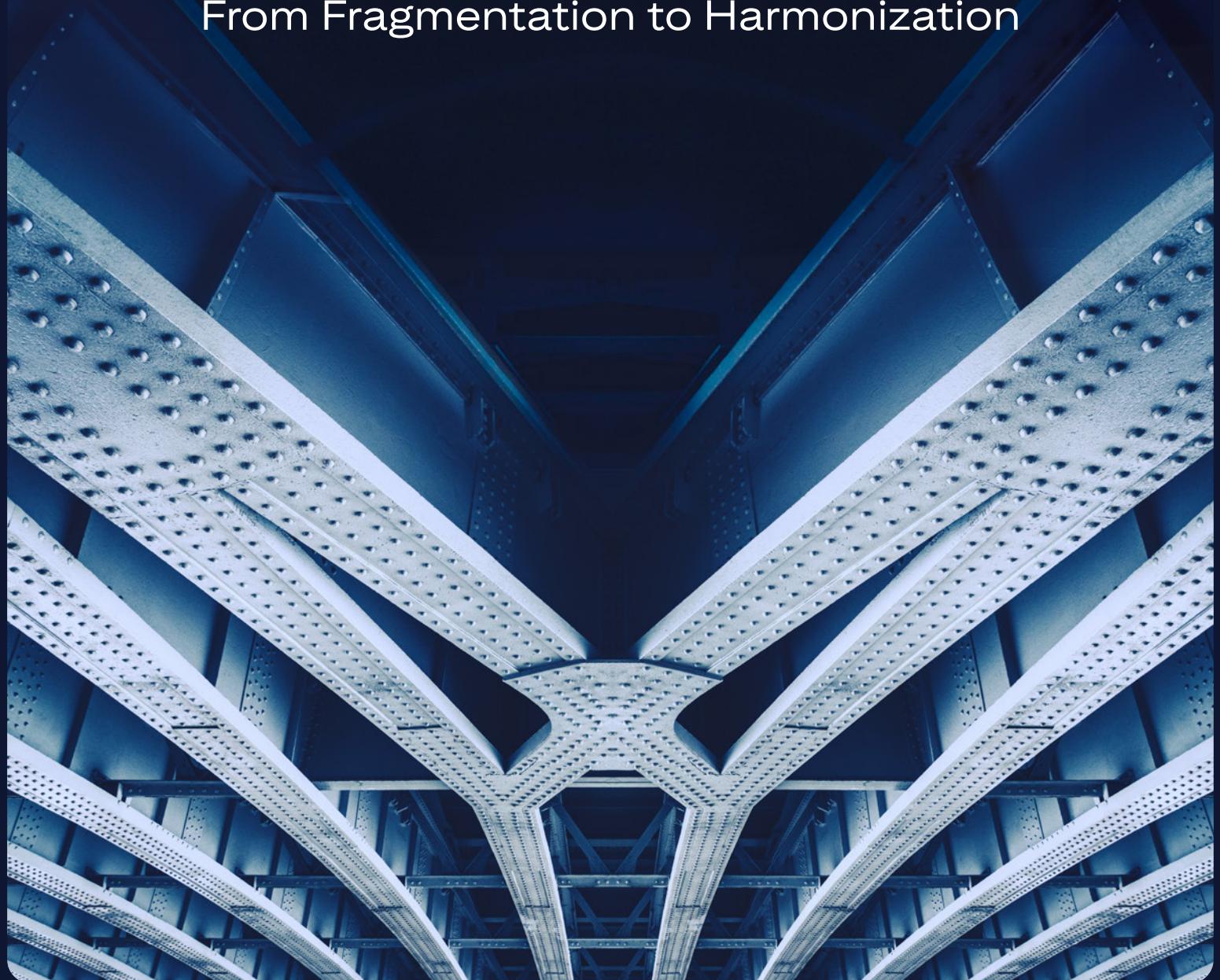


Reimagining European Capital Markets

From Fragmentation to Harmonization



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A fragmented European capital markets infrastructure impedes capital formation, reduces liquidity, escalates costs and lowers efficiency. Improving European capital market infrastructure has the potential to increase annual investment, boost regional GDP and retain European savings in their own region.

Many factors contribute to Europe's lower capital formation and inefficiencies relative to the U.S., including demand side differences such as risk tolerance and savings structures. However, fixing infrastructure and related governance and rules are a pre-requisite to other changes. We focus on four areas:

Firstly, European market infrastructure could be simplified, for example by consolidating the over 30 central securities depositories (CSDs) into fewer than 10 highly efficient, competitive hubs.

Secondly, increased transparency is required. The current fee structures in European CSDs are complex and fees high, all of which reduce the competitiveness of European capital markets.

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In a world of geopolitical and macroeconomic volatility, Europe has an opportunity to position itself as an attractive alternative for investment, innovation, and influence. The moment for incremental change has passed.

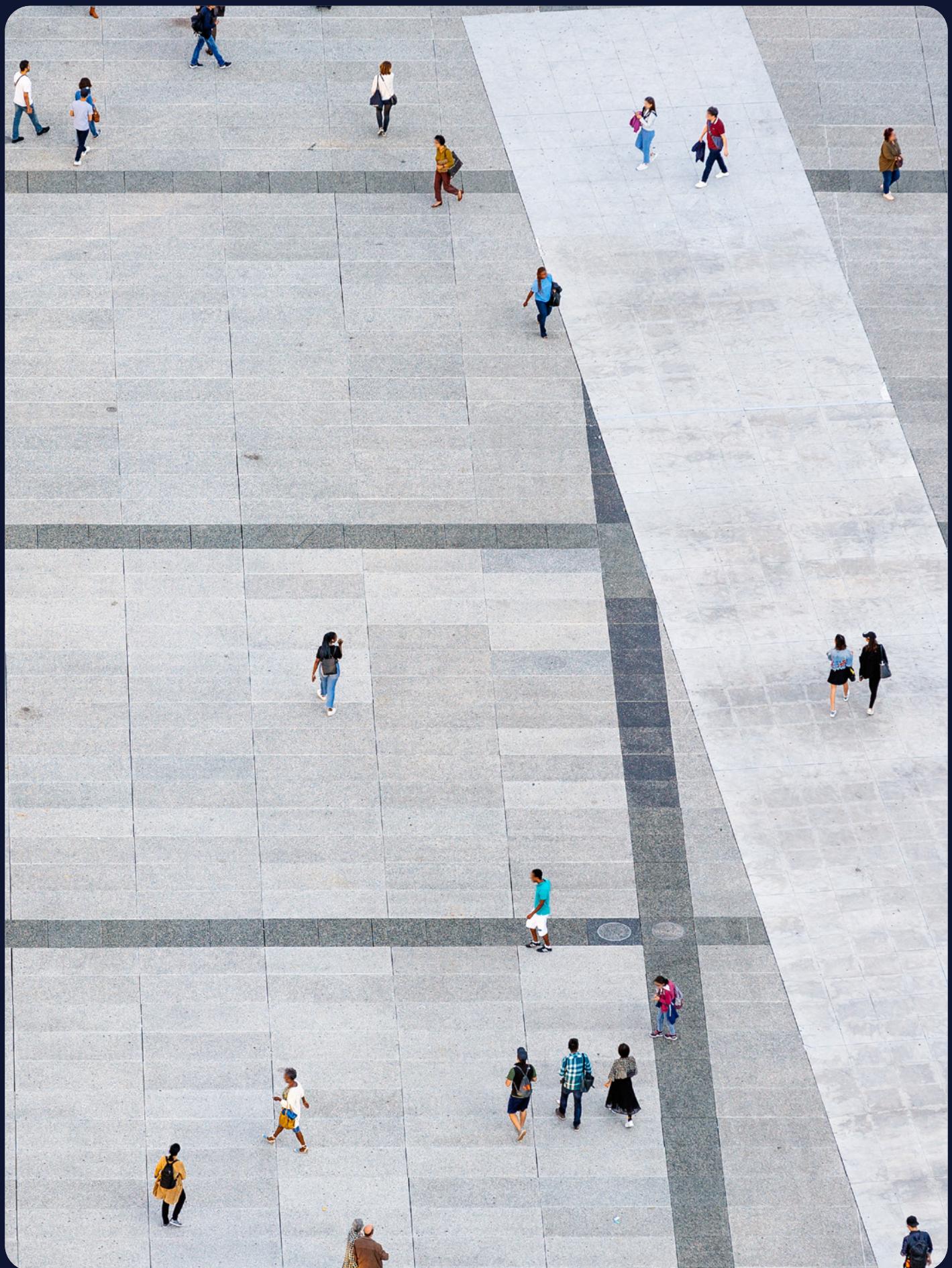
Shahmir Khaliq, Head of Services, Citi

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Thirdly, harmonization could also be achieved by the creation of a single pan-European regulator. The European Securities and Markets Authority (ESMA) could be empowered with direct enforcement capabilities akin to the European Central Bank's authority over banking. The aim would be common capital markets rules consistently applied across all member states and the elimination of national 'gold-plating'.

