impact on competition and user choice is limited in practice.

To support this, we also ran a simple simulation[36] to try to model the likelihood of a trade remaining on the incumbent CCP under a preferred clearing model. The output is as follows:

Number of preferred CCPs	Share of Activity Remaining on Incumbent
1	94%
2	87%
3	81%

Whilst only a simulation, this further supports the member estimates and limitation of preferred clearing in opening a marketplace.

An improvement would be to allow matches for the interoperable CCPs ('preferred interoperable'). This would mean if one counterparty selected SIX and the other CBOE, this trade could still be cleared away from the incumbent and rely on existing interoperability arrangements. Based on the same simulation criteria, clearing on the incumbent drops to 75% for a two-CCP scenario (in addition to the incumbent) and 44% for a three-CCP scenario. This is based on the non-incumbent CCPs interoperating.

Overall, whilst preferred clearing is partially beneficial, if more markets moved to this model, the consolidation of clearing is likely to be limited, and fragmentation will likely remain.

6.4 Interoperability

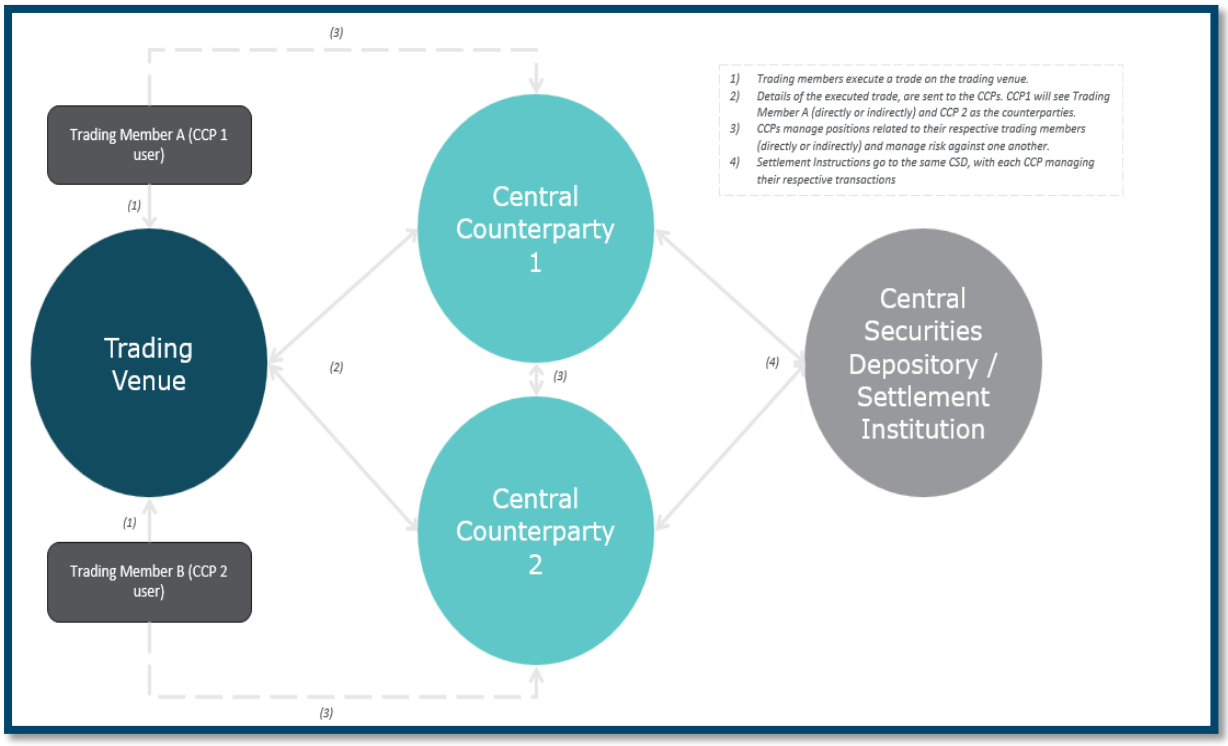
Interoperability allows multiple CCPs to clear trades executed on the same trading venue – or across different venues – through established interoperable links. Under this model, each trading participant can clear trades at their elected CCP, regardless of whether the counterparty chooses a different CCP. This mechanism underpins competition and efficiency across Europe's equity markets.

