
Security Tokens: Improving Real Estate Investment in Japan

Cost Benefit Analysis

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 **SECURITIZE**

Version 1.0
2019

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1_Introduction

As leaders in our respective industries, Deloitte Tomatsu Consulting, the Japan Security Token Association (JSTA), and Securitize have come together to create this report in an effort to illustrate the value proposition for using security tokens in the Japanese real estate market.

Through this new and powerful technology, Japanese real estate (RE) managers have a potential solution to current market challenges, such as rising real estate prices, information asymmetry, and underlying investment illiquidity. This report will explore these and other opportunities illustrating compelling opportunities for security tokens to impact the 17.7 trillion JPY (approx. 160 billion USD) Japanese real estate market.

2_Why Blockchain?

Defining Blockchain

In simplest terms, a blockchain is a network of computers that maintains a single source of truth for all the stakeholders in the network. Blockchain is also the foundational technology behind triple-entry accounting, which enables new paradigms of trust and efficiency for financial transactions. All transactions on a blockchain are validated and recorded using a distributed ledger that is immutable, cryptographically secure, and easily audited by all parties. In a relatively short period of time blockchain technology and distributed ledgers have become the consensus future for all financial market infrastructure.

Blockchains and Security Tokens

Blockchains use a digitally native “token” to represent an underlying asset. Much like paper money or a paper-based property deed, a token on a blockchain can be bought, sold, or traded. Certain blockchains have technology that allows for smart contracts to be coded into the governance of the tokens at the protocol level. Smart contract-managed tokens, or “security tokens”, are especially suited for issuing and managing securities.

Security tokens can be coded to comply with regulatory requirements throughout the life-cycle of the issued security. The smart contracts digitally facilitate all required corporate and regulatory actions with automated, mathematical precision, which allows for increased efficiencies, cost savings, and regulatory compliance.

The unique characteristics of security tokens assure reliable transaction execution without the need for third party verification. Because security tokens are tracked in real-time on a blockchain, all transactions related to the underlying security are kept in an immutable record that is far simpler to audit than traditional methods.

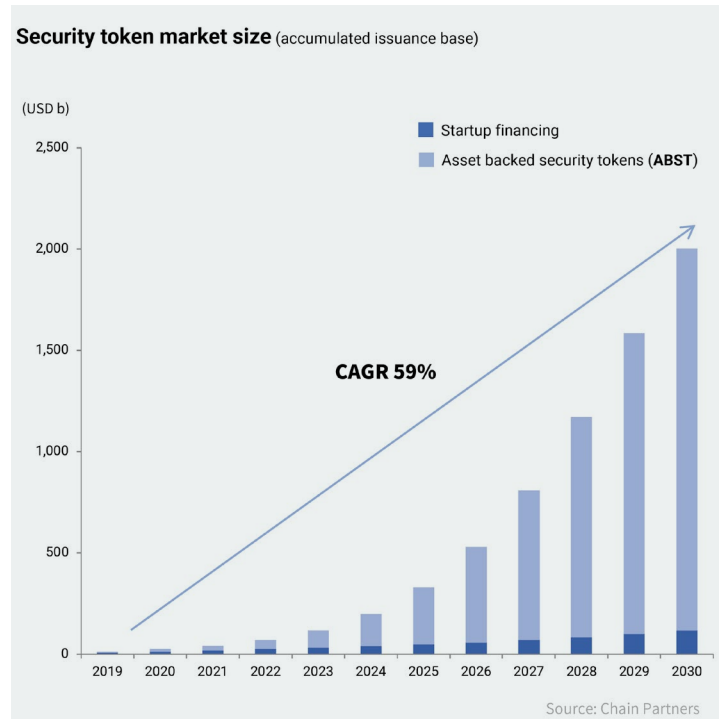
Smart contract-enabled security tokens can also automate certain corporate actions such as shareholder communications, voting rights, dividends, share-buy backs, and more.

3_Security Tokens and Securitization

By leveraging blockchain technology’s advancements in communication, computation, and record keeping, along with the automatic execution of smart contracts, security tokens provide an ideal medium for the recording and tracking of ownership of real-world assets. These asset-backed security tokens (ABST) are digitally-embedded representations of underlying real assets, such as Japanese real estate.

