



JAPANESE-GERMAN REAL ESTATE BRIDGE

The Japanese Institutional Real Estate Market

January 22, 2022



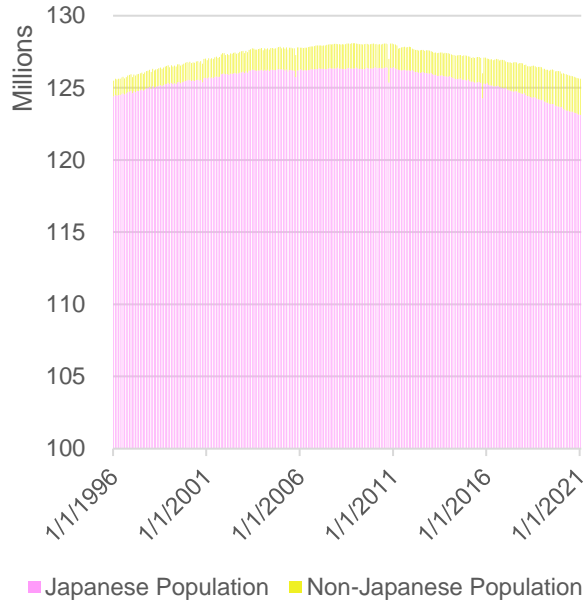
AGENDA

1. Japan Macro Introduction
2. The Japanese institutional Real Estate Market
3. Investment Regions
 - a. Tokyo
 - b. Greater Tokyo (ex Tokyo)
 - c. Others



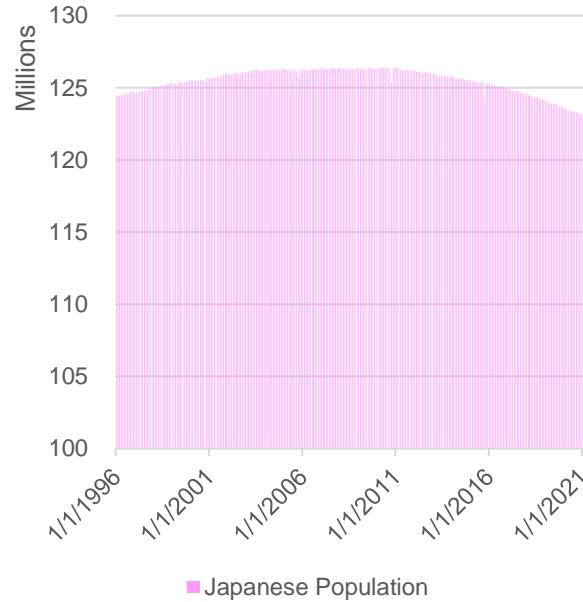
1. JAPAN MACRO INTRODUCTION

POPULATION



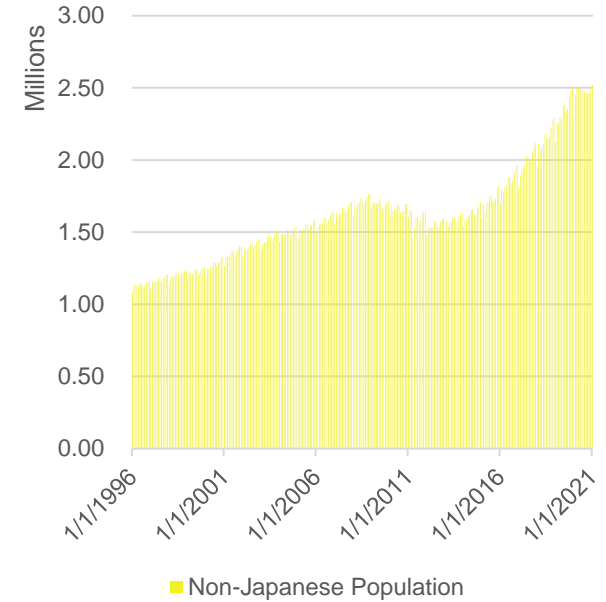
Statistics Bureau of Japan Jan 1st, 1996 – Jan 1st 2021

TOTAL POPULATION
125.63M



Statistics Bureau of Japan Jan 1st, 1996 – Jan 1st 2021

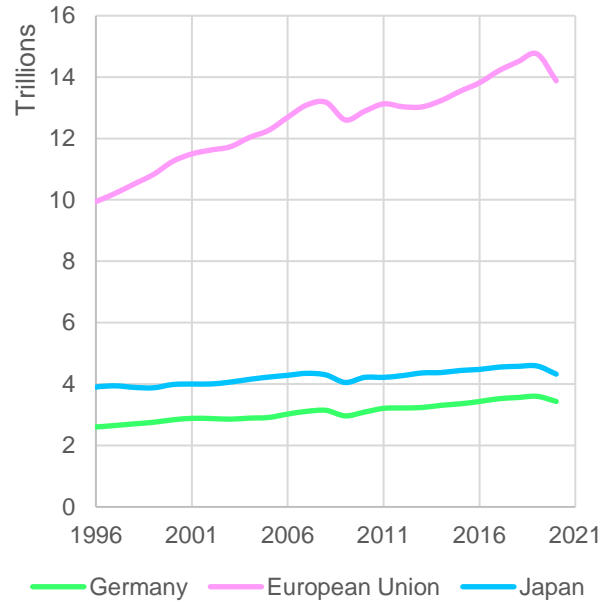
JAPANESE POPULATION
123.11M



Statistics Bureau of Japan Jan 1st, 1996 – Jan 1st 2021

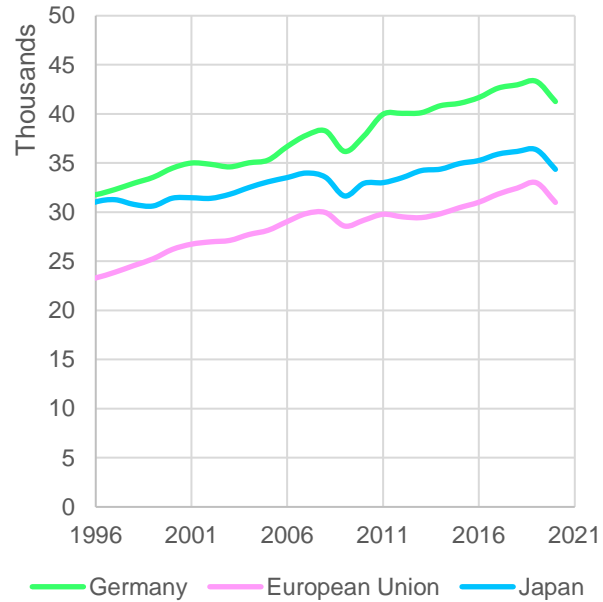
NON-JAPANESE POPULATION
2.52M
(plus 130% over 5 years)

GDP



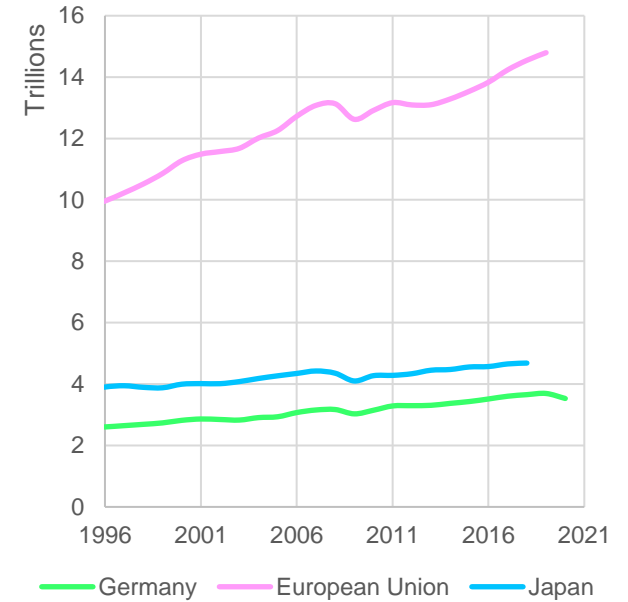
World Bank – updated Oct 2021

GDP (Constant 2015 USD)
4.32T



World Bank – updated Oct 2021

GDP per Capita
(Constant 2015 USD)
34.37K

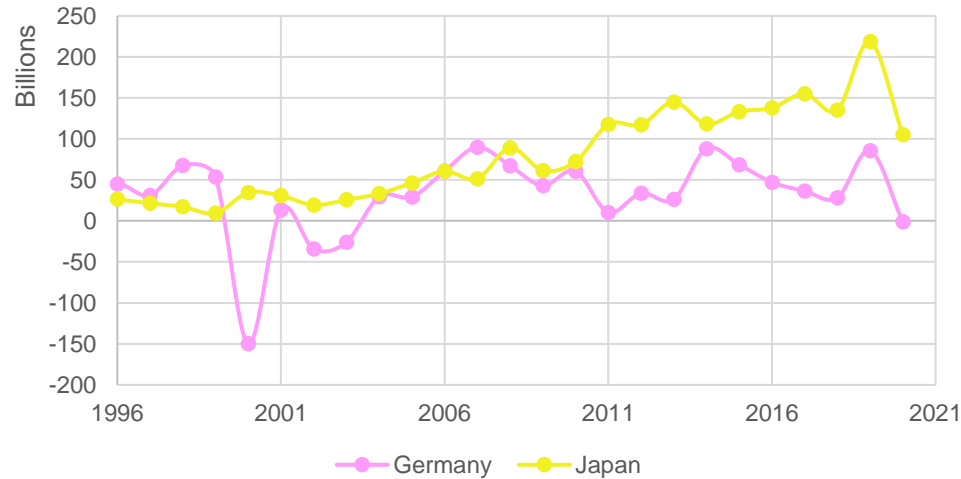


World Bank – updated Oct 2021

GNI (Constant 2015 USD)
4.69T

NET FOREIGN DIRECT INVESTMENT

Net Foreign Investment Over Time
(Billions USD)

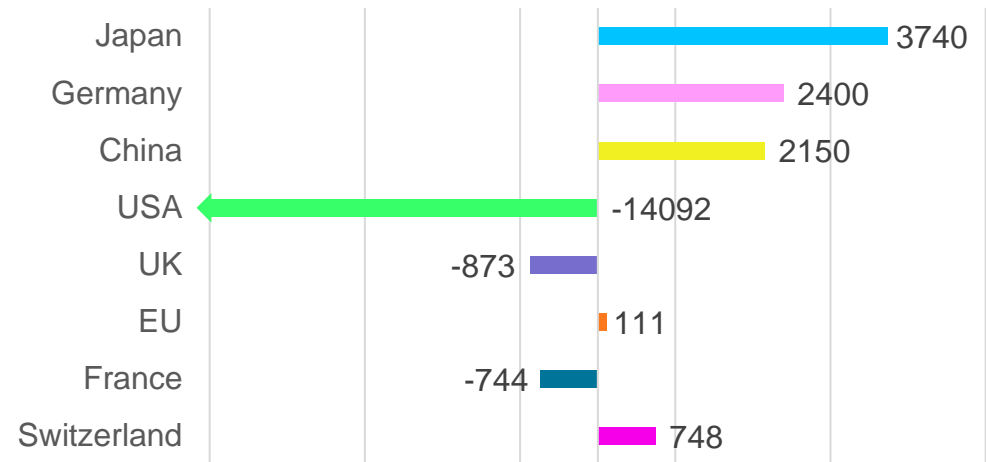


World Bank – Updated Oct 2021 (figures only available in current USD)

Japanese FDI has consistently grown over time, outpacing Germany from around 2011 onwards.

It has also remained positive, unlike Germany which has occasionally become negative in the past.

Net Foreign Assets by country (Billions USD)

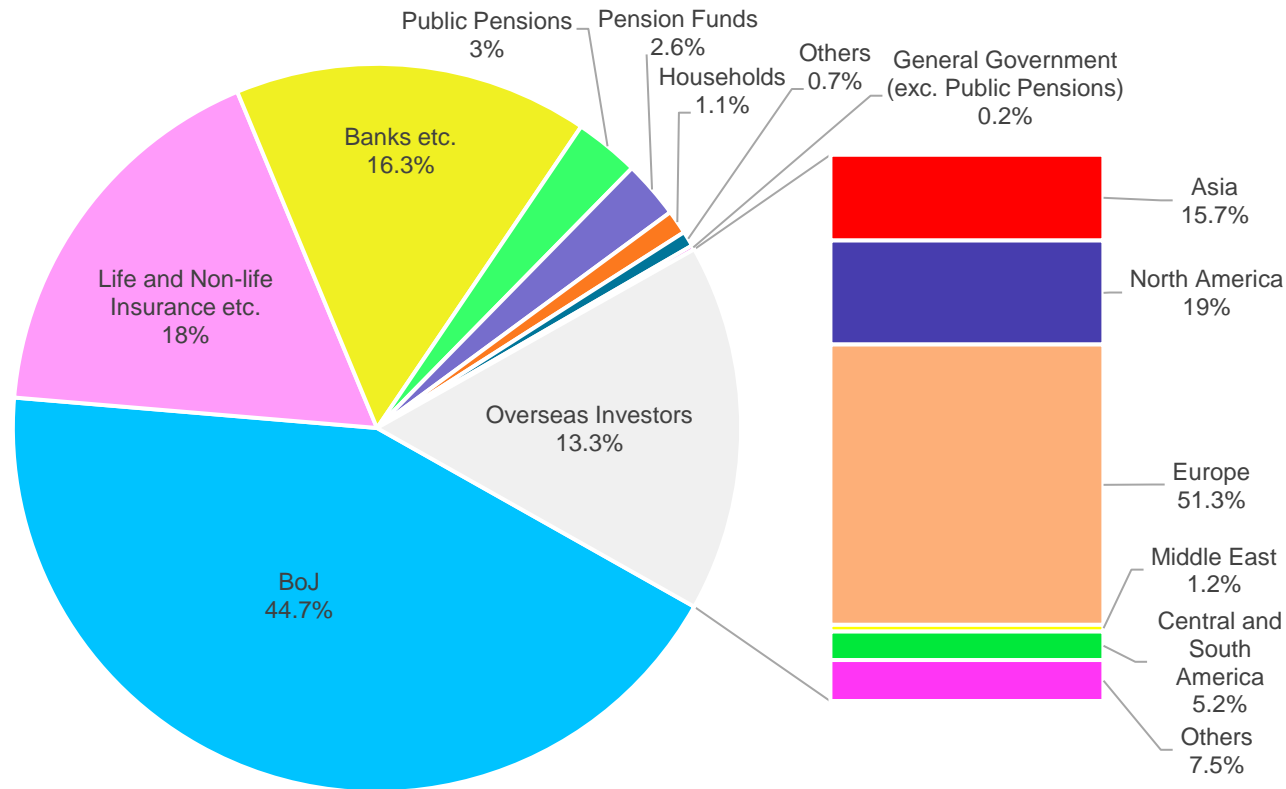


CEIC Database, an ISI Emerging Markets Group Company

Japan has the greatest volume of net foreign assets compared to other major economies.

