

# Tokenisation

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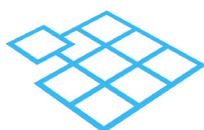
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On 15 October 2024 Future of Finance hosted a one-day event at the offices of AON in London. Entitled *Tokenisation of securities and funds is going to happen. How will you and your organisation survive it?*, the event attracted 200 registrants from banks, asset managers, brokers, central banks, financial market infrastructures and FinTechs. This is an account of what they contributed to the six panels that day, as well as what they learned from the panellists and each other.



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## Keynote Address

# The path to a digital market ecosystem: how to make this thing happen

Keynote Speaker: Nadine Chakar, Global Head of DTCC Digital Assets

Thank you so much for having me here this morning at the Future of Finance conference. It's nice to see many familiar faces to discuss a topic that we're all very passionate about, which is the future of financial markets.

Today, I am not going to focus on the benefits of this technology – which we all know full well. This industry has been proving out this technology for the past ten years. We have already demonstrated the efficiency that tokenisation brings in terms of cost and capital, and how it can democratise finance.

What I am going to focus on today is: How do we take all the learnings of the past? How do we work together to modernise the financial markets? How do we move from hype to action?

I have the privilege of leading DTCC Digital Assets. And for many of you who may not know what we do, DTCC is the single largest trade provider in the US market. We are the infrastructure for the largest capital markets in the world.

We also have a history of innovating and modernising the markets, from solving the paper crisis on Wall Street about 50 years ago, to most recently leading the industry to a T+1 accelerated settlement cycle. We have got a record of successfully leading large projects in tight partnership with the market.

At DTCC, we aim to apply this record once again with digital assets. Our firm's vision is to be the digital market infrastructure. To put it simply, we aim to support digital assets in the same way that we support traditional securities today.

As I said earlier, it has been ten years that the industry has been testing out this technology. We know it works. While blockchain has certain limitations, I am confident that, by working together, we will break through them.

We also know that tokenisation works. While not everything needs to be tokenised, we know the massive potential of this technology has eluded us for a lot of different reasons. We have seen many different digital asset initiatives and Proofs of Concept (PoCs) often ending with a press release – which has yielded very little results. We will generate a few minutes of press coverage, and then we move on to the next thing.

I believe in the power of this technology and the goodness it can deliver to capital markets, providers globally. At DTCC, we believe we have reached an inflection point on adoption. To continue along this path will only lead to more fragmentation and, maybe worse: a loss of the promise of this new technology.

I am here this morning to propose a new approach. We will need collaboration, not competition, to chart a new course.

Let us face it, competing on infrastructure has never yielded much. We need to work together on building accommodations and infrastructure to support this technology. It is imperative that we start to accelerate the speed of adoption, obviously ensuring that appropriate safeguards are there when it comes to investor protection, regulation, compliance and transparency. Together, we can work to remove the impediments of adoption. We all know that things have been advancing slowly, but the pieces will eventually fall together. And when this happens, it will happen faster than people expect – just like with Artificial Intelligence (AI).

In fact, if anybody is not planning to leverage this technology, they are going to be left behind. I know it is a big statement, but this is the reality as we see it.

How do we get the party started? As I said, it is not easy. To figure this out, it is going to take a lot of work from all of us.

It is a bit corny, but at DTCC we have come up with what we are calling the three "Cs" of success: Creativity, Collaboration, and – believe it or not – Centralisation.

First, let me talk a bit about how we crowdsource creativity and innovation to harness this technology, in an effort to reimagine how to enhance traditional processing and remove inefficiencies to transform both operational and business models. I am sure you will hear a lot of great thinking and encouraging ideas at this conference, but please keep in mind that the complexity of the task and the size of the markets make it impossible for one firm, one platform, or one idea to prevail.

Second, we need the power of collaboration. We need to work together. This is especially critical if you want to pave the way for rules and standards. We are calling on all of you, the entire industry, to rethink our collective approach to deploying this technology. Innovating in silos has failed to deliver scalable and meaningful progress. If we are truly serious, it's time to stop competing and start collaborating.

Third, and this might not seem intuitive in a world looking to build Decentralised Finance (DeFi) markets, we truly believe the path to institutional DeFi will run through a centralised central securities depository, or CSD. Many of us take it for granted today that our trades will settle, that we know where our position is, and where they are supposed to be.

In short, we know who to call when something goes wrong. We will need to establish this same level of confidence in digital markets – and market infrastructure will continue to lead the way there.

## Point #1: Creativity

Let me start to unpack these statements, starting with creativity. No matter what role you play in the financial ecosystem, you stand to gain powerful efficiencies in terms of liquidity costs and revenues. We are only limited by the power of our imagination and the strength of our conviction regarding how to deploy and leverage this technology.

I have heard a lot of early adopters expressing their disappointment that none of these promises were kept when discussing the fact that they have never come through to maturity. I understand that if you stick to the old way of doing things by leveraging new powerful technology, you get the same old result, plus additional cost. Overall, it is frustrating.

A lot of what we do today is to bridge inefficiencies in the gaps between and among the front-, middle- and back-office. But today we have a technology that will address that effectively.

Let us take one example – collateral management. We have all spent millions of dollars introducing new systems. Yet the process remains as archaic today as it was when I started in this industry many years ago. We are still waiting on that one email to start moving money around. And yet, we have already got our fingertips on technology that would modernise it and make it more efficient for all. Think of the capital efficiencies that can be realised by exchanging margin and collateral in real time.

Now you will say, “Hold up, there are numerous firms that have deployed blockchain and tokenisation to manage collateral.” But, unfortunately, they have all plateaued, right?

And it goes back to my earlier point: If you do not find a way to inter-operate and work together, you can only grow so much into your own silo. And these same examples are repeated across multiple asset classes, from cash to private assets. We do need scalability to demonstrate the true value of this technology.

WisdomTree is a good example of this philosophy in action. Through the new WisdomTree Prime app, this asset manager tapped into tokenisation to reimagine a new business model and to unlock new revenue streams in a new client experience.

## Point #2: Collaboration

My next key to success is collaboration. And I do want to highlight this by giving you a preview of the announcement we are going to make later today: DTCC is announcing the rollout of a sandbox that we are calling the DTCC Digital Launchpad.

It is a DLT ecosystem where we will gather the industry to work together to solve the infrastructure challenges for adoption. I will spare you the sales pitch, but I do want to highlight how this platform is different from other sandboxes. DTCC is participant- owned and governed, and that is the same governance mechanism that we are applying to DTCC Digital

Launchpad. However, we have also seeded it with our own technology, and will be prioritising industry PoCs that will build upon each other – to have a viable path to production.

As I mentioned before, we have seen a lot of PoCs ultimately end with a press release. We are looking to break that cycle by bringing on large PoCs that will eventually go into production, encompassing the entire ecosystem of players in the marketplace.

With DTCC Digital Launchpad, we are focused on removing impediments to the market, building skill and efficiency, and hopefully starting to make a dent in how we migrate to a more digital market.

Put simply, DTCC is offering the infrastructure for the industry to collaborate. It is open, not just to our technology, but for anybody that will adhere to the rules and standards that we will publish. Our priorities, in no order, are around liquidity, data and obviously creating a common infrastructure for the market. You are more than welcome to join us.

We are also inviting all the global CSDs to join us in this journey so we can have one common platform that is inter-operable and useful for the industry.

We believe in safety in numbers. Collaboration is an essential ingredient to achieve a safe and resilient marketplace, including standardisation and harmonisation across data, controls and policies. Again, I am asking you, and I am challenging all of you, to rethink our approach on how we can implement this technology.

And instead of operating in silos or as islands, let us try to figure out how to work together. We have done our PoCs. We know how the technology works. Moving forward, we need to make this fully scalable and to help deal with inefficiencies that plague implementation, in the spirit of collaboration.

This is exactly why DTCC partnered with the two largest infrastructure players in the world, Clearstream and Euroclear, to develop a framework for establishing a series of procedural and governance standards in a digital environment. Our unprecedented partnership has produced a series of white papers. You'll find them on each of our websites if you're interested. Most recently, we published a paper that lays out a [comprehensive blueprint, or framework, for digital asset adoption](#). We got an overwhelming response to this. As I speak to you this morning, we have experienced 40,000 downloads and counting.

It is the number one, most-read white paper DTCC has ever published. We are very proud of the fact that it has been getting large engagement.

### Point #3: Centralisation

Finally, I'd like to talk about centralisation. While we believe that we need an infrastructure to manage what is commonly referred to as institutional DeFi, we do not truly believe that a peer-to-peer market without intermediaries works for institutional markets, especially when we are fiduciaries. This is especially true for smart contracts – you need an intermediary in that process.

As I mentioned before, it is standards, controls, and a smooth process that has typically underpinned traditional markets – and this is exactly what is missing from the digital world. We do not believe there is a viable path to our robust and resilient digital ecosystem without a central securities depository.

At DTCC, our aspirations are high. As I said earlier, we intend to become the digital market infrastructure. As part of that, we are committed to providing the same level of support and services for digital assets tomorrow as we do for traditional securities today.

Consider inter-operability, which has been a major challenge in adoption. How do you harmonise these data sources that exist between the old and the new? How do we start to trust smart contracts to automate certain aspects of the lifecycle of these trades? Financial institutions have spent billions of dollars building their legacy infrastructure and they are not going to toss it out to put in something else. We need to figure out a way to connect the old and the new, to make sure the links between digital and traditional markets are seamless and secure.

By working together, all technology providers will have a role to play – as well as traditional finance institutions, infrastructure providers and regulators.

## The Path Forward

I will close my remarks with a story about the events that led to the creation of DTCC. During the paperwork crisis 50 years ago, when the industry was overwhelmed by paperwork – with couriers running up and down Wall Street – all the big firms on Wall Street got together and created an infrastructure that has endured to this day. Today, we are hoping DTCC can also work with all of you to try to take this same spirit of collaboration into the digital age.

We truly believe that this technology is the future of financial markets. While adoption has been slow, we are starting to finally see some momentum. We have heard directly from clients that they were excited to see DTCC acquire Securrency. For them, it was a sign that a major financial player was going to champion and sponsor digital technology.

Again, we cannot do this alone. Not one of us can. The markets are too large. There is a lot at stake. We have to get it right.

DTCC is very proud to be the sponsors and promoters of this technology. We look forward to continuing to work with all of you and we are very excited today to announce our first major milestone in our journey to bring the industry together: DTCC Digital Launchpad.

Thank you for all the work you are doing to try to push this industry forward with this technology and thank you for the opportunity to speak this morning.





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## Panel 1

# Why are the tokenised securities and fund markets failing to scale?

**Panellists:** Stefano Dalavalle, Head of Product – Digital Assets at R3; Sean Mullins, Senior Vice President – Digital Assets and Financial Markets at Northern Trust Corporation; Stephen Whyman, Head of Debt Capital Markets, EMEA at Fidelity International Ltd (FIL); Sara Hall, Partner at Walkers; and Natasha Benson, COO/CFO at Ownera.

## Are vested interests at work?

Regulated financial institutions have adopted a cautious approach to tokenisation. But the main reason is not protection of existing revenue streams. It is a concern that the existing structure of the capital markets reflects the lessons of experience, and that it would be foolish to jettison that knowledge and the safeguards it erected in pursuit of the cost savings afforded by disintermediation. That said, there are cases where incumbents resist tokenisation as a threat to existing revenues. Bank loans, for example, could be distributed and traded more widely and serviced much more efficiently if they were issued on to blockchains, but agent banks benefit from the net interest margin income. Privately managed credit funds, *Schuldschein* and Collateralised Loan Obligations (CLOs) have all emerged as tokenisable assets in recent years, though they have also attracted the attention of regulators concerned about tokenising complicated and intrinsically illiquid assets which can easily become the subject of debt restructurings.

