

## NEW TECHNOLOGIES IN SECURITIES MARKETS



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### New technologies in EU securities markets: evolution or smart revolution?

During the last decade, rapid and profound technological developments have reshaped how securities markets work worldwide, especially in the European Union. They have affected the entire breadth of financial markets, from the rise of robo-advisers and pre-trade analytics to trading via all-digital neo-brokers and investing via exchange-traded funds. Similarly, new technologies affect clearing, settlement and other post-trade aspects. The COVID-19 pandemic has only reinforced this trend, causing an increased adoption of digital technologies across the board – spanning from the use of cloud services to a veritable market frenzy over crypto assets. All of these developments affect the Capital Markets Union (CMU) significantly – even crypto assets, if they are predominantly used for financing

(initial public coin offerings) and not for payment purposes.

This disruptive change means it is now time to take stock and consider the consequences of new technologies for the further development of EU securities markets. Should we expect evolutionary changes in the near future? Or will we instead see a revolution in how securities markets work in the CMU? If so, how can we make it a smart revolution?

The three main new emerging technologies relevant to the future of EU securities markets are 1) cloud services, 2) artificial intelligence (AI) and 3) distributed ledger technology (DLT) including smart contracts and crypto assets. All three technologies have the potential to increase efficiency across the securities life cycle and the entire transaction value chain. However, these new technologies differ in the degree to which they will disrupt existing securities market infrastructure. Most represent only evolutionary enhancements of existing market architecture while some may bring very profound changes in the long-term to how securities markets function.

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Cloud services, including the growing segment of 'software as a service' (SaaS), have been expanding rapidly in recent years. The primary way in which they increase efficiency in securities markets is via large economies of scale that the small number of major providers of cloud data centres and their customers enjoy. In addition, firms that use the cloud are becoming more agile as they are able to roll out new features and investment products quicker than before. However, there are existing legitimate concerns about data protection and data availability that need to be addressed.

The use of AI can reduce complexity and costs in processes touching all parts of the post-trade value chain, and can also, for instance, help to facilitate clearing and reconciliation significantly.

Similarly, investment via robo-advisers and exchange-traded funds brings down fees, thereby increasing overall market efficiency in an evolutionary manner.

DLT and smart contracts are crucial tools for achieving improvements that go beyond mere evolutionary enhancements. Fixed income could be the ideal segment for harnessing DLT and smart contracts in order to bring about a smart revolution in European securities markets. This is due to the fact that, in contrast to equities (for which stock splits, mergers etc. may occur), all major variables of bonds (maturity, coupon payments) are defined upon issuance. Now imagine that tomorrow you could issue debt securities directly on the blockchain as smart contracts.

Certificates, book-entry-solutions, registrar services or depositary receipts would no longer be necessary. Everything would be on the chain, including the full set of terms and conditions of issuance and all corporate actions during the life cycle of the bond. This could allow for novel, transparent and far-reaching forms of process automation, potentially resulting in a massive reduction in the issuance, process and transaction costs of debt securities.

With its DLT pilot regime for crypto assets the EU has already set the stage for a smart revolution in the securities markets. Under the pilot regime, licensed multilateral trading facilities (MTFs) and central securities depositories (CSDs) can operate and settle markets in DLT securities below certain thresholds. To enhance the pilot regime for the smart revolution this next stage needs support and preparation.

To facilitate and prime the smart revolution in the securities markets, the EU could invite private stakeholders and national authorities to complement the DLT pilot regime with a pilot scheme for issuing debt securities in a DLT-only fashion. Such a pilot DLT issuance scheme would harmonise the way new debt securities are represented on the various ledgers allowing for interoperability and scaling up at a later stage. This is why the CMU will benefit enormously if debt securities start turning smart under a harmonised EU DLT issuance pilot scheme.



## BIRGIT PUCK

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### Prudently managed, new technologies may become the EU's competitive advantage

The financial industry is among the sectors most heavily impacted by the megatrend of digitalisation. The use of computer algorithms has massively changed securities trading and paved the way for algorithmic trading. Today, two new technologies are blazing the trail in a similarly disruptive way. One is the distributed ledger technology (DLT) used to create crypto-assets such as Bitcoin; the other is artificial intelligence (AI). Both technologies hold great promise. They can promote financial inclusion and contribute to increasing the efficiency of the European financial system. From a regulatory perspective, however, these technological innovations pose a major challenge, as they were not accounted for when the current European regulatory framework was developed.