Finally, planning for the future is key, rather than just reducing current market inefficiencies. AI can accelerate the journey towards a more harmonized and standardized post-trade ecosystem. Technology could be embraced as the core of our future market architecture. Distributed ledger technology (DLT) and tokenization could enable efficient collateral mobility, better liquidity and atomic settlement.

This vision could be geographically inclusive, extending beyond the European Union to integrate key financial centers like the UK and Switzerland.



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Reimagining European Capital Markets

From Fragmentation to Harmonization

Europe has the chance to reposition itself as an attractive destination for investment and innovation even as it grapples with geopolitical uncertainty and macroeconomic volatility.

Europe's capital markets infrastructure consists of an array of often unconnected trading venues, clearing houses, settlement systems, central counterparties and data and technology providers – all of which are fragmented across the various countries in the region. This disjointedness has implications for capital formation, liquidity, costs and efficiency.

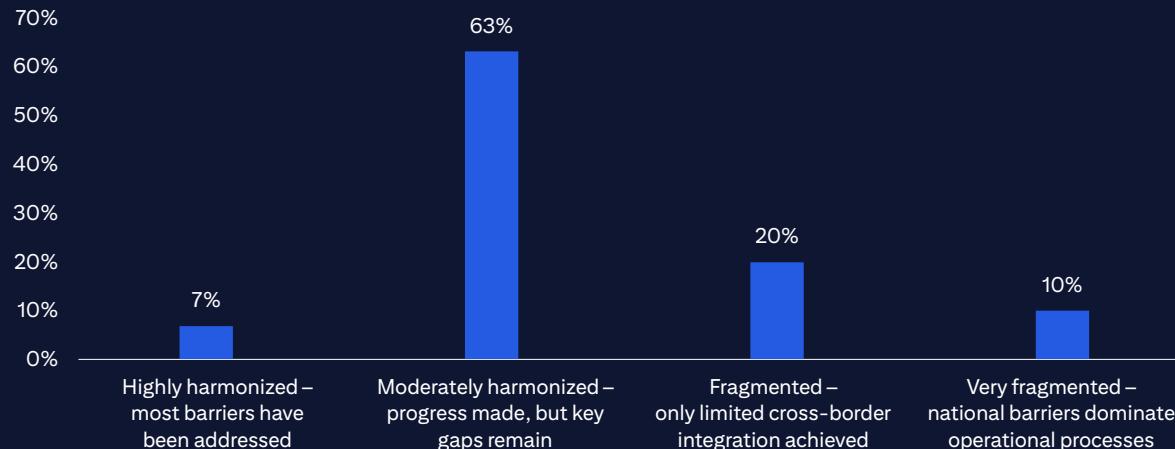
As markets globally adopt newer technologies, including tokenization and digital assets, this lack of harmonization poses a systemic risk to Europe's

competitiveness. A strong post-trade infrastructure is key to ensuring capital markets operate optimally.

This Citi GPS report includes results from a recent client survey by Citi Investor Services on European capital markets infrastructure and post-trade processes. In analyzing the results of the survey, the paper also identifies gaps in the infrastructure ecosystem and highlights steps to unlock an integrated capital market in Europe through harmonizing post-trade processes.

Despite efforts European capital markets remain fragmented

Survey question: How would you describe the current level of post-trade harmonization across Europe today? Select one
 Total 36 respondents across banks (39%), custodians (25%), asset-managers (11%), institutional investors – insurance, pension, sovereign wealth funds, etc. (11%), broker-dealer (8%) and others (6%).



Source: Citi Reimagining European Capital Markets Survey, Citi Institute

Key Takeaways

1 European capital markets suffer from significant fragmentation in post-trade processes, issuance and listings. 63% of our 4Q25 survey respondents cite significant gaps in regulation, policy, taxation and operational processes which need to be addressed. Only 7% believe most barriers to harmonization have been addressed.

2 The capital market fragmentation in Europe has contributed to a capital formation gap. Between 2020 and 2025, the value of IPOs in EU was 0.6% as a percentage of GDP compared with 2.1% for the U.S.^{1,2} The proportion of European IPOs listing in the U.S. has tripled since 2015 to 22% of all IPOs by European companies by value.³

3 50% of respondents cite the high number of financial market infrastructures (FMIs) in Europe as a key factor driving capital markets fragmentation creating complexity and reinforcing national laws instead of a single market. Reducing the number of central securities depositories to fewer than 10 from 30+ today could bring price efficiency and help create a single market structure.

4 43% of survey respondents cite legal and regulatory inconsistency as one of the primary drivers for capital markets fragmentation. The shift from divergent directives to consistent regulations, alongside eliminating redundant due diligence could potentially unlock billions of euros in annual investments and boost GDP by 1.5% over 10 years.⁴

5 40% of survey respondents say that high and opaque cost structures contribute to the fragmentation of Europe's capital markets, reflecting domestic monopolies and a lack of competition. Average settlement costs are 30-300% higher and safekeeping costs 160-500% higher than in the U.S.

6 Tokenization has a role to play in harmonization. About 36% of survey respondents agree that tokenization could boost efficiency via automated, real-time processes, better collateral mobility and liquidity, and unified data on shared ledgers.

63%

of survey respondents cite significant gaps in regulation, policy, taxation and operational processes which need to be addressed

5-10 Years

64% of survey respondents cite that harmonization efforts will take about a decade to show results

**100%
vs. 33%**

Growth in the value of securities issued in U.S. CSDs since the GFC compared with those issued in EU CSDs.⁵



Reimagining Capital Markets in Europe

Europe's infrastructure is made up of often unconnected trading venues, clearing houses, settlement systems, central counterparties and data and technology providers.

Citi's recent Reimagining European Capital Markets survey found that 63% of respondents believe that moderate harmonization has been achieved but still see significant gaps that need to be addressed in Europe's post-trade infrastructure.

Only 7% believe that most harmonization challenges have been met. Another 30% think that Europe's capital markets are fragmented or very fragmented.

Capital Markets Infrastructure in Europe: Current State of Play and Call to Action

When highlighting the inefficiencies inherent in Europe's post-trade infrastructure, it could be useful to compare it to telecommunications infrastructure.

The global telecommunications network is a highly complex, competitive and interoperable system of systems. Different providers and technologies all adhere to common standards and protocols that allow end-users to connect seamlessly.

Europe's post-trade infrastructure, by contrast, is far less interconnected, and market participants must navigate a labyrinth of technical, legal, and operational details.

For example, the post-trade world's equivalent of making a telephone call is settling a trade. The differences between the two could be summed up as:

- **Carrier agnostic vs. dependent:** The caller does not need to know, nor do they care, which telecommunications carrier the recipient uses. But an investor must know exactly which central securities depository (CSD) (the carrier) they hold the security with and must adhere to that CSD's specific, and often proprietary, rules and procedures. For example, a European Central Bank paper found that almost all transactions in value (98%) and volume (95%) were settled between parties in the same individual CSD in 2023.⁶
- **Technology agnostic vs. dependent:** The connection works regardless of the different technologies involved, whether it's a call from a 5G mobile phone to a landline, or between an Apple iPhone and an Android device. The technology of settlement, including market practices, messaging standards and corporate action rules, however, is not standardized. An investor must adapt their own processes to match the local conventions of each market in which they operate.

- **Infrastructure agnostic vs. dependent:** The intricate web of fibre-optic cables, cellular towers, and satellites that routes calls across the globe is entirely invisible to the user. By contrast, the fragmented underlying infrastructure of a securities trade forces investors to engage in complex and costly processes to handle tax claims or navigate divergent corporate laws for each market.

The complexity in connectivity and standards is partially absorbed by custodians and intermediaries on the post trade side, whereas complexities around taxes and national laws are pushed onto issuers and end-investors, creating friction, increasing costs and discouraging cross-border investment. We list below some of the common challenges.

- **Monopolistic and inefficient market infrastructure:** The European post-trade landscape is structurally fragmented, characterized by 29 distinct markets (EU, the UK and Switzerland), with 36 CSDs and 13 central counterparties (CCPs). 50% of survey respondents believe Europe has too many FMIs and there is a lack of scale (Figure 1). These CSDs often hold a monopolistic position within their home country, reinforced by local issuers' familiarity with domestic laws. This lack of competition leads to higher costs and a reluctance to innovate, where it is difficult and costly for market participants to switch providers or move assets out of a specific CSD's environment.

