The Tokenisation of Real Assets

White Paper published by IFI Global

IFI Global

Publishers of:

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Jersey Finance

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Foreword

It's no exaggeration to say that the rise of digital assets and the concept of tokenisation are likely to turn the global fund industry on its head in the years to come.

Though we are starting to see the impact now on real assets such as private equity and real estate, this is really the very beginning of a transformative journey for our industry. The reality is that we are still some way off appreciating the full potential impact of tokenisation on the global funds space and more work needs to be done by the industry at large to understand the full picture.

- **What are the key benefits we could realise from embracing tokenisation?**
- **What are the challenges to integrating tokenisation within our existing frameworks?**
- **How bullish should we be about a future where tokenisation lies at the heart of our industry?**
- **And how do established funds domiciles fit in to this landscape?**

For its part, Jersey has been host to an array of vibrant and respected digital assets businesses for a number of years. The Island's world class digital infrastructure, pragmatic approach to regulation and broad range of corporate vehicles means that Jersey has naturally developed a pool of resident expertise in digital asset innovation – from the launch of the world's first regulated Bitcoin investment fund almost ten years ago to a more recent increase in players from across the spectrum of the industry. →

Foreword

From a regulatory point of view, the digital assets spectrum is broad, and jurisdictions have developed varying degrees of risk appetite. The Jersey Financial Services Commission (JFSC) has recognised that there is a middle ground, creating an environment for token-generating events with proper substance, and which are backed by a credible promoter.

It's a middle ground that can offer a solution to a large part of the market. But nevertheless, it is important that as an industry we take a holistic view and understand the full picture.

With this in mind, I'm pleased that Jersey Finance intends to remain at the cutting-edge, collaborating once again with IFI Global to shed some light on the current state of the digital assets market, with the aim of helping our industry to make meaningful progress in an area that is undoubtedly going to become central to our everyday operations.

I hope the findings of the report - which form an initial assessment of the landscape, to be followed in due course by further deep dives into the sector - are illuminating and helpful.

Elliot Refson
Head of Funds, Jersey Finance

Background

Tokenisation is an important part of the digitalisation of assets. It might eventually bring about a restructuring of the global fund industry in the years ahead, especially on its private assets side. Tokenisation could turn out to be a great disruptor in this business. Whether or not that occurs, it will almost certainly offer new opportunities to both investors and asset managers.

Tokenisation has already begun to impact real assets. Real estate has been an early adopter, along with infrastructure and precious metals like gold. Other illiquid asset classes are not that far behind, such as private equity and various sustainable investment sectors. Managers of real asset funds are being presented with the opportunity to access new investor categories because of tokenisation.

As well as opening up previously hard to access illiquid asset classes to new investors, tokenised investments are also effectively borderless. This might present the fund industry with a need to have a fundamental re-think on regulatory, governance and jurisdictional matters. Distributed ledger technologies (DLT), like blockchains, have no borders; they are available to anyone, anywhere in the world, with access to the Internet. Tokenised digital assets that share the features of traditional financial instruments could be considered security tokens, depending on their structuring and domiciliation, and could therefore already be within scope of the regulatory authorisation regime for financial services in many jurisdictions.

Asset tokenisation is the creation of tokens on a blockchain, thanks to the development of DLT. These tokens can be based on anything which has an exchange value. Most of the assets that have been tokenised to date are illiquid ones such as those on the private asset side of the business. Tokenisation, for example, can convert private equity funds into tradable digital securities. It is likely that all asset classes will eventually offer tokenised options to investors. Anything that can be put on a distributed ledger can be tokenised.

Tokenised investments are effectively borderless

It is important to point out that the distributed ledger technology, on which tokenisation is based, is developing in ways which go beyond crypto. Whilst most crypto currencies are on blockchains, not all blockchains are being developed for crypto currencies. It is likely that

Background

crypto currencies will represent a diminishing proportion of the assets on blockchains in future, as the investment management industry adopts this new technology for many different categories of its funds.

The origins of asset tokenisation pre-date the emergence of crypto currencies, although the technology that has been developed for this new asset class, along with smart contracts, has given tokenisation a big boost. Tokenisation can trace its roots back to a data security system that was put in place in the US to protect credit card data. In 2001, payments firm Trust Commerce introduced a system that replaced credit card information stored on local servers, which was poorly protected, with tokens which were more secure.