To date, specific regulations for crypto-assets only exist as so-called bespoke regimes at national level, while the European Regulation on Markets in Crypto-assets (MiCA) is promising, but

still in the works. Consequently, the regulatory treatment of Crypto-assets is challenging and plagued by convergence issues. One of the lessons learned and highlighted by ESMA already in 2019[1] is that the way different supervisory authorities classify Crypto-assets – deciding whether a given Crypto-asset is a financial instrument or not – can vary considerably, as a result of varying national implementation between Member States. This poses significant challenges for supervisory convergence and underlines the importance of a uniform European regulation.

The EU's express objective is to establish itself as a leading location for AI and to develop its own approach to AI ethics which could serve as a global model. In the securities markets, the use of AI is increasing, ranging from investment advice in the form of a robo-advisory to fully automated portfolio management used by leading asset managers. Such models have already accumulated considerable market share.[2]

### Strong EU capital markets need future-proof regulation and an empowered supervisory community.

From a supervisor's point of view such technical solutions entail a plethora of legal, ethical, economic and regulatory challenges. One thing is clear though: The emergence of AI urges us to revisit some of the fundamental principles of the existing regulatory framework, as the application of the regulatory principle of «same business, same risk, same rules» is not trivial. The autonomous decision-making power of AI brings numerous new risks, including hidden bias and accountability for the (decisions of) algorithms. It is therefore paramount to evaluate if and to what extent the existing rules fit AI and which changes are necessary to create a solid legal foundation for strong and digital European capital markets.

Another challenge posed by AI is finding the correct approach to the 'winner takes it all' dilemma observed with AI business models. The more extensive and sophisticated the underlying data of a model, the better the services provided. A better service in turn attracts more business and, crucially, more data, creating a positive feedback loop. This could lead to concentration effects of AI models used in securities business, comparable to the developments

already observed in other industries, e.g. platforms and marketplaces for consumer goods. Similar concentration tendencies have also appeared in cloud outsourcing.

Numerous financial institutions use cloud services provided by the largest four service providers (all US-based) who generate around three quarters of global revenues. The Covid-19 crisis has further exacerbated this trend and increased the high degree of dependency. The European Supervisory Authorities including ESMA have published guidelines[3] providing guidance on outsourcing to cloud service providers, following the European Commission's FinTech Action Plan.[4]

If the EU wants to meet its target of establishing the common market as the worldwide technology leader, it has to intensify and accelerate its current efforts to create a competitive and secure environment for these technologies. This goal rests on two pillars: appropriate, risk-oriented and future-proof regulation in tandem with a strong supervisory community that is equipped with the necessary specialised knowledge and resources to enforce it.

[1] European Securities and Markets Authority (ESMA), Annex 1 Legal qualification of crypto-assets – survey to NCAs, January 2019 | ESMA50-157-1384.

[2] No exact figures are available. The most prominent AI system covered more than USD 20tn in 2017. This figure is equivalent to 10% of the global stocks and bonds market in 2020. Haberly et al, *Asset Management as a Digital Platform Industry: A Global Financial Network Perspective*, Geoforum 2019/106, 167.

[3] European Securities and Markets Authority (ESMA), *ESMA publishes cloud outsourcing guidelines*, <https://www.esma.europa.eu/press-news/esma-news/esma-publishes-cloud-outsourcing-guidelines>.

[4] European Commission, *FinTech Action plan: For a more competitive and innovative European financial sector*, COM (2018) 109 final.



## ROBERT OPHÈLE

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### An EU framework to encourage the uptake of new technologies in finance

With the development of automation, artificial intelligence (AI), blockchains and the increasing use of the cloud computing, financial services are undergoing structural changes. Further, the global pandemic has dramatically accelerated the pace of digital and lent greater importance in our daily lives. Our role as regulators is to make efforts to accompany the changes to stay in touch with the markets, so as to guarantee investor protection while fostering innovation to remain internationally competitive.

I am pleased that the AMF has made a significant contribution to the European regulatory framework for digital finance. Thanks to its legal analyses, specific regulation and position paper on financial innovation, it contributed to the Digital Finance Package, which was a necessary step:

to enable to test innovative business models that were unduly prohibited, through the Pilot Regime regulation; to fill gaps, through the Markets in Crypto-Assets (MiCA) regulation; and

to improve the robustness of our highly interconnected financial markets, through the DORA regulation on cybersecurity.

