

# Traditional and Decentralised Finance: The Era of Convergence?

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Today's financial markets are undergoing a seismic shift in new technologies and processes. This both poses challenges and presents opportunities. It is not just a single technological shift, as experienced in recent history with the advent of the e-finance age. Unusually in this case, a range of 'frontier' technologies have evolved concurrently, driving immense change and heralding a new era in global finance.

Blockchains, distributed ledger technology and digital assets (including cryptographic tokens and cryptocurrencies) are key components of a revolution that is bringing together digital technology innovation, Artificial Intelligence (AI), the 'internet of things' (IoT) and other technology-led trends, and all are contributing to fundamental changes in the way we invest, trade, transact and otherwise do business.

The usual initial cynicism from traditional financial markets participants about disruptive technologies, and suspicion of their intent beyond scams and frauds, has given way to an increasing readiness to embrace these changes and the enormous opportunities that they present.

At the same time, proponents of a new, shiny, decentralised finance ecosystem recognise that markets – and market behaviours – do not change overnight.

Some 40 years ago, the UK financial markets' Big Bang transformed equities trading from the open outcry of physical trading pits to an entirely electronic environment. FX spot trading followed 10 years later with the radical shift from voice brokers to e-trading. Change was neither instant nor complete.

Big Bang was not an immediate success; despite extensive planning and project management, its first launch was more of a damp squib, requiring rapid re-thinking and an enormous cross-industry collaborative effort to go live, successfully, in 1986.

The e-FX revolution really only took off when a group of traditional institutions who competed with each other realised that they needed to work together (co-opetition) to ensure that they did not find themselves disintermediated, and ultimately disenfranchised, by the new breed of financial technology firms (in this case Thomson Reuters) selling financial trading products.

In both cases, traditional players followed exactly the same engagement arc – from suspicion of the new technology and participants, to 'it'll never catch on' ("a computer can't buy you a beer" was a very common response from the voice broker old guard to the threat of e-trading technology), to eventually 'we had better get on board quickly or we'll miss out'.

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As history shows, to navigate successfully from old to new and to shape a financial infrastructure fit for the future, innovators and disruptors need to partner with incumbents to foster investment and business collaboration.

In this paper, **Helen Disney**, Director, The Realization Group; **Hirander Misra**, Chairman and CEO, GMEX Group; **Alastair Rutherford** and **James Maxfield**, joint Managing Directors, Ascendant Strategy; **Luc Froehlich**, global head of digital assets solutions, Fidelity International; **Olaf Ransome**, founder of 3C Advisory and known as the Bankers' Plumber; and **Toby Babb**, founder and CEO, Harrington Starr look at how Traditional Finance (TradFi) and Decentralised Finance (DeFi) practitioners can work together effectively to better understand each other's motivations and needs.



## The era of convergence is here

Speaking to industry experts across the divide, we consider the best ways for the sector to collaborate and cooperate in order to benefit from the enormous value creation opportunities presented by a new Digital Age.

These huge opportunities do not just include the impressive returns which can ensue from trading cryptocurrencies, or the high yields offered by Decentralised Finance platforms (DeFi), but also involve deeper structural changes such as:

- the creation of the metaverse,
- the ability to own digital representations of real-world assets (security tokens),
- the use of tokens as commodities, enabling access to a diverse range of networks and services (utility tokens),
- the emergence of Decentralised Autonomous Organisations (DAOs), and
- the operational and commercial efficiency gains offered by blockchain/DLT solutions.

There are also plenty of potential obstacles: the pace of implementation, the development of appropriate supervisory and regulatory environments, and overcoming the specific challenges of blockchain interoperability.

**Helen Disney, Director at The Realization Group**, and an acknowledged industry expert in the new digital economy, says: *“In less than a decade, we have seen a massive shift towards support for bitcoin and digital assets, as scepticism from mainstream finance moved towards curiosity, and then to collaboration and implementation”*.

## What does convergence look like?

Convergence is not simply about the merging of traditional and decentralised finance. It is also about the advent of *multiple* frontier technologies joining together. Outlier Ventures, one of the leading venture capital firms in the blockchain industry, which invests in firms accelerating the Open Metaverse, has expounded an investment thesis known as the ‘convergence ecosystem’. This thesis envisages a future in which data captured by the Internet of Things is managed by blockchains, automated by AI, and monetised with cryptocurrency and/or cryptographic tokens. Frontier technologies are accelerating the pace of change in embracing the new DeFi landscape and linking it with other industries outside of finance as well.