In contrast, the USA is far and away the lowest, with -14 trillion dollars in net foreign assets.

JAPANESE GOVERNMENT DEBT



As of December 2020, 86.7% of Japanese national government debt was held by domestic investors, thereof 44.7% was held by the Bank of Japan.

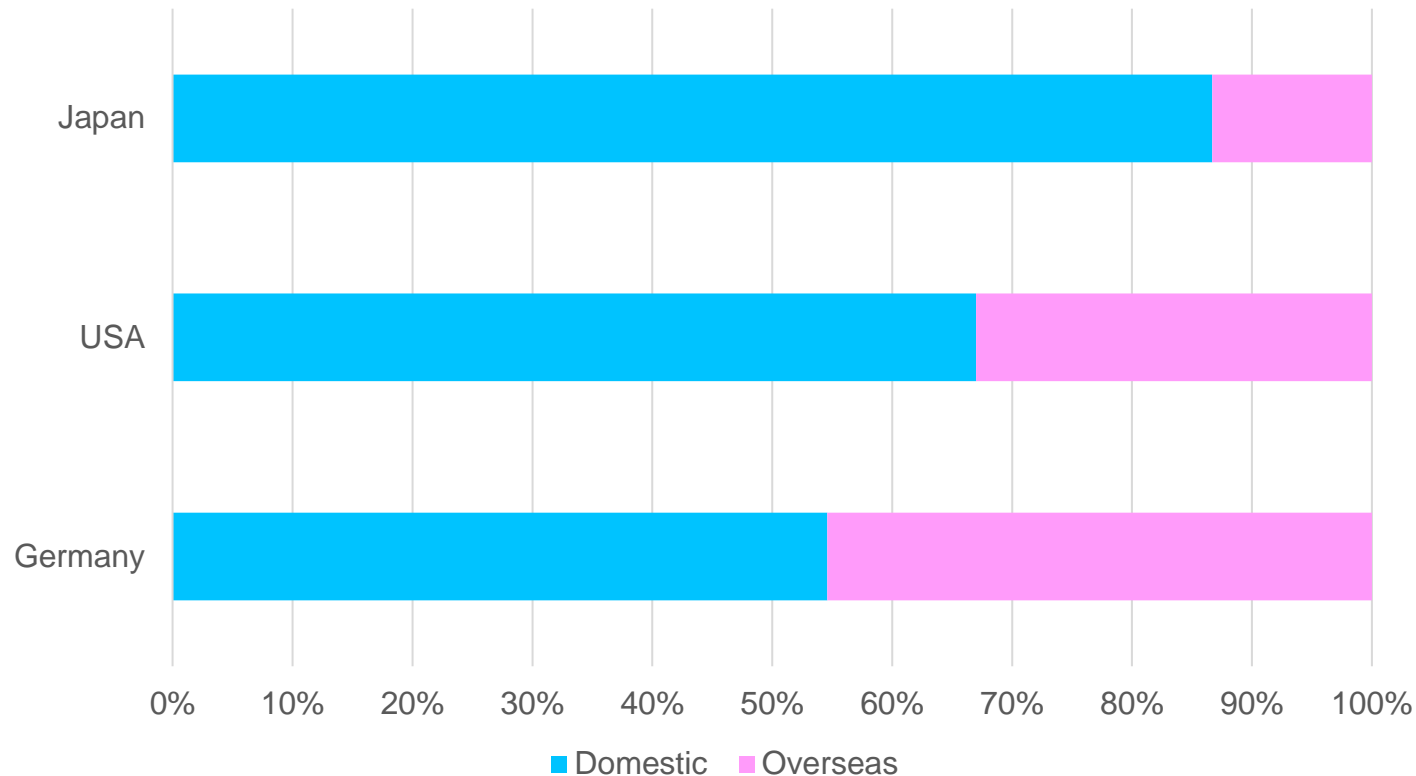
Japanese debt is primarily made up of government bonds (JPY 1,043.1 trillion) and treasury bills (JPY 176.8 trillion)

Source: Ministry of Finance

(Note that the breakdown of bond holdings by region also includes local government bonds in addition to JGBs)

OWNERSHIP OF GOVERNMENT BONDS

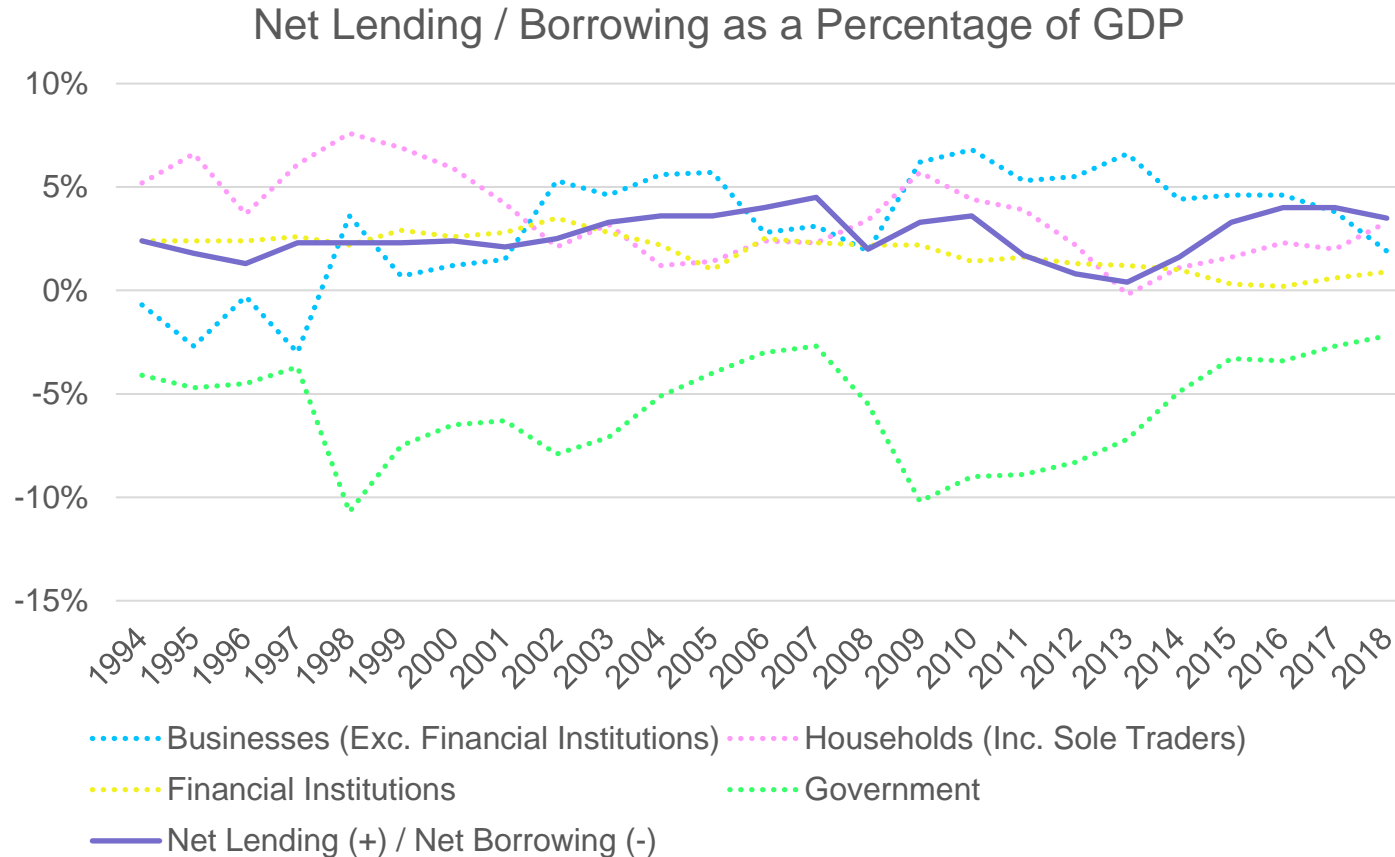
Domestic vs Overseas Ownership of Government Debt



- 45.4% of German government debt is held by none-German investors, which is significantly higher than Japan's 13.3%.
- 33% of US Federal debt is held by non-US investors. The volume of US debt has increased markedly in recent years, from USD 14.8 trillion in 2017 to USD 21.6 trillion now. The share owned by non-US investors fell over the same period from 42%.

Source: Eurostat (https://ec.europa.eu/eurostat/databrowser/view/GOV_10DD_GGD_custom_1571214/default/table?lang=en), Japan Ministry of Finance (https://www.mof.go.jp/english/policy/jgbs/publication/debt_management_report/2021/esaimu2021.pdf), and US Congressional Research Service (<https://sgp.fas.org/crs/misc/RS22331.pdf>)

NET LENDING / NET BORROWING



Source: <https://www.e-stat.go.jp/dbview?sid=0003428355>

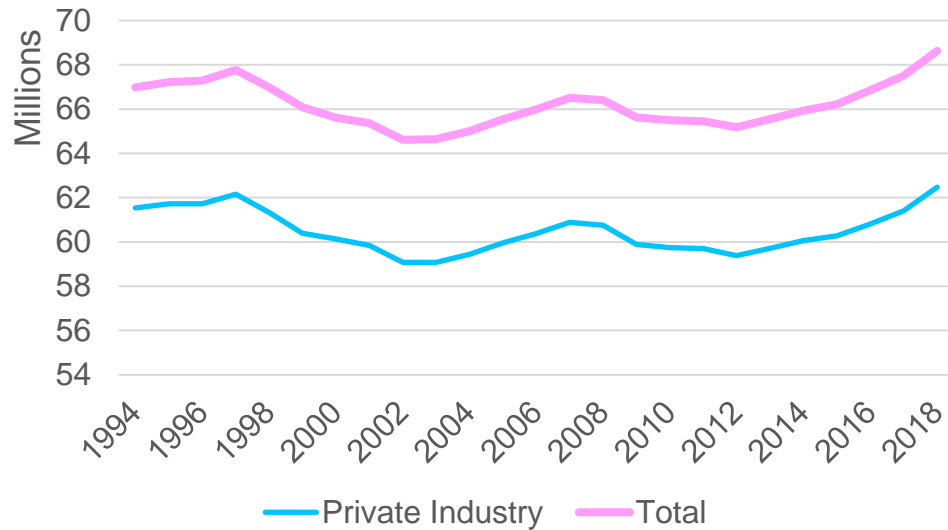
The Japanese government (green) is a net borrower, although the deficit has reduced in recent years (until the pandemic).

This deficit is offset by other sectors of the economy – especially private businesses, which are net lenders.

As a result, the nation as a net lender.

EMPLOYMENT INDICATORS

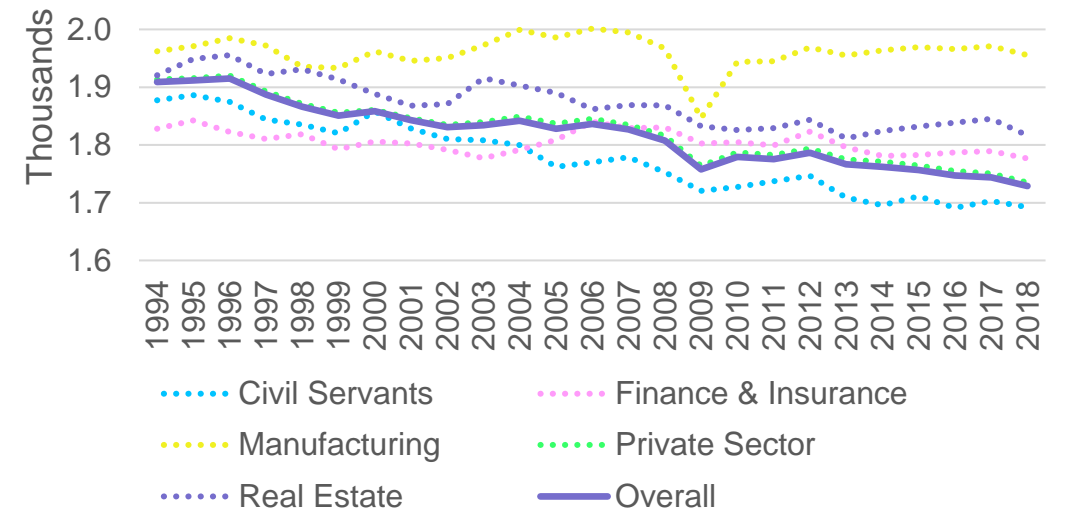
Employed Labour Force



Source: <https://www.e-stat.go.jp/dbview?sid=0003428450>

The number of employees working in Japan has remained relatively steady since 1990, but has begun to increase in recent years, reaching 68.6 million in 2018 – despite the declining population.