We particularly welcomed the proposal to set up a pilot regime for market infrastructures based on DLT wishing to trade, deliver and settle transactions in financial instruments in the form of crypto-asset as the potential gains to be expected from DLT can be significant.

Discussions in the Council and Parliament have significantly improved the Commission's proposal by (i) opening up the exemption regime to all types of players, including new entrants, without relaxing the constraints that will weigh on the projects. This will promote healthy competition, giving Europe the maximum chance in the race for technological progress; (ii) by raising the thresholds proposed by the Commission if necessary to ensure the financial equilibrium of projects likely to participate in the experimentation; (iii) by not prohibiting business models based on public DLTs.

I am glad to see that discussions on this Regulation are making good progress, as the Council agreed on a general approach in late June. Some minor adjustments are still needed (such as alleviating the role of ESMA in the registering process) but we do hope that the trilogue could be achieved before the end of the year.

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On the MiCA regulation, a lot of attention has been paid (quite rightly) to the stable coins in the Parliament's ECON Committee and in the Council. However, the treatment of other kind of crypto-assets deserves a further discussion. The Commission's proposal in this area was a very good starting point, but those are the issues that in my view still need improvement:

direct pan-European supervision of activities by the ESMA under MiCA would be a major improvement as national supervision practices might well vary, resulting in unlevel playing field and a risk of forum shopping; investor protection measures need to be better suited to the crypto-asset environment; and there should be transaction reporting requirements for exchanges that have

reached a certain size in order to allow supervisor to detect market abuses. On the DORA regulation, the central aspect is the relation with the critical third-party providers. I believe that in practical terms, a single supervisor is more efficient than three sectoral supervisors, with potential endless disputes on their respective remit. If an ESA is to take sole responsibility for the regulation of all critical cloud providers, there is no doubt in my mind that the EBA is best placed, the cloud services being more widely adopted in the banking sector. Thanks to its accumulated expertise, the EBA has been front-runner with its work on Cloud Outsourcing Guidelines.

The development of AI in finance is on-going. However, the AMF has come to the conclusion that it is not mature enough to consider that there exist risks specific to the financial sector. At this stage, existing financial regulation remains sufficient to our viewpoint. I am glad that the Commission released last April a Strategy for AI including an updated coordinated plan and a regulation proposal, which are cross-sectorial and not specific to finance. Following the GDPR, the new regulation is a second step for personal data protection, dedicated to the use of data by an AI.

The requirements contemplated for the financial industry with DORA, MiCA and the Pilot Regime need to be coordinated within the broader framework of the Digital services package. The dividing line between electronic-money tokens and asset-referenced tokens (ART) is thin; likewise the distinction between ART and tokenized financial instruments is vague, considering that there is still no common definition of financial instruments across the EU. The interplay between regulation of instruments and regulation of service providers is complex and the neutrality vis-à-vis technology is tricky to implement. Furthermore, the case of a platform that is at the same time a social media and a trading platform should also be covered.



## SWEN WERNER

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### Security tokens: a new market paradigm for Europe

The tokenization of assets promises to deliver enhanced operational efficiencies, a stronger emphasis on peer-to-peer trading and the emergence of new business models due to the programmability of assets and the emergence of decentralized finance constructs. Some studies suggest that the global tokenization market could grow to about 5 trillion USD by 2025. Therefore, in the long run, all financial markets will have to digitize their processes and tokenize their assets to remain relevant. Yet the vast majority of securities market activity in the EU today is still taking place through traditional channels. There are a number of reasons for this:

- The current Central Securities Depository Regulation (CSDR) limits the introduction of publicly listed securities for book entry settlement only to a regulated CSD, making many tokenization platforms unviable or forcing them to shift their focus to private markets.
- There is uncertainty as to how depository duties and the resulting liability under the AIFM and UCITS provisions apply to digital assets and security tokens.

Current measures in the EU Digital Finance Package do not address those issues fully, focusing instead on a

number of other important matters such as the regulatory framework for crypto assets and cyber security standards. Resolving the open issues for tokenized assets and allowing the emergence of a more decentralized, distributed market place would help create many opportunities for investors. It would allow the emergence of new digital first, mobile first, self-servicing distribution channels that could appeal to a new generation of emerging tech-savvy investors.