Chain Partners projects the global Security Token Offering (STO) market will reach \$2 Trillion by 2030, expanding at a compound annual growth rate (CAGR) of 59% per year. The majority of this growth will be fueled by the issuance of asset backed security tokens.

Considering asset-backed security tokens make up just 20% of the STO market to date, ABST should grow exponentially over the coming decade. It is estimated that the market supply of ABST will surpass the supply of traditional security tokens around the year 2021.



To reach these lofty expectations, institutionalization must first occur, requiring the creation of strong international standards, best practices, and credible infrastructure. Luckily, the industry has experienced significant progress in these areas throughout 2019.

4_Potential Benefits of Security Tokens

Asset Customization by Tokenization

Through careful financial structuring techniques, ownership interests in real assets like real estate (including underlying cash flows) can be customized with security tokens. For example, security tokens can be packaged together to represent a claim on cash flows from multiple properties, or they can represent fractional ownership in an individual property.

These tokens have a clearly defined mandate, serving as a financial intermediary between borrowers and investors. This gives security token issuers a cost-effective method of leveraging assets on their balance sheets, thus providing access to lower-cost global funding.

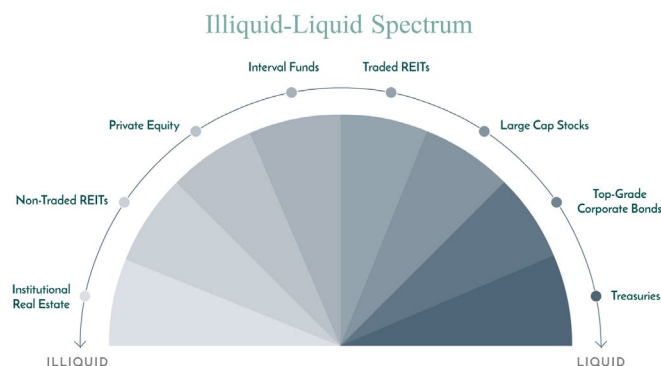
Capital providers can enjoy an array of options for investment deployment and diversifying portfolio risk. Tokens that offer a direct asset class exposure provide better risk calibration and help investors form customized risk-return profiles.

The aforementioned benefits of security tokens can allow for a substantial increase in the liquidity of real

assets especially in real estate. From a purchaser's perspective, real estate investments require large upfront costs, most of which are financed by local lenders.

Regionally concentrated lenders can diversify their loan exposure through tokenization infrastructure offering pieces of these cash flows to a global pool of investors.

The subsequent token buyer would benefit from real estate exposure outside of their domicile, while the original lender can benefit from an alternative method of liquidity.



Seamless Cross-Border Transactions

Security tokens using properly coded smart contracts running in parallel with a compliance layer offer robust supervisory controls, making them an ideal vehicle for managing a multitude of regulatory jurisdictions.

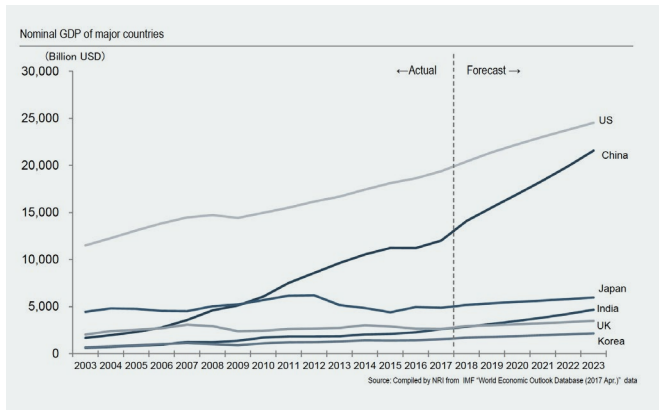
Governing laws and regulations are embedded in the protocol layer, providing upgradeable adaptability and flexibility. A coded framework of preventive and detective controls can mitigate impacts of risk, leading to decreased compliance costs.

By combining web-based platforms with smart contracts, investors and market participants can find counter-parties, discover prices, and trade digital instruments that represent ownership. Organizational governance and decision making can be formalized, automated and imposed using software.