## Why are sell-side firms not more engaged?

Just six global banks and three international central securities depositories (CSDs) are seriously committed to tokenisation. This reflects the lack of interest on the buy-side in investing in tokenised assets, as opposed to conventional equities and bonds. Where sell-side firms see genuine opportunities in tokenisation – such as in tokenising collateral, where banks can save substantial sums in capital and credit costs – they do invest. Sell-side firms recognise the potential gains from tokenisation in terms of new products and services. They are also aware of the risks of failing to future-proof their businesses against token markets achieving scale. But there is insufficient participation by buy-side clients to persuade them to invest now in managing either possibility.

## Why are buy-side firms not more engaged?

The asset managers that are active in the token markets are acting as issuers rather than investors. In other words, they have tokenised their own funds, but they have not bought tokenised securities or funds issued by others, except in occasional Proofs of Concept they were invited to join. So asset managers understand tokenisation creates the opportunity to sell more funds to a wider range of investors. But in their capacity as investors, the case for engagement with tokens rests on increased operational efficiency. Asset managers can buy highly liquid government bonds without worrying about post-trade inefficiency, whereas a third or more of corporate bond transactions can fail to settle on time. It follows that tokenisation can increase the operational efficiency of corporate bond investing. However, asset managers argue that they need a regulated custodian bank to capture that efficiency by agreeing to safekeep their private keys and settle their transactions. Without a custodian bank, tokenisation will add cost for asset managers rather than subtract it because they will have to invest in the necessary capabilities themselves. In short, asset managers are not fully engaged with the token markets because the custodian banks are not yet ready to support them.

## What should be tokenised?

Viable use cases for blockchain technology are not as plentiful as some advocates believe. Although anything can be tokenised, not everything should be. Nor should tokenisation be viewed as akin to asset-backed securities (ABSs, in which existing financial assets are repackaged and sold and traded) or exchange-traded funds (ETFs, in which baskets of securities track an index). ABS had a powerful commercial rationale in freeing up bank balance sheets. ETFs made commercial sense too, as a convenient tool for acquiring market exposures. Both could be sold through existing distribution networks with – in the case of ABSs – the imprimatur of the credit rating agencies. Money market funds also grew quickly, because they offered depositors a higher rate of interest than they could obtain at a bank. No such commercial incentives apply in the case of tokenisation.

## Why has the tokenisation of privately managed assets grown so slowly?

Tokenisers have alighted on privately managed assets – real estate, private equity and private credit – as their earliest use-case because there are fewer private interests to disrupt and no established infrastructure to displace. At the same time, neither issuers nor investors find a compelling business case to support tokenisation of these asset classes. Asset managers are waiting for the custodian banks to make it as operationally painless and risk-free for them to invest in privately managed assets as it is for them to invest in the public equity and debt markets. On the supply side, only a handful of privately managed asset managers have identified the opportunities in tokenisation – chiefly accessing new investors with lower minimum subscription amounts and greater liquidity – as significant enough to issue funds in tokenised form. This limits the incentive for custodians to develop the services that would attract investment at scale. So the incentives for issuers, investors and intermediaries to tokenise privately managed assets are weak.



## Why has tokenisation so far favoured “digital twins” rather than “native” tokens?

There are reasons why tokenisation has taken the form of “digital twins,” in which the underlying funds or securities continue to exist in their current form. It feels familiar, like a form of securitisation. It enables issuers, investors and intermediaries to test models of tokenisation. But it also relieves them of any need to reinvent their systems and the infrastructures they use to accommodate tokens. “Native” tokens must clear that inertial barrier.

## Have the limitations of blockchain technology hampered progress?

The proliferation of blockchain protocols certainly slowed progress down because financial institutions had to take a view on which protocols are of institutional quality, will prevail competitively and which will secure regulatory endorsement. Otherwise, they risked being lumbered with a wasted investment. The proliferation of inter-operability services has alleviated that problem, by making the choice of blockchain protocol less of an all-or-nothing issue. One sign of changing attitudes is that potential users are now focused on service expectations rather than technological capabilities such as speed and scalability.

## How important is inter-operability?

Inter-operability between blockchains and between blockchains and traditional markets is essential, primarily to guarantee secondary market liquidity. Buy-side institutions will not invest in the people and technology to buy and sell tokenised assets if those assets are trapped in shallow pools of inaccessible liquidity.

## Is regulatory uncertainty still a factor militating against progress in tokenisation?

There is now a high degree of regulatory certainty in civil law jurisdictions such as Germany, Liechtenstein, Luxembourg and Switzerland, which have passed blockchain-friendly laws. The position in common law jurisdictions, such as Singapore and the United Kingdom, is also clear. Some jurisdictions, notably Bermuda and Singapore, have had considerable success in using legal and regulatory frameworks to attract innovative token businesses. The problem is that the asset management and securities industries want to distribute their products globally, and certainty of token distribution in a succession of domestic markets does not represent a meaningful advance on the equally fragmented regulatory status quo. Tokenisation is happening in certain domestic markets already but, for it to happen on a global scale, national regulators around the world need to reach a common view – and that is absent even in the traditional capital markets. There remains a risk that different national regulators will take different views of the same issue, partly because their knowledge of tokenisation will always be behind that of the institutions they regulate. Managing different regulators and regulatory regimes also consumes resources, leaving less time and money to invest in tokenisation. But the biggest problem is the continuing lack of legal and regulatory clarity in the biggest homogenous capital market in the world – the United States – largely because of competition between regulatory agencies at the Federal and State levels. This denies issuers access to a market that could provide the scale and profitability to generate the confidence to tap other markets.

## Are tokenised markets being built in the wrong way?

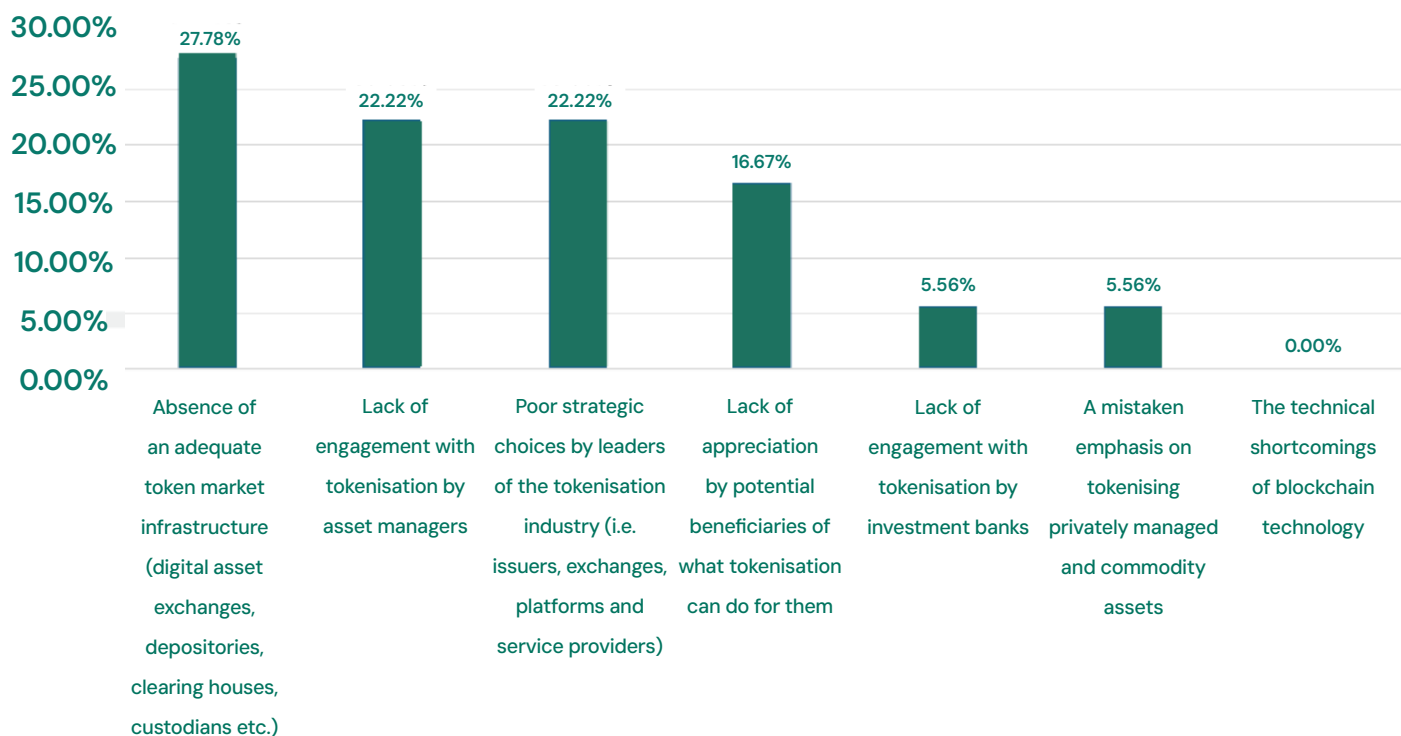
Tokenisation is proven to work but demonstrably failing to take off into self-sustained growth. The total size of the tokenised securities and fund markets is 0.02 per cent of the global debt and equity markets, 0.07 per cent of the global mutual fund market and 2.24 per cent of the cryptocurrency market. Yet the obvious obstacles – regulatory and legal uncertainty, lack

of fiat currency on-chain, the absence of inter-operability between markets, the shortcomings of blockchain technology, the blight cast by cryptocurrency scandals and the vested interests of incumbents – are not a complete explanation. It is possible that token enthusiasts are trying to grow the market in the wrong way. Perhaps they need to compete less and collaborate more; decentralise less and centralise more; disintermediate less and intermedate more; and ditch novelty for integration with legacy systems.



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## Panel 2

### Can securities and funds token markets can grow without genuine digital money on-chain?

Panellists: Damien Fontanille, Head of Business Development at Société Générale-FORGE; Jason Webb, Director of Web 3 at SS&C Technologies; Ben Brophy, Head of Blockchain at Fidelity International; and Daniel Coheur, Co-founder and Chief Commercial Officer (CCO) of Tokeny.

#### What are the costs of lack of digital money on chain?

The absence of on-chain money to settle the cash leg of transactions on blockchains and pay entitlements has many negative effects on the security and fund token markets. Ultimately, every tokenisation use-case depends on the availability of on-chain cash to realise its potential value to users. After all, a large part of the appeal of blockchain is its ability to capture transactions, settlements and transaction records on single shared ledger instantaneously, eliminating the need for reconciliations between the counterparties. Without that benefit, it will be difficult for token markets to achieve scale and liquidity, and without scale adoption will be limited. Tokenising securities without tokenised cash makes settling transactions and paying entitlements and redemptions more complicated and expensive. The need to come on and off blockchains via the conventional banking system makes it difficult to grow the market quickly. It also entails managing payment system cut-off times and complying with manual customer due diligence checks. It preserves expensive intermediaries such as banks and card payments companies. Both transaction costs and risks are higher. A further difficulty is presented by the potential fragmentation of fiat currency money into different forms – e-money tokens, Stablecoins, tokenised deposits and central bank digital currencies (CBDCs) – because fragmentation could, by making it difficult to use some forms of cash on some blockchains, undermine the fluidity of trading activity in security and fund tokens. This is why central banks have begun to emphasise the need to balance innovation in forms of money with preserving the “singleness” of money.

#### Why cannot e-money do the job?

Although e-money tokens can be issued under European Union electronic money regulations set by the second Electronic Money Directive of 2009, they have not proved an attractive option. The need to maintain segregated accounts and 100 per cent cash reserving (or the equivalent via an insurance policy) makes e-money tokens unprofitable for banks to issue, since there is no net interest margin. Nor does e-money escape reliance on the traditional banking and payments infrastructures.