Figure 1. Drivers of European capital markets fragmentation.

What is the greatest obstacle to post-trade harmonization across Europe? (1 being the highest and 5 being the lowest)
 Total 36 respondents across banks (39%), custodians (25%), asset-managers (11%), institutional investors – insurance, pension, sovereign wealth funds, etc. (11%), broker-dealer (8%) and others (6%).



Source: Citi Reimagining European Capital Markets Survey, Citi Institute.

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An infrastructure overhaul is overdue in Europe's capital markets and post-trade solutions to make domestic capital markets competitive and cost efficient.

Amit Agarwal, Global Head of Custody,
Investor Services, Citi

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- **Fragmented and sovereign national taxation systems:** Taxation remains one of the most significant barriers to a truly integrated market, as the European Treaty explicitly leaves tax jurisdiction to individual nations. Unlike the harmonized VAT system for goods and services, there is no common framework for capital markets taxation, particularly for withholding tax. This results in a multitude of different procedures, definitions, paper-based forms, and reclaim processes across the continent, creating immense operational burdens and costs for investors.
- **Pervasive legal and regulatory divergence:** A fundamental driver of fragmentation is the absence of a unified legal framework across Europe. 43% of survey respondents find legal and regulatory inconsistencies a major cause for fragmentation (Figure 1). The fragmented regulatory environment in capital markets of Europe is further exacerbated by the practice known as “gold plating,” where Member States add extra requirements to EU Directives, further fragmenting the single market and creating uneven playing fields. Critical areas such as securities law, corporate law, and insolvency law are defined and controlled at a national level. This creates a complex and inconsistent regulatory landscape where the rules for issuing, holding, trading, and processing securities differ from one country to another, introducing significant friction and complexity for any investment or transaction within Europe.
- **Enduring operational and procedural barriers:** Beyond legal and structural issues, day-to-day operational processes lack standardization, perpetuating inefficiencies first identified decades ago by the Giovannini Group.⁷ These barriers include differences in market operating hours, intraday settlement procedures, and protocols for corporate actions. The absence of universally adopted common standards forces intermediaries to navigate a complex patchwork of different systems, which in turn drives up costs and reduces overall market efficiency.

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The challenge in Europe goes beyond just infrastructure or regulation. Financial sovereignty designed around national borders impedes harmonization efforts. Structural changes, radical simplification and regulatory consistency is key for harmonized capital markets in Europe.

Reto Faber, Head of Custody, Europe,
UK, MEA, Investor Services, Citi

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The Ambition of Harmonization

The telecommunication analogy represents the desired future for Europe's post-trade infrastructure. In this ideal state, an investor should be able to trade and settle any European security using only its unique identifier (its ISIN, which is like a phone number).

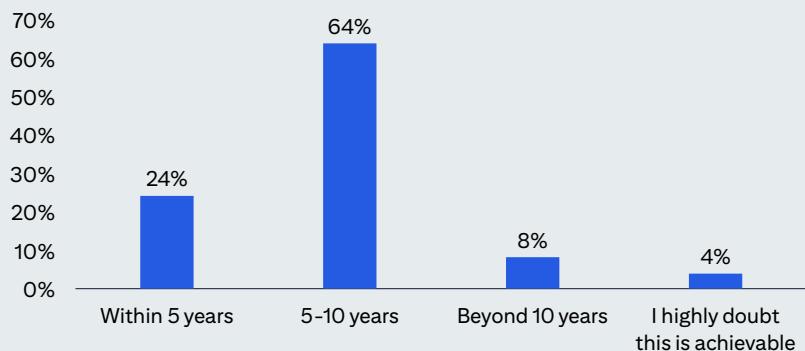
The complex web of CSDs, legal systems, and tax frameworks could become an integrated background network. Competition would be based on service quality and price, not on captive, monopolistic relationships. This requires a fundamental shift from a collection of siloed, national monopolies to an open, competitive, and interconnected ecosystem built on common standards.

The harmonization process will take time. 64% of respondents in Citi's Reimagining Capital Markets in Europe survey believe that the harmonization process could be up to a decade long (Figure 2). Hence, the time to act is now.

Figure 2. Timeline for European capital market harmonization

Looking to the future, what is a realistic timeframe for achieving meaningful post-trade harmonization across Europe? Select one

Total 36 respondents across banks (39%), custodians (25%), asset-managers (11%), institutional investors – insurance, pension, sovereign wealth funds, etc. (11%), broker-dealer (8%) and others (6%).



Source: Citi Reimagining European Capital Markets Survey, Citi Institute.

“ Europe must embrace bold reforms, reduction of red tape, infrastructural overhaul, and next-generation technology to leapfrog from a fragmented past to a harmonized future.

This is essential to retain Europe’s capital, fuel domestic growth, ensure competitiveness vs. other regions, and unlock significant opportunities for equities within a more unified and efficient market.

Nacho Gutiérrez-Orrantia, CEO and Banking Head of Europe and Head of UK Europe Middle East and Africa Investment Banking Coverage, Citi

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A way forward requires a multi-pronged realistically achievable approach. There is fair alignment on the core principles of strengthening central supervision and promoting a more unified and competitive market infrastructure between this GPS report and the European Commission’s Market Integration Package, a series of measures that was adopted in December 2025.⁸

However, key differences in approach and scope remain. The Commission’s proposals, in some areas, favor mandated interoperability over a radical structural consolidation. Our report considers the following options for a more harmonized capital market in Europe:

- **Optimal number of CSDs:** The ambitious call for a single CSD across Europe, made by Mario Draghi⁹ might be too extreme. A single digit number of CSDs potentially organized around major financial centres from 30+ today could be achievable. The Commission’s package does not mandate this structural consolidation. Instead, it focuses on operational integration by requiring “CSD hubs” to establish interoperable links, forcing connectivity without reducing the number of legal entities. We believe that this interoperability could potentially make the existing fragmented infrastructure more complex. With a reduced number of CSDs, we do not foresee such challenges. We believe this would drive focus on quality of service, eliminate friction points, benefit end-investors and enhance overall market connectivity.

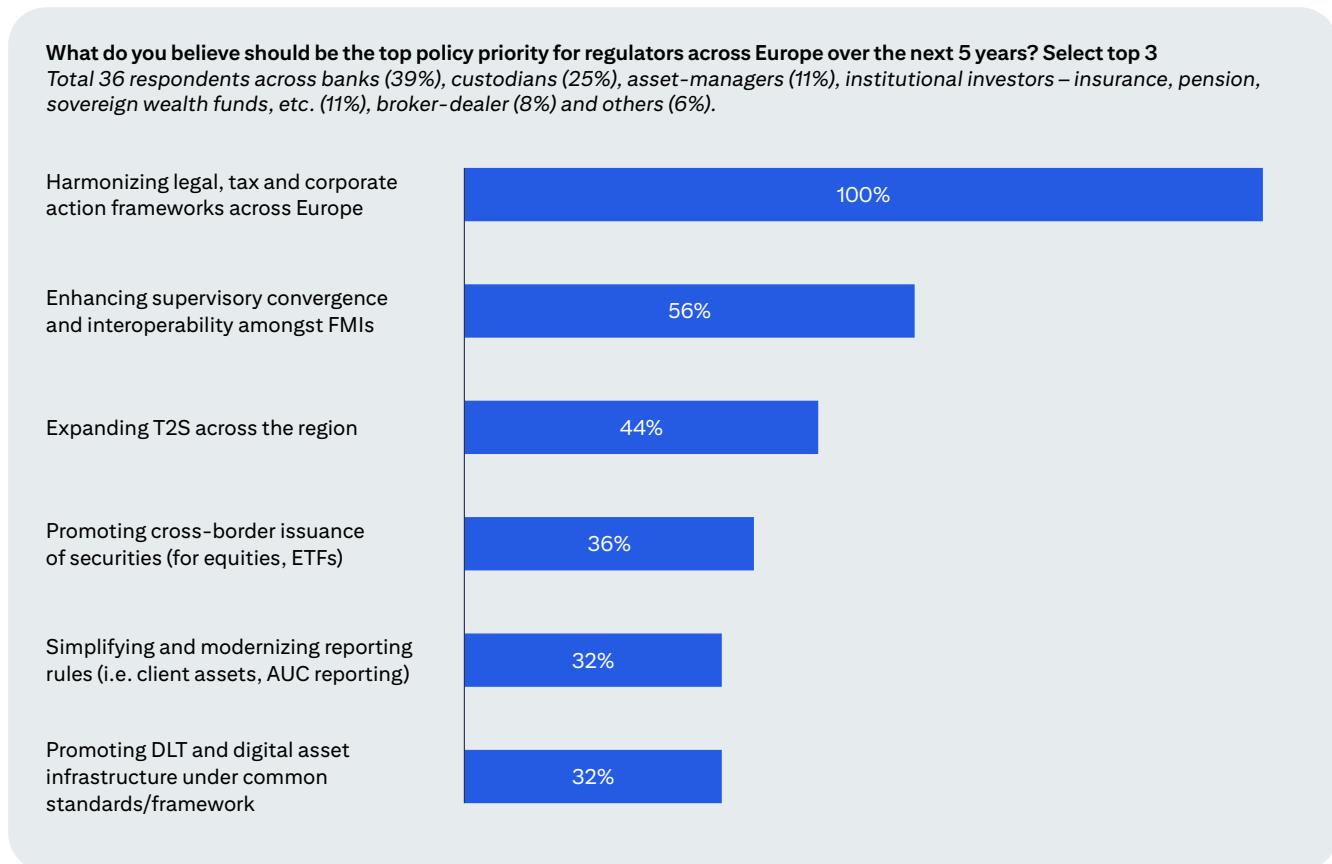
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Essential reform of Europe's capital markets requires a change in both thinking and approach. The EU-only stance of Capital Markets Union has failed to deliver material progress toward Capital Markets Union despite more than a decade of work. Success will require those member states with the essential capital formation capability to reform, harmonise and lead.