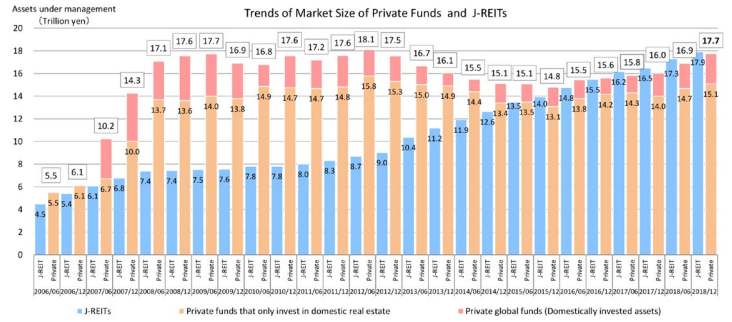
5_The Japanese Real Estate Market

Market Size & Investment Environment

The Japanese economy is currently the third largest in the world, and is projected to hold this position well into the 2020s, making Japan an ideal target for capital deployment over the intermediate term.

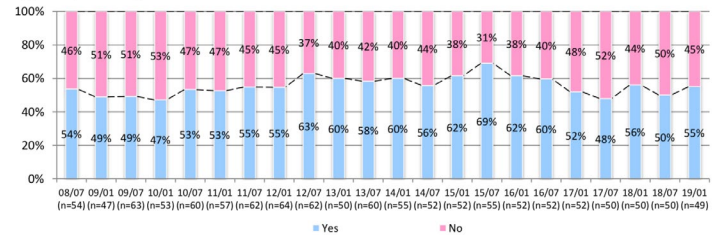


As reported by Sumitomo Mitsui Trust Research Institute, the market cap of real estate private funds that invested in domestic real estate totaled 17.7 trillion JPY (approx. 160 billion USD) in March of 2019. When factoring in Japanese REITs (J-REITs), which accounted for 17.9 trillion yen, the Japanese real estate market had nearly 36 trillion yen of assets under management.



This massive market attracts significant sovereign investment, as made evident by 55% of survey participants claiming to manage overseas capital.

Fig.1 Do you manage overseas capital?



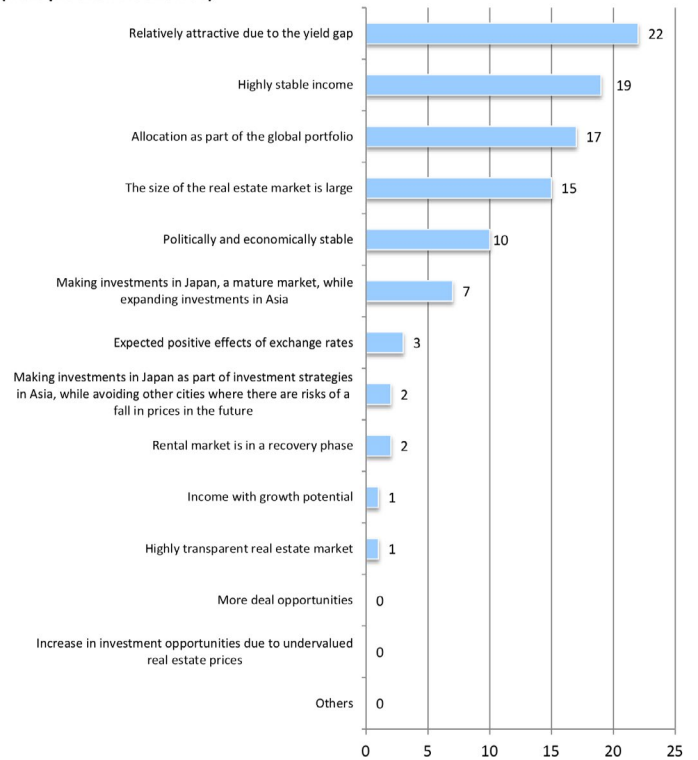
Foreign investors, such as real estate investment giants KKR and Blackstone, are attracted to Japan's ultra-low interest rate environment, which is set by the Bank of Japan (BOJ). In an effort to promote growth, the BOJ's policies facilitate cheap financing markets, fueling real estate demand; some banks even pay businesses to borrow from them by issuing negative interest bearing loans. In the first quarter of 2019, private equity real estate investors raised a total of \$39 Billion.