#### Are Stablecoins a stop-gap solution or a durable innovation?

Market participants are using Stablecoins, which have emerged as the most important on-chain alternative. They account for only 7 per cent of the capitalisation of the cryptocurrency markets but 90 per cent of the trading volume, giving them a crucial role in almost every cryptocurrency transaction. Beyond the cryptocurrency markets, some small and medium-sized companies in countries and regions without stable fiat currencies are using Stablecoins to pay suppliers and meet payroll. Statistical analyses often claim that Stablecoin volumes now match or exceed those of major card companies, though they are not being used for comparable purposes and the Stablecoin volumes are being inflated artificially. Like cards, the largest Stablecoins are issued by non-banks. They can be volatile in terms of market value and banks exposed to Stablecoins will from 1 January 2026 incur additional capital costs under the capital adequacy rules set by Basel Committee on Banking

Supervision (BCBS). Regulators also lay down other potentially costly controls, including management of cyber-security risk, but especially the specification and disclosure of the collateral eligible to back a Stablecoin. The Bank of England, for example, has indicated it will insist that Stablecoin issuers hold central bank money only to back their coins, to ensure Stablecoin holders can redeem their Stablecoins at all times without running market or liquidity risk. Regulators have shown a marked preference for Stablecoins issued by banks, but few banks have taken up the invitation. One is Société Générale–FORGE, which issued a Stablecoin named EUR CoinVertible (EURCV) on to the Ethereum public blockchain in April 2023. Being fully compliant with the Markets in Crypto-assets Regulation (MiCAR) of the European Union (EU), which came into force on 30 June 2024, EURCV can be used by both retail and wholesale investors. It is available via the BitStamp cryptocurrency exchange and the digital asset market-makers Wintermute and Flowdesk, so it can be used by cryptocurrency market participants. Société Générale–FORGE as issuer, the quality of the collateral and the engagement of market-makers are intended to reassure users that the EURCV Stablecoin is always redeemable at par and exchangeable in the market at par, at all times. In December 2023 Axa Investment Managers used the EURCV Stablecoin to purchase €5 million of digital green bonds issued by Société Générale, so it is reaching institutional investors as well. However, it will take time for Stablecoins such as EUROCV to secure adoption by institutional investors. A third use for Stablecoins is cross-border payments. Fully regulated Stablecoins such as EUROCV can be used by, for example, corporate treasurers to make cross-border payments between digital wallets. They are likely to be cheaper than using correspondent banks for the same purpose. A fourth use case for Stablecoins is to store value on-chain, to avoid the transactions costs of switching to fiat currency or triggering a taxable event. However, regulators and consumers may be on a collision course on Stablecoins. Regulators want Stablecoins to be issued by banks. But retail consumers hold cryptocurrencies and use non-bank Stablecoins because they do not trust banks.

## Where do tokenised money market funds fit in?

As a substitute for cash in cryptocurrency trading. Unlike Stablecoins, money market funds promise not only a stable value but also a regular yield. Cryptocurrency traders can use tokenised money market funds as “cash” collateral for margin trading on cryptocurrency derivatives exchanges. Which is why a number of asset managers have tokenised shares in money market funds. In March 2024 BlackRock issued a tokenised fund issued on a public blockchain, the BlackRock USD Institutional Digital Liquidity Fund (BUIDL) through Securitize Markets. In June 2024 Fidelity International tokenised shares in a money market fund for the first time through the Ethereum-based private blockchain network owned by J.P. Morgan, Onyx Digital Assets, which has also issued a tokenised deposit for use by members of the Onyx network only. A Franklin Templeton tokenised money market fund (the OnChain U.S. Government Money Market Fund or FOBXX) has been available since 2021 and is accessible through the Benji Investments app on the Ethereum, Coinbase Base, Aptos, Avalanche and Stellar blockchains. But tokenised money market funds remain a niche product for cryptocurrency traders, which will not encourage asset managers to tokenise funds at scale – that still requires genuine on-chain cash, though whether cash drives tokenisation of securities and funds or tokenisation of securities and funds drives demand for tokenised cash is an open question.

## Has cryptocurrency definitively failed as a form of digital money?

Since 7 per cent of the global population own cryptocurrencies, and it is estimated that more than 90 million Americans own one or more cryptocurrencies, it is premature to declare cryptocurrencies redundant as a form of digital money. Obviously, cryptocurrencies are difficult to use in everyday transactions, but they fulfil several of the uses of money: a medium of exchange, a unit of account and store of value. Although cryptocurrencies are used by criminals to steal and launder money, institutions should not hold them to a higher standard than fiat currency (where regulated banks are fined regularly for money laundering). Indeed, cryptocurrencies issued on to blockchains offer a higher degree of transparency than conventional money and payments systems, so it can be argued that the compliance departments at regulated financial institutions have better data about cryptocurrency transactions than fiat currency transactions.

## What is holding up the issue of tokenised deposits?

Banks ought to prefer tokenised deposits to Stablecoins, while consumers ought to prefer Stablecoins to tokenised deposits. Tokenised deposits enable banks to retain net interest margin and – as long as they remain useable intra-bank only – to keep the business on their private networks. As deposits backed by deposit insurance schemes, tokenised deposits are equivalent to commercial bank money today. Central banks prefer them because unlike Stablecoins, which can be used and transferred by anyone, tokenised deposits do not fall outside the conventional, regulated banking system. They could operate using existing payments infrastructures and transfer value through the updating of bank balance sheets in the same way as net balances are settled through central bank Real Time Gross Settlement (RTGS) systems today. Unlike a Stablecoin, users of tokenised deposits would also hold a claim against a bank instead of a non-bank issuer. So customers would enjoy added security too. Yet only a handful of banks are exploring tokenised deposits, and they are not under pressure from customers to change the system, although they are under pressure to lower the price. But it seems that existing payments methods are sufficiently profitable for the banks not to invest in change, and fast and cheap enough for their customers to be satisfied with the status quo too. However, tokenised deposits do have a major advantage over existing payments methods: programmability. Programmability enables banks to offer users conditional forms of payment, for example, in which money is transferred only on delivery of what is being bought. This would enable companies to manage counterparty risk more efficiently.

## What happened to central bank digital currencies (CBDCs)?

Central bank digital currencies (CBDCs) emerged as a central bank response to the threat of a global Stablecoin, but the sense of urgency has waned as the threat has receded. The European Central Bank (ECB) says it will take no decision on a digital euro until 2026 and, if the decision is positive, implementation will take even longer. The Bank of England expects to issue a digital pound no earlier than the end of the decade. A US dollar CBDC is trapped by US domestic political divisions, with opponents currently in the ascendant. Central banks that have issued a CBDC have found it hard to gain traction with merchants and consumers. However, the first bank to issue a CBDC in a major reserve currency might gain a first mover advantage that other central banks will find difficult to dislodge. Blockchain technology has also advanced rapidly since Facebook proposed the Libra global Stablecoin in 2019, so central banks are becoming less uncomfortable about the cyber-security risks of issuing fiat currency in digital form.

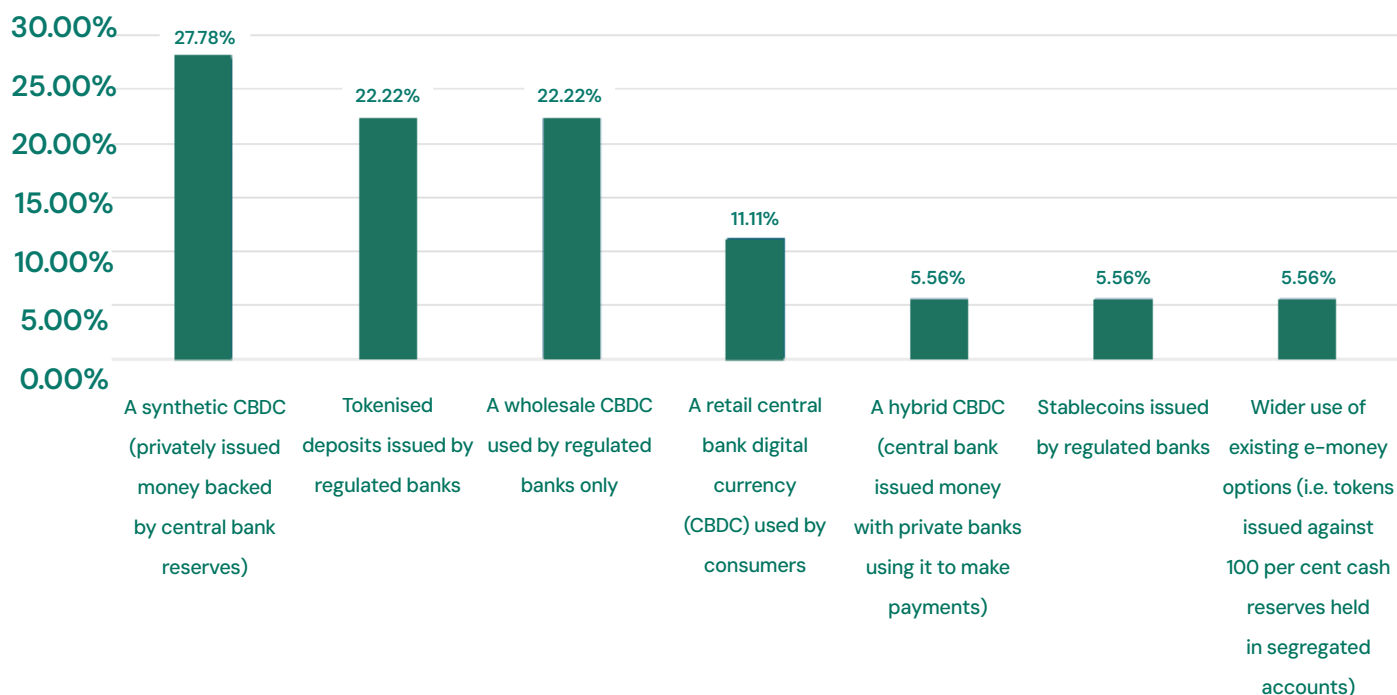
## What happened to programmable money?

One of the advantages of blockchain-based representations of fiat currency is that they are expressed in code, and the code can be programmed to do things that current forms of money cannot. Smart contracts can be used, for example, to initiate payments when goods are delivered, or contractual conditions are satisfied, which is potentially useful to corporate treasurers and consumers. But the uses of programmable money can also be restricted to certain goods and services, potentially empowering the State to interfere in private spending. For now, programmability remains theoretical. This is chiefly because the challenge of issuing fiat currency onto blockchains is not yet complete, and programmability would further complicate the transition. A more important task is to standardise the representation of digital assets on blockchains via a single data model, which would improve interoperability between proprietary systems as well as blockchains and established financial markets.



### What the Audience Said

#### The Fastest Route to Institutionally Acceptable Digital Money On-Chain



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## Panel 3

# Reasons other than lack of digital money that explain why tokenised securities and funds have failed to scale

**Panellists:** Jochen Metzger, Global Head of Markets at NowCM Group and CEO at NowCM Finance; Muneeb Shah, Head of Digital Assets Technology consulting at EY UK; Kushal Balluck, Senior Manager, Digital Securities Sandbox and Post Trade Innovation at the Bank of England; Soren Mortensen, Director, Global Financial Markets, at IBM; and Valérie Gilles Chief Commercial Officer and Partner at IZNES.

## Does tokenisation have a scaling problem today and, if so, why?

Some token platforms are growing. But tokenisation as a whole is struggling to scale. This is largely because the business case for adoption is not yet clear. However, the Initial Coin Offering (ICO) bubble of 2017, the cryptocurrency crisis of 2022 and the Proofs of Concept and Pilot Tests of the early explorations of blockchain by regulated institutions were important staging posts and are in the past. The industry is now in a more mature phase in which both start-ups and established financial institutions are exploring the profitable use-cases for blockchain technology. In other words, tokenisation has transitioned from a Proof of Technology stage to a Proof of Business Value stage. Institutional quality digital assets were never going to be adopted at the same pace as cryptocurrencies because security and fund tokens – unlike cryptocurrencies – must contend with established instruments, conventions and infrastructures. Adoption of tokens entails shifting established industries on to new infrastructures. The benefits flow from network effects and, by definition, early adopters do not experience network effects. So there is no incentive to move away early from established markets. As a result, the scaling process is bound to be slow, and possibly even slower than centralised networks such as CLS (which took more than 20 years) and TARGET2-Securities (or T2S, which took almost 20 years) managed. That does not mean tokenisation is not going to happen. But the cost of migration is making it harder to prove Business Value, especially in the securities markets. Another difficulty is the fear of making the wrong choice. The sheer multiplicity of token platforms, each of which aims to create a closed network in which they capture all the value, obviously inhibits the development of network effects. But fragmentation creates inertia too, by increasing the risk of joining a closed network that fails. It follows that inter-operability, to facilitate open flows of tokens between platforms, is an essential prerequisite for scaling.