Average Annual Working Hours per Sector

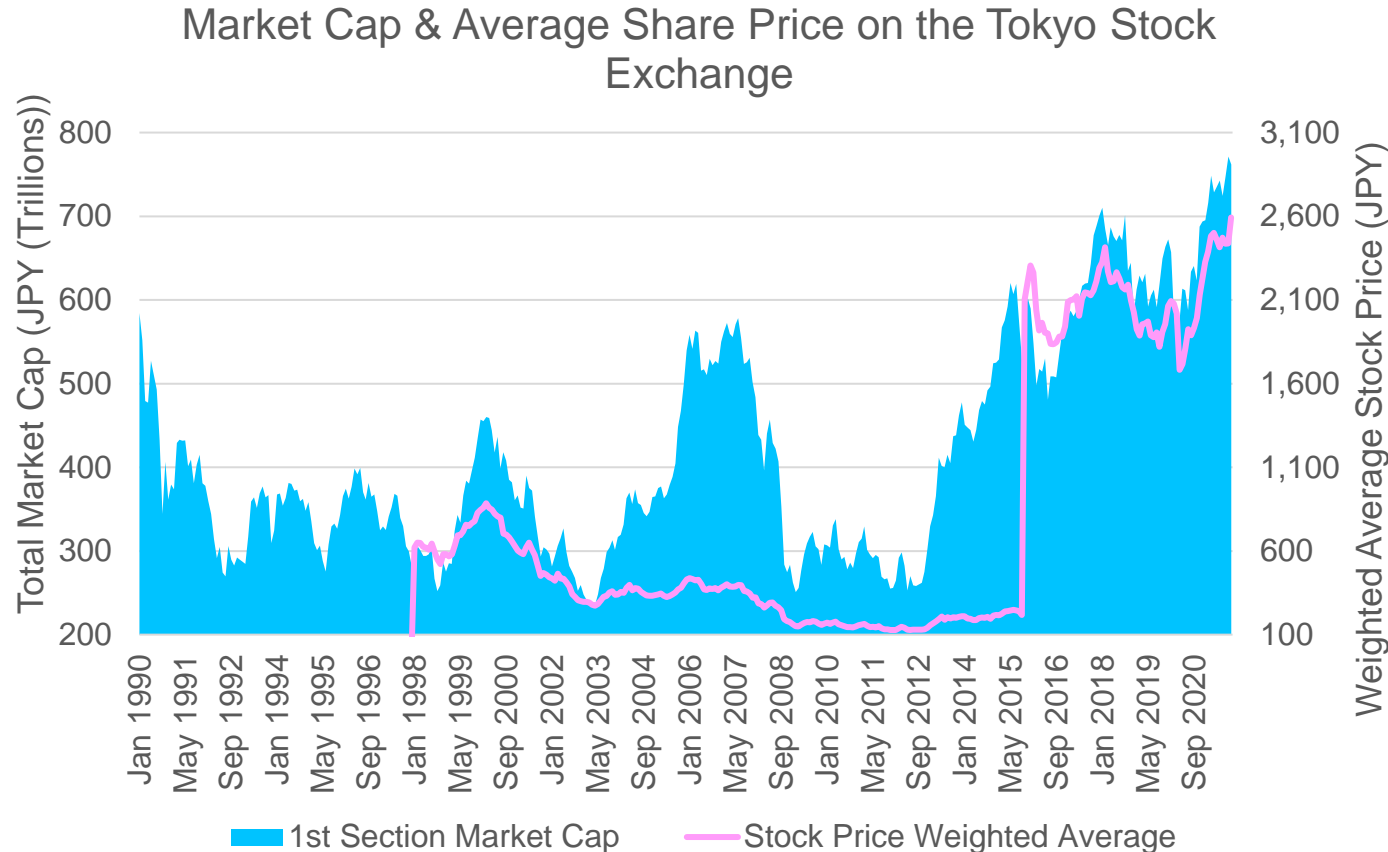


Source: <https://www.e-stat.go.jp/dbview?sid=0003428452>

Average working hours in Japan have been decreasing in most sectors, reaching an average of 1,729 hours in 2018.

This implies that Japanese workers are increasingly able to spend more free time at home, or on leisure activities.

TOKYO STOCK EXCHANGE MARKET CAP



Source: JPX Data (<https://www.jpx.co.jp/english/markets/statistics-equities/misc/02.html>)

Market cap has grown steadily since late 2012 and continues to do so despite the Covid-19 pandemic. It now stands at JPY 762 trillion.

Changes in the average stock price are harder to evaluate, as the calculation method was radically changed in 2015. However, it does appear to have been growing in recent years.

As of October 2021, the weighted average stock price was JPY 2,408.

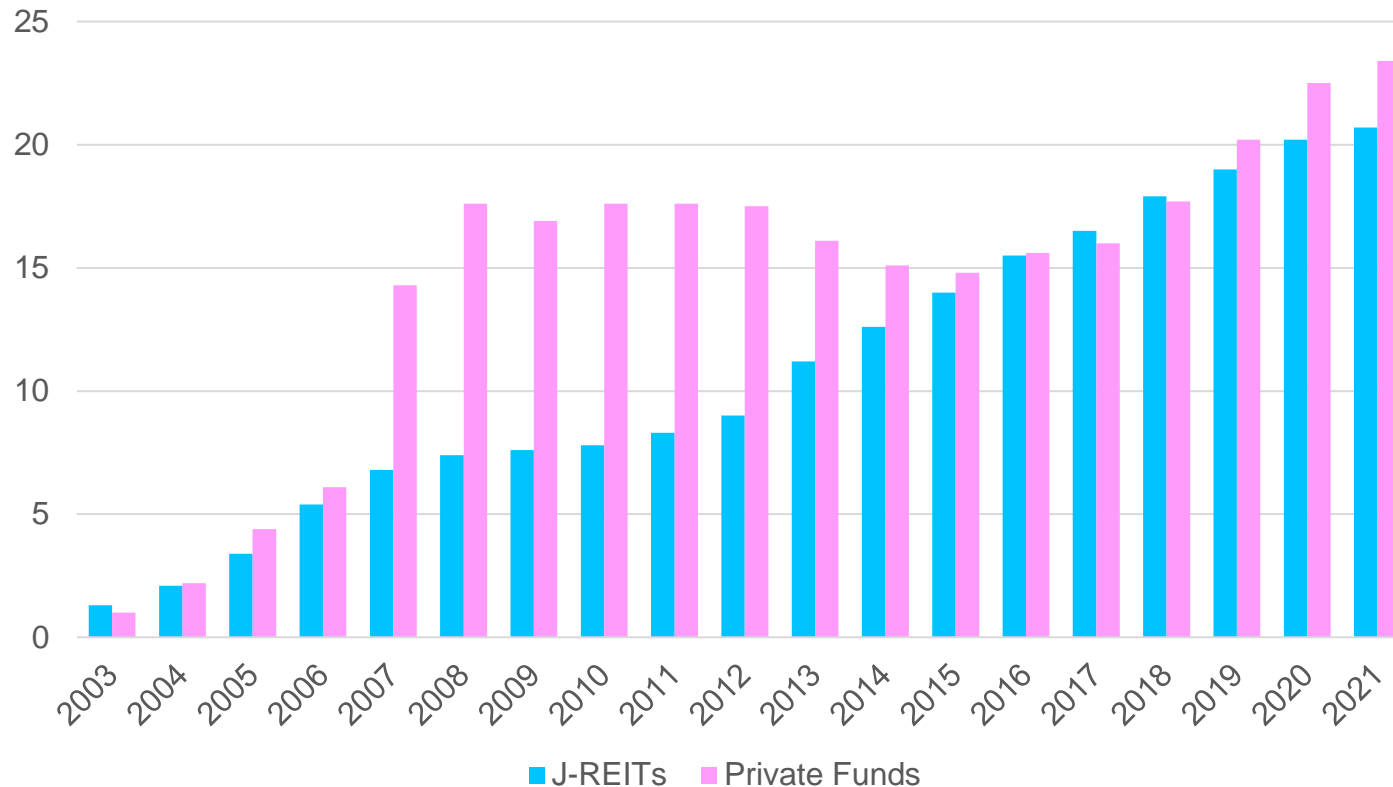


2. The Japanese institutional real estate market

This presentation focuses on the public J-REIT market as the only part of the market that is 'fully' transparent. It represents 50% of the market's AUM.

ASSETS UNDER MANAGEMENT J-REIT AND PRIVATE FUNDS

AUM of J-REITs and Private Real Estate Funds



J-REITs previously occupied a relatively small share of the market, but have consistently grown year-on-year.

Private funds showed stronger initial growth, before shrinking following the financial Crisis

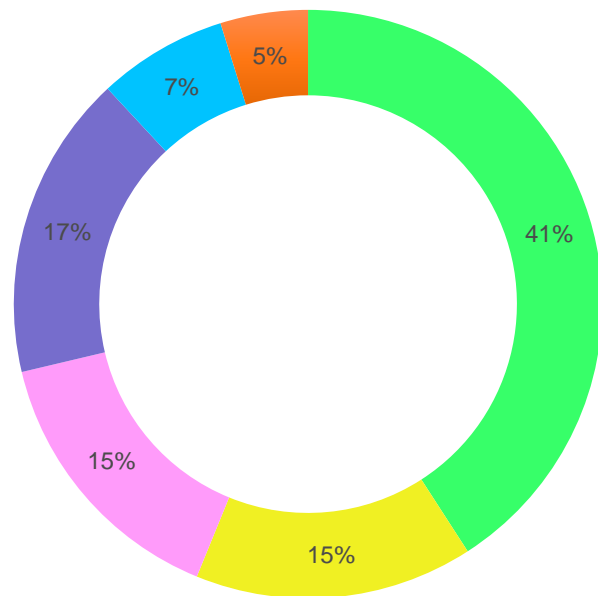
In recent years, starting 2012 growth of the private funds (= non listed funds) is mainly triggered by growth of none listed Private REITs.

In recent years, J-REITs and private funds have each occupied roughly half of the market.

Source; Sumitomo Mitsui Trust Research Institute, "Survey on Private Real Estate Funds in Japan"
(https://www.smtri.jp/market/pf_trend/)

J-REIT ASSET TYPES

Asset type as % of J-REIT AUM
(As of July 2021)



■ Offices ■ Retail ■ Residential ■ Logistics ■ Hotel ■ Other

6.8 Trillion JPY

Residential Assets under management:
J-REITS (Jul 2021)

4.05%

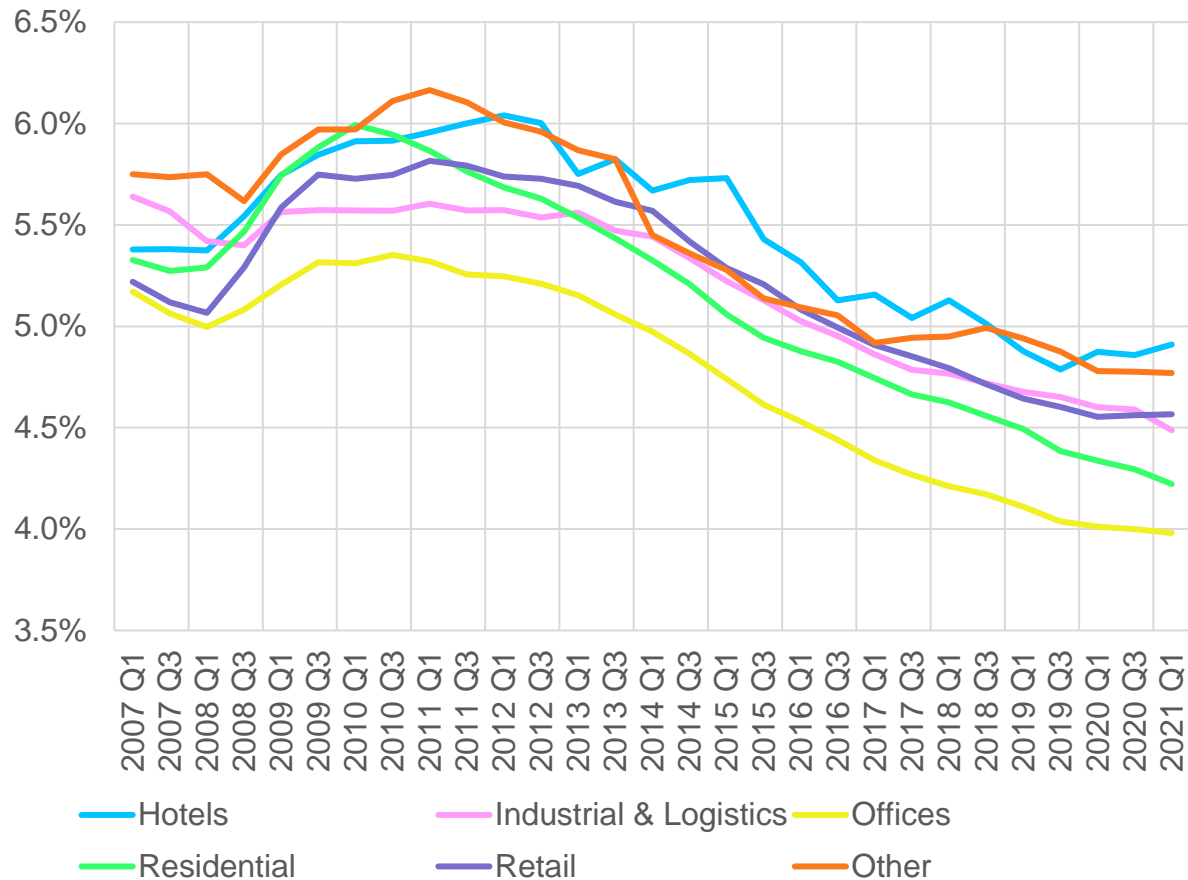
Average Cap rate of all Residential
Assets under management: J-REITS (Jul
2021)