*“We need to join up the old world – those with experience of value creation for financial products, who understand how (and why) markets are regulated and the required operational environment, and importantly, who can reach the client target audience – with the new and exciting opportunities presented by disruptors.”* says **James Maxfield, Managing Director** of post-trade consultancy **Ascendant Strategy**. Maxfield and his business partner, Alastair Rutherford, are both heavily involved in transformational change programmes for institutions and financial firms and question whether it is as simple as ‘out with the old, in with the new’.



*“In less than a decade we have seen a massive shift towards support for bitcoin and digital assets, as scepticism from mainstream finance has moved from curiosity to collaboration and implementation”*.

**Helen Disney, Realization Group**

*"I have never yet seen a trade which can be settled by one party on its own"* says **Olaf Ransome, founder, 3C Advisory**. Progress requires market participants to work together to bridge the gap between traditional financial markets infrastructures and new technologies, products and services. While in the longer-term, technology-led innovation could potentially make many traditional capital markets processes redundant, in the short term it requires collaboration and cooperation between the incumbents and the disruptors to orchestrate a seamless transition.

**Toby Babb**, founder and CEO, **Harrington Starr**, has helped to boost thousands of careers in FinTech, and helped businesses in 5 continents attract and on-board the best talent. As he observes: *"In our experience, crypto companies are typically looking to hire employees with a mix of TradFi and DeFi experience"*.

## Key areas of convergence

There are many areas of convergence – both between traditional and decentralised finance and in the new ways the different types of technologies themselves are coming together. According to **Disney**: *"The creation of more interoperable products and services means more seamless bridges between centralised and decentralised finance allowing them to function better together."*

### The metaverse and the democratisation of finance

A few short years ago, the idea that virtual worlds could exist in which we might conduct relationships; enter into financial transactions; create, buy and sell works of art and otherwise engage as we might in the real world was unthinkable. But here we are.

*"The metaverse presents opportunities that simply do not exist in the 'real world'. In real life, most people cannot afford to have a picture hanging in the Tate Gallery. But if you love art you might now be able to afford to have a virtual piece of art on display in a virtual – but nevertheless prestigious – gallery"* says **Disney**.

Considering the value of digital assets within the DeFi infrastructure today, measured in billions of dollars globally, it is evident that we have moved on from a limited number of tech-savvy individuals speculating in bitcoin and other cryptocurrencies. Digital assets have emerged as a new 'asset class' in their own right, with their own place in investment strategies. This, in turn, is causing traditional institutional players to consider the opportunities presented by new digital assets.

*"Convergence is taking place across the board, particularly in lending and borrowing scenarios, and with respect to cross-border transactional activity. Anywhere where people are issuing digital equity and debt-like products, people are going to buy them"*: **Alastair Rutherford, Managing Director, Ascendant Strategy**.



*"We need to join up the old world... with the new and exciting opportunities presented by disruptors."*

**James Maxfield, Ascendant Strategy**

## Tokenisation

The rise of cryptocurrencies and tokenisation has led to the creation of a slew of new digital assets beyond bitcoin and other cryptocurrencies. Security tokens are the digital form of traditional, fungible securities such as bonds, equities and property. Some tokens act more like traditional commodities or utilities, giving users access to specific goods and services. Non-Fungible Tokens (NFTs) typically represent or give access to a unique item such as a piece of art, a collectible fashion item, a performance or sometimes to a club or exclusive event.

*“A year ago, Tier One asset managers were struggling to get their head around tokenisation. Today, we see traditional players offering exposure to bitcoin and recognising it as a ‘legitimate’ asset, with investment firms such as Invesco now willing to custody assets like bitcoin with digital custodians and create Exchange Traded Products (ETPs). Firms are also seeking to reach new clients through digital exchanges and asset tokenisation, offering them alongside traditional listings”* explains **Hirander Misra, Chairman and CEO, GMEX Group**, a leading global provider of multi-asset exchange trading and post trade software/software-as-a-Service (SaaS) market infrastructure solutions, and digital platform services for worldwide financial markets.



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**Alastair Rutherford, Ascendant Strategy**

## Internet of Things

Decentralised Finance will begin to combine with the Internet of Things (IoT), creating new opportunities for automation of financial services.