## Is regulation a barrier to scalability?

Regulated institutions want to work with regulated counterparties and infrastructures, and pay and get paid in regulated money, so the state of regulation is a key driver of institutional engagement. Regulatory attitudes to tokenisation vary as does the speed at which they are responding to the opportunity. Some regulators encourage experimentation, as the Bank of England is doing with the Sandbox it launched in October 2024 and the British government is with its proposed digital government bond issue. But sandboxes are designed precisely not to scale. True scalability needs harmonisation of regulatory approaches across national borders. As a class, regulators are cautious about overturning the status quo in securities markets. In particular, they fear that decentralised networks will be ungovernable and therefore beyond the reach of orthodox regulatory measures designed to regulate centralised markets. Most regulators see the opportunity to use blockchain technology to improve post-trade processes, for example, but are anxious about disturbing the existing rulebook and the infrastructural status quo of central counterparty clearing houses (CCPs) and central securities depositories (CSDs). This is especially true of markets such as government bonds, which are crucial not only to fiscal policy but as a source of

collateral in the repo markets and of High Quality Liquid Assets (HQLAs) for banks subject to liquidity ratios. This continuing regulatory uncertainty, however understandable, further inhibits institutional involvement with token markets.

## Should regulators be more proactive?

Innovation will always proceed faster than regulation, so businesses should work with regulators to educate them about blockchain technology and convey what sort of regulatory barriers they are encountering. Established businesses also have an incentive to engage with regulators on blockchain because the technology was originally designed to disintermediate them and replace their services with peer-to-peer interactions that take place in a completely unregulated environment. But regulators should also be more willing to assume a leadership role in adapting existing regulations to the demands of the digital asset markets, rather than restricting themselves to attempting to discover through Sandboxes and other experiments what the market “wants.” Some regulators are willing to take a lead. The Abu Dhabi Global Market (ADGM), for example, has attracted thousands of registrations by providing an amenable regulatory environment. The central bank of the United Arab Emirates (UAE) has helped by approving issuance of Dirham-backed Stablecoins. But it is not obvious that established jurisdictions should follow such examples and create new regulations and encourage new instruments. In the United Kingdom, for example, any firm wanting to interact with assets on a blockchain must register as a Virtual Asset Service Provider (VASP), which creates additional expense even for firms that are regulated already. It would be quicker and cheaper to adapt existing regulations to digital assets than to write new regulations. Either way, regulators in established markets need to move at a faster pace.

## Is technology an obstacle?

Technology is not an obstacle in the sense that it is proven to work. There is also plenty of choice of Layer 1 blockchains, and users can select the blockchain best suited to their purpose. The only thing that makes technology an obstacle is not the technology itself but the still limited understanding of it at regulated institutions. They are also anxious about inadvertent breaches of their regulatory obligations, and about the security of digital assets they hold in custody from cyber-attacks. These three factors mean regulated institutions lack the confidence to adopt tokenisation.



## Is inter-operability an obstacle?

The need to agree on standards to facilitate inter-operability between the various blockchains is an issue. It affects digital asset custody in particular, since ownership has to be tracked as assets move across chains. But inter-operability is being solved through cross-chain bridges, token bridges, sidechains, token swaps, routers, protocols, token standards and various standards working groups. R3 Corda and Hyperledger Fabric and Besu, the main institutional grade blockchains, all work with each other already, and with legacy technologies as well. What blockchain markets can learn from traditional markets about inter-operability is the value of what the payments industry calls “schemes.” These specify data fields to technical standards such as ISO 20022, impose standard business processes for different tasks such as settlement and the collection of entitlements, establish the procedures to follow when part of the process fails and assign liability for failures. They also encompass large geographical areas, which enlarge scale.

## Do the returns on the identified use-cases provide a sufficient incentive to invest in tokenisation?

The value of the opportunity varies between asset classes. The public equity markets, for example, are already extremely efficient. But even capital markets that are working well in the sense that the costs of trading, settlement and custody are low can still be improved by blockchain technology, because blockchain creates new possibilities. Instances include greater speed and efficiency in the issuance process of the primary corporate bond markets, greater transparency into the underlying investors in the mutual fund markets, easier distribution of mutual funds across national borders, and convenient access to privately managed asset classes such as private equity, private credit and real estate. There is no case for investing in the replication of existing functionality and processes, so all use-cases require new ways of working. If they are to add to revenues or reduce costs, new ways of working require others to work the same way and create network effects, or must reverberate throughout the workflows from token issuance to cash settlement, or facilitate the distribution and sale of an entirely new product or service.

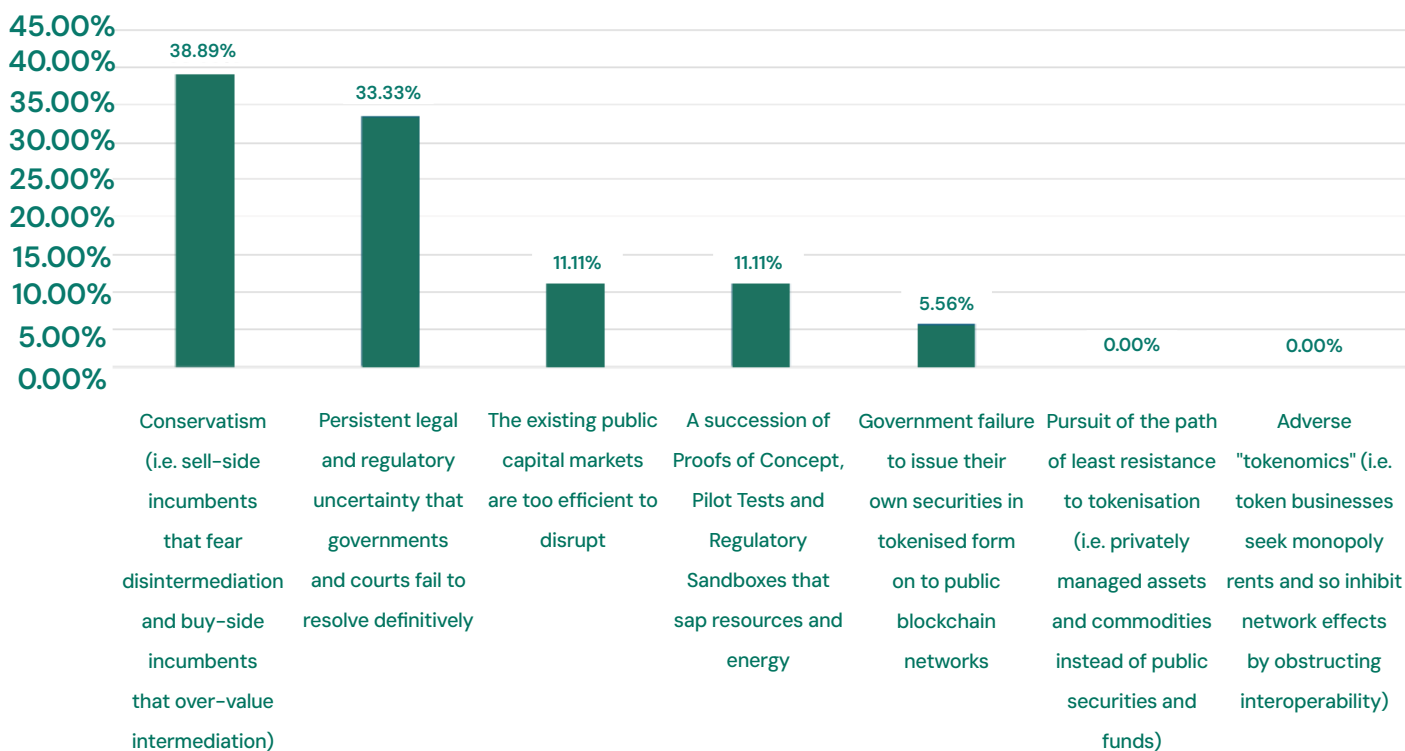
## Why is the buy-side not more engaged?

Asset managers ought to be excited about tokenised assets priced independently by automated market-makers and tradeable around-the-clock. Tokenised bonds would generate additional yield to asset managers of 1-2 per cent over the life of the bond. Yet the buy-side believes that the ultimate incentive for them to issue tokenised funds and buy and sell tokenised assets is the prospect of more efficient post-trade processing. Certainly, operational cost reduction is a priority for the buy-side, but the benefits of tokenisation seem too marginal and remote for asset managers and asset owners to invest in now. After all, tokenisation is a more difficult and expensive proposition than changing a technology stack.



### What the Audience Said

#### The Biggest Obstacle to Scale in Token Markets Other Than Lack of Digital Money On-Chain



## Blockchain for Institutions: A Third Way

The financial sector stands at the edge of transformation, with blockchain potentially offering unprecedented efficiencies in real-time settlement and delivery versus payment (DvP). Yet, despite its promise, adoption among institutions has been slow. Regulatory challenges, technical limitations, and privacy concerns continue to hinder progress. This article explores why blockchain remains a compelling solution for institutional finance, its current limitations, and a potential “third way” to unlock its full potential

### The Broken Systems of Today

Imagine a financial system where settlement for stocks takes two days (T+2), and cross-border transactions crawl through a web of intermediaries. This isn't the past—it's the present. Payments and delivery of securities and other assets happen on separate tracks, riddled with delays, inefficiencies, risks and reconciliation issues.

Blockchain has long been heralded as the antidote. Its ability to enable real-time settlement with atomic delivery versus payment (DvP) eliminates the need for intermediaries, slashes costs, and boosts transparency. But regulatory constraints and technical limitations have left the promise largely unfulfilled.

### DeFi's Glimpse of What's Possible

Decentralised Finance (DeFi) has already shown us the power of blockchain when unleashed. Powered by smart contracts, DeFi enables round-the-clock trading, instant settlement, and peer-to-peer transactions—bypassing the inefficiencies of traditional finance while enabling checks and balances to be in place. Real-world asset tokenisation could bring these breakthroughs to institutional finance.

But there's a catch: public blockchains like Ethereum expose all transaction and account data to the world. For financial institutions transaction privacy is non-negotiable, exposing every trade, asset holding and payment to the public can be a dealbreaker. The challenge isn't just leveraging blockchain—it's doing so without compromising confidentiality or control.

### Institutional Blockchain: Current Approaches

Over the past decade, financial institutions have taken cautious steps toward blockchain adoption, experimenting with various models.

The centrepiece of this approach has been the private blockchain architecture, where each institution hosts its own node housing its transactions. Each transaction is only shared with the node of the transaction counterparty. Privacy is fully maintained. The problem is the tradeoffs:

- **No unified view:** Sharing only individual transactions “piecemeal” means that there is no unified view of each asset.
- **Limited provenance:** This means that full provenance of an asset cannot be easily / efficiently verified, in the way it would normally be verified on a public blockchain, where the entire ledger is visible and independently verifiable.
- **No true DvP:** This also limits the ability to achieve true atomic delivery vs payment (DvP), meaning that the efficiency gain isn't there.
- **No composability:** Lack of single ledger also limits the ability to create an ecosystem for multiple applications using the same assets.

These limitations highlight an uncomfortable truth: existing solutions force trade-offs. Institutions need a new model—one that delivers privacy whilst being able to leverage the efficiencies of blockchain.



*Nirvana is [Silent Data], its the ability to get the reach and distribution of a public blockchain, but to obfuscate data, so that sensitive data is only viewable by the people you want to see it. And that's why we're so pleased to be working with Applied Blockchain and Silent Data" – Simon Barnby, CMO, Archax*

## A Third Way

Enter **Silent Data**, a different approach which is already being adopted by tokenisation platforms such as Tokeny and Archax, bridges institutional demands with blockchain's true guarantees. By combining the level of privacy and control achieved in private blockchains with the verifiability and security of public ones, this innovation charts a new course.