15.12%

% of Residential Assets relative to all J-
REIT AUM: J-REITS (Jul 2021)

J-REIT CAP RATES ACROSS ASSET CLASSES

J-REIT Cap Rates Development Since Jan. 2008

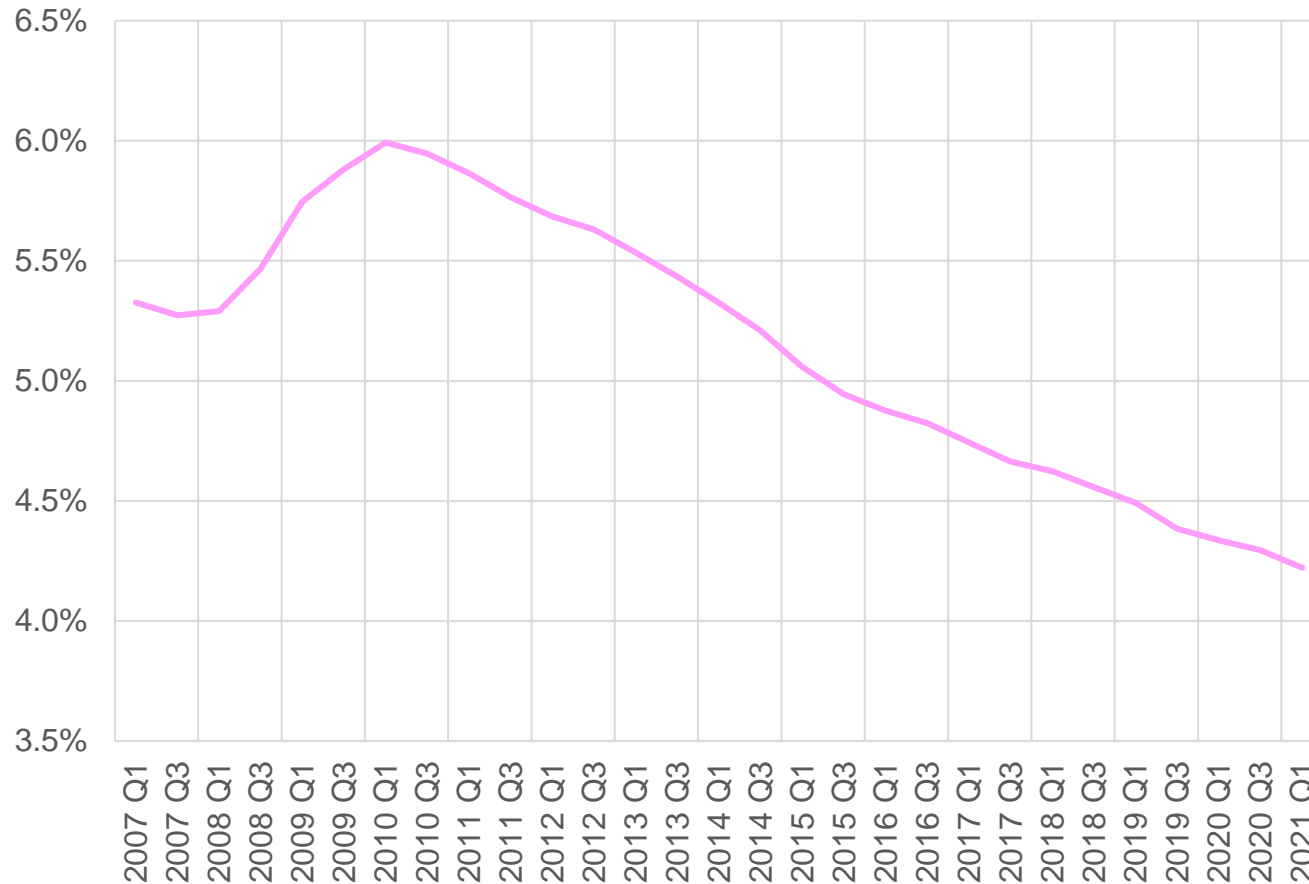


J-REIT Cap Rates as of July 2021

ASSET CLASS	J-REIT Cap Rate
Hotels	4.91%
Retail	4.57%
Logistics	4.49%
Residential	4.22%
Office	3.98%
UST 10 Year	1.32%
JGB 10 Year	0.03%

RESIDENTIAL CAP RATES: J-REIT

J-REIT Average Residential Cap Rate

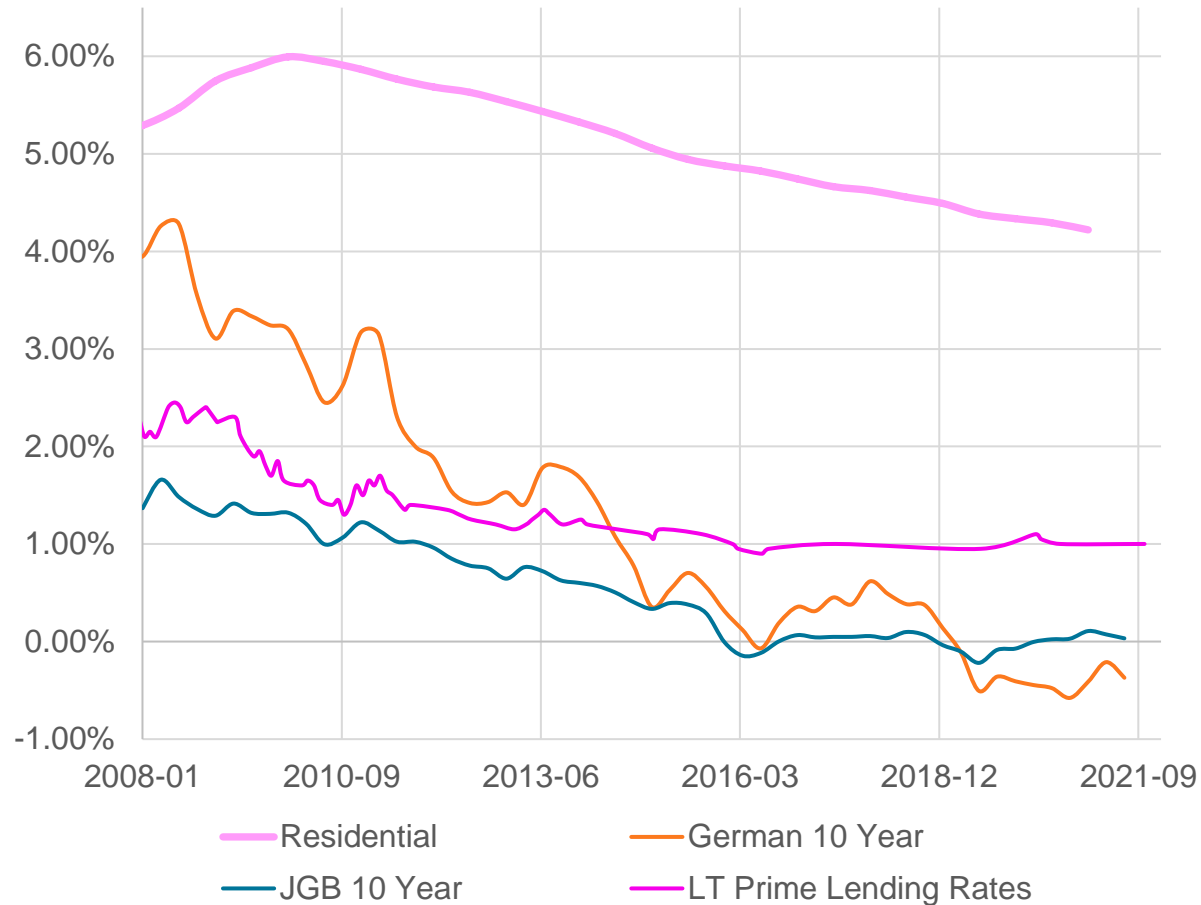


Cap rates for institutional grade residential assets have continued to compress throughout the COVID pandemic as investors turned to the stability of Japanese residential real estate as a store of value and a stable revenue streams

Japanese residential Cap rates are valued at 4.22% for institutional (J-REIT) holders on a national average.

J-REIT RESIDENTIAL CAP RATES SPREAD: LT PRIME LENDING RATES

J-REIT Residential Cap Rates versus Capital Market



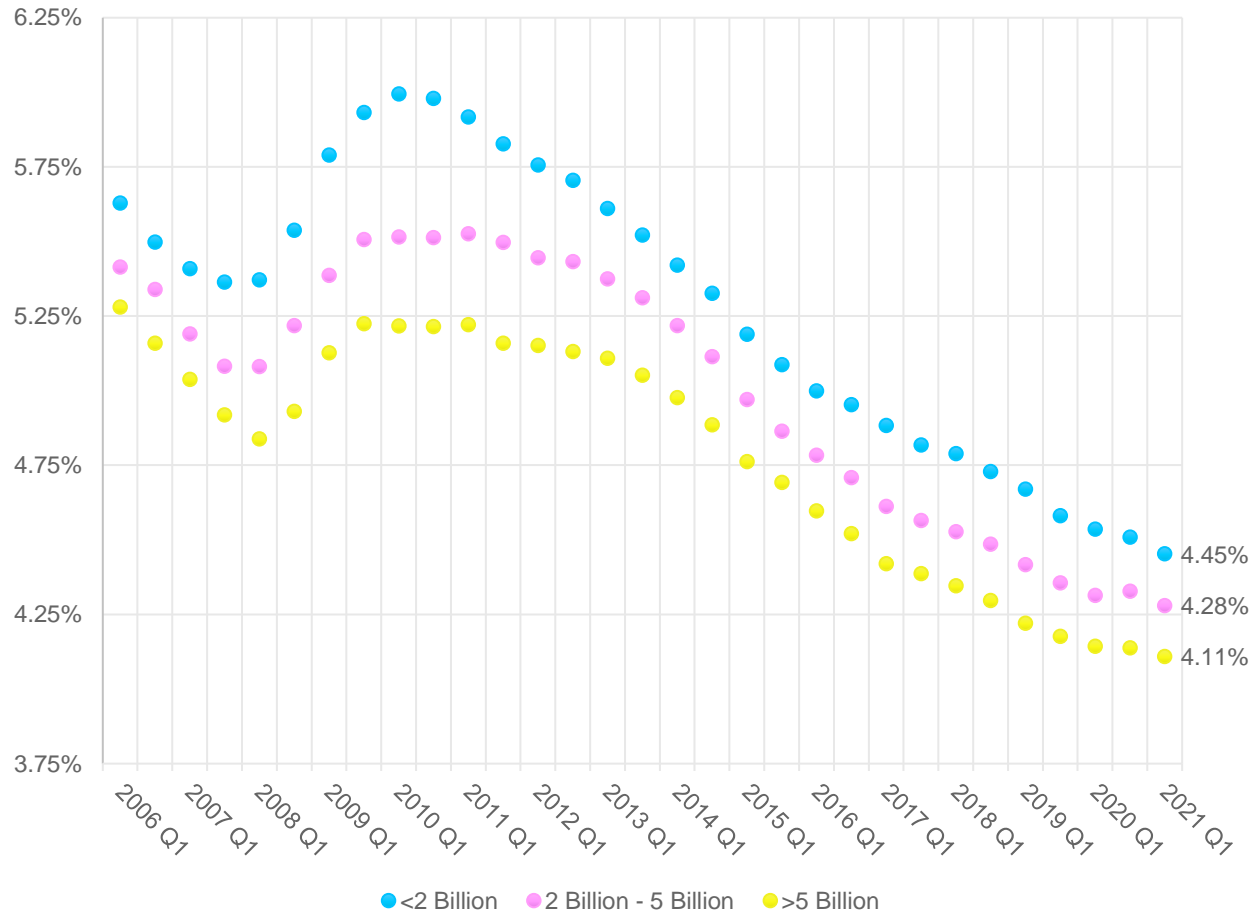
ASSET CLASS	Yield	Spread
Residential	4.22%	419bps
German 10 Year	1.32%	129bps
JGB 10 Year	0.03%	
Long Term Prime Lending Rates – JP	1.00%	97bps

LT Prime Lending Rates

- Source: BOJ survey – based on Mizuho Bank long term prime lending rates
- For detailed TIBOR rates, please see Appendix C: 3 month Tibor Rates