Multilateral Trading Facilities (MTFs) have been key drivers of interoperability, leveraging it as a competitive differentiator. By enabling participants to continue using their existing CCP,

[36] Single iteration based on 1 million trades, with 20 participants. In a single preferred CCP scenario, only 25% of participants have a preferred CCP, the remaining 75% use the incumbent. For two preferred CCPs, the 50% select a preferred CCP (split evenly between Preferred CCP 1 and Preferred CCP 2) and for three, its 75% selecting a preferred CCP (split evenly across 1,2 and 3). Volume is equal weighted/not adjusted for certain members representing larger participation in trading activity.

MTFs help consolidate margin and netting across venues, reduce fragmentation and lower operational complexity. As a result, interoperability has become a core enabler of CCP competition – not only in terms of cost, but also on service quality, accessibility and innovation.

Interoperable CCP operating model

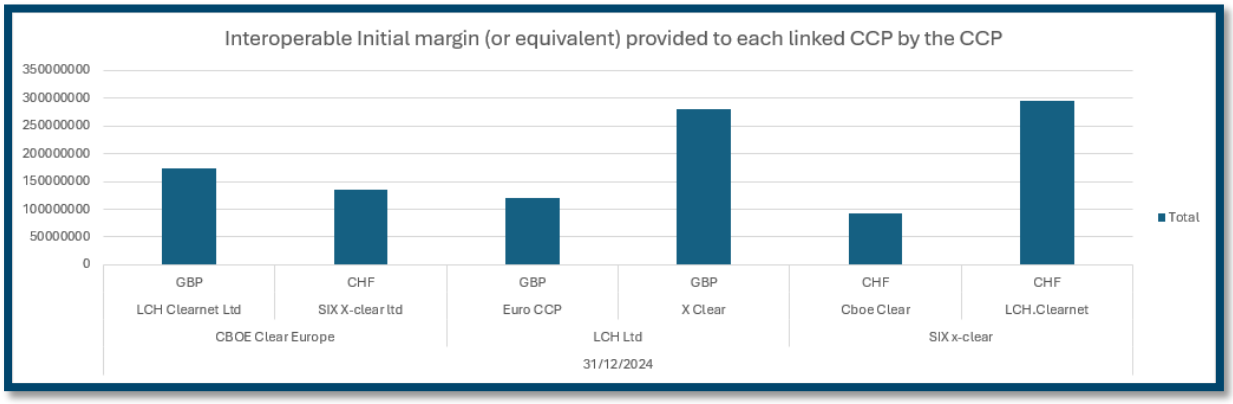


This approach has been highly effective at providing choice and competition to the market. However, the additional margin requirements (partly compensating due to the inability of CCPs to participate in default funds) can negatively impact the economics of the interoperable model. In simple terms, this means that clearing a trade between two members of the same CCP tends to be more capital-efficient than between members of interoperating CCPs.

Example: Margin Impact in Interoperable Clearing
Consider a simplified version of single 100 EUR trade between two clearing members using two interoperable CCPs: • Clearing Member A clears at CCP A, while the counterparty clears at CCP B. • The trade requires an 8% margin for buy and sell at CCP A and CCP B. • Clearing Member A needs to provide 8 EUR margin for the trade to CCP A. • CCP B then calls CCP A for an additional 8 EUR to cover the risk from CCP A • Clearing Member A then needs to post an additional 8 EUR, leading to a total margin requirement of 16 EUR.

This additional margin acts as a strong disincentive – particularly for participants who are domestically focused – to use interoperable CCP arrangements, given the additional costs. However, for cross-border or pan-European firms, the margin cost is often offset by netting benefits across venues and currencies.

The scale of the issue with interoperable margins is also non-trivial. Based on CCP quantitative disclosures at the end of 2024 (20.2.1)[37], the total amount of interoperable margin posted stood at approx. 1bn EUR. For the same CCPs, the total margin (6.1.1)[38] was only approximately 2.5bn EUR – meaning interoperability accounted for 40% of all margin posted. This represents a significant additional cost to the markets and further work is needed to explore ways to reduce this burden while preserving systemic risk protection.



The economics of interoperability are also sensitive to the number of CCPs involved. As the number of interoperating CCPs increases, the cost-benefit balance can begin to break down, particularly for clearing members.

To illustrate the point with an extreme example: imagine a scenario where every clearing member used their own different CCP. While each member's own positions would still be netted at their respective CCP, the CCPs themselves would each be exposed to a multitude of different counterparties through interoperable links. This would result in a web of cross-CCP exposures, triggering extensive interoperable margin calls between CCPs.