Silent Data combines widely used open-source EVM blockchains with zero knowledge (ZK) rollup technology and hardware-secured trusted execution environments (TEE) to provide the optimal blockchain environment for institutions and businesses. This model preserves privacy, ensures compliance, and allows institutions to harness the efficiencies of true atomic swaps and real-time DvP.

Key benefits of this model include:

- **Privacy Without Compromise:** Sensitive data remains invisible to external parties, meeting institutional requirements.
- **Cost-Effective Infrastructure:** Institutions no longer need to maintain expensive private blockchain networks, nor force their counterparts to install infrastructure in order to participate. A single node is adequate.
- **Enhanced Security:** By inheriting the security of a decentralised public blockchain, without sharing any of the data, Silent Data delivers robust protection against fraud and tampering. Data is guarded by hardware protections and the host only sees data that they have been permissioned to see based on the rules of a smart contract. Users and customers can independently verify the integrity of the ledger, and tap into additional liquidity and composable applications.

## Why This Matters

In 2024 Franklin Templeton's CEO Jenny Johnson said, "If you ask me what the most disruptive trend will be, it's blockchain". However, not all blockchains are equal. The AI tools of 10 years ago cannot achieve the results that are possible with generative AI today. The private blockchain architectures of 10 years ago cannot enable the efficiencies seen in public blockchains and DeFi today. This is why a third way is now required.

The writing on the wall: tokenisation and blockchain are not fringe ideas—they're the foundation of the next financial revolution. Silent Data offers a practical path forward, proving that institutions don't have to choose between control and innovation.

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## Panel 4

### How a common platform or unified ledger could unleash network effects in the token markets

**Panellists:** Ami Ben-David, Founder and CEO of Ownera; Austen Appleby, Senior Product Manager – Interoperability at R3; Edward Glyn, Managing Director and Head of Global Markets at Calastone; Emma Landriault, Vice President, Incubation and Architecture at J.P. Morgan Onyx Coin Systems; Jørgen Ouaknine, Global Head of Innovation and Digital Assets at Euroclear; and Lisa McClory, Digital Technologies Lead at D2 Legal Technology.

### What additional costs are created by the status quo in the capital markets?

At present, the money, securities and funds markets exist in separate siloes. This is partly a function of the fact that every jurisdiction has its own laws, regulations, taxes and customs. But the siloes are mainly a legacy of previous institutional and technological eras. The multiple intermediaries needed to settle and custody financial assets – banks, brokers, inter-dealer brokers, asset managers, wealth managers, exchanges, order-routing networks, payments banks, correspondent banks, central securities depositories (CSDs), central counterparty clearing houses (CCPs), automated clearing houses (ACHs) and Real Time Gross Settlement Systems (RTGSs) – have accumulated over time. Their existence means that data about transactions and assets must be moved between proprietary computer systems. Though standard message types are used to carry the data, these come in multiple versions and vary between asset classes, which means they must always be backwards-compatible. Private message types are also used, as are emails and even faxes, which inhibit the automation of data exchanges. The infrastructures on which market participants trade (exchanges), clear (CCPs) and settle (CSDs) are not always open at the same time either, imposing a further delay in settling transactions. For market participants, the costs of operating within such a complicated inheritance are immense. The intermediaries all charge fees, including fees to reconcile their accounts of the same stocks and flows. Cross-border transactions incur further costs in foreign exchange fees and spreads. Regulators impose capital allocations on the operational risks. Cash remains idle to cover the risks of settlement failure. The collateral needed to satisfy clearing houses and borrow money to raise cash is trapped in siloes and expensive to source.

### How could a common platform or unified ledger help?

In theory, if digital money and assets were issued, traded, settled and custodied to a common design – effectively building interoperability into the design – the siloes that exist in traditional markets could be eliminated, with commensurate cost savings. Blockchain technology has provided traditional markets with a valuable opportunity to embrace a common approach of this kind. On a common platform, regulated and approved participants of any kind can build and deploy an application to do anything, and be confident it can interoperate with any other application built to the same design. Blockchain can also replace settlement on trade date plus one day (T+1) or two days (T+2) with atomic settlement in real-time. It can replace bi-lateral data flows to reconcile accounts of the same asset or transaction with a single source of truth that can be shared between all the parties. Finally, if both the asset and the cash are tokenised, the sequential steps in any transaction – trading, matching, settlement, custody, asset servicing – can be collapsed into a single integrated process. These benefits are already being achieved within financial institutions, notably in the repo markets, but have yet to be extended to transactions between financial institutions.

## Are blockchain protocols creating siloes?

At present, there is a danger that the proliferation of blockchain protocols that cannot interoperate is reproducing the siloed approach – and therefore the costs – of the traditional markets, because they cannot exchange data or value seamlessly. The siloes (being based on blockchain protocols) are not the same as their traditional predecessors (which are based on asset classes) and the differences between blockchain protocols may not be as meaningful as their creators would like the marketplace to believe. But they undoubtedly inhibit the progress of tokenisation by creating complicated risk management challenges as assets are issued and traded on many different blockchain protocols. Proliferation, however, reflects the prevalent incentives. Blockchain protocol entrepreneurs have an incentive to monopolise any value they create by building a “community” of users that are loyal to their vision because they have a stake in its success (so-called “tokenomics”). The rise of blockchain protocols that specialise in a particular field are another instance of this incentive at work. Incumbent financial institutions, on the other hand, are incentivised to compete. They are building proprietary tokenisation platforms of their own to reduce the risk of clients defecting to innovative competitors. Lastly, positive incentives are also at work. Competition between protocols to attract decentralised application (dApp) developers creates incentives for protocols to support start-ups and innovators. It also means that blockchains can develop, say, different settlement models to accommodate the fact that some transactions and asset classes will always be more urgent than others. It will be important to retain an element of competition for talent and by transaction type and asset class as the current fragmentation of business across multiple blockchain protocols consolidates – as it likely will – into a smaller number of protocols. This is why a common or unified platform should not be allowed to degenerate into a single blockchain protocol but must instead take the form of a common design that spans a constellation of separate but inter-operable blockchain protocols.

## Are inter-operability tools the solution?

The market has developed multiple inter-operability techniques, including intermediated and un-intermediated cross-chain, sidechain and token bridges, token swaps and networks of routers united by common, open protocols. The FinP2P open protocol created by Ownera, for example, enables financial institutions to buy and sell digital assets peer-to-peer between applications hosted on different blockchain protocols by updating records of digital assets they hold on the blockchain they prefer to use. In principle, any financial institution can connect to any other financial institution that uses the same protocol. The principal alternative – bridges between protocols – became and remains a focus for hackers and creates a risk of theft by insiders.



## What role do standards have to play in the creation of a common platform?

Standards work in blockchain is under way but is fragmented across the International Organisation for Standardisation (ISO), the Institute of Electrical and Electronic Engineers (IEEE), the Internet Engineering Task Force (IETF) and the Ethereum Enterprise Alliance (EEA). As a result, the work is poorly coordinated and backward-looking. Established standards, such as ISO 15022 or ISO 20022, offer partial solutions only. Because users can deploy standards in different ways or use different versions of the same standard – in short, the operational implementation of standards is not standardised – any use of standards must be supplemented by agreement on market practices. One less discussed standard that could contribute to the development of a common platform is Algorithmic Contract Types Unified Standards (ACTUS), which reduce all financial instruments to standardised sets of cash flows. It is attracting attention from regulators as a useful tool in managing systemic risk. ACTUS could be useful in understanding new financial products created by “composability” and in feeding accurate data into self-executing smart contracts.

## Who are the enemies of progress towards a common platform?

Clients dictate the pace of change and incumbents are always willing to meet clients where they are rather than where they would like them to be. Some market participants still rely on fax machines and have no appetite to accept data even via Application Programme Interfaces (APIs), let alone share it via a blockchain. Despite their Luddism, and the operational costs of supporting it, their service providers are content to continue to service such clients because it gives them assets to broke or manage or custody. Incumbents can feign interest in blockchain but are unlikely to adopt it. Established businesses that provide a service that works, at however high a price and however low a quality, remain confident that they will not be disrupted by blockchain technology. In their view, innovative businesses have understood that their real opportunity lies not in the cryptocurrency markets but in the securities markets and will adapt to that reality rather than seek to supplant it. Even there, the immediate impact is likely to be limited. Large incumbent businesses are never going to be impressed by use-cases that, however brilliant in conception and effect, lack the scale to transform their costs or revenues.

## Are common platforms being built?

Ethereum is a common platform but is proving too slow and expensive and not scalable. It also places applications in a silo. The Global Layer One project, launched by the Monetary Authority of Singapore (MAS), is a public-private collaborative venture that aims to design an open ledger with an Ethereum-like architecture capable of accommodating tokenised central and commercial bank money, bonds, equities and derivatives, verifying counterparties via digital identities and providing wallets capable of holding digital assets of all kinds. It envisages the “common” platform as an infrastructure for multiple applications to use and as a means of enabling sub-networks to interoperate. The Regulated Liability Network (RLN), initially conceived as a way to settle inter-bank claims in tokenised commercial bank money, has expanded into tokenised assets via experiments conducted as part of a Regulated Settlement Network (RSN). Other private sector initiatives to develop common blockchain platforms include the Canton Network (curated by blockchain vendor Digital Asset) and Partior (which originated within J.P. Morgan but has evolved into a shared interbank payment infrastructure). Public common blockchain platform initiatives include Alastria (Spain), LACChain (Latin America) and the European Blockchain Services Infrastructure (EBSI, an initiative of the European Commission and the European Blockchain Partnership). But the most seminal public blockchain project is likely to be Project Agora, an initiative led by the Bank for International Settlements (BIS) in which the central banks of France, Japan, Korea, Mexico, Switzerland, the United Kingdom and the United States are testing the practicability of a common platform. It puts tokenised commercial bank money and central bank digital currencies (CBDCs) on a programmable public-private platform that uses composable smart contracts coded into tokens to settle transactions in any digital asset (Payment versus Payment and Delivery versus Payment) instantly and atomically. Ultimately, all such projects need, at least in the short term, to fashion links

between assets issued on to blockchains and assets issued via legacy technologies into traditional markets. This is essential to enable institutions to capture assets of both kinds on their balance sheets.

## Which matters more: the platform or the applications?

Some argue that solving inter-operability through a common or unified ledger (“inter-operability by design”) does not understand how blockchains and applications on blockchains work. On this view, blockchain ledgers perform a limited set of functions. They store who owns which assets, and record changes in ownership by making sure transactions in the assets are immutable. The interesting and complicated work is done by the applications that sit on top of the ledger, such as the applications that tokenise assets, service assets and move tokenised collateral. It is these applications that must interact with multiple parties, including buy-side and sell-side firms and service providers such as custodian banks and central securities depositories (CSDs), and not through the underlying blockchain protocol. In short, inter-operability happens at the application layer, not the blockchain ledger level. According to this view, the applications that sit on top of blockchains are analogous to the on-line products and services – also applications – that sit on top of the Internet. It is true that blockchain-based applications, like all Internet applications, rely on software running at the point of interaction with the users. That software can be made inter-operable with the software running other applications. But believing that inter-operability matters at the application layer only means taking a sanguine view of how the Internet has evolved since it first became widely available in the 1990s. Services owned by a small number of technology companies (Facebook, Instagram, YouTube, X, TikTok, WhatsApp and especially the Apple and Google app store duopoly) have become the gatekeepers that consume the advertising revenues generated by users of Internet applications and tax (at 30 per cent) the applications published by other businesses. If blockchain consolidates in the same way as the Internet did, it will close and become the province of a small number of giant, application-based rent-collectors that determine which applications are published on the platform and what they pay to be published. The idea of a common platform is therefore not a technicality about blockchain versus application layers but a design from first principles that aims to ensure blockchain technology reopens a currently closed Internet for application publishers and consumers.