5_The Japanese Real Estate Market

When compared to other major real estate markets, Japan offers relatively high spreads to foreign investors. According to Jones Lang LaSalle (JLL), prime office buildings in Tokyo had an average yield gap of 2.9% in 2019, which is higher than the average yield gap of both London (2.5%) and NYC (1.25%). As a result, foreign funds searching for yield have deployed a record amount of capital into Japanese real estate over the past several years: in the year 2017 alone, overseas firms spent 1.1 trillion Yen on acquisitions.

Fig.16 Reasons for Foreign Investors Investing in Japan
(Multiple answers allowed)

n=99(Respondents27)



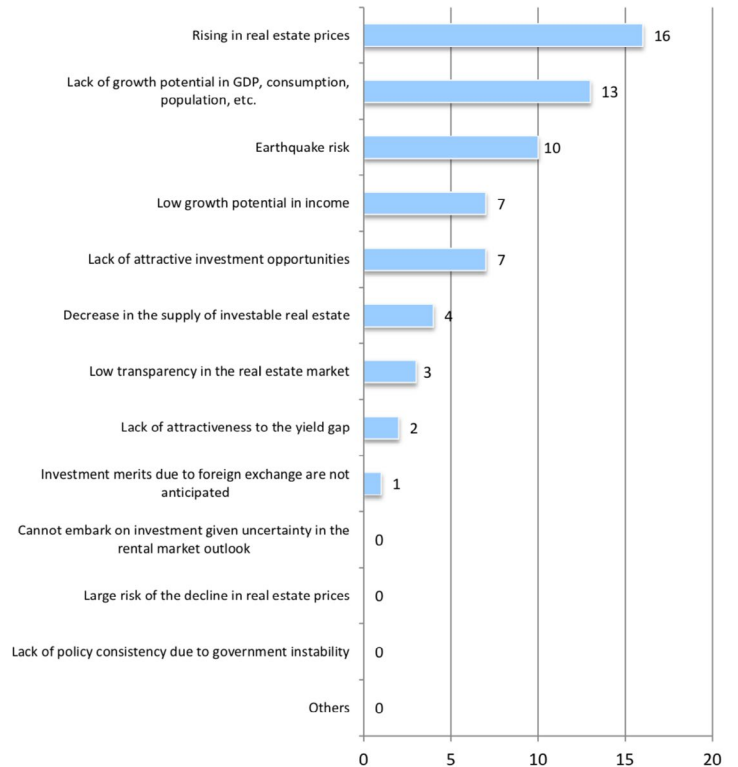
5_The Japanese Real Estate Market

Pain Points - Fund Duration / Rising Prices / Illiquidity

With the increasing likelihood of further BOJ easing, the competitive landscape for property acquisitions has intensified. Funds with an average investment period of 5+ years dominate this market, as the average length of new funds launched in 2019 is now 9.1 years. The increased length in fund duration coincides with decreased liquidity, as investor capital is used to purchase and maintain the underlying real estate assets.