In such a model, clearing members would no longer benefit from the efficiencies that interoperability is intended to provide. The additional margin costs would effectively eliminate any advantage gained from using a preferred clearing CCP, particularly for those that trade frequently across a broad counterparty base.

Unlocking the full benefits of CCP interoperability will require addressing this margin challenge. This is particularly important if Europe aims to promote market integration and reduce structural differences. The move to T+1 settlement is likely able to partially address this by lowering margin requirements.

[37] 20.2.1 "Initial margin or equivalent financial resources provided to each linked CCP by the CCP to cover the potential future exposure of the linked CCP on contracts cleared across link"

[38] 6.1.1 "Total initial margin required split by house, client gross, client net and total (if not segregated);"

7. Cost Structures

One of the widely agreed points in the European post trade landscape is that cash equities clearing fees have significantly declined over the last 10-15 years[39]. This trend has been one of the clear outcomes from the introduction of MiFID, which opened the door to competitive clearing. Since then, CCPs have been under sustained pressure to compete for order flow and/or maintain market share, leading to increasingly aggressive fee compression.

Anecdotally, many market participants believe that cash equities clearing has been driven down to a near 'at-cost' service. This can also be partially seen in the data, with some CCPs reporting loss-making positions[40] during the last five years, although it is important to note that this data point may reflect broader group investments and not just the equities business. Nevertheless, it suggests that the scope for further downward pressure on fees may be limited and could introduce long-term sustainability risks for CCPs.

7.1 Overview of CCP fee structures

CCPs typically derive income from a range of fee categories. According to IOSCO Quantitative Disclosures, clearing fees[41] (across the CCPs) typically account for roughly 50% of the total CCP income. Fee schedules vary, with some CCPs charging lower clearing fees, while others offer reduced settlement fees – often depending on the clearing model, market segment, and services provided.

The core fees are those charged for membership, clearing of transactions and settlement of the resulting obligations. Settlement fees represent a combination of internal efforts and the external fees charged by the CSDs, and so the ability of CCPs to lower these is more limited than other aspects of the fee structure.

Central Counterparty Clearing Houses typically charge fees in the below main categories:

Types of fees	Fee details
Clearing Fees	These are fees charged for the clearing of trades. Usually based on the volume of transactions. Additional fees can be charged for off-venue activity submitted to clearing, which can act as a disincentive for this activity.
Settlement Fees	Fees associated with the settlement of net trades.
Membership Fees	Annual or periodic fees charged to members for maintaining their status and access to the CCP's services and account structures.
Collateral Management Fees	Fees for managing the collateral that members must post to cover their positions and mitigate risk.
Risk Management Fees	Charges related to the risk management services provided by the CCP, including margining and default fund contributions.

[39] https://www.thetradenews.com/emcf-cuts-fees-as-ccps-begin-to-compete-for-flow/

[40] IOSCO Quantitative Disclosures, 15.2.3, Profits

[41] IOSCO Quantitative Disclosures, 15.3.1, Percentage of total income that comes from fees related to the provision of clearing services, Q4 2024.

Reporting Fees	Fees for regulatory reporting and other compliance-related services.
Other Service Fees	This can include fees for additional services such as data provision, Interoperability processing, technology services, connectivity, and penalties for late settlement.

Since the implementation of MiFID II and MiFIR, which helped to facilitate the emergence of competitive clearing, clearing fees at major CCPs in Europe have significantly decreased. Most CCPs now offer volume-based pricing tiers, which ensures that the more gross transactions cleared through a CCP, the greater the discount on the unit cost. For some high-volume participants, there is even a tipping point beyond which clearing fees are waived altogether by the CCP – effectively reducing the marginal cost of additional transactions to just a few cents per trade.

Settlement fees remain less flexible than clearing fees due to external dependencies on CSDs and agent banks. Under the typical Power of Attorney model, CCPs instruct both their own side and the client side of the settlement; these charges are passed down to the clients by the CCP. Consequently, the netting performed by the CCP becomes crucial to ensure that the overall cost of settling transactions is minimised, ideally resulting in one net settlement per ISIN.

In line with the aim of attracting more retail flow into the European markets, certain CCPs also offer incentives for retail activity. These rebates can be up to 100% of the clearing fees, and steps like this can attract more alternative flows into clearing houses.