## Would the mutual fund industry benefit from a common platform?

In theory, mutual funds could be issued, distributed and redeemed (even traded in secondary markets) on a unified platform that accommodated all the necessary services, including order-routing, issuance, purchase, registration, valuation and servicing. The platform would enable them to work together seamlessly because they conformed to a common digital design. But the current fragmented and competitive structure of the mutual fund industry militates against this possibility. Mutual funds are currently issued and redeemed by the managers, rather than traded in a secondary market, so they are “traded” in a primary market only. The industry is also far from homogeneous globally, with every market where funds are issued and sold having different operational infrastructures and distribution networks. In the United Kingdom, for example, mutual fund distribution is dominated by independent financial advisers (IFAs) while in continental Europe banks and insurers are the dominant fund distributors. The market is also highly intermediated, with fund distributors using order routing networks to contact fund platforms to transmit orders to transfer agents, which request fund shares from asset managers and collect cash payments from banks. With the downward pressure on operational costs exerted by asset managers under pressure themselves from the growth of less profitable passive products and greater institutional awareness of the impact of costs on investment returns, the various intermediaries are starting to compete with each other. Transfer agents are launching fund platforms and fund platforms are launching transfer agencies. Asset managers, which until recently were content with leaving retail customers to fund distributors, are rediscovering the benefits of selling directly to retail investors.

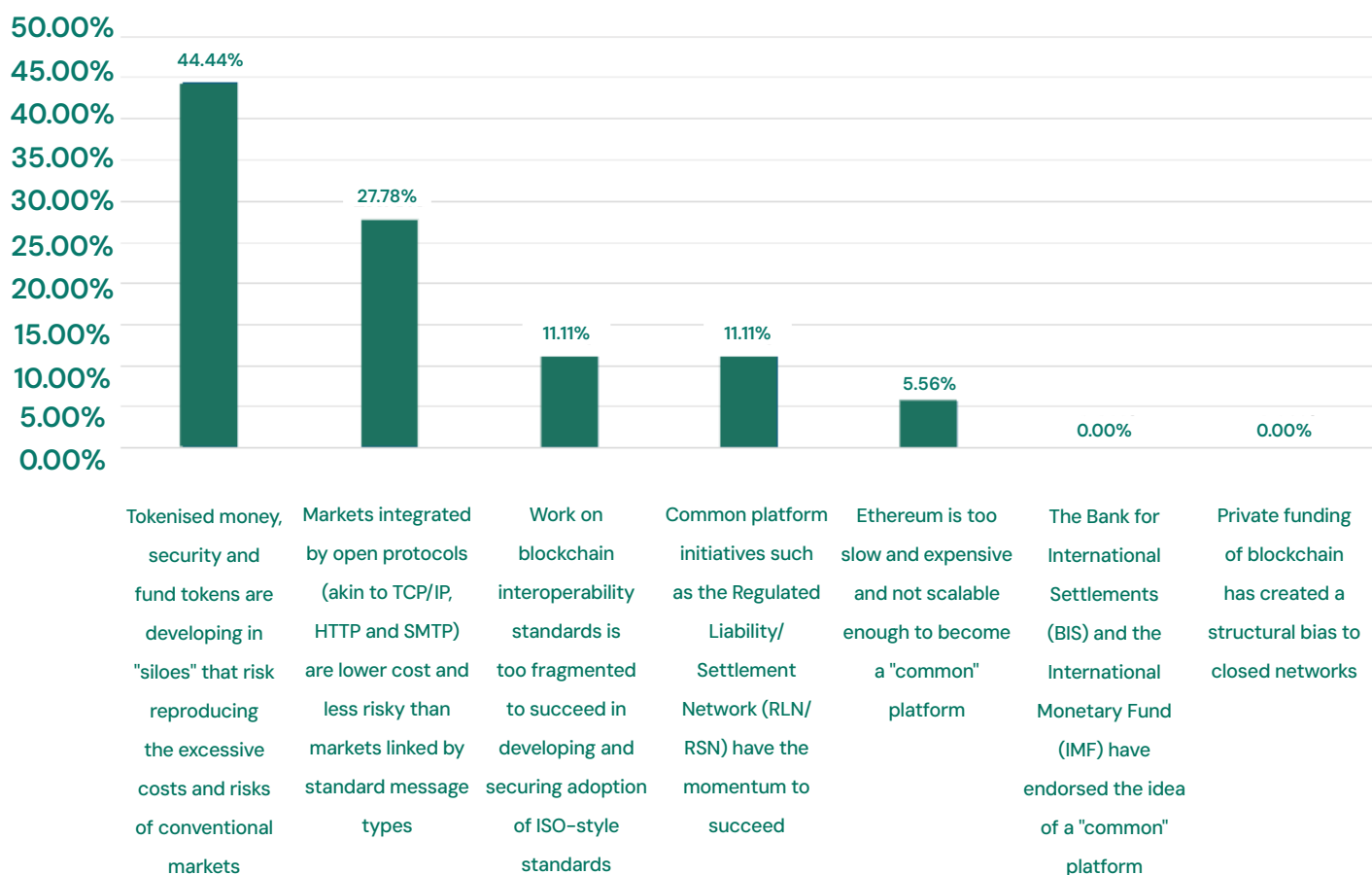
## Do public authorities need to build directly or encourage the private sector to build a common platform?

Private sector actors have multiple visions of what a common platform is. Some see it as a harmonised blockchain platform, while others see it as a set of interconnected sub-platforms, while a third group likens it to the Internet model of a network that is indifferent to the blockchain technology each participant chooses to use. Private sector actors also have a multiplicity of opinions on whether a common platform is needed. Some are for and some are against. Those that are engaged already in collaborative projects with central banks, regulators, policymakers and competitors such as the Global Layer One and RLN clearly reckon common platforms will enable them to do more business with a greater range of counterparties in a wider spectrum of asset classes at lower cost. Others believe that blockchain platforms can continue to proliferate and all that is required is inter-operability at the application level. Regulators also need to clarify legal, regulatory and governance issues before they can build a common platform or encourage the private sector to build one. First, they need to decide if a common platform is purely a technology platform or a financial market infrastructure (FMI). If it is an FMI it will be subject to existing regulations such as the Principles for Financial Market Infrastructures (PFMIs) published in April 2012 by the Committee on Payment and Settlement Systems (CPS) and the Technical Committee of the International Organisation of Securities Commissions (IOSCO). IOSCO has already published recommendations that indicate it believes digital asset infrastructures such as common platforms are subject to the PFMIs. But if regulators conclude common platforms are just technology, they can be agnostic: regulators do not regulate technologies. Either way, only when the regulatory status is clear can regulators agree the technical standards that will govern the operation of the common platform – the protocol as opposed to the platform. They will of course be reliant on private sector input for guidance on the protocol that is chosen. Lastly, regulators must settle the governance mechanism that will enable the technical standards to be enhanced and augmented over time. Governance is already a live topic of discussion within the common platform projects currently in hand, as is the choice of legal jurisdiction when liability arises, as it will when a transaction fails or the service suffers an outage. However, there is a useful precedent for common platforms in that the development of the open protocols that govern the Internet and the Worldwide Web (HTTPS, HTML, SMTP, TCP/IP and DNS) are steered not by public law or private owners but by stakeholder groups.



## What the Audience Said

### The Strongest Argument for a "Common" or "Unified" Ledger



## Panel 5

### Why the benefits of tokenisation depend on the issuance of “native” rather than “asset-backed” (or “digital twin”) digital assets

Panellists: Anthony Woolley, Head of Business Development and Marketing at Ownera; Emma Lovett, Credit Lead for the Markets Distributed Ledger Technology team at J.P. Morgan; Ian Hunt, independent authority and adviser on buy-side business processes and technology; Vic Arulchandran, Director and Head of Digital Product and Market Design at Deutsche Börse Clearstream; and Stephen McConville, Head of Structuring at Hedgehog Invest.

### Why are most tokens issued so far in “asset-backed” or “digital twin” rather than “native” form?

Although “native” tokens have existed in the cryptocurrency and Decentralised Finance (DeFi) markets for years, they have proved of minority interest so far in the tokenised securities and funds markets. The preference for “digital twins” is partly a question of the immaturity of the tokenised markets. It takes time to eliminate the intermediaries that stand between issuers and investors, and to squeeze the middle office functions that stand between the front office and the back. Change is inevitably incremental, and “digital twins” are part of that process. But “digital twins” are also more convenient than “native” tokens. Creating an asset that exists in digital form only is more complicated than taking an existing private equity fund or real estate asset, wrapping a legal structure around it and then distributing it using existing sales channels. Indeed, in some jurisdictions, prevailing company, securities and funds laws cannot yet accommodate “native” assets. Investor interest in “native” assets is also limited, not least because the service provider and operational infrastructure to facilitate investment in “native” assets is not yet in place. There is at present a large mismatch between the potential issuers of “native” assets and actual demand from investors. But the main obstacle to “native” issuance is the limited incentives issuers, intermediaries and investors face to encourage transformational change. Issuers balk at the legal costs of researching and documenting innovative token issues. Front office intermediaries profit from underwriting, repackaging and distribution rather than issuance or investing. Back-office intermediaries profit from the very inefficiencies that “native” tokens would eliminate. And investors, which rely completely on intermediaries for access, transfer agency, fund accounting, custody, and asset servicing but at cross-subsidised prices that are invisible to them, adopt a largely passive stance towards innovation.

### What are the differences between “native” tokens and “asset-backed” or “digital twin” tokens?

Tokenising a conventional financial asset while leaving the entire paraphernalia of the traditional capital markets – multiple intermediaries, extended processes and proprietary technologies – in place changes little. It means only that the asset is owned in a different way, via a token that certifies title to the asset. The paraphernalia that remain in place obscures the essential simplicity of the work that is being done. Every financial product transfers value through time. Investors in an equity or bond, for example, give up current value in return for future cash flows. Issuers of bonds or equities, on the other hand, give up future cash flows in return for current value. Both current value and future cash flows can take the form of tokens. The tokens can be held in digital wallets and transferred between digital wallets, in the form of flows of tokens. Ultimately, any current financial instrument or entitlement, including equities, bonds, swaps, futures and options and corporate actions, reduce to promises (in reality, contractual obligations) to pay cash flows in the future. Which in turn means that any financial

instrument or entitlement can be structured to the same design and fulfilled by the same operating model. As the Algorithmic Contract Types Unified Standards (ACTUS) vision of standardised, machine-readable and machine-executable cash flows sets out, a single operating model can dissolve the hard boundaries between asset classes. It is the essential starting point for transformational change, because it breaks the link with the status quo.

## What are the benefits of “native” tokens?

The single operating model for all financial instruments that “native” tokens makes possible means that there is no need for the bespoke issuance, distribution, trading, settlement, custody and asset servicing models currently used to support each individual asset class. In addition, conceiving financial instruments as tokens entitling the holder to future cash flows creates room to drastically simplify law and regulation, which are at present largely asset class-specific. The efficiency gains of such a simplified model are significant. Chief among them is the opportunity to dispense with cash – which is currently available on-chain mainly in the form of Stablecoins – as the universal settlement currency. Tokenised money market funds are already being used as cash equivalents in token markets, but in theory any token can be used to purchase any other token (“token versus token” settlement as opposed to “delivery versus payment” (DvP) or “payment versus payment” (PvP) settlement). A single operating model also enlarges the range of financial assets that can be manufactured and creates the opportunity to build personalised portfolios of assets that match precisely the investment needs of individual investors because capital and income can be fractionalised and combined in innovative ways. “Digital twins,” because they start from the assumption that existing asset classes, intermediary roles, infrastructures, laws and regulations must remain in place, cannot deliver these benefits.