David Livingstone, Chief Client Officer, Citi

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- **Common framework for issuers:** A more pragmatic and achievable path may lie in fostering harmonized standards throughout the post-trade ecosystem. Post-Global Financial Crisis (GFC), the value of securities issued in U.S. CSDs has roughly doubled to about \$180 trillion (6.3x of U.S. GDP) whereas in the EU CSDs, the value of securities issued has grown only by a third to about \$45 trillion (2.3x of EU GDP).¹⁰ Unified issuance practice and corporate actions would allow issuers to reach a wider investor base. A pan-European legal and operational framework for securities issuance would allow firms to better access capital across European markets. While acknowledging the difficulty of achieving consensus among all 27 EU countries, we believe that if an initial group (such as Germany, Italy, France, and potentially the Netherlands) agrees on the way ahead, others will eventually follow, driven by the gravitational pull of a more unified and efficient system. The Nordics, though currently operating under a different ecosystem, are also likely to eventually move in this direction.

Figure 3. The top priorities for harmonizing European capital markets

Source: Citi Reimagining European Capital Markets Survey, Citi Institute.

- **Simplify and standardize fees:** The complex fee structures of CSDs (and to some extent CCPs) are at present opaque and impossible to reconcile. The fee structures could be radically simplified, modelled on the “Key Fact Documents” used in retail banking to ensure transparency and comparability. Furthermore, the process of transitioning between financial market infrastructures, such as CSDs and clearing houses, is overly complex and difficult to model for costs. Simplifying this transition process, drawing parallels with the controlled and efficient account switching mechanisms found in retail banking, would significantly reduce operational hurdles. The Commission’s proposal is less direct. The package requires settlement internalizers to disclose their fees but does not appear to mandate the fundamental standardization of CSD fee schedules themselves, which is one of the core sources of friction and cost.

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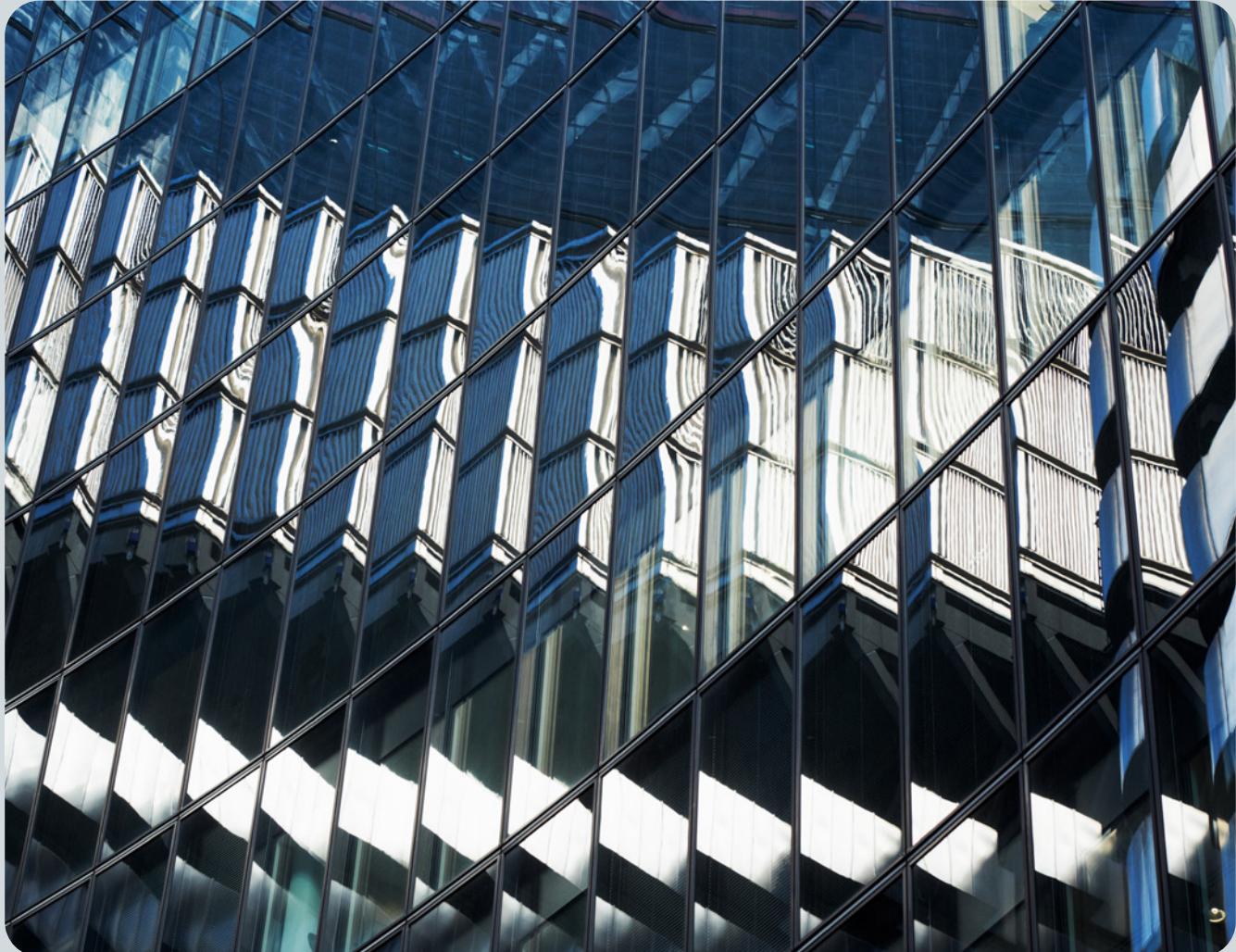
For true European market integration, a single competent securities regulator is essential, much like the ECB for banking. Without it, national rules – from securities registration to taxation – create blockages to scale. This regulatory divergence is the single biggest blockage for Europe, especially for digital asset adoption.

Barnaby Nelson, CEO, The ValueExchange

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- **Establish a central regulator:** A pan-European regulator for securities markets (e.g. ESMA) with direct enforcement powers equivalent to the European Central Bank's (ECB) authority over banking, could help ensure that rules are applied consistently across all member states. The Commission's package proposes ESMA supervision for only significant CSDs (defined and identified based on articles in the package) rather than a single supervisor for the entire group of financial market infrastructures (FMIs). The Commission's proposal outlines significant costs for ESMA to implement new supervisory tasks and IT infrastructure, funded through fees levied on supervised entities.
- **More regulation, less directives:** Another consideration would be a shift from using EU directives, which are interpreted differently by each nation, to directly applicable regulations in an effort to eliminate legal and regulatory divergence. The European Commission proposed a list of policy measures (some legislative and some non-legislative) to amend the existing body of rules with a view of simplifying them.¹¹ However, the national competent authorities not directly under ESMA's full supervision as per the Commission's latest proposal might still interpret and apply regulations with their own nuances, leading to inconsistencies and creating an uneven playing field. Addressing these regulatory challenges through refined application of existing rules is key. This has been pointed out by the Letta Report, which identified potential efficiency gains by 2030 from digital unification in different sectors including capital markets.¹²
- **Geographical scope and integration:** It is also important to consider geographical integration beyond just the EU to include the United Kingdom (UK) and Switzerland. The Commission's package is focused on harmonization within the EU. A broader geographical scope that includes the UK and Switzerland could be considered, based on sizeable capital market activity (value of IPOs, market capitalization, value of CSD settlements) relative to GDP.