J-REIT RESIDENTIAL CAP RATES – SPREAD : ASSET SIZE

Residential Cap Rates by size of Asset



ASSET SIZE (JPY)	Yield	Spread
Residential – ALL	4.22%	11bps
Less than 2 Billion	4.45%	34bps
2 to 5 Billion	4.28%	17bps
Above 5 Billion	4.11%	-

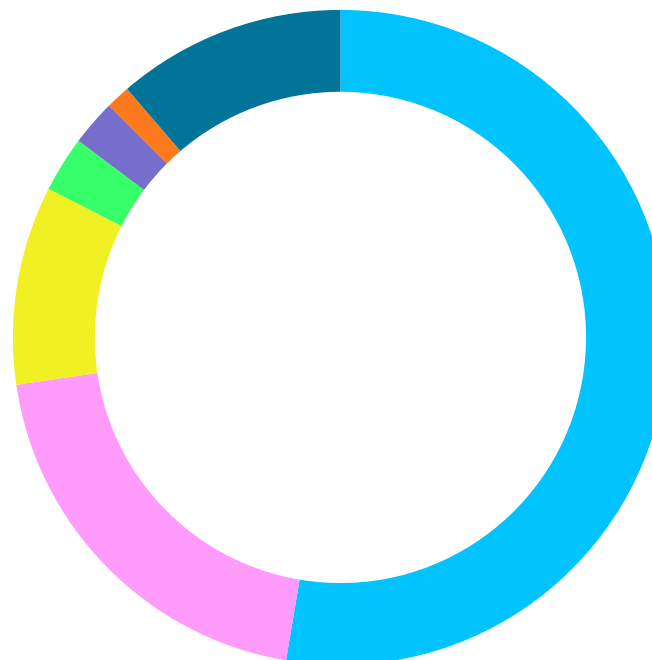
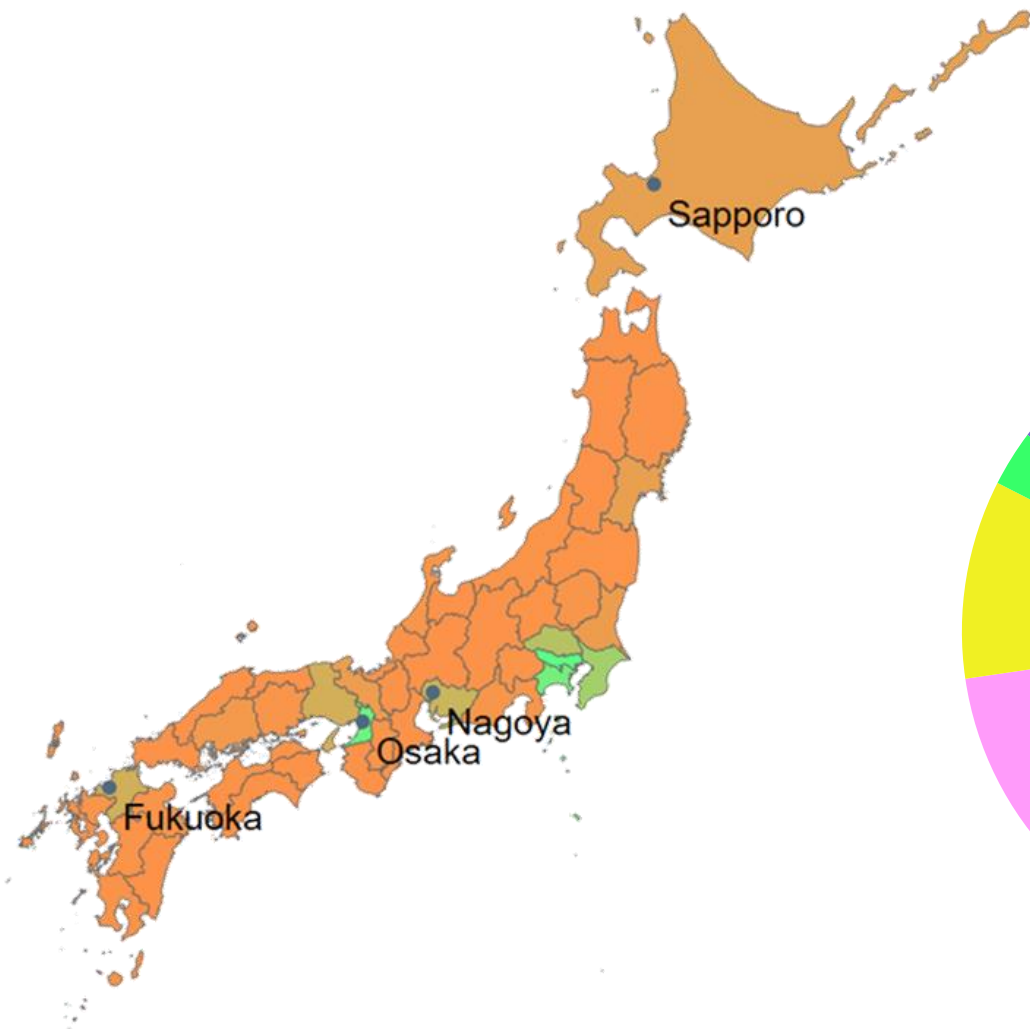
Asset size spread

- The spread margins exist as larger assets or portfolios command a lower cap rate.
- Spreads also occur as larger assets are located in prime areas such as Tokyo Central CBD.

J-REIT ASSETS UNDER MANAGEMENT

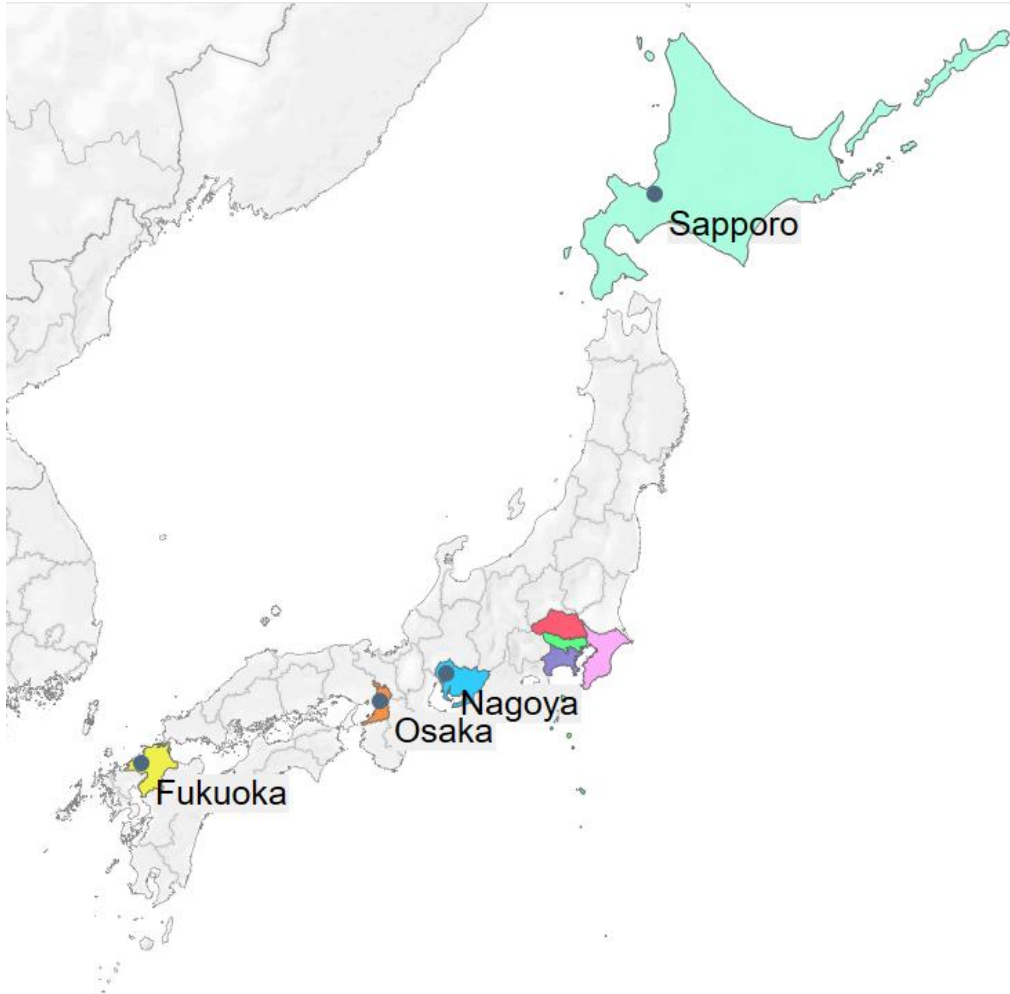
- The six target areas constitute 89% of the J-REIT market.

1. TOKYO
2. GREATER TOKYO
3. OSAKA
4. NAGOYA
5. FUKUOKA
6. SAPPORO



Region	AUM	% AUM
Tokyo	12,173,593,000,000	52.7%
Greater Tokyo	4,631,897,000,000	20.0%
Osaka	2,266,590,000,000	9.8%
Nagoya	638,085,000,000	2.8%
Fukuoka	524,377,000,000	2.3%
Sapporo	275,272,000,000	1.2%
Other	2,609,962,365,000	11.3%
Total	23,119,776,365,000	100%

TARGET PREFECTURES IN JAPAN



Prefecture

- Aichi (Nagoya)
- Chiba (Chiba)
- Fukuoka (Fukuoka)
- Hokkaido (Sapporo)
- Kanagawa (Yokohama)
- Osaka (Osaka)
- Saitama (Saitama)
- Tokyo



3. Investment Regions in Japan



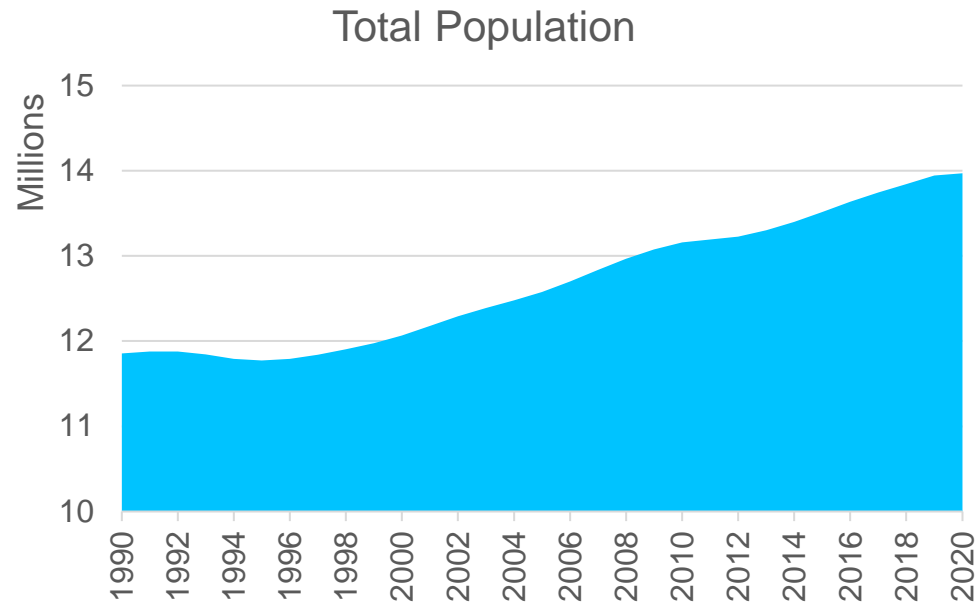
a. Tokyo

DEFINITION: TOKYO CITY, TOKYO (PREFECTURE) AND GREATER TOKYO

	Tokyo City	Tokyo (as Tokyo Prefecture)	Greater Tokyo
Region	23 City Wards	23 City Wards, 26 Cities	Prefectures of Tokyo, Kanagawa, Saitama, Ciba
Population	8,949,447	13,971,109	35,618,564
Size	621.9 km ²	1,808 km ²	13,555 km ²
Population per km ²	14,390	7,727	2,628

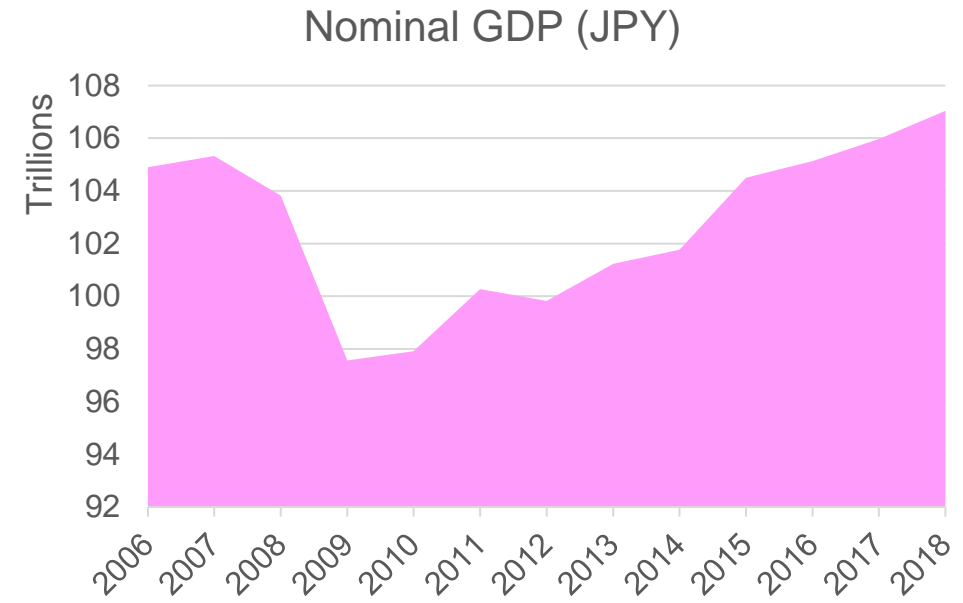


POPULATION & GDP



Source: https://www.e-stat.go.jp/stat-search/files?page=1&layout=datalist&toukei=00200241&tstat=000001039591&cycle=7&year=20210&month=0&tclass1=000001039601&result_back=1&tclass2val=0