Over the past 5 years, the number of devices in our homes linked to IoT has been increasing drastically. As **Babb** explains, the ability to process information using AI or machine learning can be combined with blockchain technology, leading us to an order model where machines are interacting directly with each other. So, for example, *“A fridge sensor spots that there is no more milk, and other items are running out. Information about the missing milk is then sent to a shop, and the transaction is settled by cryptocurrency. The fridge ‘learns’ to anticipate when things will run out and need re-ordering. This is machine-learning in a nutshell.”*

## Barriers to rapid convergence

Although convergence is happening there are a number of factors still holding back the pace of change including a lack of understanding of these technologies at a senior level in business and policy-making circles.

## Misunderstanding

According to our contributors, there remains a great deal of confusion around DeFi, cryptocurrencies, tokenised assets, Central Bank Digital Currencies (CBDC) and all of their nuances, implications and applications.



*“Increasing numbers of investment firms are offering exposure to bitcoin and recognising it as a ‘legitimate’ asset. They are also seeking to reach new clients through digital exchanges and asset tokenisation, offering these alongside traditional listings”*

**Hirander Misra, GMEX Group**

This lack of understanding increases at more senior levels of organisations, with concerns about not fully understanding and feeling comfortable with the whole arena of digital assets hampering decision-making and investment approvals.

**Luc Froehlich** is **global head of digital assets solutions at Fidelity International** and was previously a portfolio manager managing institutional clients’ money and a trader and analyst in the credit space. He believes that lack of knowledge is a key barrier preventing convergence from happening more quickly: *“These new assets and technologies are complicated. It requires a lot of homework, beyond a bit of reading or workshops, to be part of this new economy. You’re not going to get up to speed over a weekend. It takes time and work across multiple disciplines, from technology to economics.”*

AI and machine learning – themselves core components of the digital data revolution – are a key part of the knowledge process, whether integrated within investment solutions or combined with blockchains to create new tools. However, the biggest barrier is always going to be the attitudes of investment banks to innovation; history shows that major market change always starts with resistance, caution and fear. Perhaps understandably, regulated firms don’t want anything to blow up in their faces.

## Regulation

While traditional institutions and market participants are moving – albeit cautiously – to embrace new digital assets, for example, within diversified investment portfolios, this group is also more experienced in the need for – and required scope of – appropriate regulation to protect themselves, clients and investors from bad actors.

*“It is unlikely that regulators in most global jurisdictions would be comfortable with the inclusion of random, un-proven, digital assets within client portfolios”* says **Froehlich**. *“As with traditional assets, there should be appropriate price discovery mechanisms and other defined ‘rules of engagement’ in any digital secondary market to give succour to market supervisors and consumers alike that these are ‘acceptable’ investment choices”.*

A so-far uncharted regulatory environment for digital investment and trading creates uncertainty for businesses and entrepreneurs, particularly where different jurisdictions operate by different ‘rules’. For some, there is a strong belief that any digital asset should be subject to the same regulation as its underlying traditional asset. As such, it does not require new regulation, simply normalising existing regulation across a new product set. This would certainly go a long way to demystifying digital markets and eliminating old guard scepticism towards anything new.



*“Exchanges, buy side institutions and hedge funds are looking at this as a genuine asset class... creating new DeFi products and working out how best to play in this arena.”*

**Toby Babb, Harrington Starr**



*“These new assets and technologies are complicated. You’re not going to get up to speed over a weekend. To be part of this new economy takes time and work across multiple disciplines, from technology to economics.”*

**Luc Froehlich, Fidelity International**

At the same time, as technology providers find themselves moving into traditional banking services, without necessarily understanding the implications with respect to capital and risk exposures for example, there is a need to ensure that they are subject to the same rigour and regulation as those institutions. “Same business, same risks, same rules” is the general maxim from the regulators.

Most market practitioners believe that regulation is necessary and inevitable, and also that it needs to be consistent within and across jurisdictions. Based on his experience, **Olaf Ransome, founder, 3C Advisory**, helps clients deal with banking and fintech challenges in the post trade world. He observes: *“Whenever somebody talks to me about DeFi, I always ask two questions. Who’s the operator? And which judge do I go and see when there’s a problem? Imagine having a great idea to sell things in this great DeFi market, and I’m trading it but don’t want to do any more trades, but when I hit the ‘Cancel’ button it doesn’t work. Or I want to see an asset I’ve purchased but can’t ‘find’ its market any longer. What happens then? How do I track down the creator or issuer of the product? What are my protections?”*

In the UK, [the Bank of England and FCA issued a recent paper on proposed regulation of new products and markets](#), reflecting a marked shift in attitude in just a few years towards the ‘regularisation’ or ‘institutionalisation’ of digital assets. Forming a predictable regulatory regime will be key to accelerating the convergence of traditional and decentralised finance as well as to further investment in this transition.