Unlike securities, tokens can be traded in fractions, which offers investors holdings of any size. For example, a $5 million fund can be divided into 100 tokens worth $50,000 each, and then fractionalised and sold in smaller units. It is similar to an investor trading one-tenth of a crypto currency, like Bitcoin. The process could open up certain previously illiquid real asset classes to investors with small amounts of capital.

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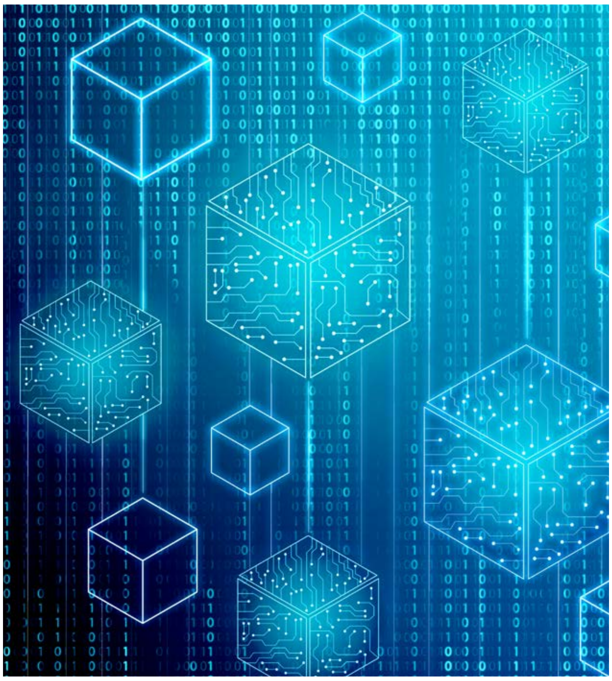
Tokenisation is frequently described as adding a digital wrapper to an existing asset which then can then be used, issued, stored and moved between owners, with everything recorded on a distributed ledger. For a valuable commodity such as gold, for example, this can be very helpful as the owner of the tokenised asset doesn't have to worry about storage.

Tokenisation is also often called the democratisation of investment in real assets as it could be open to anyone. It represents a fractional share of an ownership stake in a real asset, one that is digitally owned and can be transferred.

However, almost all investors in tokenised real assets are, at least for the time being, professional. They include family offices and ultra high net worth individuals, as well as institutional investors. When investing in commodities such as gold, tokenisation can give these investors more flexibility than they might otherwise have by accessing the asset through a more traditional means.



Tokenisation of real assets: the benefits

There are three major benefits of tokenisation for managers of real assets:

1 Greater transaction speed

Many of the tokenised processes, including transactions and transfers, are automated. This speeds up the settlement and clearing of real assets. Tokenised asset transactions are usually settled almost instantaneously. This also reduces the possibility of human error creeping into the settlement process too.

Trading on secondary markets via tokenisation improves liquidity and that it makes asset diversification easier – for all types of investors, including institutional

2 Liquidity

Tokenisation gets around the liquidity problem of investing in real assets. Perhaps the main drawback of investing in a real asset fund is the lack of liquidity. Assets like real estate are much more readily available to large groups of investors once they are tokenised. And then they could be freely traded. Greater liquidity often also means fairer pricing of assets as well.

The CAIA (the Chartered Alternative Investment Analyst Association) says that tokenisation can provide a bridge to a wider pool of investors and create a new source of financing for private markets, such as infrastructure, real estate, and private equity. 'Unlocking the growing pool of retail capital could create an essential source of future funding. Like any major disruption, tokenisation offers the scope to shape a new financial landscape, creating opportunities for both investors and asset managers', adds the CAIA.

It also states that trading on secondary markets via tokenisation improves liquidity and that it makes asset diversification easier – for all types of investors, including institutional.

3 Transparency

Distributed ledgers are often publicly available. Every transaction on it is stored and is retrievable. And the immutable nature of the underlying technology means that the transaction history is effectively tamper proof.

The technology on which distributed ledgers are based prevents tampering and helps mitigate counterparty risk by giving everyone access to the transaction history of their counterparties. This benefits investors as they have more insights into who they are trading with than would otherwise be the case.

As the CAIA says, alternative asset classes like real estate and private debt are characterised by information asymmetry and lack of transparency. On the other hand tokenised assets are transparent.

