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Investment management and blockchain: The great reshuffle

Opportunities and risks for asset managers 2.0

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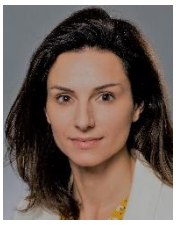

Key points

- Blockchain is very likely to impact every layer of an asset manager's future operations, thus substantially influencing productivity and profitability trends for the industry as a whole
- Blockchain has the potential to reduce the complexity of asset management
- In this note, we touch upon several aspects of blockchain that we deem particularly relevant in our perimeter, from tokenisation of funds and securities to financial inclusion
- In addition, we also briefly discuss digital currencies and the challenges they may pose to the current financial architecture
- Fundamentally, we think the future of fund management relies more on newly created decentralised finance (DeFi) techniques rather than tweaking our existing operating models to adapt to a decentralised system

We believe blockchain technology will significantly disrupt the asset management industry. The investment management universe is complex with multiple layers of intermediaries. Our regulated environment encompasses an abundance of trusted parties, i.e. financial institutions aiming to protect investors. Given the ubiquitous pressure on fees, this technology could enable us to rethink our models and create efficiencies while keeping our clients' interests at heart.

For the past decade initiatives around blockchain technology in the asset management sector have been experimental. There was no concrete implementation and it was unclear how and when this technology might be scaled up and come of age. However, the past year has witnessed a rapid escalation in activity – blockchain is now part of the asset management landscape.

Platforms have acquired new ways to distribute funds, central banks are working on digital currencies in response to

potential private digital means of payment[1] and regulators are designing new frameworks. In April, the European Investment Bank issued a €100m digital bond on Ethereum – a decentralised, open-source blockchain.
In parallel, the broader world of decentralised finance (DeFi) and cryptocurrencies is in the middle of a dramatic expansion – overall our framework of financial references is being significantly reshaped.

Why blockchain technology matters

Blockchain technology essentially enables the existence of cryptocurrencies. In financial services, its impact on the ecosystem is where it is most disruptive. We believe the entire value chain can benefit from this technology because it breaks down layers, accelerates the treatment of financial transactions and facilitates the exchange and storage of data. We believe digital assets, decentralised finance as well as the so-called 'tokenisation' of financial securities and cash will fundamentally change the way we operate.

Today, the use of Distributed Ledger Technology (DLT) – the underlying blockchain technology – enables the direct registration of securities and funds by an issuer in a distributed database. Smart contracts make these programmable and enable the automation of end-to-end processes i.e., automated event triggering.

DLT can help solve some of the issues within the asset management ecosystem. The process of reconciliations between vast datasets across organisations could be drastically simplified as the technological infrastructure and protocols enable simultaneous access, validation and record-keeping by multiple stakeholders in an immutable manner across a decentralised network.

For our clients, it will bring efficiency, transparency, real-time data, and access to global networks, all while it has the potential to reduce operational and counterparty risks, as well as costs. It can also potentially attract new clients, as tokenisation opens new opportunities e.g., access to illiquid assets or funds through fractionalisation.

DeFi uses smart contracts to execute processes with integrated business rules and payments. Asset holders in the world of DeFi can directly lend assets and money, insure assets and pay interest. Having a peer-to-peer and instantaneous business network brings a range of opportunities to our clients, and we, as an asset manager, will aim to continue to bring value through solutions encompassing new types of assets and simplified processes.

Tokenisation of funds, securities and cash

We see fundamental changes all along the value chain. From fund distribution to investments, trading, and post-trading processes – blockchain technology is mainly impacting middle- and back-office procedures.

The fund distribution business is an interesting case for blockchain technology. Processes are fragmented across different local markets; the number of intermediaries is high and there is a need for permanent reconciliations. A lack of transparency and costly distribution models add to the (good) reasons for leveraging the technology in this space.

Tokenising funds – the issuance of funds on blockchain – and automated subscriptions alongside redemption flows through smart contracts are bringing major efficiency gains.

In addition, tokenisation also enables fractionalisation. There are multiple advantages to this – it can attract new retail investors with lower capital amounts and create liquidity for funds which hold illiquid assets.

Financial securities have the potential to be issued on blockchain, which in turn could reduce issuance costs, streamline settlement processes, reduce reconciliations between financial institutions and, at target, allow a fully automated asset-life cycle.