## Interoperability

Another tough nut to crack is technical interoperability, with multiple blockchains out there and diverse types of functionalities, which do not always work together. In DeFi, for example, yield farming – where investors search around for the best returns using DeFi platforms – cannot necessarily be done easily across multiple, different blockchains. As a result, we are starting to see attempts to interlink these different blockchains so that users can move money or assets seamlessly in and between them.

## Digital ID

*“For any of this to work, we must know who we are dealing with. Especially if you are a regulated company wanting to hold assets under management on behalf of a client and you are dealing with exceptionally large amounts of money. You don’t just need to Know Your Customer, but also Know Your Broker/Service Provider, and to be able to conduct rigorous AML/KYC and broader compliance checks.”* says **Disney**.

We need more standardised forms of digital identity to make it much quicker for people to verify themselves (and/or to be verified) by multiple providers rather than having to repeat the process multiple times.

KYC utility services do exist, but access to them remains largely limited to traditional (‘authorised’) market participants. A standardised and truly utilitarian digital ID service – particularly with respect to blockchain/DLT participation – would speed up the pace of convergence considerably.



## Key drivers of industry convergence

### Central Bank Digital Currencies (CBDCs)

The emergence of CBDCs and other new forms of digital money such as stablecoins is likely to accelerate what is happening in the private digital asset markets. There is an expectation of widespread issuance of Central Bank-issued digital currencies in the next few years, including in the US.

Formal Central Bank initiatives have been spurred on partly by Meta's attempt to introduce its own currency (although the original Libra/Diem project from what was then Facebook has now folded) and also by the speed with which China has moved to develop a digital yuan.

In the UK, the Bank of England is considering the introduction of a CBDC for the UK and examining the benefits this could bring to the UK's payments infrastructure. It is engaging with a range of stakeholders via its CBDC Engagement and Technology Forums, as well as more broadly through a series of consultations that began in 2020 (together with another one, expected later in 2022). Any decision to introduce a CBDC in Britain will likely require Parliamentary approval and the introduction of appropriate legislation to support it.

A number of cross-industry initiatives including the [Digital Pound Foundation](#) have been set up to support and drive the implementation of a well-designed digital pound and to help contribute independent advice and expertise to this policymaking process.

Some participants are more circumspect, believing that CBDCs have less merit and value in developed economies, but may offer an enormous social benefit in developing economies, reaching (and funding) communities without the need for any physical presence or 'paper currency'. While this may imply disintermediation of traditional 'service providers' (including banks) in these communities, it also provides the potential for enormous social improvement and greater financial inclusion.

By looking into the implementation of CBDCs for their own needs, governments and regulators by definition gain a far greater understanding of the technology, in turn increasing their knowledge about the private digital asset market.



*"I always ask two questions about DeFi. Who's the operator and who do I go and see when there's a problem? If I'm trading but the 'Cancel' button doesn't work, or I can no longer find the market for an asset I've purchased, what happens then? What are my protections?"*

**Olaf Ransome, 3C Advisory**

### Web 3.0

The wider context for all this digital transformation and convergence is a fundamental shift in the underlying infrastructure of the Internet as we shift from the "internet of information" to the "internet of value transfer" and to Web 3.0. But we are still in transition mode.



*“We’re looking at the next frontier of digitalisation in financial services... looking at every single banking process to see if and how it can be done ‘faster, better, cheaper’, without too much disruption in terms of how the end user engages.”*

**Toby Babb, Harrington Starr**

As **Hirander Misra** points out: *“We are going to see some interesting Web3-play tokenisation initiatives where tokens can act as an incentive, creating a community-based approach, but that is also going to be combined with Web2, or an in-between kind of Web2-Web3, transition”.*

Some institutions are using tokenisation to gain exposure to an asset class without exposure to the underlying technology. There are multitude plays with respect to using DeFi ‘prime brokers’ and other service providers for market access. This choice of access to the digital economy creates fantastic opportunities. It is not a case of traditional player disintermediation, or indeed the elimination of actual traditional intermediaries like brokers; more a case of these players reinventing themselves.

We are also likely to see much more investment in tokenisation platforms for products like bonds, equities and other traditional securities. There will also be far more widespread adoption of Web 3.0-based technology that enables traditional finance to work in a more seamless and simpler “digitally-native” way.

*“We’re looking at the next frontier of digitalisation in financial services. It’s all about people looking at every single banking process to see if it can be done ‘faster, better, cheaper’ and without too much disruption in terms of how the end user engages”* concludes **Toby Babb**.



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