Tokenisation of real assets: the challenges

1 Industry disruption

The Internet hasn't yet fundamentally changed the structure of the fund industry. It still operates broadly along the same lines as it did in the pre-Internet era. Tokenisation, starting on the real assets side of the business, has the potential to change that over the coming years.

As already stated, tokenised assets are accessible to anyone with access to the Internet. This could present the industry with significant regulatory challenges. And it could bring about a restructuring of the industry in the years ahead, especially on its private assets side. 'The tokenisation process is not a one-click affair; it involves multiple steps, from deal structuring, digitisation, primary distribution, post-token management, and clear regulatory standards to enable secondary market trading,' says the CAIA.

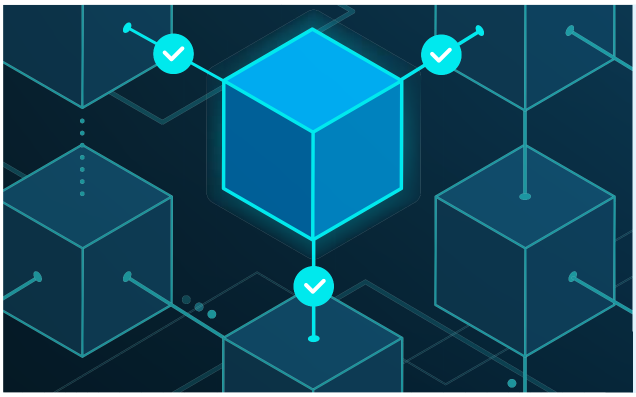
This could possibly present the industry with the need to look again at its system of categorisation – both by investor and asset class. The technology is available to everyone, from the largest institutions through to the smallest individual investors. And it might also help the development of new alternative asset classes, particularly in otherwise hard to access specialist sustainable investment sectors.

2 Technology

Tokenisation will likely present the industry with some tough technological challenges. Those who master these challenges quickly and successfully will probably be the winners. Industry tech spend will almost certainly need to increase substantially as a result of tokenisation. This will not be a one-off investment. Blockchain and related technologies are developing at great speed. This investment is likely to be continuous. It could be many years before it subsides.

Directors of real asset funds and the industry's senior management will therefore need to get up to speed with distributed ledger technology. Given the pace at which this is all happening, that is no easy task. Having a good grasp of how the blockchain works, and how it is developing, could become an essential part of the role of any fund director or senior executive in the industry.

There is still a lot work to be done in building blockchain scalability and developing global frameworks. Getting all of the infrastructure in place is going to present the industry with some technological challenges. It will also be expensive. →



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Tokenisation of real assets: the challenges

3 Regulation & legal disputes

Tokenisation and the broader Decentralised Finance (DeFi) industry will present the fund sector with a number of regulatory challenges. This could be complicated, and it might take years to sort out. But there are security challenges that need to be overcome, so this is warranted. With or without more regulation, there could very well be some complex and expensive legal disputes ahead.

For example, what happens if someone loses their private keys but the asset still exists? Or if the asset is lost but there is proof that it has been tokenised? And how easy will it be to correct a mistake that is made when entering something on to a distributed ledger? Who will be responsible if there is fraud (see below), what compensation will be forthcoming – and from whom?

4 Fraud

Contractual details on tokens are defined in smart contracts. Smart contracts sound good; they are one of the great innovations of the digital world. But smart contracts are only as reliable as the code that is used to create them.

A poorly-written smart contract can be exploited by hackers. In December 2021, a hacker stole $31 million due to what was described as a 'really stupid' bug in a crypto start-up's smart contracts, and last July, hackers exploited a vulnerability in ChainSwap's smart contract protocol to obtain $8 million worth of crypto-assets.

The digital world has attracted more than its fair share of bad actors. For example, according to blockchain analytics firm Elliptic, they stole more that $100 million NFTs between July 2021 and July 2022 alone.

> Fraud is a potential Achilles' Heel in the tokenisation of real assets. It is a challenge that the industry will have to overcome

IFI Global's publication The NED just completed a survey with the industry on the governance of digital assets. One of the questions asked was what could be done to make smart contracts more secure. Few of the respondents were willing to attempt to answer that question.

Fraud is a potential Achilles' Heel in the tokenisation of real assets. It is a challenge that the industry will have to overcome.