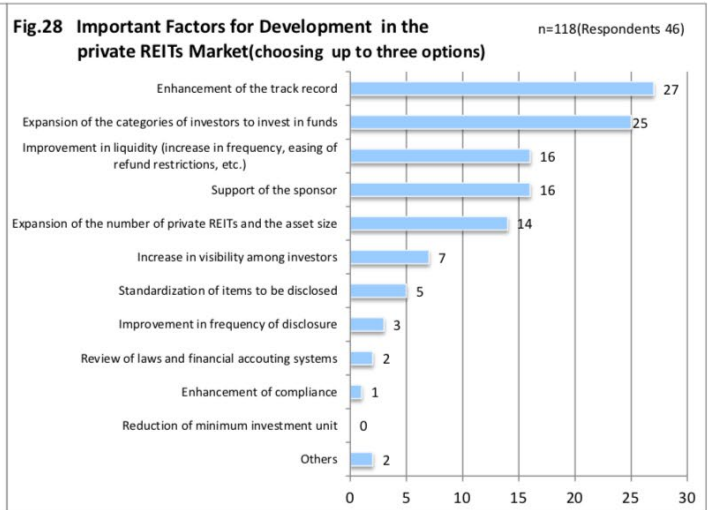
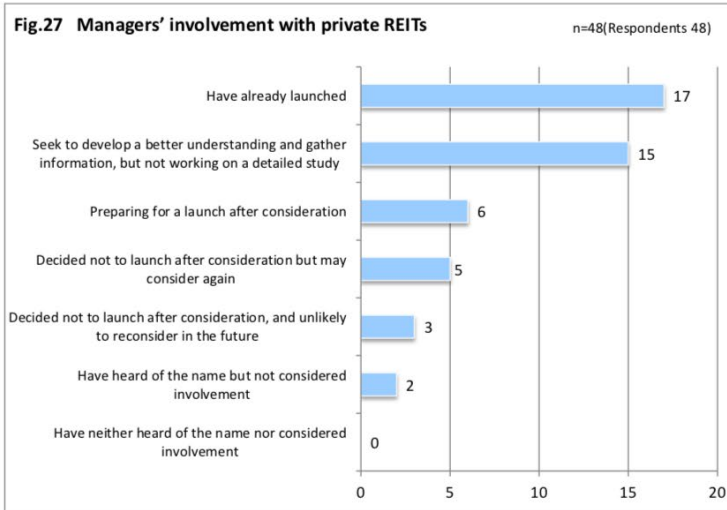
Japanese real estate securitization involves major players, such as GK-TK (GodoKaisha-TokumeiKumiai) and TMK (TokuteiMokutekiKaisha). REITs are widely popular in Japan, most of which are funded by institutional investors. As institutional investors require higher yields than individuals, the recent inflated real estate prices make it difficult to form deals, particularly in metropolitan areas. In fact, when surveyed by the Sumitomo Mitsui Trust Research Institute, nearly 25% of respondents chose “rising real estate prices” as a reason they did not invest in Japan. When analyzing the business environment for private REITs, the second most popular response found that managers were “seeking to develop a better understanding and gather information” before they launched open-ended private funds.

Fig.17 Reasons for Foreign Investors Not Investing in the Japanese Real Estate Market (Multiple answers allowed) n=63(Respondents25)



These managers cited a significant need for an “expansion of the categories of investors to invest in funds” and “improvement in liquidity” as important factors for further development in the private REIT market.

5_The Japanese Real Estate Market



We believe that tokenization can provide solutions to the current challenges cited by fund managers within the Japanese real estate market.

6_Security Token Solutions for Japanese Real Estate

Security tokens are designed to improve upon the inefficiencies that are currently restricting the Japanese real estate market - specifically, those challenges that relate to investment transparency, access, and liquidity.

Data Transparency

Complex investment opportunities often require large teams of analysts and lawyers to evaluate prospects and assess the technicalities of assets, leading to significant costs and time. These costs are often fixed in nature, resulting in a competitive advantage for those that can invest at scale. As such, a threshold exists where large asset managers have a distinct edge over those with fewer resources. Digital securities can help level the playing field by increasing data transparency within the Japanese real estate market.

According to JLL's "Global Real Estate Transparency Index 2018," Japan ranked 19th of out of 100 countries surveyed; Japan ranked toward the top of the "Transparent" group, but they are still far from making the "Highly Transparent" tier. Since the last survey in 2016, 85% of countries saw an increase in real estate transparency, many of which outpaced Japan.

The most notable increases were in those jurisdictions that used technology for assistance.

JLL researcher, Yuto Ohigashi commented on Japan's need to act, stating "transparency in the Japanese market has improved, but other counties are achieving even more significant improvement. Japan will be left behind the global trend unless it increases the speed of improvement." We believe that the security token ecosystem can serve as viable infrastructure for increased data transparency.

As noted earlier, many Japanese RE fund managers are "seeking to develop a better understanding and

Transparency Levels – Spread Within Countries

Russia, China and France have the widest dispersion of scores across city markets



Source: JLL, LaSalle Investment Management

gather information" before they allocate more capital to the market. This statement coincides with Japan ranking 35th in "Transaction Process" on JLL's survey, which is mostly attributed to books and records lacking transaction price information. The predominant use of DLT within the security token ecosystem can help increase information disclosures.

If security tokens serve as the vehicle for intermediation between transacting parties, DLT can provide visibility into the data related to underlying properties. Upon initial issuance, property information, such as land title, capitalization (cap) and occupancy rates, ownership and tenant history, etc. can be tracked in real-time throughout the life-cycle of each digital security.