The original vision of digital assets emphasized the concept of censorship-resistant assets providing for the ability to organize economic exchange without a central intermediary. The successful deployment of blockchain technology to securities markets needs to reflect on this principle, while also supporting other secular trends such as;

- The shift in consumer preferences towards service models that operate real time – all the time;
- The growth of private markets whereby tokenization could be used to create liquidity in historically illiquid assets (e.g., private equity); and
- The development of a circular economy, using tokenization to enable broader peer to peer interactions and distribution.

Assets issued in a digital or tokenized format also bring the opportunity to automate financial lifecycle events, such

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**The EU Digital Finance  
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as corporate actions or performance fees, through the use of smart contracts. Additional technical oversight and new governance processes will be needed to ensure that these applications operate as expected and that the data feeds triggering these activities are reliable and accurate. Over time, the market should adopt common standards to determine who bears responsibility for the due diligence processes of different tokenization platforms, and what conditions should be imposed for firms acting as a trusted data provider (so-called data oracle) that drive the 'state' of a smart contract, i.e. the data applied to execute its code.

Individual EU member states have started to take the lead in terms of defining a regulatory framework for

tokenization. For example, the recent German law on electronic securities defines a number of conditions as to how a tokenized security should be issued, including:

- The applied source code must be made available for relevant stakeholders to allow for due diligence
- The ability to reverse transactions must be in place, if needed
- The ability to migrate tokens to other platforms must also be available, if needed.

There is an open question as to what extent these efforts should be harmonized, or even be subject to a EU framework, as at the moment national law determines the definitions and requirements to issue securities.

In contrast to security tokens, there are fewer challenges in the use of Artificial Intelligence and Machine Learning (AI/ML) models in market operations, since existing risk management expectations are well-suited to AI/ML and there are fewer regulatory hurdles to overcome. AI/ML is also used in transaction processing and trade settlement, to automatically read and route client inquiries or to support investment fund compliance with prospectus terms, including pre and post-trade obligation.

The EU Digital Finance Package is a welcome and necessary step forward to ensure that EU capital markets can benefit from technological innovation and has the potential to enhance financial market integration in the banking union and the capital markets union. However, more work remains to be done. In particular, asset management regulation and ensuring a level playing field in the ability of firms to tokenize securities remain open challenges.



## EMMANUEL AIDOO

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### Digital asset markets and tokenization

Digital Assets will have a significant impact on finance, but how and why? To best answer this and ensure we deliver on the promises of an efficient, stable, transparent financial services industry, we need to take a step back in history. Settling trades was a more inefficient, lengthy process involving physical paperwork, couriers and lawyers. Institutions built proprietary systems to automate core processing in equities, bonds, FX, etc., which helped accelerate the process. Each institution developed proprietary workflows, yet more complex or illiquid assets never reached full automation. Regulation focused mainly on protecting the public and ensuring stability. As data was shared internally, banks sought to implement and benefit from straight-through processing (STP) efficiency. Technology replaced manual input.

While this made trade processing less manual, it created other problems due to data and timing discrepancies across connected systems. As connectivity became ubiquitous and the industry expanded its STP ambitions to enable processing across counterparties, we learned too well through various crises and bank failures the negative impact a lack of transparency and data mismatch can have on stability, capital

efficiency, and resolution recovery. Much of the industry's issues stem from non-standardized data and processing, especially across assets, as some systems communicate via batches while others share in real-time. Our existing processes are burdened with timing and data differences requiring trade breaks and substantial reconciliations; the impact is increased compliance costs and associated operational risk capital.

This leads us to today's opportunity with digital assets or tokens. A digital asset represents in code the behavior of the underlying asset enforcing the rules and regulations that govern it to all investors and issuers. In creating the asset, the legal and regulatory rules are converted into code, allowing the asset to become self-governing. A digital asset can ensure it is legally transferred from one person to another globally at the time of the trade without human input or a third-party intermediary.

Tokens can represent a share in a company, ownership of real estate, or participation in investment funds. The benefits are enormous allowing the industry to develop a more efficient, inclusive financial ecosystem with reduced friction and costs associated with creating, transferring non-exempt public or private securities. These new digital assets will offer greater liquidity, be faster, cheaper, more transparent and make investments in illiquid assets or private companies more accessible.