5 Recapitalisation of real asset funds

Real estate, private equity and some other real asset funds need to be re-capitalised from time to time. It is not yet clear how tokenised funds, perhaps with many smaller investors, would be able to do this.

It might be that only certain real asset funds, those that give up on the recapitalised option, can be tokenised.

6 Scalability

Scalability needs to improve before the tokenised opportunity for real asset funds can be fully realised. However, as the tokenisation of real asset grows (see page 10), this will become less and less of a problem. →

Tokenisation of real assets: the challenges

The CAIA points out that in the area of hedge funds, private equity and natural resources, a sizeable universe is needed to be able to create a portfolio of tokens for diversification. For venture capital and private equity, the tokenisation process cannot necessarily streamline the due diligence needed, as it can in the private debt and infrastructure markets.

And as for real estate investment, many developers are looking into tokenisation asset by asset only, which presents scalability problems. For private debt, covenants can be difficult to code into smart contracts, says the CAIA, potentially creating a challenge in the life management of the tokens. Infrastructure assets are heavily regulated, which can make it more difficult to construct a smart contract too, adds the CAIA.

7 Governance

The greater access to assets that were previously only available to professional investors will lead to some interesting governance questions. The protection for investors in tokenised funds has been raised by many, for example.

There are various governance challenges with regard to the tokenisation of real asset funds, which the industry has yet to address. Will investors in a tokenised fund have the same rights as investors in a traditional fund? (Bear in mind that those allocating to traditional real asset funds tend to be institutional investors.)

What happens if the key leading investors in the traditional fund want to make changes

> Will investors in a tokenised fund have the same rights as investors in a traditional fund?

to the management of the fund, whilst it also has a large of number of retail investors who have accessed the investment vehicle through tokenisation? Will there need to be different classes of investors? And will there be any difference in the responsibilities of the fund's board to tokenised investors compared to traditional ones?

8 Domiciliation of tokenised real asset funds

Tokenised real asset funds are global. It will be very difficult to say to investors in one country that they can access a tokenised investment vehicle but not in another. As a result, tokenised real asset funds are probably better off being domiciled in jurisdictions which are used to dealing with investors from all over the world and which are tax neutral.

Some traditional real asset funds are currently only domiciled locally, particularly in the UK and US. Private equity funds sometimes still do this, for example. Not all of them have funds domiciled offshore for international investors. Their funds are based in the UK or US because that is where their investors are. With tokenisation this is likely to need to change.

The future

Forecasts for the growth of asset tokenisation are universally bullish.

For example, a report published last autumn by global consulting firm BCG and ADDX, a digital exchange for private markets, forecast that asset tokenisation will grow into a $16.1 trillion business by 2030. The report lists five reasons why asset tokenisation is likely to be on the cusp of much wide global adoption:

- increased trading volume in tokenised assets
- strengthening stakeholder sentiment across many countries
- recognition among monetary authorities and regulators
- more asset classes being tokenised
- a growing pool of active developer talent in the blockchain space

The report suggests that there will be growth in both real assets but also in other investment fund categories too, such as equities and bonds. It also expects to see asset tokenisation moving into new areas such as car fleets and patents.

There may well also be a role for tokenisation in the many illiquid investment areas that are part of ESG's sustainable sectors. Tokenisation could have a major impact on sustainable sectors, such as renewables, forestry and water, for example. Tokenisation might well prove to be a better way for retail investors, committed to the sustainability cause, to allocate to these areas rather than by going through an ETF or a mutual fund. They would be able to invest in something that is tangible.