6_Security Token Solutions for Japanese Real Estate

This information is typically scattered across multiple organizations and in different formats; the data can now be standardized and made readily available on web-based platforms. Yuto Ohigashi of JLL believes “there are two keys to increasing transparency: changing the market mechanism through government initiatives, and having private market players be conscious of transparency in their business activities.”

Digital securities can serve as the instrument needed to track Japanese real estate data, which we believe would open access to further international investment.

Open Access

JLL’s 2018 survey found that real estate investors tended to gravitate toward markets that were both highly transparent and open.

Their research found that ‘Highly Transparent’ cities account for 70% of direct real estate investment across the 158 cities covered, and nearly three-quarters of cross-border investment.

Investors and property developers are increasingly requiring more information related to city-level dynamics, as made evident by the graphic below; a meaningful correlation was found between a city’s perceived real estate transparency and its total transaction volume.

City-Level Real Estate Transparency and Transaction Volumes

Transparency rises with investment activity



Based on direct commercial real estate investment, 2013-2017 (Log Scale)
Source: JLL, LaSalle Investment Management

6_Security Token Solutions for Japanese Real Estate

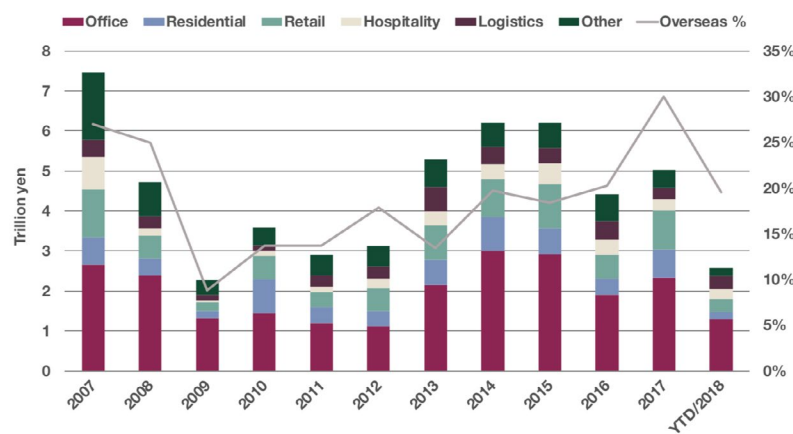
If Japan were to utilize tokenization methods to increase transparency, we believe that Tokyo could potentially climb into the “Highly Transparent” tier, which would likely coincide with increased transaction volume. In order to see the necessary uptick in real estate transaction volume, Japanese RE managers will likely have to capture a larger share of the international investment community. According to Savillis Research, there was a sharp decrease in the percentage of cross-border investment volumes between the year 2017 and Q3 of 2018.

In December of 2018, Japan saw a year-over-year (YOY) decrease from international investments amounting to over 2 Trillion (yen). This data validates Sumitomo Mitsui Trust Research Institute’s survey results, where RE investment managers sought an “expansion of the categories of investors to invest in funds.” The tokenization of Japanese real estate can allow for the creation of diverse products that would attract alternative investors.

As discussed earlier, security tokens are an ideal vehicle for facilitating seamless cross-border transactions, due to their programmable nature. Tokenized Japanese real estate can provide a coded framework for preventive and detective asset controls, which could help mitigate jurisdictional regulatory concerns.

According to JLL’s 2018 Index, Japan ranked 31st in “Governance in Listed Vehicles,” which is a factor that likely contributed to the decrease in international investment. If digital securities became a preferred vehicle for listings, governance could be standardized and automated. International investors would have a more convenient mechanism for participating in governance actions, leading to a corresponding increase in the deployment of cross-border capital; a globally diverse investor pool would enhance market liquidity.

Investment volumes and cross-border share, 2007 – Q3/2018



Source: RCA, Savills Research & Consultancy

6_Security Token Solutions for Japanese Real Estate

Enhanced Liquidity

As noted in the previous section, nearly half of Japan's real estate AUM is locked up in the private market, resulting in a large liquidity premium. The liquidity premium is primarily due to high transaction costs, which are composed of a wide range of market frictions: large bid-ask spreads, decreased market depth, high property search costs, and brokerage fees, all of which increase market complexity.