## What can token markets learn from the apparent success of the reforms to law and market infrastructure in Germany?

The passage into German law in 2021 of fresh legislation to permit digital securities (the *Gesetz zur Einführung von elektronischen Wertpapiere*, or eWpG) eliminated the need for issuers to issue securities – including digital securities – in physical form. This encouraged the issuance in Germany of a small number of both securities and funds as genuinely “native” tokens. However, a much larger volume of issuance is of “digital twins” of structured products into D7, the digital CSD owned by Clearstream Banking Frankfurt, which continue after issuance to be processed in the same way as conventional securities. The benefit to the issuer stems from a cheaper and faster primary market process. The longer-term ambition of D7 is to digitise the entire process, from issuance to custody, with a view to supporting innovative banks and exchanges in Germany that are trying to replace centralised, physical securities and funds markets with a decentralised, tokenised alternative. If the German model succeeds, and is shown to be efficient, there will be pressure in other markets to replicate its success.



## Bonds are seen as an early use case for tokenisation. How enthusiastic are bond market issuers about “native” tokens?

Issuers are easily convinced of the merits of tokenisation because the existing primary market process, which determines their cost of capital, is so inefficient. This is true even for the largest companies. Mid-sized companies are admitted to the market but at even higher cost and smaller issuers are precluded from entering the traditional bond markets altogether. These second and third tier companies are precisely the type of issuers the European Union (EU) authorities would like to attract to the bond markets as part of their Capital Markets Union (CMU) programme, so there is support from policymakers and regulators. Even “digital twins” represent progress for issuers because the costs are lower, the pace of issuance is faster and there is greater certainty that they can raise the funds in the bond market, eliminating the need to hold an alternative funding mechanism in place in case the bond issue fails. Issuers are also important in catalysing change throughout the bond market value chain because the replacement of PDFs and Excel files and faxes with digitised, machine-readable information at the primary market level prompts the digitalisation of secondary market and post-trade processes as well.

## How enthusiastic about “native” tokens are sell-side firms in the bond markets?

Bond dealers appreciate the value of greater efficiency in primary market processes such as documentation. The continuing use of analogue technology in the primary market documentation of bond issues, despite the efforts of several start-ups to digitise the process, is widely agreed to be inefficient. At present, bond documentation is still prepared in Microsoft Word and distributed in PDF format, which makes it difficult to digitise the subsequent issuance, underwriting, distribution, trading, settlement and custody processes. So dealers are open to improvements in the primary market. Trading floors, on the other hand, have yet to embrace the transformation of a market that works well from their point of view – though their attitude is bound to change as volume increases. Likewise, post-trade service providers, such as custodian banks and central securities depositories (CSDs), are not yet heavily engaged with tokenisation, despite the efforts of pioneers such as D7.

## What is the current state of play in the tokenised bond markets?

Despite the limited enthusiasm of established firms at the trade and post-trade levels, tokenisation in the bond markets is no longer mired in high level, theoretical discussions. Issues are taking place, particularly since the volatility in the cryptocurrency markets in 2022 has receded in to the past. The HK\$1 billion issuance by HSBC in September 2024 of one year 3.6 per cent digital bonds on the HSBC Orion platform was especially noteworthy. Even though the bonds were both listed on a conventional stock exchange (the Hong Kong Stock Exchange (HKEX)) and issued into a central securities depository (CSD, in this case the Central Moneymarkets Unit of the Hong Kong Monetary Authority), they were dubbed “native” tokens. The logic of retaining the services of the CSD, which in reality turned the issue into a hybrid of a “native” and a “digital twin” bond, was to attract a wider range of investors and so enhance liquidity. Certainly, tokenised bond issues to date have struggled to generate liquidity. SDX, the digital asset exchange owned and operated by the Swiss stock exchange group SIX, has also retained issuance of bonds into both a traditional CSD (for the conventional version of the bond) and a digital CSD (for the tokenised version of the same bond) in the expectation the ability to switch between the two would assist in generating liquidity. Repo transactions are the major source of liquidity in the bond markets, and SDX also hoped that working with the Swiss National Bank to settle tokenised bond repo transactions in a central bank digital currency (CBDC) version of the Swiss franc would improve liquidity as well. The disappointment of these expectations indicates that tokenisation is better suited to the creation of entirely new products than to improvements in existing ones such as bonds. In addition, the ability to issue genuinely “native” tokens is hampered in some jurisdictions by legal and regulatory obstacles and long-held market practices. Progress in Hong Kong and Germany, for example, is offset by continuing barriers to tokenised bond issuance in the United States, where dual accounting and

physical custody, collateral and centralised clearing requirements make it harder to issue “native” bonds. There is nevertheless considerable interest in other innovations that “native” issuance makes possible, such as programmable coupons and intra-day interest.

## What is the opportunity for sell-side firms concerned that tokenisation will disintermediate them?

Tokenisation is a major opportunity for custodian banks. Investors in cryptocurrencies understand that self-custody is risky when the loss of private keys means the loss of the asset. Although the risk is lower for tokenised securities and funds, since missing tokens can be cancelled and replaced, institutional investors would still prefer to outsource the management of the risk to an independent custodian. Transfer agents will find their role as registrar is affected by the fact transactions and ownership are recorded on a blockchain ledger, but so far the registration function has proved important in tokenised securities and funds markets. However, their roles in the investor on-boarding process (which can be automated by digital identities) and in subscriptions and redemptions (which can be automated by smart contracts) are at risk of disintermediation. Fund accountants and fund auditors will benefit from the high quality – indeed, the immutability – of the financial data recorded on blockchains. In the privately managed asset markets, which are currently plagued by unstructured data, there is scope for fund accountants to use tokenisation to overcome the operational inefficiencies they encounter already in the private equity fund markets. Another opportunity is for service providers to work out how to generate liquidity in tokenised assets. Tokenisation alone is not sufficient to make an asset liquid.



## What is the opportunity for asset managers?

In theory, tokenisation offers asset managers the opportunity to completely reinvent their business. They could sell products that offer guaranteed outcomes instead of risk-adjusted returns against a benchmark, albeit at the cost of restructuring their balance sheets to look more like banks. Instead of charging ad valorem fees, asset managers could charge fees contingent on their ability to deliver a promised outcome. The guaranteed outcomes will be tradeable. Fractionalisation – by permitting assets to be "de-composed" and "re-composed" at a granular level – means portfolios of tokens can be composed that are personalised to the lifetime needs of individual investors, at much lower cost and greater accuracy than current personalisation techniques such as Separately Managed Accounts (SMAs). Tokenisation also means that asset managers will generate permanently higher returns for investors because they will pay lower transaction and operational costs. However, capturing these benefits requires a change of attitude by asset managers. At present they have no appetite to be heavily capitalised or assume the risk of becoming bank or insurance company-like asset/liability managers. In short, they prefer to offer investors a single product (the net delta between subscription and redemption values, less all the costs and profits charged by the asset manager and their service providers) that loads all the risks on the investor. Although fund distributors build detailed profiles of their investors, including the life-events they need to fund over long periods of time and their risk appetite, the information is not translated into a portfolio of assets designed to meet those needs. Despite a regulatory requirement imposing on asset managers a duty to look after the interests of investors and monitor the outcomes achieved for them, undifferentiated savings products (funds) are pushed (sold) and not purchased, and certainly not based on and designed to meet the needs of individual investors. The relationship between the needs of the investor and their portfolio of assets is tenuous from the outset and becomes more tenuous still over time as the needs of the investor change but the fund vehicles and the portfolio of assets do not. Regulators are urging asset managers to prioritise the interests of investors but asset managers are not using the tool – namely, "native" tokenised assets – that would enable them to do that. Returns to the investor are further reduced by the fact that the current retail investment process is heavily regulated and intermediated. In the United Kingdom, for example, an Individual Saving Account (ISA) invested in domestic equities requires the employment of 16 regulated intermediaries.

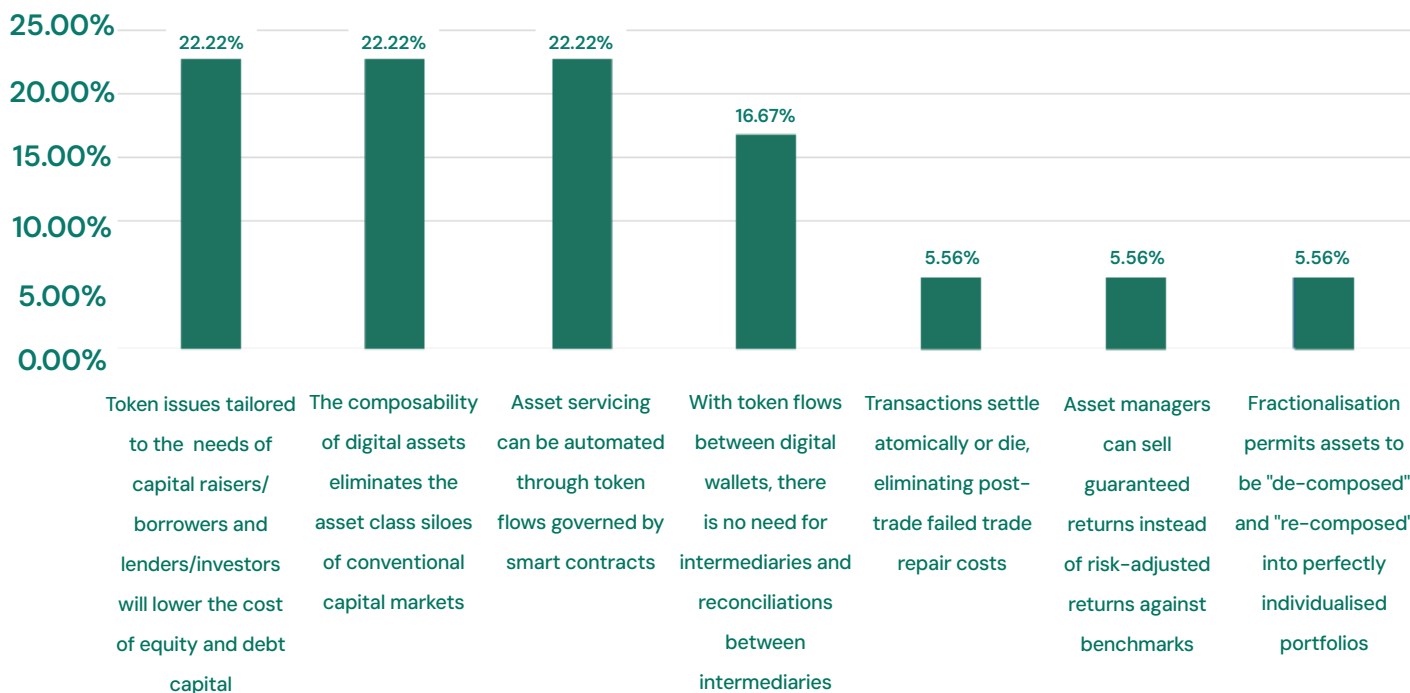
## Is tokenisation ever going to happen at scale?

There is a risk that the commercial incentives are steering capital market participants towards replicating the existing system on blockchain. The privately managed markets, where there is an opportunity to redefine the underlying assets in "native" form, are at risk of falling into the same pattern. On the other hand, entrepreneurs are clearing individual obstacles to progress already and bringing viable products and services to market such as tokenised bank-to-bank payments, collateral and money market funds. This is prompting established firms to question legacy systems, technologies, processes and infrastructures. For many entrepreneurs, their businesses will not survive to enjoy long-term success. But a high rate of failure among start-up firms is a natural part of the innovation process. Change will happen incrementally rather than suddenly, but it will happen, on a timescale that lies somewhere between five and 15 years in the future.



### What the Audience Said

#### The Most Significant Benefit of "Native" Tokens Over "Digital Twin" Tokens



## Panel 6

### What tokenisation will enable the financial markets to deliver tomorrow which they cannot provide today

**Panellists:** Breige Tinnelly, Head of Market Development at Archax; Gary O'Brien, Head of Bank and Broker Segment Strategy, Securities Services at BNP Paribas Securities Services; and Ralf Kubli, blockchain investor and board member at the Casper Association.