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**Digitally enhanced,  
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Digitally enhanced, securities will embed all rules, data standards and regulations consistently on an accessible blockchain. Regardless of where the asset is stored, its behavior, ownership and provenance will be consistent and immutable. Everything from asset origination to its servicing or redemption is managed in code and accessed directly from the blockchain. Wherever the digital asset transfers, the regulations will transfer with it. Meaning, for the first time, more complex, illiquid asset classes can be fully automated compliantly and efficiently.

Asset transfers in private markets are complex and country-specific, making them challenging, costly, and require legal handholding to affect ownership transfer. Self-governing tokens will automate the complexities of private markets, allowing them to be as efficient

as the «electronic» public markets. When assets are digital, the KYC, compliance and regulatory checks occur in real-time enforced by the self-governing asset and if permitted, the digital cash and digital asset change owners at the speed of the Internet.

Investors expect to transfer assets in any market globally, instantly, compliantly and consistently, without expensive intermediaries. Through controlled access to digital private markets, frameworks established through the Market in Crypto-Assets legislative proposal (MiCA) could enable greater financial inclusion, help alleviate wealth inequality, and spur growth in a new ESG oriented digital financial economy.

Tokens representing private assets could allow a broader investor base to invest safely in late-stage private companies removing current settlement or liquidity constraints. These tokens would enable the public to invest safely in some of the fastest-growing companies. The advent of blockchain technology presents a unique opportunity to spur growth in line with Capital Markets Union (CMU) goals.

In parallel, MiCA must develop frameworks that recognize and support institutions that demonstrate greater control and transparency through the enablement and implementation of blockchain and digital assets.



## BERTA ARES

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### Financial markets and the imprint of Artificial Intelligence

A few decades ago, the emergence of the Internet shook the world by making information available to all users. Artificial intelligence has kicked off a similar revolution by providing the capability of analysing this information and develop intelligent and evolutive algorithms that allow users to make a smarter use of the information.

Now, our radar is full of machines with the ability to program, to debate, analyse news, generate new content and to play. They can also win at games like poker, by learning how humans lie while using incomplete information, learning on the go, even developing customised lies for each of their opponents.

Financial markets are no exception to the recent blossom of artificial intelligence, where a revolution has been started on a global scale. At this pace, soon, any human broker who does not make use of those tools will inevitably be pushed-out of the market. As well as typewriters have been made obsolete by computers, artificial intelligence is gathering pace in financial markets and has the potential to overcome existing schemes and technology.

There is no doubt that the world ahead of us includes the use of artificial

intelligence in a complementary role for the larger part, but also as the main character for many functions related to capital markets and their ancillary activities.

The questions that now arise are related to what the future holds for us, because the horizon of options is infinite, and their evolution is unpredictable.

With markets becoming increasingly crowded by algorithms that improve daily, which will be the share to remain for classic manual trades? How will the new profile of operators change? Future analyst brokers will simply need to cover more and be able to manage the algorithms, control their information input or guarantee the adequacy of data quality; in addition, they will also need to ensure compliance with multiple regulatory requirements and monitoring of operations.

A few years ago, high frequency algorithms (HFT) were installed in proximity servers – located no further than 10 kilometres from the trading centre – or in data processing centres inside the very exchange. Those algorithms were designed to perform simple calculations, and focused fundamentally on speed, aimed at introducing orders to the market to achieve the best possible position in the order book. Their logic was a mere calculation process supported by the shortest possible wire.

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This scheme also meant that not all participants could afford the necessary technology infrastructure for placing themselves close to the market; the entry barrier was considerable for a small or medium investor.

In the last few years, the rules of the game have changed, and many financial and also non-financial companies are setting up working groups to develop intelligent algorithms purposed at making investment decisions that leverage on technological advancements. These are based on three essential premises:

- The possibility of accessing free developing environments in a large community;
- The liberation of opensource libraries for advanced artificial intelligence;
- Affordable access to big data infrastructures.

These advancements and accessibility to the necessary conditions have democratised investments, allowing for any small working group – with enough expertise in finance and computing – to develop algorithms focused on “intelligent” investment decision-making, instead of high frequency trading. The key is no longer infrastructure, knowledge is now the new driver.

In the present, any financial process must be technology-focused and includes expertise in one or more fields such as Big Data, Deep Learning, Blockchain or Quantum Computing.