7.2 Interoperability fees

As referenced in section 6.4, trading venues can support clearing choice, enabling counterparties to select different CCPs for the same trade. This interoperable clearing model offers flexibility and fosters competition, but it can also introduce additional complexity and cost.

Interoperating CCPs must manage counterparty risk with each other, which requires robust frameworks for risk mutualisation, default management, and ongoing coordination. Each CCP within the interoperable flow typically maintains its own policies on margin calculation methodology, default fund sizing and contribution rules, collateral eligibility and haircuts, as well as unique stress testing and liquidity risk management practices.

This lack of harmonisation means that CCPs must engage in bilateral risk assessments and implement mechanisms to mitigate exposures between themselves. These processes are operationally intensive and require regular updates, especially as market conditions or risk profiles evolve. The associated infrastructure, legal arrangements and controls introduce friction and incremental costs to the clearing process.

Moreover, CCPs may apply interoperability-specific fees to cover the additional risk-management burden, which can lead to interoperable clearing to become more expensive than clearing through a single CCP.

Some specific examples of increased costs include add-on fees for executions and/or settlement instructions when both legs are in two CCPs.

As previously noted in this paper, while the model supports competition and choice, these costs represent a critical consideration for participants, particularly for those assessing the overall economic benefits of interoperability.

7.3 Settlement Fees

As mentioned in Section 7.1, the settlement fees charged by CCPs to their clients largely reflect the costs imposed by CSDs (and where applicable, T2S). These fees arise from the Power of Attorney model, whereby CCPs instruct net settlements on behalf of their clearing members. While CCPs have successfully driven down clearing fees through effective competition, they have limited influence over settlement fees, which remain externally determined by CSDs in their respective markets.

Settlement fee structures can vary depending on the involved CSD, and are shaped by factors such as local fee models, market size, liquidity profiles, local tax, and legal or regulatory requirements. This variation introduces structural cost disparities across European markets that CCPs cannot address unilaterally.

To meaningfully reduce settlement fees – and consequently post trade costs – efforts could be directed towards the regulatory standardisation and simplification of CSDs fee schedules. This could involve:

- Advocating for greater harmonisation across CSDs on core post trade services.
- Exploring opportunities to introduce transparent cost frameworks for CSD services, akin to those applied in competitive clearing models.

Additionally, in markets connected to TARGET2-Securities (T2S), larger firms should consider leveraging T2S functionalities more effectively[42]. T2S offers a standardised core settlement fee per matched instruction and provides tools such as auto-collateralisation, hold/release mechanisms, and auto-partial settlement – all of which can help reduce instruction failure rates and associated costs.

It's important to reiterate that, whilst CCPs have actively and successfully reduced clearing fees, they remain constrained on settlement, where their pricing control is limited by external infrastructures. In some cases, preferential CCP fees for larger members may mask the full impact of CSD-related costs. A truly competitive and efficient post trade environment will require broader structural reforms beyond the clearing layer alone.

[42] https://www.afme.eu/Portals/0/DispatchFeaturedImages/T2S%20-%20Review%20of%20current%20model%20and%20future%20prospects%20-%20Final%20Report.pdf

8. Conclusions and recommendations

The European cash equities clearing landscape has evolved significantly over the past two decades, yet it remains complex and fragmented. Market participants have diverse needs, and a one-size-fits-all model – such as a single pan-European CCP – is unlikely to deliver the optimal outcome. Instead, targeted improvements in policy, infrastructure, and incentives are needed to achieve the full benefits of clearing and support a more efficient and resilient European market.

The following conclusions and recommendations highlight key opportunities to strengthen the clearing framework in support of broader policy objectives, including the Savings and Investments Union and the transition to T+1. Our review has also highlighted that consistent, reliable data on the CCP landscape is not easily accessible in the public domain. In particular, there is limited visibility over which activities ultimately flow through CCPs.

8.1 Market structure and efficiency

Competition has played a pivotal role in shaping the European clearing ecosystem. It has driven down clearing fees significantly and enabled greater choice for market participants. This increased competitive pressure has enhanced resilience and lowered entry barriers in many segments of the market.

However, settlement fees, largely determined by the central securities depositories, remain a key embedded cost. CCPs have little influence on these fees, limiting the ability of CCPs to deliver further cost efficiency. Beyond the settlement netting provided by CCPs, which can be replicated in other forms, there are limited incentives to use CCPs from a settlement fee perspective.