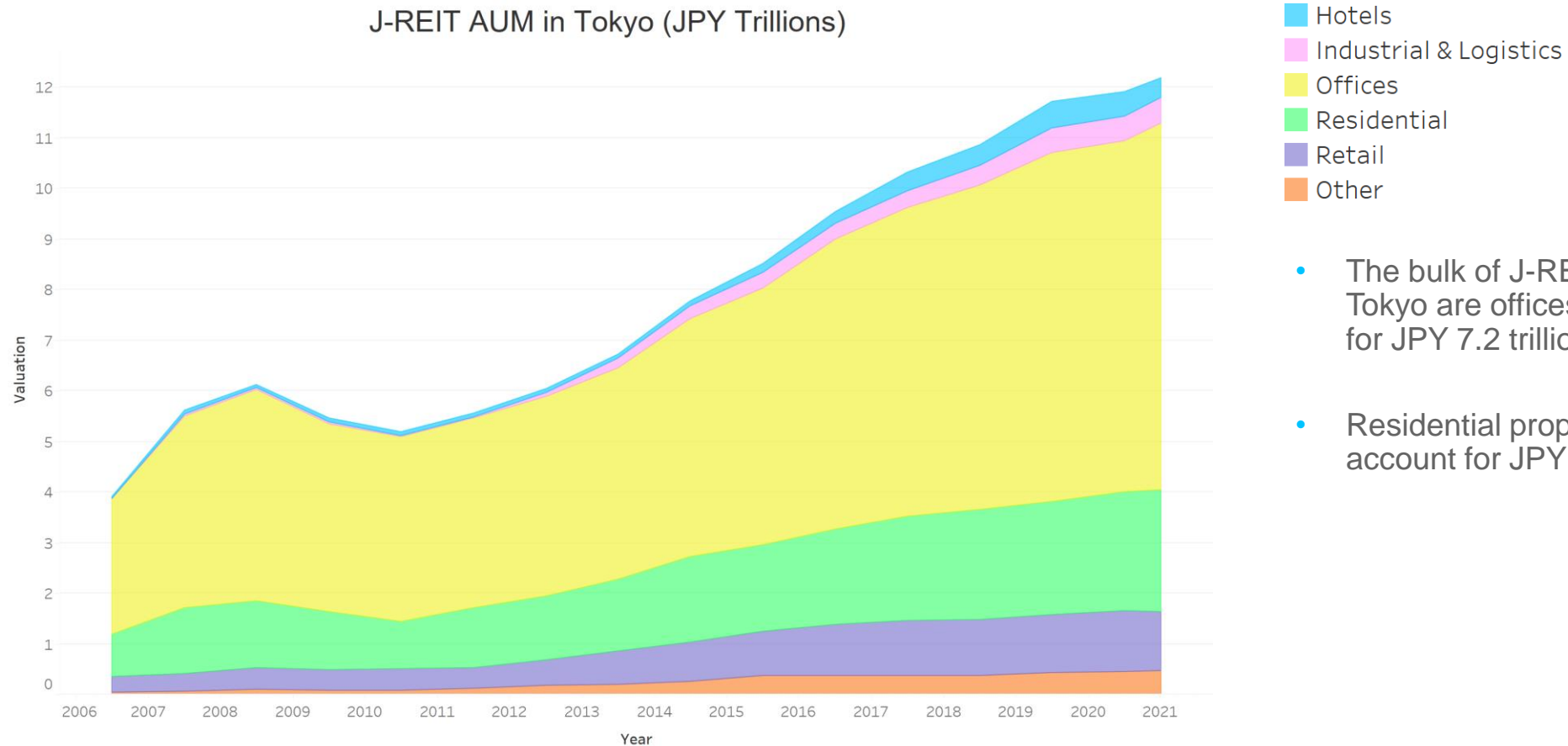
In contrast to the country as a whole, Tokyo's population continues to grow rapidly, reaching 13.8 million in 2020.



Source: https://www.esri.cao.go.jp/jp/sna/data/data_list/kenmin/files/contents/main_2018.html

Tokyo's GDP has been growing since the financial crisis, reaching 107 trillion yen in 2018.

ASSETS UNDER MANAGEMENT (TOKYO PREFECTURE)

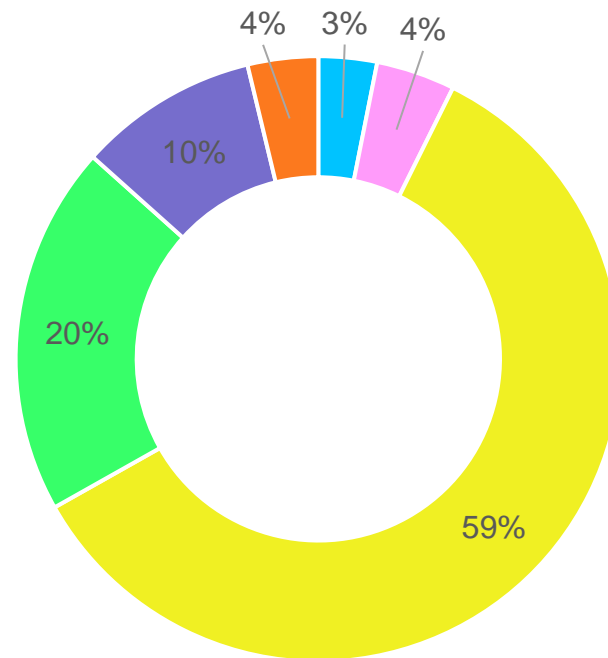


- The bulk of J-REIT assets in Tokyo are offices, accounting for JPY 7.2 trillion in 2021.
- Residential properties account for JPY 2.4 trillion.

Source: J-REIT DB

ASSETS UNDER MANAGEMENT 1ST HALF OF 2021

J-REIT AUM in Tokyo (JPY 12.2 Trillion)



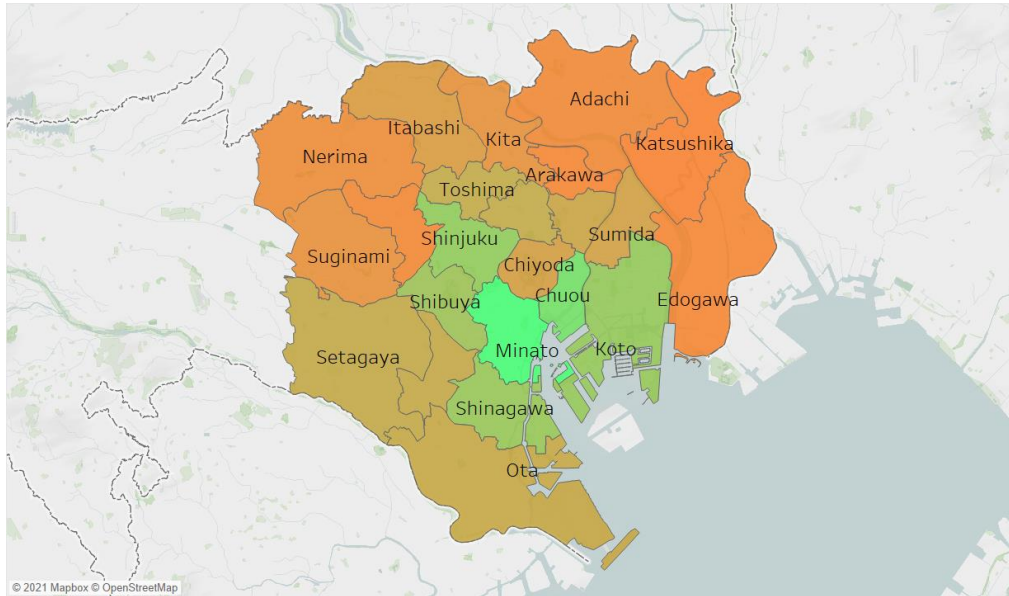
■ Hotels ■ Industrial & Logistics ■ Offices ■ Residential ■ Retail ■ Other

- The bulk of J-REIT assets in Tokyo are offices, accounting for 59% of AUM.
- Residential is also significant, at 20%, but Hotels and Industrial properties make up only a very small proportion, at 3% and 4% respectively.

Source: J-REITDB

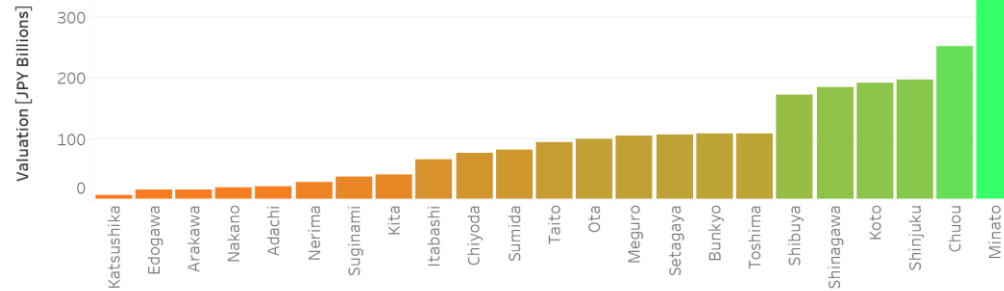
J-REIT RESIDENTIAL ASSETS UNDER MANAGEMENT IN TOKYO