#### Can tokenisation lower the cost of capital?

In theory, tokenisation can lower the cost of capital in four ways. First, it eliminates the cost of intermediation. A maxim of blockchain technology is that it can dispense with the trusted intermediaries of the traditional markets, and fewer intermediaries translates into a lower cost of capital. Secondly, it permits efficient matching of assets and liabilities, relieving companies of the need to borrow large lump sums up-front and allowing them to tailor capital-raising to the timetable of an investment. Thirdly, tokenisation broadens the range of investors and lenders a company can reach, especially retail savers, because it makes previously inaccessible asset classes available to them, within portfolios tailored to their personal needs. The fact that a digitally native generation is about to inherit significant wealth from the Boomer generation will accelerate the transition to tokenised lending and investing. Fourthly, tokenisation increases the velocity of assets, especially of the illiquid kind. This is obvious in the use of tokenised assets as collateral, which not only reduces the cost of money but also reduces the capital banks must dedicate to cover their liabilities.

#### Can tokenisation make it easier for SMEs to access equity and debt capital markets?

So far, the chief beneficiaries of tokenisation are indeed the limited number of small and medium-sized businesses (SMEs) that have issued tokenised securities. Instead of being subject to bank credit assessments, SMEs can borrow at prices set by investors in secondary markets. A leasing company with US\$5 billion in assets reckons it is paying 20–50 basis points too much to refinance its assets because it cannot access the capital markets, as opposed to tapping bank finance. In a tokenised market, the firm could issue tranches as machine-readable and machine-executable tokens to investors seeking to invest for period measured in days or even minutes as well as months or years. True, SME-focused digital asset exchanges and service providers have so far struggled to build scale. But the fact that regulators in the European Union (EU) are looking to wean SMEs off bank finance as part of the Capital Markets Union (CMU) programme means tokenisation could gain momentum from regulatory backing as well.

#### Can tokenisation lower the costs of cash, collateral and capital for banks?

The ability to access cash and securities currently trapped behind infrastructural or operational barriers, especially across borders, can in principle reduce the cash and collateral buffers global banks need to maintain in multiple markets. This ought to reduce the cost of intra-day credit and liquidity. Even if the assets cannot be moved, tokenisation makes it possible for them to be mobilised as collateral by changing title on a blockchain rather than moving the assets between accounts. This is now seen as a major opportunity and is the focus of several blockchain projects aimed at the securities financing and collateral management markets. The benefits extend beyond banks to the brokers, asset managers and end-investors that finance and lend securities in the repo markets.

## Can tokenisation create new opportunities for custodian banks and fund administrators?

At the moment, custodian banks and fund administrators face the challenge of supporting clients in token markets that are sub-scale, which is why most of them are content for now to cede the market to specialist digital asset custodians that emerged from the cryptocurrency markets. However, institutional asset managers are already looking to custodian banks and fund administrators to make it possible for them to invest in tokens and to tokenise their funds. Asset managers see tokenised funds as a way of increasing distribution to new classes of investor, and they want custodians and administrators to help them. Chief among the reasons they seek the assistance is the assurance of placing assets with a party that they work with already and which will make them whole if they incur losses for operational reasons. Investors, both institutional and retail, are also looking to custodians and administrators to safekeep, transfer, register and value their digital assets safely. Buy-side understanding of the unique risks associated with digital assets – including the risks posed by the operational infrastructure and the lack of fiat currency cash on-chain – is improving, and asset managers and end-investors want the risks to be covered. Custodian banks are the natural takers of those risks. Custodian banks also have an opportunity to help asset managers adapt to tokenised markets by providing interfaces and support services on an outsourced basis, to lower the cost to asset managers of entering the market. At least four major global custodian banks are already providing digital asset custody services, and at least three alternative fund administrators are also providing services.

## What can tokenisation do for asset managers?

Tokenisation presents asset managers with an opportunity to transform their industry by shifting from the sale of risk-adjusted market returns to selling guaranteed outcomes, but this would also entail shifting risks on to the balance sheet. That in turn would require them to hold a much larger proportion of equity capital against those risks. In the short term, asset managers face the costs of operating traditional and tokenised asset systems and infrastructures simultaneously. Even to benefit from the cost savings created by tokenisation, asset managers would have to invest in the technology (or the outsourced service provision) needed to support blockchain-based digital assets. Those costs would include the costs of connecting a novel Investment Book of Record (IBOR) to a traditional Accounting Book of Record (ABOR). Since it would be difficult to pass on the costs of the investment to investors, the additional expense would reduce the value of the cost savings created by tokenisation.



## What new opportunities does tokenisation create for large corporates?

The balance sheets of large corporations are not liquid. They hold circa 5 per cent of their assets in cash and cash equivalents. They would like, for example, to borrow against the other 95 per cent of their assets. Tokenisation provides a flexible way to mobilise those assets as collateral. The banks that service large corporations are likely to tokenise their deposit liabilities and create closed systems for corporate clients to exchange value with each other. Companies that tokenise the asset side of their balance sheet will be well-placed to participate in these internal bank networks – which may eventually become inter-operable – because they will have the collateral to do more business. In effect, the tokenisation of balance sheet assets extends asset financing beyond tradeable assets such as securities to physical assets, intangible assets and unsecuritised cash flows (such as trade receivables) that currently rest unused on corporate balance sheets. Such collateralised cash flows could become a major source of scale. Indeed, it would be surprising if large corporations do not demand such services from their banks.

## What can tokenisation do for institutional end-investors?

Asset liability matching by pension funds is crude. They purchase blocks of securities and cover any remaining mismatches by purchasing (expensive) derivatives. Tokenisation would allow assets and liabilities to be matched precisely. This would lower costs for end-investors and relieve corporate pension plan sponsors of the cost of underwriting pension fund deficits – which is one of the drivers of the shift from defined benefit to defined contribution pension schemes. Indeed, the outcome-based investing that tokenisation facilitates would in one sense mark a return to the guaranteed outcomes of defined benefit pension plans. It could also revive the with-profits life assurance policy, which combined a minimum sum assured with scope to share in investment profits as well. Tokenisation certainly creates room to share risk with plan sponsors and asset managers, whereas defined contribution pension schemes and mutual funds leave all the risk with the investor.

## What will tokenised capital markets look like?

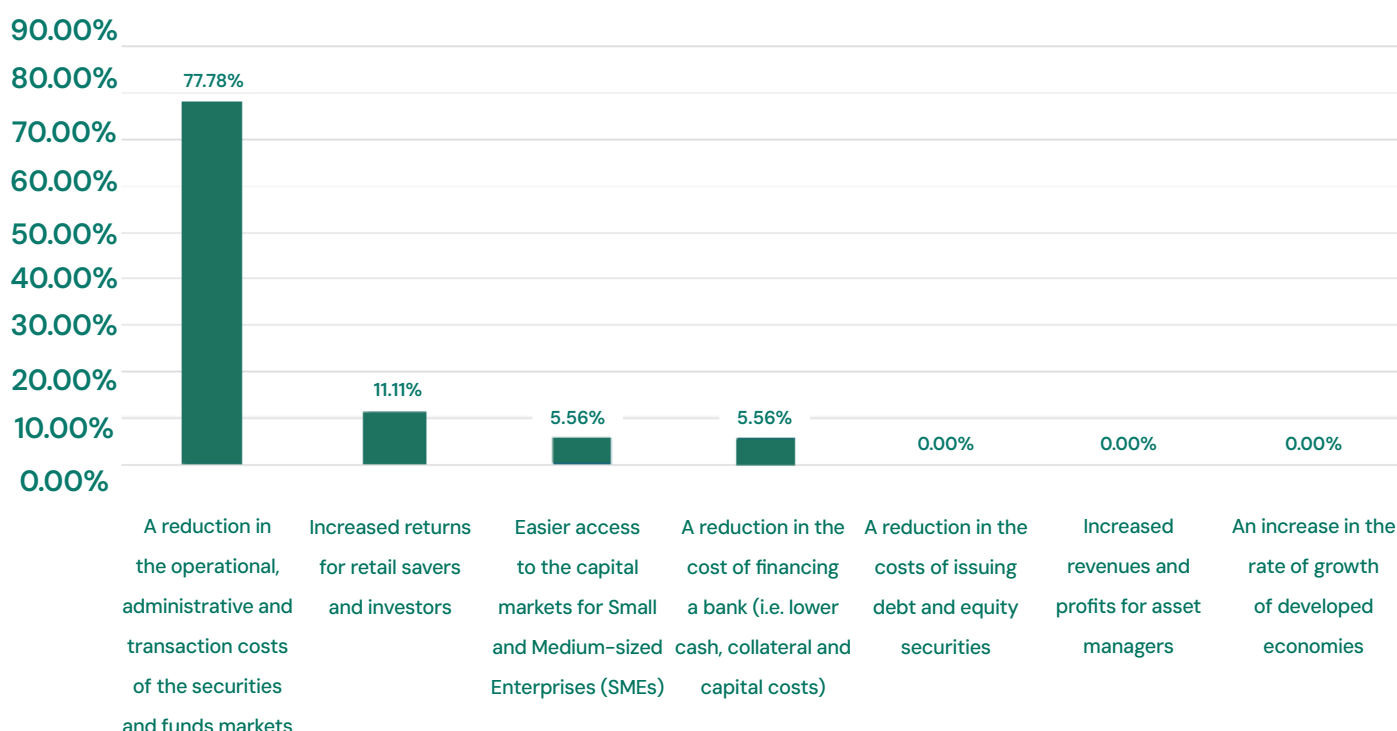
Tokenisation is not purely about increasing the issuance, trading and operational efficiency of the status quo in the capital markets. Though tokenisation can deliver cost savings in the primary and secondary markets and in post-trade operations, ultimately it is about expanding the universe of collateralisable assets. This is already evident in the issuance of tokenised money markets funds, which can be used on blockchain networks as cash and cash collateral. But it is easy to start with cash and cash equivalents because they do not present the same challenges as debt securities (equity securities are another matter altogether). The difficulty with debt securities is that, although they are interchangeable in terms of the cash flows they represent, they are documented, calculated and serviced slightly differently, instrument by instrument and jurisdiction by jurisdiction. As a result, asset managers and brokers must invest large sums in buying data streams from vendors and hiring analysts to understand and model different debt securities and combinations of debt securities. Until the cash flows of all debt securities conform to a standard model, tokenisation will fail to scale. It will remain merely a wrapper around the status quo. It cannot transform securities by transitioning them from "digital twins" to digitally "native" tokens, because it requires investing in and operating separate systems for digital and traditional assets. Heads of operations will never agree to that, so ultimately only a single model can effect change. The businesses and jurisdictions that grasp this reality and act upon it will own the capital markets of the future because they will attract the largest pools of capital. They will achieve that not just via lower costs but by building a market for capital that is not only trustworthy (because it is collateralised) and transparent (because transactions are recorded on a blockchain ledger) but fully automated (because debt instruments and infrastructures follow standard, blockchain-based designs that, inter alia, make them inter-operable).

## Can tokenisation raise the rate of economic growth?

A more efficient financial services sector – as opposed to a merely bigger one, which studies suggest can retard economic growth – ought to raise the rate of economic growth. It can lower the cost to companies of raising debt and equity capital, not least by widening the range of assets that can be used as collateral, and so make more investments viable. It can reduce for everyone the transactions costs of all economic activity, by reducing the friction between making a sale and collecting the payment. The effects are likely to be pronounced in less developed economies. One reason tokenisation can lower the cost of capital is that it broadens the range of investors, so it creates a secondary positive effect by increasing the wealth of consumers. Wealth effects can be expected to encourage consumer spending, which will further augment economic growth.

### What the Audience Said

#### The Biggest Long Term Benefit of Tokenised Securities and Funds at Scale



## Upcoming Events in 2025

Digital Asset Exchanges

March 13 2025

Future of Finance Award Ceremony

April 3 2025

Digital Money

June 12 2025

Tokenisation

October 2 2025

Digital Asset Custody

December 3 2025

*\*dates are subject to change*





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