Looking ahead, **addressing the structural role of settlement fees** – potentially through greater transparency, regulatory review, or the development of enhanced cross-CSD interoperability – will be critical to unlocking further efficiency gains in the European clearing landscape. The lack of transparent, standardised data on the drivers of settlement costs, with no consistent framework for benchmarking fees and efficiency levels means regulators and market participants struggle to form evidence-based judgements about CSD effectiveness. Industry research, including recent analysis[43] by AFME, underscores the importance of tackling this issue as part of a broader agenda for post-trade reform.

Recommendation 1: Foster greater transparency and benchmarking of CSD settlement fees across the EU.
While CSDR mandates transparency in CSD fee schedules, significant inconsistencies in format, granularity, and clarity persist. This lack of standardisation impairs cost comparability, undermines competition, and ultimately distorts the true economics of clearing. Since settlement fees represent a major component of total post-trade costs, opaque or misaligned pricing directly affects clearing price formation and participants' ability to assess value.

[43] https://www.afme.eu/media/uimf2rk1/afme_csdcost25_04.pdf

Improving fee transparency and harmonisation is essential to support a competitive, efficient, and integrated EU clearing landscape.

8.2 Interoperability and Market Integration

Rather than pursuing a single pan-European infrastructure, efficiency gains are more likely to be achieved through **enhanced interoperability** between CCPs. A single-CCP model may appear simpler, but it could risk undermining resilience, transparency, and user choice, while introducing concentration risk and weakening incentives for innovation. Instead, allowing the market to evolve organically toward consolidation through competition – supported by regulatory enablers – would offer a more balanced and pragmatic path. Enhancing interoperability between CCPs would provide a scalable solution that preserves diversity, supports integration and delivers meaningful efficiency gains without the complexity of replacing existing infrastructure.

A **true interoperable model** would allow clearing members to access multiple markets through a single CCP of their choice – without needing to maintain memberships at multiple CCPs. Critically, this should enable a reduction in costs, even accounting for increased interoperable margins, as clearing members would be able to close redundant memberships, recall default fund contributions, and concentrate margin and netting.

Crucially, **interoperability would also open up user choice**. Clearing members could consolidate activity with an elected CCP but retain flexibility where specific service features are only available from another CCP. This dynamic would foster competition on quality, not just default access.

However, today's preferred clearing model falls short. In many markets, trades continue to default to the incumbent CCP, even when multiple CCPs are technically available. This keeps structural barriers in place and still forces larger organisations to manage fragmented clearing setups by maintaining multiple CCP memberships. True interoperability – where CCPs can match trades across one another in a seamless, risk-managed way – is the missing piece.

Despite its clear benefits, interoperability faces **practical challenges**. Divergent margining methodologies, inconsistent risk-management frameworks, and a lack of harmonised regulatory standards continue to limit progress for meaningful cross-CCP integration. Addressing these challenges will require close coordination between regulators, CCPs, and market participants, alongside targeted investment in technology and infrastructure. But the payoff is clear: lower collateral demands, better liquidity access, and a more integrated and globally-competitive European market.

Recommendation 2: Mandate broader adoption of CCP interoperability to reduce fragmentation, support user choice and enhance competition.

Interoperability should be the default model where risk can be properly managed. It enables participants to consolidate clearing activity, reduce duplication of memberships, and optimise collateral use. Regulatory mandates and supervisory coordination are needed to overcome technical and commercial barriers. An impact assessment should explore the balance between margin implications and structural efficiency gains.

8.3 Regulatory and operational reform

One of the key questions for the future of interoperability is identifying the **optimal number of CCPs** to support efficiency without significantly increasing margin requirements. Achieving this balance will require **targeted regulatory and operational reforms** to reduce duplication while maintaining robust risk standards.

Today, interoperability is limited by the regulatory frameworks and the operating models that underpin it. Under current practice, each CCP margins its exposure to every other interoperable CCP independently. While risk-sensitive, this approach creates **significant cost duplication** – particularly for clearing members operating across multiple CCPs – making interoperability less economically viable.

A more efficient model is possible. Rather than managing bilateral exposures, each CCP could calculate margin based on a **net market position**, posting to a centralised margin pool. For example:

- If CCP A has a long position with CCP B and a short position with CCP C in the same stock, it currently must post interoperable margin to both.
- Under a centralised model, the next exposure is zero, so no interoperable margin would be required.
- In the event of a CCP default, the centralised pool of margin could absorb the loss, which could be calibrated to cover the two largest CCP exposures.