Lines between business and technology functions are starting to blur as new organisations need more cross-functional information and transversal vision to develop efficiencies, improvements, and new market models.

Artificial intelligence has become to financial markets what the Internet became to information a few decades ago. It represents an essential tool that will replace current mechanisms. In the same way the Internet recycled and upgraded encyclopaedias offering much more complete, updated, accessible and verified information – artificial intelligence will allow for a more customised, precise, and targeted way of operating in the financial landscape.

This ability to adapt and integrate artificial intelligence into daily business is the key to step forward and stand out into the new international financial arena.



## STÉPHANE JANIN

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### New technologies in EU securities markets: a big shift beneficial to AM clients

Digitalization has led to technology innovations which found various fields of application later on. The financial area can now take benefit from them, and notably the Asset Management industry on behalf of its clients.

The advantages offered by such innovations are very well known. First of all, it allows asset management companies to behave more efficiently and in a more secure manner within their own organization. For instance, AI and ML allow us for dealing with huge amounts of data in a faster way and at lower cost, e.g. for scrutinizing legal and marketing documentation, or for detecting anomalies in sizes or prices of trades. Regarding the use of external clouds, it facilitates the reduction of our IT costs while ensuring quicker processes.

Beyond optimizing our internal organization, new technologies are more importantly directly beneficial to our clients. The development of trades through DLT allows for applying decentralized schemes to traditional

financial instruments which have been tokenized, thus reducing the central position of CSDs and creating more competition, leading in principle to cost savings and more efficient flows. In addition, tomorrow it can be anticipated that the majority of asset managers will integrate crypto-assets within their whole universe of investments. Last but not least, CBDCs will allow for payment in digital currencies issued by central banks, as critical and secure complements of private companies-led currencies.

However, before taking all these benefits of financial digitalization, we have to make sure that this digitalization develops within a minimum regulatory framework.

Some progress has already been made in the EU on this front.

First regarding the use of external digital service providers by asset managers, the EU Digital Operational Resilience legislation, as well as ESMA's Guidelines on outsourcing to cloud service providers, bring positively more protection to asset managers (and their clients) vis-à-vis those providers when having to perform due diligences on them. Second, regarding DLT, the EU Pilot Regime is introducing a welcomed start of regulatory harmonization between Member States, which will facilitate the inter-operability of DLT schemes across borders – knowing that this supra-national inter-operability of DLT schemes is critical for their success.

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#### Supra-national inter- operability of DLT schemes is critical for their success.

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Still, some key challenges remain ahead, for both regulators and asset managers.

As an example, in practice digital assets are now very often directly accessible by retail investors. It leads in some countries to impressive direct investment by uneducated investors in crypto-currencies - including through personal indebtedness. In spite of public consumer warnings by regulators, the popular success is still here and we should be collectively worried by any risk of back-lash on the general image of digital finance in case retail investors become massively “burnt” through such investments. Definitely, MiCA or similar regulations will have to provide for appropriate calibration between investment by

retail and non-retail, from an investor protection standpoint.

Even for professional investors such as asset managers, MiCA is key: we consider that crypto-assets are definitely going to be part of all assets we invest in, but we need a minimum regulatory framework to ensure market integrity and avoid systemic risk – we will not jump in the dark on behalf of our clients, as we owe them a fiduciary duty.

On DLT, while cross-border regulatory interoperability might be facilitated in the future through the EU Pilot Regime, it remains still in practice to improve interoperability across players (including at domestic level): we need a fluid secondary market on tokenized financial instruments, which can be guaranteed only if the various players in the value chains are plugged the ones with the others. We know that in practice cooperation is developing among them to set such pluggings, but not always very rapidly – the buy-side must take its part to put pressure on those players.

Last, the ultimate link of the digital finance comprehensive ring will be CBDCs. AXA Investment Managers is fully convinced of it, and has been involved in many successful projects, such as the latest one carried out with the Banque de France in June 2021. That experiment involved the simulation on a private blockchain of the issuance and settlement of unlisted securities and the settlement of listed securities. Settlements of securities were simulated by CBDC issued on the blockchain. This experiment tested the integration of issuance and settlement activities, including exchanges on the secondary market. Those tested settlement processes should contribute to a greater integration of financial markets. In the same vein, we are strongly supportive of ECB's similar initiatives on the digital euro project.