Total Residential AUM by Ward

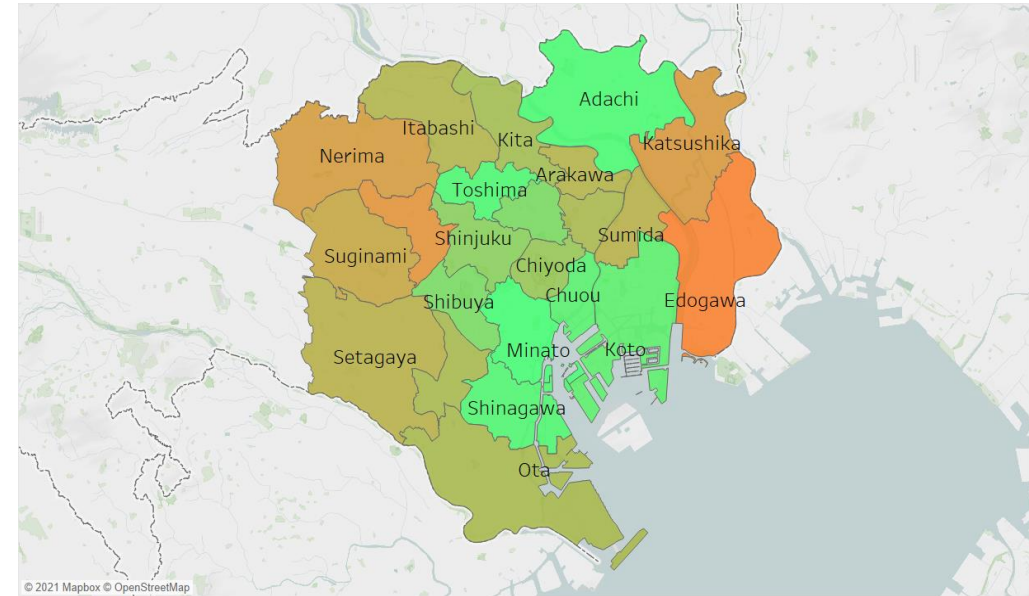


Source: J-REIT DB

6.5 billion 328 billion

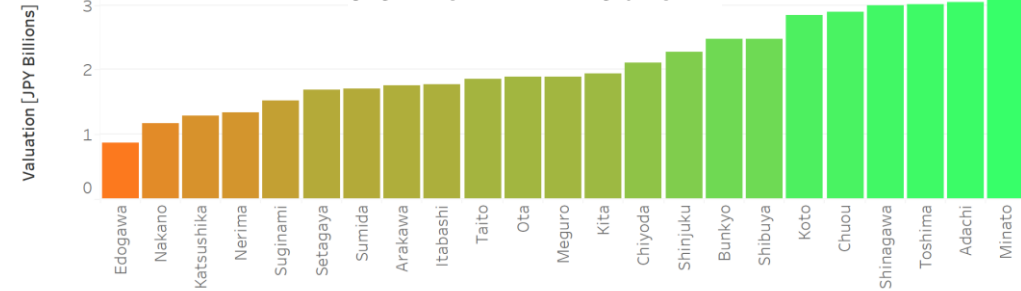


Average Residential Asset Size by Ward



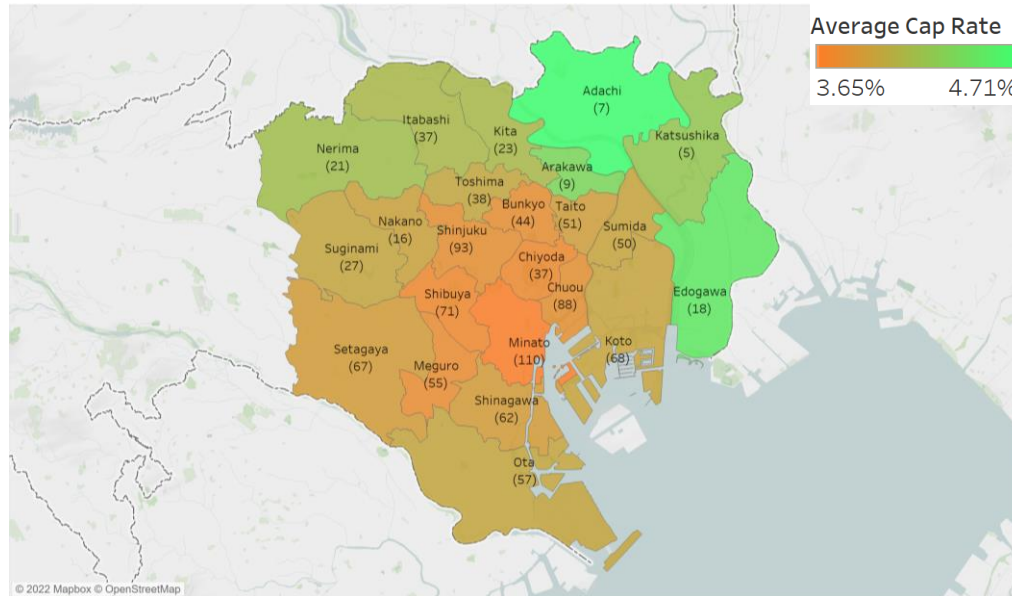
Source: J-REIT DB

873 million 3 billion



J-REIT RESIDENTIAL ASSETS CAP RATES BY LOCATION IN TOKYO

Residential Cap Rates by Ward

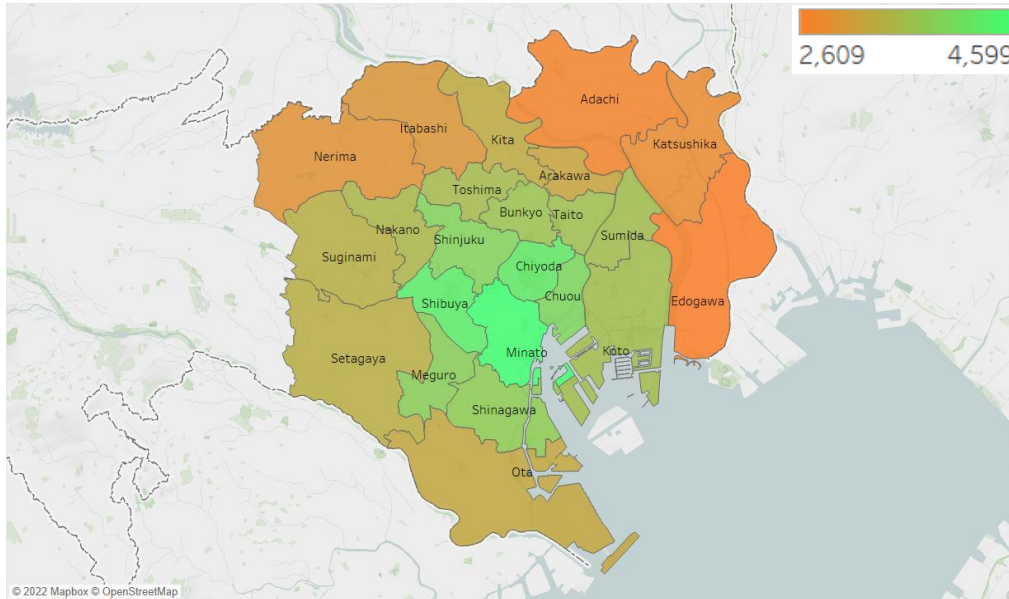


Source: J-REITDB

- This map shows the average cap rate for J-REIT residential properties in each ward of Tokyo. The number in brackets is the total number of properties in each ward.
- We can see that cap rates are lowest in the centre of the city, where prices are highest, with the lowest being Minato at 3.65%.
- The outskirts are higher, with Adachi being the highest at 4.71%.

J-REIT RESIDENTIAL ASSETS RENT LEVELS PER SQM IN TOKYO

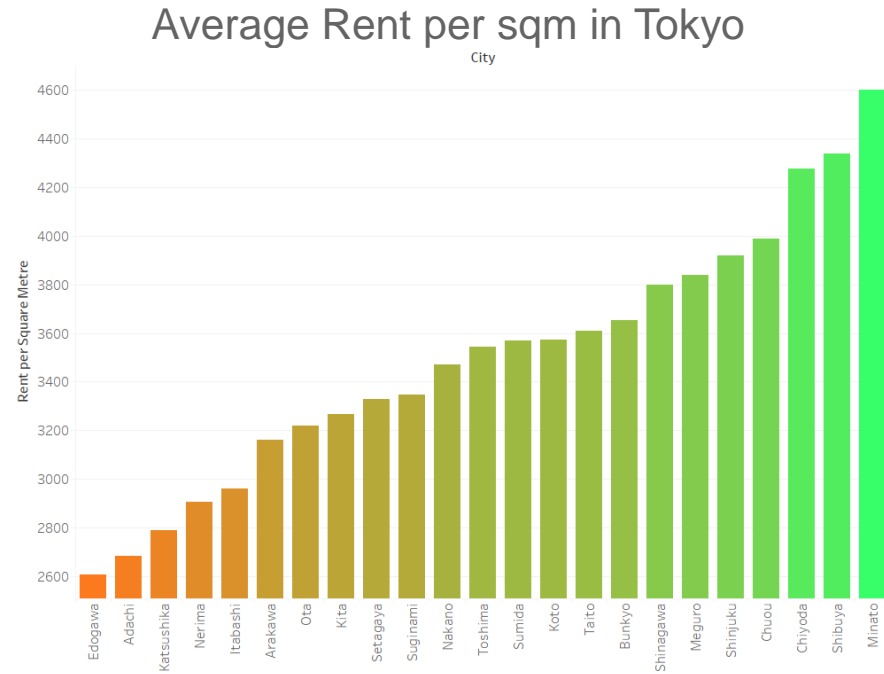
Average Rent per sqm in Tokyo



Source: J-REITDB

- Rents are highest in the centre of the city, with Minato being the highest at 4,599 JPY per sqm per month.
- The ward where rents are lowest is Edogawa, on the east side of the city, where the average rent per sqm is just 2,609 JPY per month.

AVERAGE RENT PER SQUARE METRE IN TOKYO (JPY)

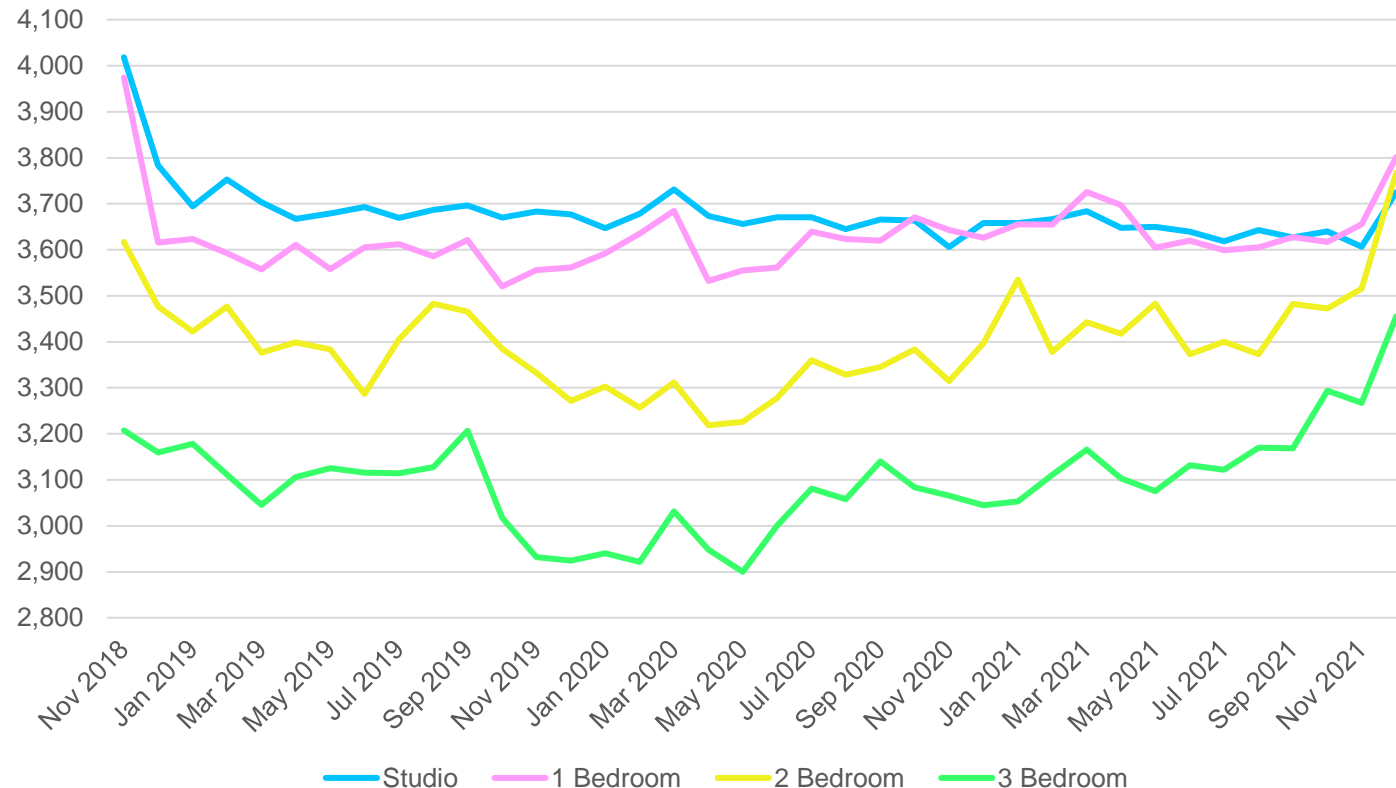


Source: J-REITDB

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- The ward where rents are lowest is Edogawa, on the east side of the city, where the average rent per sqm is just 2,609 JPY per month.

AVERAGE RENT PER SQUARE METRE IN TOKYO

Average Rent per sqm in Tokyo (JPY)



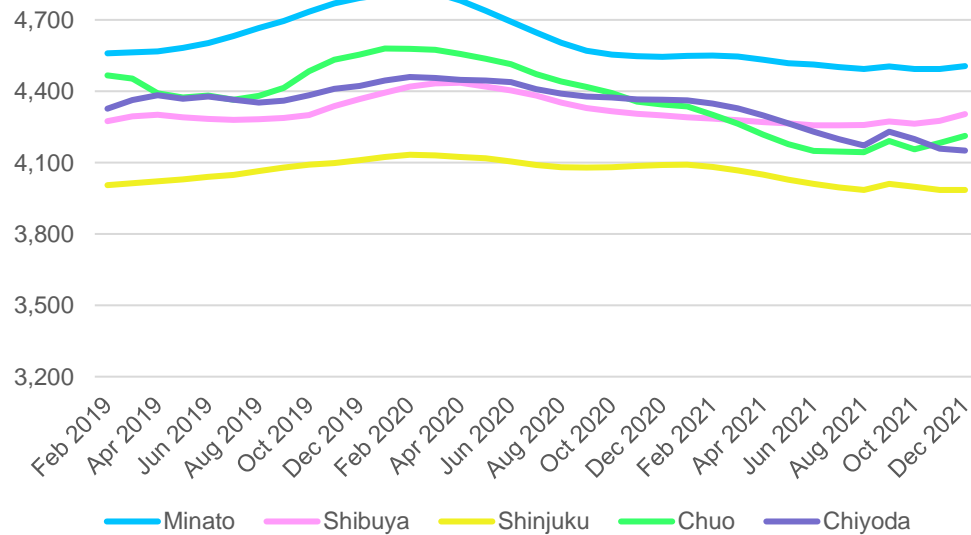
- Rent per sqm is generally higher in smaller units than in larger ones.
- However, rents have increased sharply towards the end of 2021 and this gap has begun to close.

Source: Apts.jp Rentals Database

Note: the terms Studio, 1, 2, and 3 bedroom refer here to the Japanese classifications of 1K, 1LDK, 2LDK and 3LDK respectively.

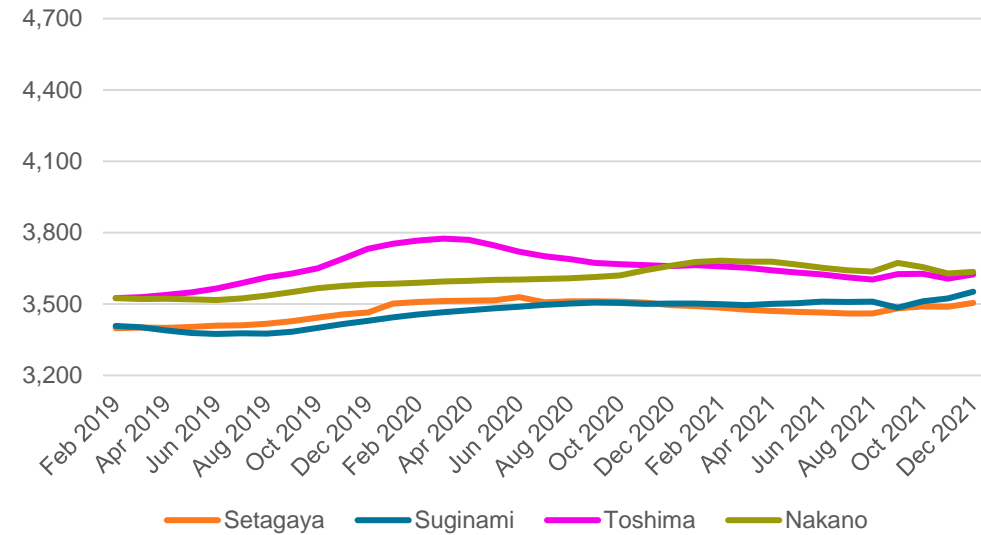
CHANGES IN RENT BY WARD

Rent per sqm 6-month Moving Average (Studio Apartments) in Tokyo (City)



- Studio apartments across Tokyo peaked in mid-2020, and have mostly declined since.
- However, this decline is much more pronounced in the central wards – and in the past couple of months has begun to recover across the board.