We acknowledge that there are many challenges to the implementation of this concept. It would require rethinking default management and margin calibrations across CCPs but could **significantly reduce collateral demands** without compromising risk integrity. In some CCPs, interoperable margin already accounts for a substantial share of total margin posted – highlighting the urgent need to streamline this process.

Even in the absence of full structural reform, **greater transparency is critical**. Clearing members should have clear visibility into how all components of margins are calculated – including interoperable margins, add-ons and risk adjustments. This should be a key part of the EMIR 3 implementation process and the drive toward greater comparability in CCP risk models.

Recommendation 3: Re-evaluate the interoperability framework to deliver risk-sensitive efficiency and reduce duplicative margining.

A new approach to margin calibration – such as pooled or centralised models – should be explored to improve capital efficiency and support wider adoption of interoperability. This must be underpinned by coordinated regulatory engagement and robust risk modelling.

Recommendation 4: Mandate transparent and standardised CCP margin methodologies to ensure interoperable margin is effectively captured and comparable.
CCPs should be required to publish clear, consistent information on margin methodologies, including interoperable components and risk-based adjustments. Enhanced margin transparency will support informed business decisions, improve client cost calibration, and promote competition.

8.4 T+1 as a catalyst for standardisation

The transition to T+1 settlement represents a pivotal opportunity to drive **greater standardisation across CCPs**, aligning operational workflows, improving efficiency and strengthening Europe's competitiveness in global markets. Standardised processes and tighter deadlines will not only improve efficiency but also facilitate broader market integration and support participation in cleared equities. Clearing could become a key enabler of T+1 readiness, particularly for firms seeking streamlined post-trade operations. It may also help reduce margin requirements and improve the economics of the interoperability.

While the benefits of T+1 are clear, the transition also carries significant operational and liquidity challenges. Firms will need to source and mobilise collateral within shorter timeframes, potentially straining funding capacity and liquidity buffers. Without improved cross-border coordination, Europe risks undermining the very efficiency gains T+1 seeks to deliver. Investment in automation and straight-through-processing, alongside adherence to industry recommendations, will therefore be essential to ensure a successful and competitive transition.

Further alignment in post-trade workflows should also be explored to simplify CCP operations and reduce settlement friction. While the Short Selling Regulation introduced an important degree of harmonisation by imposing a common buy-in timeline across CCPs, differences remain in how individual CCPs and trading venues implement buy-ins – for example, in the treatment of partial settlements, the sequencing of buy-in steps, and the application of cash compensation. Greater consistency in these areas would make processes more predictable for participants and reduce operational complexity across markets.

Recommendation 5: CCPs should follow and adopt the industry recommendations for T+1 and support the alignment of operating models.
Key actions include CCPs releasing EOD netting reports and submitting settlement instructions by 22:30 on Trade Date. CCPs should continue to benefit from prioritisation in the settlement process in cases of insufficient provision. Partials should be supported by

CCPs in line with the industry taskforce recommendations. CCPs should utilise PoA to the extent possible. Beyond the specific T+1 recommendations, other areas such as buy-in processes should be standardised to support simplified CCP clearing operations.

8.5 OTC execution

The continued adoption of clearing solutions for OTC activity, to net down exposures, could yield significant system-wide efficiencies, as dealers are able to reduce margin exposures, operational efforts and reflect this in improved spreads. However, this cost saving for dealers must be balanced against the margin and funding costs borne by end users, particularly those with limited netting opportunities. This is particularly important for transactions between Executing Brokers and Prime Brokers.

The growth of Securities Financing Transaction (SFTs) clearing may incentivise broader participation in cash equities clearing, particularly among buy-side firms. As participants will face margins for this activity, opportunistic clearing of cash activities may become more viable. We note that CCPs continue to innovate in this space, for example, connecting to RfQ platforms to clear secondary market trades for ETFs as well as the ETFs themselves.

Post-execution solutions could also be developed to support the movement of bilateral trades into the cleared eco-system to bring down margin at a system level. Notably, the EU still lacks a real-time trade capture engine to simplify data and support automation. These post-execution solutions could function similarly to multilateral compression runs in derivatives markets, offering a pathway to reduce systemic margin requirements. This would mean dealers could bring in trades post-execution to reduce margins overall, even if funding needs to be provided for client positions. In addition, agreements and regulatory frameworks applicable to prime brokers should be assessed to understand if there are factors inhibiting greater participation of prime brokers in clearing.