- **Reducing due diligence burden:** We see a strong case to be made for reducing due diligence requirements on regulated European financial institutions. Given that these entities are already under rigorous supervision by authorities like the ECB, requiring further extensive due diligence by other financial services community members represents a considerable overhead that may potential detract from more productive activities.
- **Competition and choice:** A significant impediment to Europe's ambition of achieving a genuine savings and investments union under current conditions lies in the fundamental conflict of interest inherent within the existing market organization. The existing FMIs (CSDs and CCPs) frequently operate in the interest of their shareholders, rather than primarily serving the end investor. More competition between CSDs could include incentivizing them to treat all European securities as local to eliminate cross-border friction and apply competitive pricing, especially amongst CSDs that have adopted the T2S settlement platform. It is arguably not necessary to replicate the U.S. single-provider (DTCC) model or even interoperability between FMIs as it could create a complex spaghetti-like structure. Instead, the focus could switch to greater integration and harmonization between a reduced number of CSDs and clearing houses to potentially enhance choice, price efficiency and increase competitiveness.
- **Harmonized tax laws:** The harmonization of regulations governing withholding tax like VAT for trade could include outlining how withholding tax is applied and refunded, streamlining existing diverse procedures. A harmonized withholding tax policy could be applicable beyond Europe to include the UK and Switzerland as tax processes remain complex despite a sophisticated capital markets and trading ecosystem.
- **T+1 as a catalyst for T2S adoption:** The current TARGET2-Securities (T2S) adoption is fragmented and treats certain non-domestic securities as foreign, leading to additional costs for pan-European transactions. It is important to leverage the mandatory, industry-wide move to a T+1 settlement cycle to reinforce adoption and use of a single settlement infrastructure like T2S, thereby realizing its intended cost and efficiency benefits. Equally, it is very important that platform upgrades by FMIs (especially CSDs) in preparation for T+1 are closely aligned across markets, delivered to agreed common standards and focused on regional harmonization of common processes.



Economic Cost and Impact

The EU CSDs are significantly more profitable (+30% on average) and charge significantly higher settlement fees (+65% on average) compared to their U.S. counterparts, highlighting the downside of a national monopolistic CSD market and a lack of competition.

The lack of competition drives the capital formation gap in the EU, with IPO values relative to GDP in the EU lagging the U.S., the UK and even Switzerland over the past 5-10 years. This leads to billions of dollars of annual leakage of savings to capital markets outside the EU, especially to the U.S.

This chapter delves into these areas, highlighting the economic impact of a fragmented European capital market.

High Costs and Monopolistic Market Structures

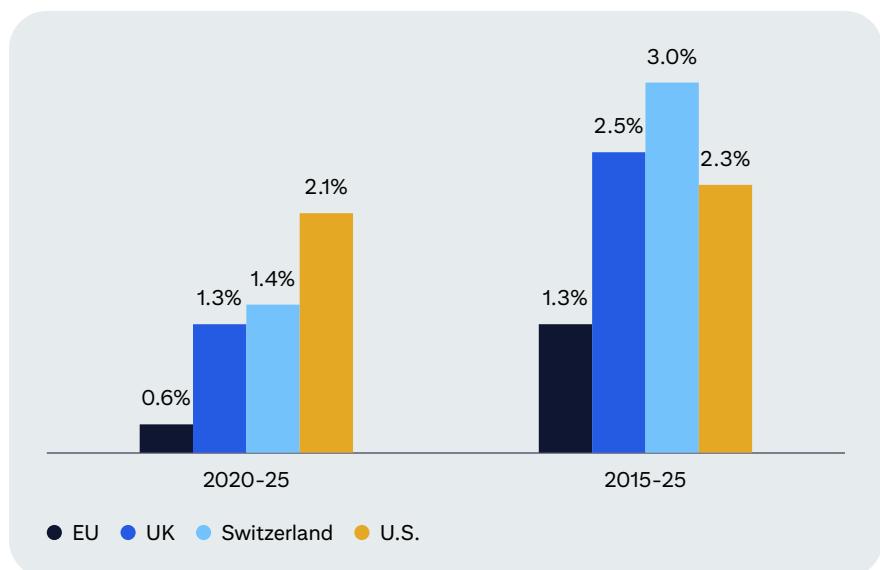
The current state of European capital markets is characterized by fragmentation in post-trade processes, issuance, and listing. Between 2020 to 2025, the value of IPOs as % of GDP in EU (0.6%) was one-third compared to the U.S. (2.1%).^{13,14} The proportion of European IPOs listing in the U.S. has tripled since 2015 to 22% of all IPOs by European companies by value.¹⁵

This fragmentation is not a singular issue but a confluence of historical developments, diverse national laws, complex taxation, and a market dominated by monopolistic domestic CSDs. This web of disparate systems leads to substantial costs and inefficiencies that hinder market development.

The lack of standardized operational processes, divergent market operating hours, and varied intraday settlement procedures across Europe create significant friction. Navigating these inconsistencies forces market participants to engage in complex and costly processes, such as handling tax claims or complying with differing corporate laws in each market.

This fragmentation is in stark contrast to the highly interoperable global telecommunications network where common standards and protocols allow seamless connectivity.

Figure 4. Value of IPOs as % of GDP in select markets

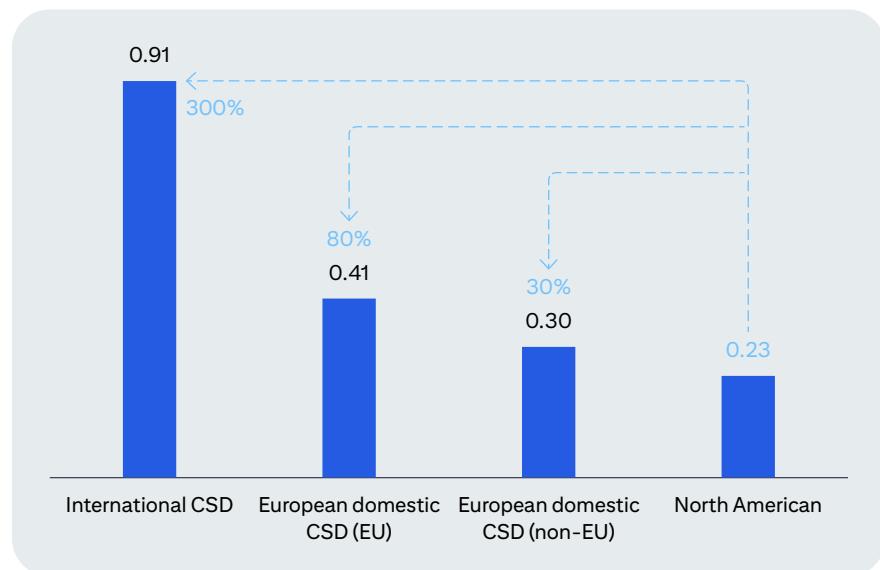


Source: Dealogic, Renaissance Capital, AFME, World Bank, Citi Institute.

A recent analysis by the Association for Financial Markets in Europe (AFME, October 2025) highlights divergence in CSD fees between North American and European markets with substantially higher costs for participants operating in the latter.

- **Higher settlement and custody fees:** An AFME report titled Analysis of CSD Fees in Major European Markets (October 2025) European CSDs' total settlement cost is, on average, 65% more expensive than North American settlements. Fees charged by International CSDs (ICSDs) are significantly higher (300%) than North American counterparts (Figure 5). From a custody perspective, European CSDs' average safekeeping charges are between 160% and 500% higher than their U.S. counterparts (Figure 6). Applying North American CSD pricing to European CSDs would lead to potential cost savings of about 80% or €1 billion per year.¹⁶

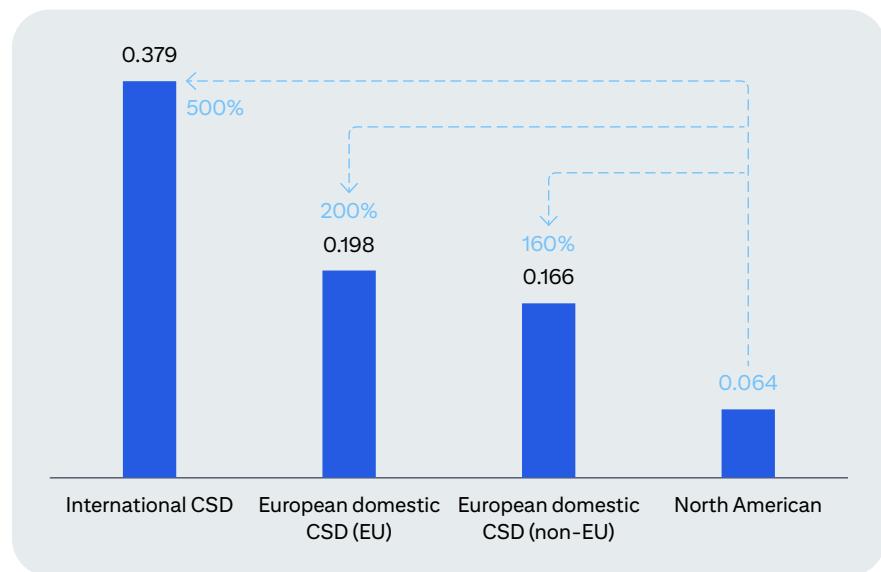
Figure 5. Weighted average effective fee per settlement, by region (EUR/settlement)



Note: International Central Securities Depositories (ICSDs) are financial market infrastructures that provide clearing, settlement, and custody for internationally traded securities. E.g. Euroclear and Clearstream.

