

# Myths and realities in real estate tokenisation

Issuing digital tokens backed by physical real estate to tap new liquidity is still in its infancy, but developers should explore blockchain technology and smart contracts

By Sing Tien Foo and Norman Ho

THE collapse of FTX in November 2022 sent a shockwave to investors who trade cryptocurrencies, many of whom suffered a wipe-out of their investments on unregulated online exchanges.

The crisis and its aftermath presented a sobering reminder that there is no free lunch when investing in an unregulated financial market.

Cryptocurrencies, of course, are not fiat money but digital currencies used to store value, make payments and trade purely in the digital realm. But what are we to make of investments in digital tokens backed by physical real estate, tradeable on regulated digital asset exchanges?

In Singapore, some digital asset exchanges are regulated. SDAX, ADDX, DBS Digital Exchange, 1exchange, Alta Exchange and CapBridge are Singapore-based digital exchanges holding licences or regulatory approvals granted by the Monetary Authority of Singapore.

These exchanges provide venues for digital payment tokens and/or digital capital markets products (colloquially known as security tokens, including tokenised securities backed by or representing underlying assets, such as real estate, equities, and bonds) and offered trades.

The trading of security token investments on such exchanges has commonly been limited to only accredited or institutional investors.

ADDX, SDAX and Citadao (the latter of which is a DeFi platform not under Singapore's jurisdiction) are among the online exchanges that facilitate the offering and trading of tokenised real estate securities for investors to own fractional real estate interests.

## A typical real estate tokenisation process

The process of converting illiquid and immobile real estate assets into token securities is quite similar to the securitisation in real estate investment trusts (Reits).

It starts with identifying real estate assets, both equity and debt, to be securitised (deal sourcing). Then the assets will be transferred to a special purpose vehicle (SPV) set up as a bankruptcy-remote structure (deal structuring). From the SPV onwards, the process differs between issuing and distributing

securities on "real" or "tokenised" exchanges.

Instead of issuing tradeable securities on traditional stock exchanges, the SPV can issue token securities that are exchangeable and tradeable on digital token exchanges. If the token securities are fully placed out via an online exchange, real estate will be brought "on-chain".

Indirect interests from real estate, both cash flows and equity rights, will be transferred to investors (owners) of the tokenised real estate securities. Citadao calls this process "introducing real estate on-chain".

As with foreign currency in cross-border real estate deals, investors typically use cryptocurrencies to price and trade security tokens on the DeFi platform. The token securities can be issued in one of the cryptocurrencies in circulation, for example, Bitcoin, Ethereum, Litecoin, and Ripple. Investors can freely trade their tokenised real estate securities if they wish to exit the market.

Prices of cryptocurrencies, however, fluctuate very rapidly and widely and are highly volatile. Net returns on tokenised real estate securities could thus be highly sensitive to cryptocurrency volatility. Some called the value differences between crypto and real estate marketplaces the "network premiums". The exchanges could serve as a channel for price discovery, where investors could arbitrage if value differences exist between token securities and physical real estate.

## Barriers to tokenising real estate

Tokenising real estate creates a new opportunity for issuers to access liquidity by issuing securities in digital marketplaces. Why have developers and issuers not embraced tokenisation more for new sources of capital? Why are developers not motivated to put their real estate assets "on-chain" if they could reap "network premiums" on token platforms?

Other than constraints in technological know-how, three possible barriers exist.

First, token markets are highly volatile, and network premiums could swing quickly into discounts when cryptocurrencies drop. Sponsors (developers) prefer stability in price discovery and are averse to high volatility in real estate values.

Second, sponsors (developers) could



Net returns on tokenised real estate securities could be highly sensitive to cryptocurrency volatility. PHOTO: REUTERS

still earn fee-based income by providing asset and property management services. However, given the intensive nature of real estate management, getting consensus and organising routine work and long-term asset enhancement initiatives with many fractional owners without major cornerstone investors is challenging. This is a typical collective action problem. Moreover, there are also no clear guidelines on dividend payouts, borrowing limits, tax transparency, and others, as in the Reit markets.

Third, buyout risks could be triggered by investors from the token side of the market. Just like in a merger and acquisition exercise in the physical exchanges, token investors could force sponsors (developers) to relinquish real estate asset controls via buyout activities.

While online exchanges eagerly attract potential sponsors to create more token securities backed by real estate assets, the supply bottleneck could have been possible friction that held back the pace of tokenisation rates.

Digital markets are still relatively new and not as established, and digital markets, especially the regulated ones, still lack depth in capital sources. The token securities are usually issued with finite tenure and a close-ended structure, widely backed by real estate loans with a deal size of less than S\$10 million. It will be difficult for developers to scale up issuance size and raise capital for big commercial real estate on-chain.

## The potential of blockchain technology

While using real estate tokenisation to tap new liquidity is still in its infancy stage, developers should explore blockchain technology and smart contracts to improve transparency and efficiency in imperfect real estate markets. As a starting point, there are aspects of real estate transactions that could benefit

from optimisation through the adoption of blockchain.

A decentralised peer-to-peer platform could have significant implications for some real estate activities. Disintermediation in the housing search, price negotiation, and deal-closing processes could reduce transaction costs, which could range from 1 per cent to as high as 5 per cent in some cases in private housing markets. Blockchain could resolve information asymmetries in real estate markets by making transaction records and price information more accessible via decentralised public ledgers. Market players who do not embrace and swiftly adapt to changes induced by blockchain smart "contracts" may risk being disrupted. At its core, smart "contracts" are coded instructions that automatically execute when predetermined conditions (eg. payment) have been satisfied.

The nature and extent of legal obligations might still require interpretation by human agents. The self-executing nature and automaticity afforded by blockchain smart "contracts" present many potential use cases, particularly in the performance of obligations.

Blockchain smart "contracts" could resolve inefficiencies in funding, payment tracking, escrow and verification. In the context of mortgages, smart "contracts" could automatically process payment and release liens from land records once a loan is paid. Given the possibilities, existing market players would do well to take the lead in spearheading this burgeoning paradigm shift.

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