Recommendation 6: Promote broader voluntary adoption of central clearing across OTC cash equity flows to enhance efficiency, reduce systemic risk and improve market resilience.

Industry should work together to support clearing models that accommodate both pre- and post-trade flows, while exploring innovative margin and funding solutions to balance dealer and end-user needs. Infrastructure investment—especially in trade capture and automation—will be key to supporting this shift.

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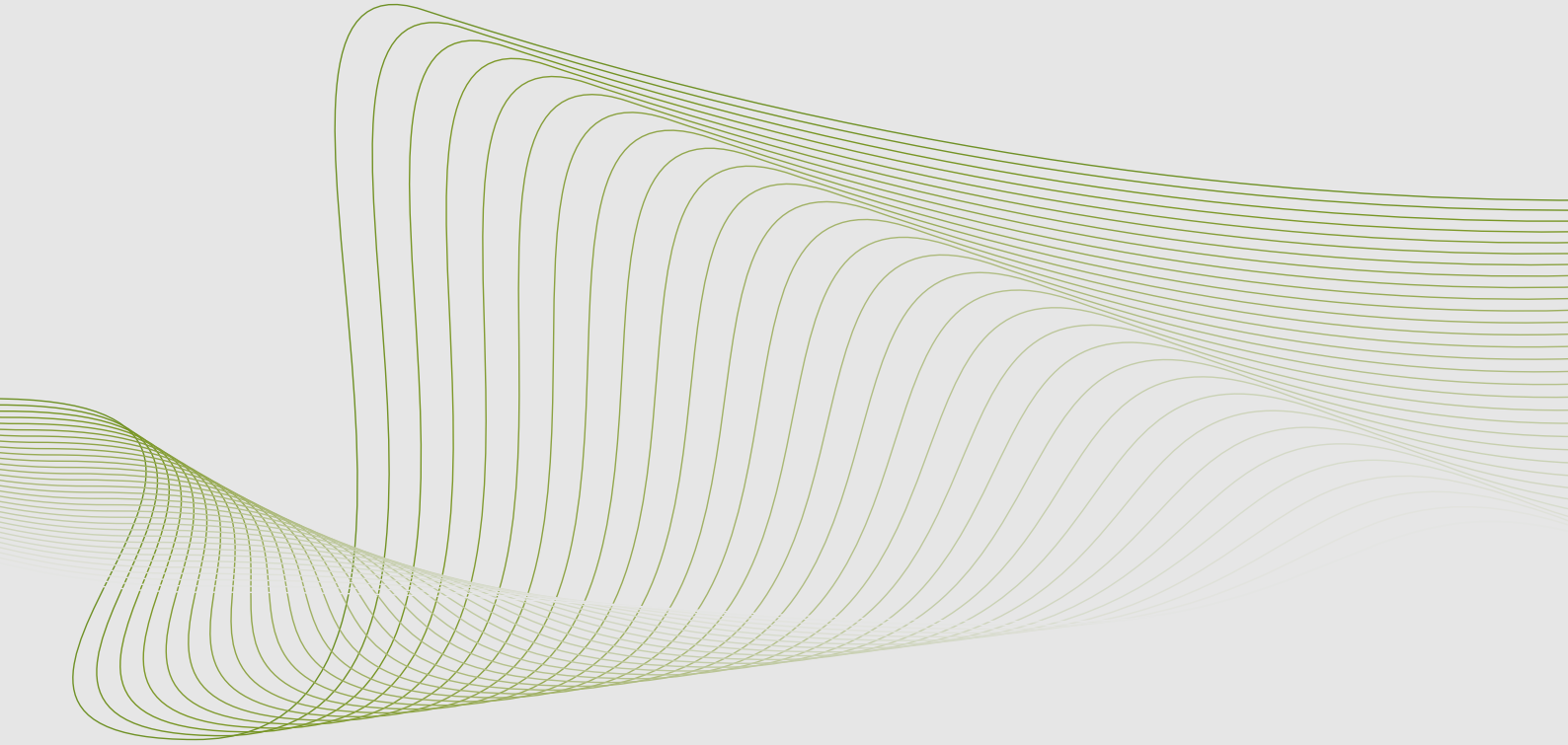

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