Source: AFME.

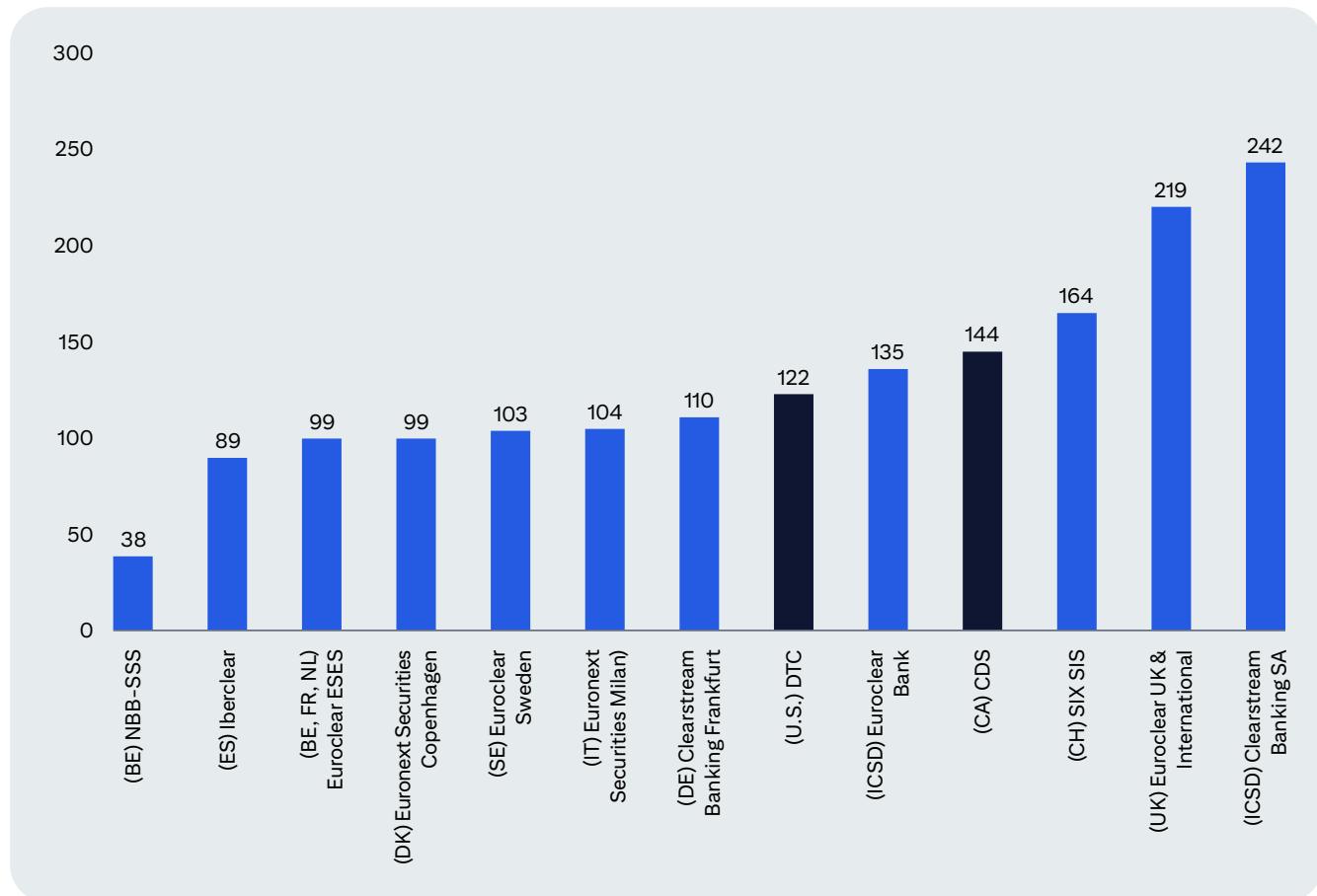
Figure 6. Major differences in the average safekeeping fee per region (bps)



Note: International Central Securities Depositories (ICSDs) are financial market infrastructures that provide clearing, settlement, and custody for internationally traded securities. E.g. Euroclear and Clearstream.

Source: AFME.

- **Complex fee structures:** The complexity and heterogeneity of CSD fee schedules across Europe makes it exceptionally difficult for market participants to compare costs accurately. Invoices can contain a vast number of line items ranging from 38 to 242 (Figure 7), lacking standardization in terminology and categorization, which hinders transparent competition and adds to reconciliation costs for regional market participants.
- **Profitability gap:** European CSDs exhibit significantly higher profitability than their North American peers, with European CSDs typically recording operating margins of 50% or above. The AFME report notes that CSDs are, on average, 30% more profitable than their North American counterparts. This healthy margin suggests a strong capacity for investment in innovation and modernization without necessarily imposing surcharges on clients. It also points to a potential lack of intense competition, allowing CSDs to leverage their regulatory status to set prices without substantial risk of losing business.
- **Limited correlation between volume and cost:** Counterintuitively, the study found that higher CSD volumes in Europe do not necessarily translate into lower costs for users. Larger CSDs (measured by Assets Under Custody) often exhibited higher safekeeping and settlement fees, indicating that economies of scale are not consistently passed on to users.

Figure 7. Complex fee structure demonstrated by number of line items in invoices

Source: AFME.

- **Potential savings:** Consolidation of CSDs+ to a single digit number from 30+ today could create scale and drive efficiencies in operations and technology costs, cyber security costs, communications to market participants, etc. from maintaining fewer different platforms.

These findings underline a material gap in efficiency and competitiveness, suggesting that higher fees in Europe cannot be solely attributed to scale or regulatory burden. Significant efficiency gains could be realized through more competitive pricing structures and addressing fundamental cost drivers, which continue to impede the development of a truly integrated Savings and Investment Union (SIU).

Economic Impact

A unified European capital market is estimated to add €150 billion in annual investments and positively impact GDP by 1.5% over 10 years.¹⁷ This is driven by higher risk diversification opportunities, higher market liquidity, the availability of a safe asset and more appetite for investing in the EU of both domestic and foreign investors with a higher propensity for risk.

The capital formation gap between Europe and the U.S. is partly attributed to Europe's post-trade inefficiencies, which, when they fail, create significant friction for financial markets.

A particularly concerning consequence of this fragmentation is the substantial leakage of European savings: annually, an estimated €300 billion of European families' savings are diverted from EU markets, primarily flowing into the American economy.¹⁸

This occurs despite a staggering €33 trillion in private savings held within Europe, of which a third reside in current accounts. This vast amount of wealth is currently not being fully leveraged to meet the EU's strategic needs, as these resources are instead channelled towards the American economy and managed by U.S. asset managers, underscoring the profound financial cost of a disunited capital market.

Consolidation in the asset management industry has accelerated in recent years including in Europe as participants step up efforts to build scale amidst thinning margins, rising costs and growing client demands.¹⁹



Building the Next Generation Capital Market

Can the current state of play be transformed with the aid of modern technologies? Does success depend on how efficiently innovative technologies like generative and agentic AI and distributed ledger technology (DLT) are used? There is a certainly a strong case to be made.

Critically, in addition to building a parallel digital asset infrastructure rail, the industry must continue to focus on tangible advancements in legacy systems. For example, Europe's transition to T+1 in October 2027 presents a singular opportunity for a material systemic upgrade of processes and levels of automation across the region in preparation for the resulting compression of settlement times.