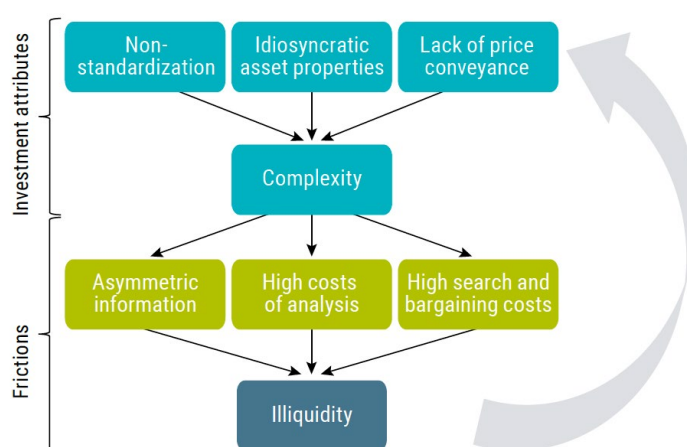
Security tokens can increase liquidity within Japan's private real estate market by enhancing characteristics of the underlying investments. The existing model is heavily reliant on intermediaries such as investment bankers and brokers, as the buyer base for these complex assets is limited.

By providing an asset standardization framework digital securities can reduce analysis and search costs. When supply and demand frictions are smoothed transactions can occur more frequently leading to increased price transparency. The resulting feedback loop would ultimately result in higher liquidity for private real estate investments.

The tokenization of real estate can also add value to the supply side of the Japanese real estate market. As noted in the prior section, rising real estate prices are one of the top

reasons why fund managers would overlook Japan. The rapidly inflating real estate prices can mostly be attributed to a limited supply of investment-grade real estate. Through tokenization, real estate assets can be pooled together and repackaged into interest-bearing digital securities. Diversification allows default risk to be spread, leading to an increase in the supply of investment grade real estate opportunities.

Exhibit 3: Private market transaction illiquidity cycle



Source: PIMCO

By increasing real estate transparency, further opening access to the international investment community, and providing greater liquidity, digital securities can ultimately contribute to a decrease in Japanese real estate investment prices. As nearly a quarter of RE investment managers chose "rising real estate prices" for a reason they did not invest in Japan, we believe that tokenization would drive further capital deployment to this region.

7 Conclusion

Leaders throughout financial services believe that blockchain technology can transform the global financial system, most notably in the form of disintermediation. By increasing data efficiency, transparency, and security, blockchain has the potential to change or even replace processes that have historically been performed by financial middlemen. When coupled with smart contracts, DLT can bring about the next great evolution in securitization through security tokens.

Security tokens allow for the standardized issuance and ongoing transfer of assets on blockchains. Similar to other successful securitization methods of the past, security tokens will change the structure of once illiquid and uneconomical assets, making them available to a pool of global investors. Other unique innovations such as built-in regulatory security will eliminate the need for wasteful compliance costs, further expanding the universe of assets that can be traded.

We began this case study with the goal of exploring the possible impacts blockchain-based assets could have on the Japanese real estate industry. Much of the allure of security tokens involves uniting people around the world in common enterprises, while also offering a healthy environment for information sharing to smooth cross-border finance.

We hope that the previous information has successfully demonstrated some of the potential benefits that tokenization can offer Japanese RE fund managers, as well as the global investment community in the coming era of digitized finance.

8_Partners

JSTA

The Japan Security Token Association (JSTA) runs the largest security token community in Japan, in strategic partnership with Securitize, Inc and supported by strong corporate members, including Deloitte Tohmatsu Consulting LLC, and individual professionals. Closely discussing with the local regulatory authorities and financial institutions, JSTA contributes to implementation of security token scheme to the Japanese securitization market, in practical business manners. And at the same time, JSTA drives enlightenment and dissemination about the significant potential of security token to the market.

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Securitize

Securitize delivers trusted global solutions for creating compliant digital securities. The Securitize compliance platform and protocol provide a proven, full-stack solution for issuing and managing digital securities (security tokens). Securitize's innovative DS Protocol has the highest adoption rate in the industry and enables seamless, fully compliant trading across multiple markets simultaneously. Multiple Securitize powered digital securities are already trading globally on public marketplaces with many more in the pipeline.

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