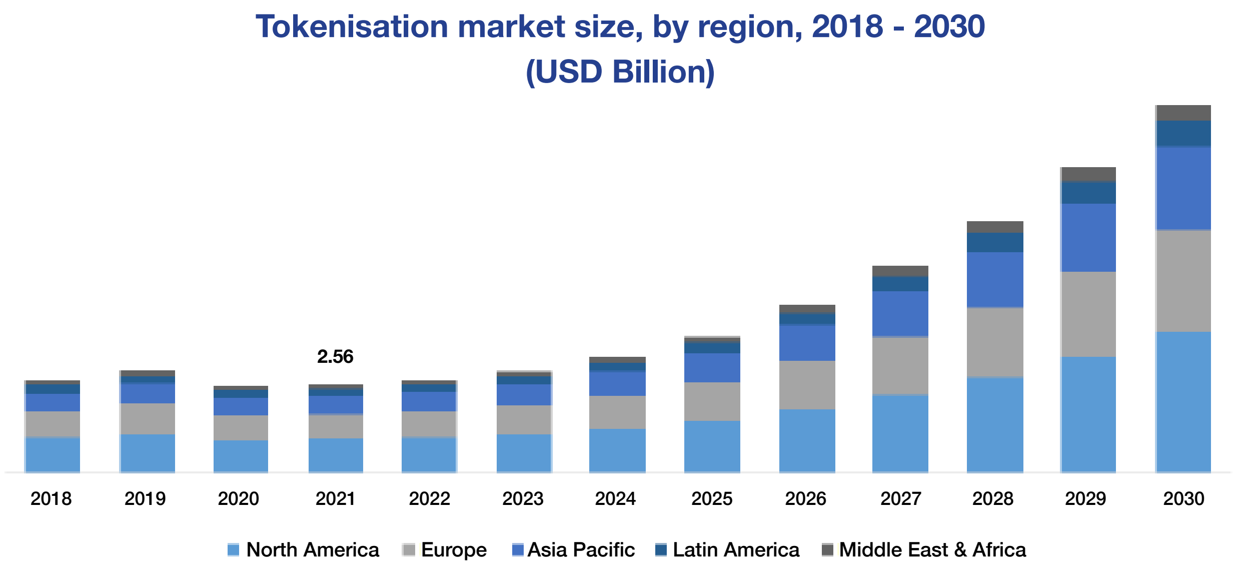
Tokenisation could have a major impact on sustainable sectors, such as renewables, forestry and water

This could be, for example, a collection of solar or wind farms. This would be much more material and immediate to many of them than being in an ETF or a mutual fund.

BCG and ADDX are forecasting a 50-fold increase in asset tokenisation from late 2022 up to 2030. 'This report projects that even using a conservative methodology, asset tokenisation would be a $16.1 trillion business opportunity by 2030. In a best-case scenario, that estimate goes up to $68 trillion,' says Sumit Kumar, Managing Director and Partner, at BCG. →

The future

The forecasts made by BCG and ADDX, whilst extremely bullish, are in line with other studies. Polaris Market Research, for example, reports that the global tokenisation market was valued at $2.56 billion at the end of 2021 and is expected to grow at a CAGR of 18.9% to the end of the decade. Beyond the investment industry, it has been estimated that 10% of global GDP could be based upon tokenised processes by 2030.



Source: Polaris Market Research Analysis

Summary

As this report has sought to point out, there are a number of challenges that need to be overcome before the tokenisation of real assets can reach its full potential. However, these are all teething problems which are being addressed. As a result, asset tokenisation will almost certainly grow very strongly over the next few years.

The impact of that growth may well be transformative upon the fund industry. Real assets, such as real estate and private equity, are the first to be tokenised. More liquid asset classes will not be far behind.

Managers of real asset funds are therefore right at the cutting edge of the industry's possible transformation over the coming years. Decisions that they are making today will form a blueprint for the fund industry at large.

It is too early to say exactly what changes will be coming, or when. But it is close to certain that first real assets, and then other areas of the business, will be impacted very substantially indeed by tokenisation.

Examples of asset managers currently offering tokenised funds:

- Abrdn
- Allianz GI
- Amundi
- Apollo
- BlackRock
- Blackstone
- CMS
- Crux
- Deutsche Bank
- Excelsior
- Hamilton Lane
- Fidelity
- Forteus
- Franklin Templeton
- Goldman Sachs
- Gridl Asset Management
- Invesco
- JP Morgan
- KKR
- Lombard Odier
- M&G
- Morgan Stanley
- Partners Group
- Schroders
- Union Investment
- Wisdom Tree

About Jersey Finance

Jersey Finance is a future-focussed organisation established in 2001 to represent and promote the island of Jersey, an award-winning international finance centre.

In 2019, Jersey Finance launched an office in New York and it also has a presence in Jersey, Dubai, Hong Kong SAR, Johannesburg, London, Shanghai and Singapore.

If you would like to learn to more about using Jersey, please email jersey@jerseyfinance.je to arrange a meeting.

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