The CBDC experiment

To capitalise on the full potential of automated lifecycles, it is key to have cash on-chain, meaning avoiding cash or escrow accounts held by third parties temporarily for settlement purpose. Therefore, AXA IM fully supports the development of central bank digital currency (CBDC). For our part, we believe a CBDC "*is neither a cryptocurrency nor a totally new technology, but rather a natural evolution of money in order to cope with rapid technological progress*"[2]. The CBDC research-agenda is still a white paper as both scholars and practitioners try to address crucial issues like digital monetary policy and financial stability. Furthermore, broader macroeconomic and geostrategic aspects of CBDC should not be overlooked.

From a practical perspective, we have recently participated in a CBDC experiment[3]. Initiated by Banque de France alongside a consortium of financial institutions, it was conducted on a private blockchain, where the issuance and settlement processes of unlisted securities and the settlement of listed securities were simulated. It demonstrated the value of utilising a CBDC for the purpose of settlement, thus paving the way for an automated investment lifecycle.

[1] Blog post by Fabio Panetta, Member of the Executive Board of the European Central Bank, 2 October 2020

[2] Tentori, A., "Central bank digital currencies: policy and design", AXA IM Research, 17 March 2021

[3] "The Banque de France conducts a successful experiment on the use of central bank digital money with a consortium of actors driven by LiquidShare", Banque de France press release, 25 June 2021

More generally, CBDCs form a subset of a broader currency ecosystem consisting of so-called stablecoins i.e., cash tokens which aim to peg their value to an external reference or asset class. The main parameters defining this ecosystem are the backstop (full/partial collateral) and the balance sheet (public/private)[4].

Stablecoins: Tackling volatility

In our view, the backstop is a key distinguishing characteristic of stablecoins. It is an essential design feature, one likely to influence the path of adoption of any nascent digital currency. The idea is to limit excessive price swings typical of cryptocurrencies, therefore aligning the new digital currency with existing, traditional currencies: "*Originally envisioned as an accessible and borderless way to pay, crypto-assets have generally suffered from severe price volatility and limited capacity to process transactions compared with existing arrangements… The developers of the crypto-assets labelled 'stablecoins' seek to reduce volatility by anchoring the 'coin' to a reference asset (e.g. a sovereign currency) or a basket of assets*"[5].

Lacking a comprehensive regulation, the benefits of adopting stablecoins for our monetary system are probably inferior to a CBDC (e.g., counterparty risk, non-standard format, non-universal means of payment and so on). Nevertheless, a hybrid model should also be considered, one in which "*the public sector could focus on issuing digital coins and delivering on sound money, while the private sector could build rails and applications*"[6].

With several options on the table, our impression is that a coherent regulatory framework will be as always policymakers' instrument of choice to better align incentives and risks. In the meantime, at AXA IM we will continue to look at opportunities worldwide to fully implement digital asset lifecycles, enabling us to project future operating models.

Crypto assets or cryptocurrencies?

The term 'cryptocurrency' is often misleading. By definition, a currency must serve as a numeraire, as a means of payment, a store of value as well as a quantum of information (this latter function of money is implied by the Fintech revolution). As highlighted by B. Rosa and A. Tentori in June 2021, at AXA IM we have legitimate doubts that crypto assets might tick all four requisites simultaneously. In particular, the very high exchange rate volatility observed on benchmark cryptos like bitcoin is not particularly useful when it comes to the 'store-of-value' function.

Another disturbing aspect is valuation. The present value of a cash flow is universally regarded as one of the cornerstones of finance. Whenever economists are confronted with an asset whose cash flow cannot be projected under reasonable assumptions, they're lost. And yet, there is a price tag for assets like paintings, start-up companies and, yes, crypto assets. Several valuation models have been proposed for crypto assets, some based on a modification of Irving Fisher's Quantity Theory of Money (QTM), others on the concept of Metcalf's Law, according to which the value of a network is proportional to the square of its connected users. At this stage, we still lack a universally accepted crypto asset valuation framework, thus limiting its role in modern allocation models.

We could also look at the problem of valuing a crypto asset by drawing parallels to cognitive sciences and complexity theory. The presence of a network, the economic singularity of increasing returns as well as the random path of technological adoption are common factors affecting the valuation of assets like cryptos and digital companies[7].