Deploying Next-Gen Tech

Digital Assets and Tokenization

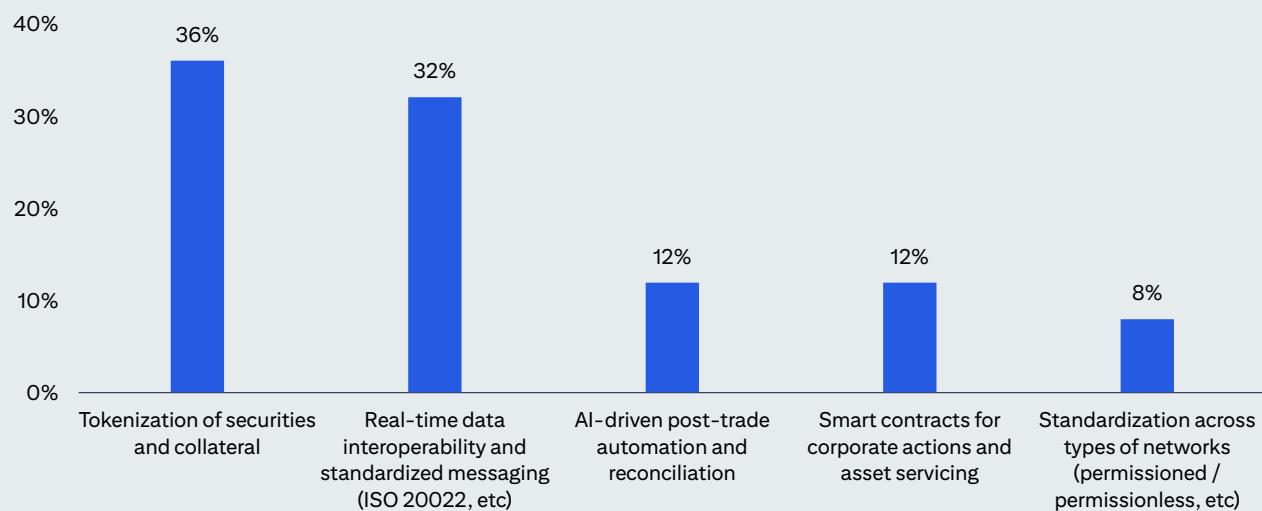
Digital assets are moving from institutional innovation theatre to real-world use cases. The underlying technology i.e. Distributed Ledger Technology (DLT) and tokenization could emerge as a driver of a harmonized and more competitive European capital market as reflected by 36% of the survey respondents (Figure 8).

Clients and market participants are increasingly exploring digital money (stablecoins, tokenized deposits, potentially CBDCs in some jurisdictions) and tokenized assets to reduce friction, improve collateral mobility and create more consistent post-trade processes across borders.

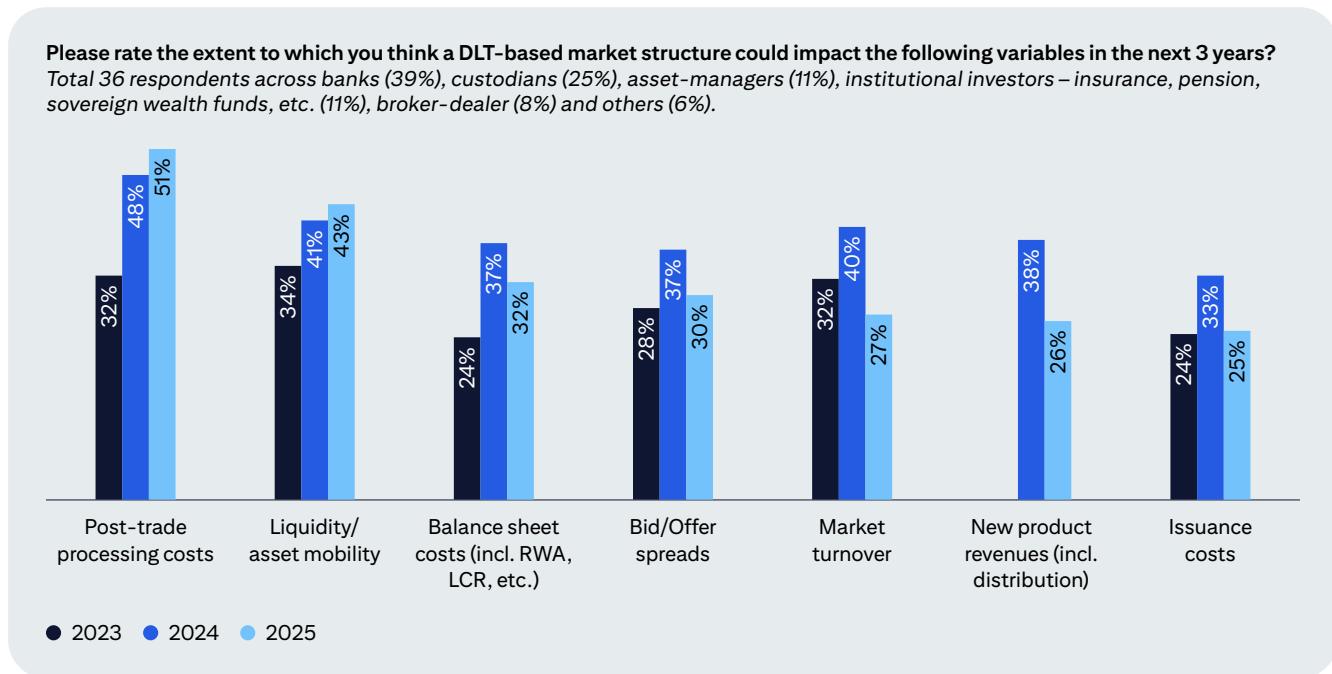
We highlighted in our Citi GPS: The Future of Post Trade - Custody and Settlement in an Always-On World report (September 2025) that adoption of DLT and digital assets could reduce post-trade processing costs and integration with round-the-clock cash systems that will improve asset liquidity and collateral mobility (Figure 9).

Figure 8. Drivers for post-trade harmonization in Europe

Which digital innovation do you see as having the highest potential impact on European post-trade harmonization? Select one
 Total 36 respondents across banks (39%), custodians (25%), asset-managers (11%), institutional investors – insurance, pension, sovereign wealth funds, etc. (11%), broker-dealer (8%) and others (6%).



Source: Citi Reimagining European Capital Markets Survey, Citi Institute.

Figure 9. DLT and digital assets could improve collateral mobility and help reduce operating costs (% of respondents)

Source: Citi Securities Services Evolution 2025 Whitepaper.

Why Digital Assets Matter for a Harmonized EU Market

Legacy market infrastructure and practices vary widely across national borders, contributing to friction, high costs and inconsistent investor experiences. Digital asset rails could help address these issues by offering:

- Harmonized token formats and event structures reducing fragmentation and support integration across securities depositories, custodians and trading venues.
- Tokenized collateral can move quickly between counterparties and jurisdictions, supporting more efficient use of high-quality liquid assets.
- Unified regulations under MiCA to establish consistent licencing, supervision and disclosures standards for issuers and service providers

However, broader adoption critically depends on harmonized standards for token issuance and lifecycle management, robust settlement models, clear tax and accounting treatment, and continued regulatory support. Regulators and policymakers can further encourage adoption through sandboxes and targeted education initiatives. The EU DLT Pilot Regime represents an important step in this direction by enabling real-world experimentation at scale.

The European Commission recently proposed further enhancements to the Regime including the passporting of regulated markets and central securities depositories (CSDs), the creation of a new Pan-European Market Operator (PEMO) status and simplification of processes for launching pan-European tokenized funds.

These upgrades aim to reduce fragmentation, streamline cross-border access and accelerate Europe's transition towards a unified tokenized market infrastructure.