Crypto assets are largely considered a new asset class and as such bear the potential to play an important role in portfolio allocation models of the near future. As a long-term and responsible investment company, we have collectively decided to ban bitcoin investments, for numerous reasons, not least their environmental impact. Coins using so-called 'proof of stake' – a consensus mechanism used by blockchain networks to achieve distributed consensus – are an interesting investment area, though we are not willing to develop this area at this stage. The recent movements of crypto-currencies have aroused global interest – though, as an asset manager, we have an interest in the underlying technologies and their disruptive power for our asset management processes, more than in the asset class itself.

Challenges ahead

The use of blockchain technology at scale is still very theoretical. Presently European regulations limit the issuance of financial securities to private deals and investing in such security tokens reintroduces operational risk at this stage, as this new post-trade process is done manually, due to a lack of integration and shifts in responsibilities.

Asset managers are part of a strictly regulated environment. Operating models are dependent of external institutions (e.g. depositary, custodian, transfer agent and central security depository) with all of them having regulatory obligations including controls, being our trusted parties. Using blockchain technology can in theory replace these trusted parties for parts

[4] Adrian, T. and Mancini-griffoli, M., "Central Bank Digital Currencies: 4 Questions and Answers", IMF Blog, 12 Dec. 2019 and Catalini, Ch. and Massari, J., "Stablecoins and the Future of Money", Harvard Business Review, 10 August 2021

[5] Cœuré, B., "Update from the Chair of the G7 working group on stablecoins", Bank of International Settlements, 18 July 2019

[6] Catalini, Ch. and Massari, J., "Stablecoins and the Future of Money", Harvard Business Review, 10 August 2021

[7] Lione/Tentori, "*Cryptoasset Valuation*", forthcoming (2021)

of their roles, but not in our current regulatory framework. The European Commission has issued a DLT pilot regime as a first step, and local regulators are working alongside financial institutions to push the European transformation where needed. This exercise remains challenging for all the ecosystem, as some legal and regulatory areas remain uncertain.

The recent proliferation of blockchain-based solutions adds to the complexity of our existing financial ecosystem. There will be no big bang; things are moving step by step, but still far quicker than expected. Time will help standards to be set.

Financial inclusion: Boosting the pool of managed assets

The term 'inclusion' ranks high on the global political agenda. As of 2020, some two billion people cannot access financial services[8] while according to the mobile network trade body, the GSMA, some 5.28 billion people have a mobile device[9].

Given the relatively high percentage of financially-excluded adults, inclusion can be fostered with the aid of DLT across several dimensions like economic identity, remittance services, services for refugees and migrants, or digital identity for citizens in poverty. J. Carlson and Ch. Moy argue that financial inclusion – defined as delivering financial services via mobile phones, the internet or credit/debit cards – is likely to boost emerging markets' annual GDP by US$3.7tn and create 95 million new jobs across sectors. However, financial inclusion does also apply to advanced economies, as "*it is hard to defend a system where 15% of U.S. adults in the bottom 40% of the income distribution are unbanked and where low-income account holders – particularly Black and Hispanic customers – pay more than $12 a month for basic access to the financial system*"[6].

While the social sphere is of utmost importance for global policymakers – think for example about microfinancing and microinsurance[10] – the asset management industry should not overlook the potential new retail client base resulting from such a technological evolution. The opportunity arises not only from an obvious increase in the volume of managed assets, but also from the likely low saturation and high profit margins associated with this new pool of end investors[11].

Our view

Today, change is already underway in B2C models. With the advent of digital currencies, a part of the mutual fund distribution business might transition from bank counters to digital platforms and the use of Blockchain technologies could accelerate this trend toward decentralization.

For the financial services industry, blockchain has yet to become a priority, partly because of the stigma around its use in unregulated cryptocurrencies like bitcoin. Blockchain poses challenges to the assumptions of the structure of many financial services sectors. But the potential for growth and renewal in an industry battling lower margins is there to be achieved.

We believe it will create cost savings and new revenues for asset managers able to harness it.

The industry needs to strategically utilise these technologies to reduce the layers and complexity of asset managers' foundations. This will make the sector more agile and reduce costs for customers. We fundamentally think the future of fund management relies more on newly created DeFi techniques rather than tweaking our existing operating models to adapt to a decentralised system. The word disruption is appropriate and gives us endless opportunities to rethink our possible future business models.

[8] "The World's Unbanked Population", Acuant, 25 November 2020

[9] "How Many People Have Smartphones Worldwide", Bankmycell, Sept 2021

[10] "How blockchain Supports Financial Inclusion", Deloitte, 2018

[11] As compared to the overbanked high-net-worth and institutional segments, where competition is fierce and profit margins are compressed.

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