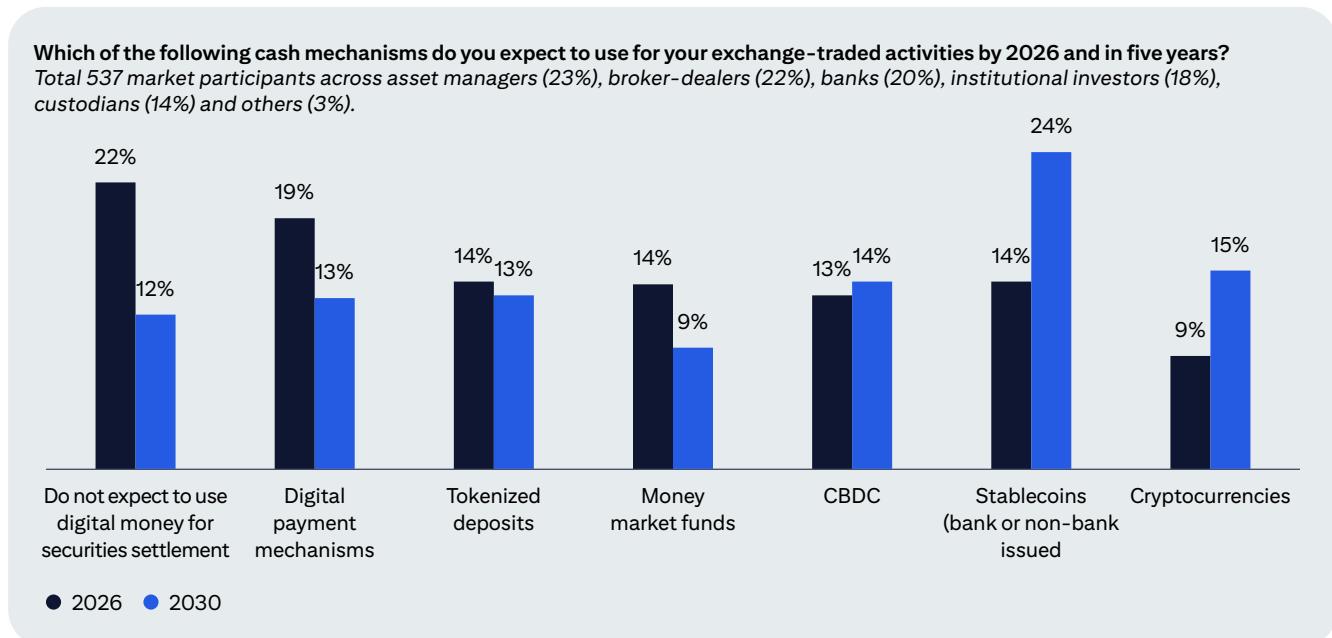
On-Chain Money to Support T+1 Adoption

On-chain money, including regulated stablecoins, central bank digital currencies (CBDCs) and tokenized deposits is crucial for atomic settlement.

Atomic settlement allows the payment and asset legs of a transaction to complete simultaneously, removing settlement risk and enabling instant finality across borders. Atomic settlement (gross settlement without netting) is not efficient from a funding/cash optimization point of view. However, 24x7 cash and collateral movements can be beneficial in a T+1 environment.

The Citi Securities Services Evolution 2025 Whitepaper indicates that market participants expect stablecoins to be the leading form of tokenised money, with almost a quarter expecting to use it by 2030 (Figure 10).

Figure 10. Stablecoin usage in securities trading and settlement to grow the most by 2030 (% of respondents)



Source: Citi Securities Services Evolution 2025 Whitepaper.

Several initiatives are already underway. A consortium of major European banks is working to launch a MiCA-compliant euro stablecoin, expected in the second half of 2026.²⁰

At the same time, the European Central Bank (ECB) continues to progress prototyping and assessing the potential introduction of a retail digital euro.

We see an ecosystem where stablecoins, tokenized deposits, and CBDCs can all flourish, and co-exist where adoption will be driven by issuer credibility, trust, interoperability, and regulatory clarity.

Artificial Intelligence (AI) as Core Infrastructure

Many organizations today are already utilizing AI to increase operational efficiencies internally. Risk management and margining, collateral management, clearing and settlement, corporate actions, funding and FX, and tax processes automation are starting to benefit from the capabilities of modern agentic AI systems to consume, analyze data, generate insights and action outcomes.

The EU could further embrace AI technology as a strategic asset in financial markets infrastructure (FMI) to bring us closer to our ambition of harmonization and standardization. A shift from fragmented experimentation to standardized implementation is essential to industrialize the use of AI across the EU FMI ecosystem.

However, adopting a standard set of tools and protocols to implement AI, especially Agentic AI systems which have the ability to connect with other systems and execute tasks, is key to scaling AI. Standardization of AI technology will address issues related to interoperability (connecting systems together), governance (meeting the requirements of the EU AI Act) and data quality (ensuring accuracy and consistency between systems).

Take the current legal and regulatory divergence that exists in European markets as a case in point. Securities Law, Corporate Law, and Insolvency Law are defined and controlled at a national level. However, these could be interpreted and adhered to at a process level with the use of AI bots that have access to these laws, the processes that they apply to them and past examples of desired outcomes (this is all unstructured data, i.e. text, images, etc. which is ideal for Gen AI consumption). Note that AI bots providers are pushing their own standards. For instance, Model Context Protocol (MCP) is an open standard that provides a universal way for AI agents to connect to external data sources, tools and services.

Creating a CSD-agnostic ecosystem by using GenAI-powered techniques to interpret and align with any CSD's specific, and often proprietary, rules and procedures is another example where efficiencies can be achieved.

While the use of AI technology can certainly accelerate the journey towards a more harmonized and standardized FMI ecosystem, the structural changes that are highlighted above (optimal number of CSDs, simplified and standardized fees, competition and choice, etc.) will still need to be implemented. AI technology can alleviate (but not eliminate) the immense operational burdens and costs that investors incur today.

Upgrading Existing Systems

T+1 Settlement as a Catalyst for Harmonization

In February 2025, the European Commission issued a legislative proposal to amend the Central Securities Depository Regulation (CSDR) with the objective of shortening the EU settlement cycle for transferable securities from two days (T+2) to one (T+1).²¹

The proposal reflects the rising global momentum towards faster post-trade settlement and aims to strengthen the competitiveness, resilience, and integration of Europe's capital markets. It also provides an opportunity to modernise, automate, digitalise, and ultimately improve the efficiency of EU post-trade markets.

The Commission has proposed 11 October 2027 as the go-live date for T+1 settlement, after considering recommendations by the European Securities and Markets Authority (ESMA)²² and inputs gathered from public and private sector stakeholders.

In October 2025, ESMA published its final report recommending material amendments to the settlement discipline.²³ The proposal will now move through the European Parliament and Council before any rules take effect.

Why This Matters

- **Deeper, more harmonized capital markets:** Moving to T+1 brings Europe in line with a global shift towards shorter cycles and signals a coordinated European effort to modernize post-trade infrastructure. A harmonized settlement environment helps Europe operate as a more unified market and reduces the risk of fragmentation caused by divergent settlement timelines across jurisdictions. It also supports cross-border flows by minimizing discrepancies that create separate liquidity pools and cash, or inventory drag.

Nearly 40% of global market capitalization already settles on a T+1 basis, covering major markets such as the U.S. and Canada in the Americas, as well as China and India across Asia Pacific. This share is expected to rise towards 75% as additional markets accelerate their transitions.²⁴

As the U.S. now operates on T+1, Europe's move is further likely to help synchronize settlement practices across the two large capital markets, reducing frictions for global investors and improving cross-market liquidity management.

- **Stronger appeal for global investors:** A shift to T+1 enhances Europe's attractiveness as a trading destination for global investors who operate multi-region portfolios. Aligned settlement cycles reduce operational drag, simplify allocation decisions, and increase the ease with which global funds can rebalance exposures across different regions. Faster and more predictable cash movements also improve the efficiency of cross and dual-listed trading strategies.
- **Increase in capital liquidity:** Shortening of the settlement cycle by one-day is likely to drive significant reduction of margin requirements held at central counterparties, reducing credit line requirements and also improving intra-day and end-of-day liquidity positions across affected markets.
- **Lower counterparty and market risk:** A one-day settlement cycle compresses the exposure window. Faster finality reduces the time during which a counterparty can default, lowering counterparty and market risk, particularly during periods of volatility.
- **Efficiency gains from automation:** Moving to T+1 forces the entire post-trade chain to operate within tighter deadlines. This amplifies the need for automation, straight-through processing, real-time reconciliation and more robust settlement discipline. The shift is likely to accelerate industry modernization and reduce manual intervention.

Challenges to Overcome

The transition to T+1 is likely to require significant investments in technology upgrades, data flow, and process redesign. Firms will need to standardize back-office operations, enhance controls and improve integration across venues, custodians and clearing houses. Staff training and compliance process updates represent a large-scale change effort.

The EU faces additional complexity due to the high share of trades that involve currency conversions. A compressed settlement window reduces the time available to source FX, execute hedges, and manage funding across multiple currencies. Misaligned FX cut-off times between trading venues, custodians and banks raise the risk of settlement fails, especially during periods of volatility. Market participants may need to expand pre-funding or revise operating hours to avoid bottlenecks.

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The European Commission has long championed capital markets integration, often against resistance from entrenched national interests. But the signs are that the political winds are shifting, with a growing recognition among governments that integration is essential for Europe's competitiveness and resilience. Recent legislative proposals on securitisation and market infrastructure mark a solid first step. This time may genuinely be different.

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