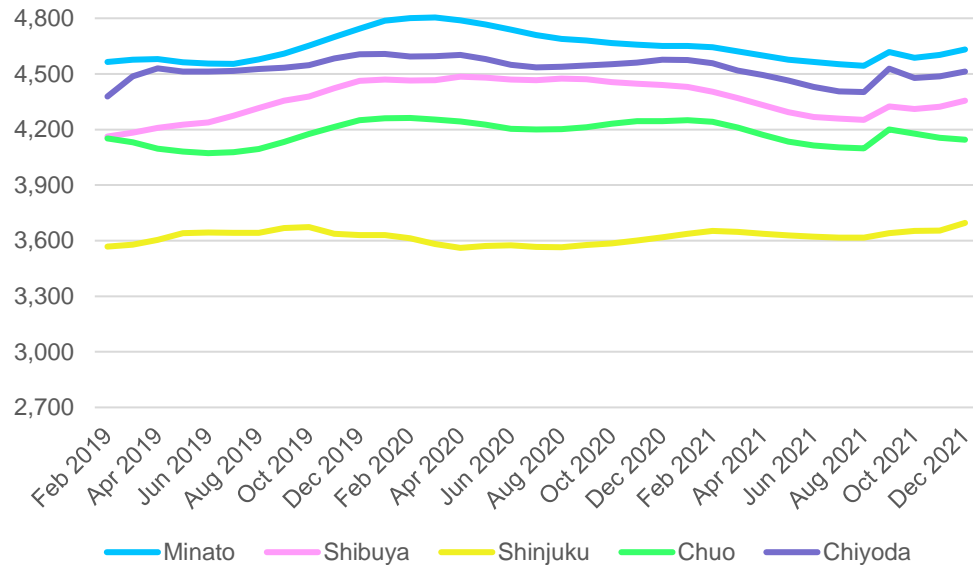
Rent per sqm 6-month Moving Average (Studio Apartments) in Greater Tokyo



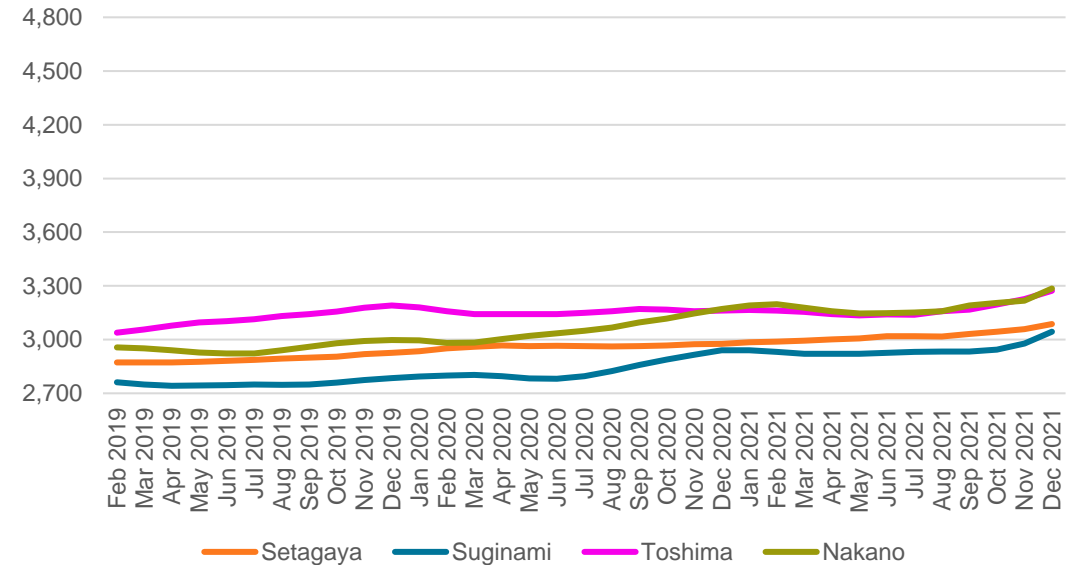
- In the outer wards, rents have increased overall.
- The outer wards remain significantly cheaper than central Tokyo, but the gap has narrowed.

CHANGES IN RENT BY WARD

Rent per sqm 6-month Moving Average
(Units Other than Studios) in Tokyo (City)



Rent per sqm 6-month Moving Average
(Units Other than Studios) in Greater Tokyo

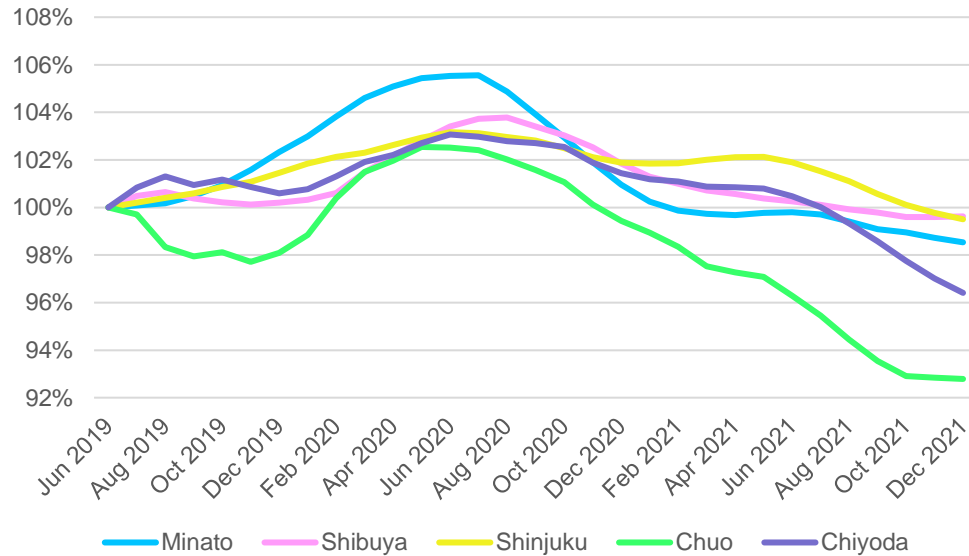


- For non-studio units, rents in the central wards also peaked in 2020 and have declined since, only showing signs of recovery at the end of 2021.

- Rents in the outer wards stagnated during 2020, but have grown steadily in 2021, with this growth accelerating towards the end of the year.

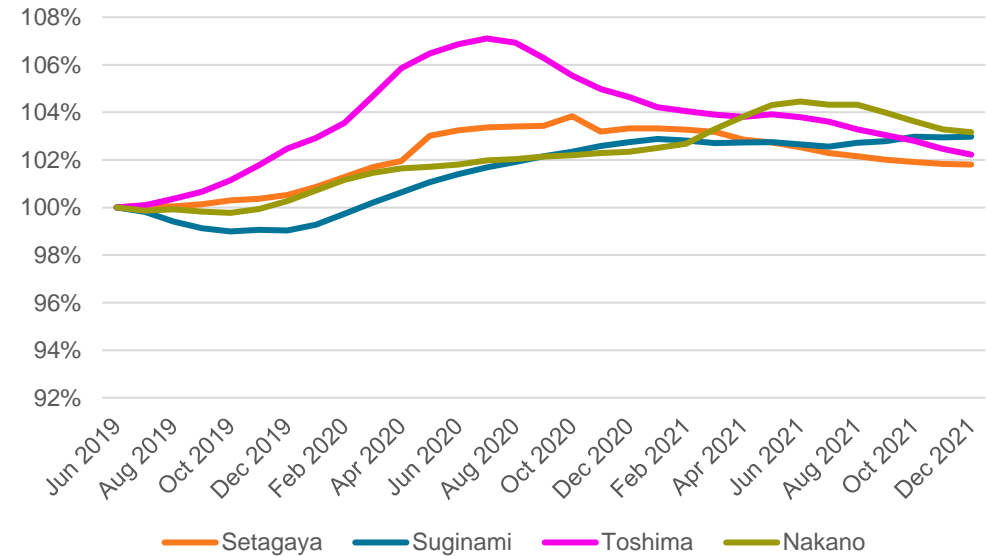
CHANGES IN RENT BY WARD

Change in 6-month Moving Average (Studio Apartments) in Tokyo (City)



- Studio apartments in the central wards of Tokyo peaked in mid-2020, and have rapidly declined since.
- At their peak, average rents were 2 - 6% higher than in June 2019, but were 0 - 8% lower by the end of 2021.

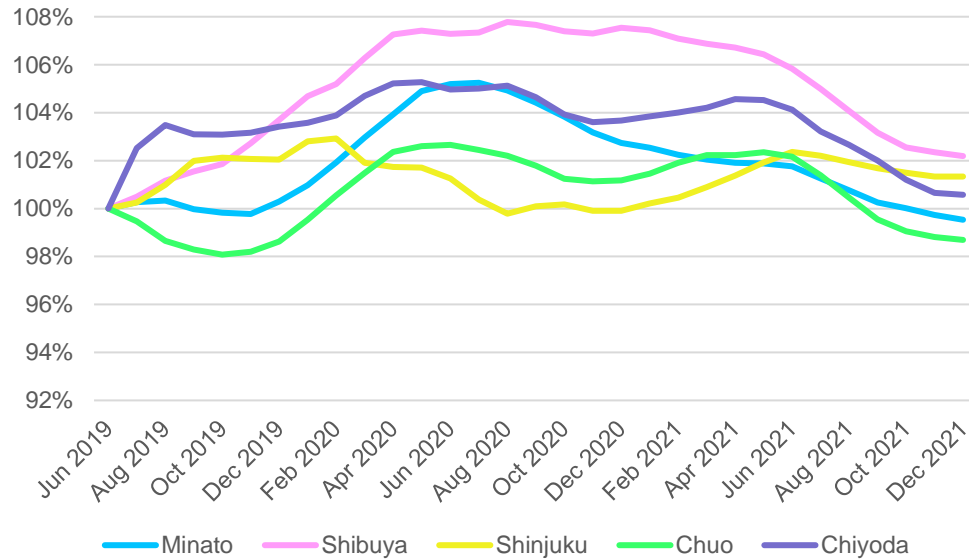
Change in 6-month Moving Average (Studio Apartments) in Greater Tokyo



- With the exception of Toshima, the outer wards did not exhibit the same 2020 peak as the central wards.
- They have generally grown consistently over time, ending at roughly 2 - 4% higher than in June 2019.

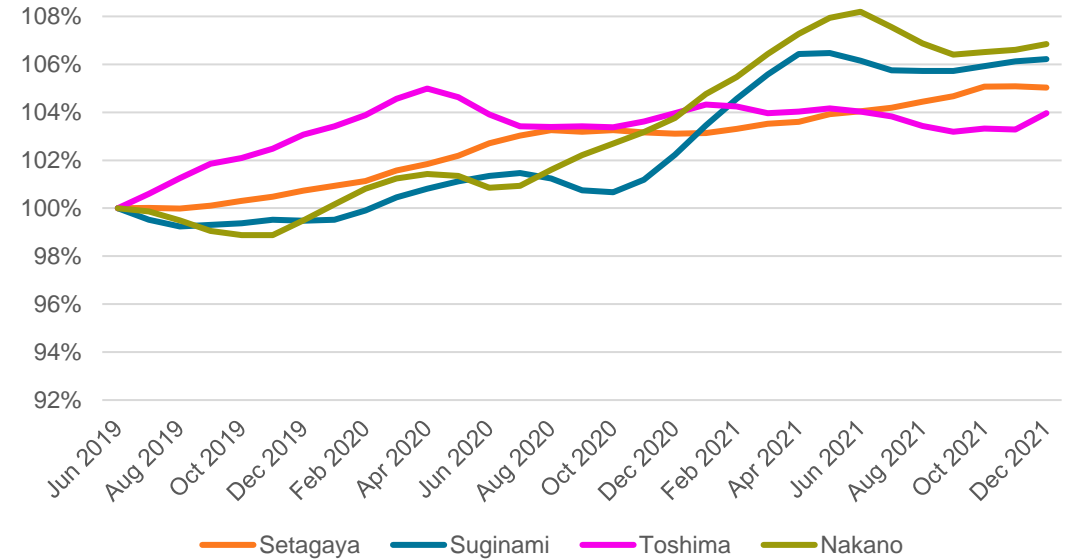
CHANGES IN RENT BY WARD

Change in 6-month Moving Average (Units Other than Studios) in Tokyo (City)



- For other units, rents in the central wards also peaked in 2020 and have declined since, only showing signs of recovery at the end of 2021.
- At the end of 2021, they ranged between 2% lower than in June 2019 and 2% higher.

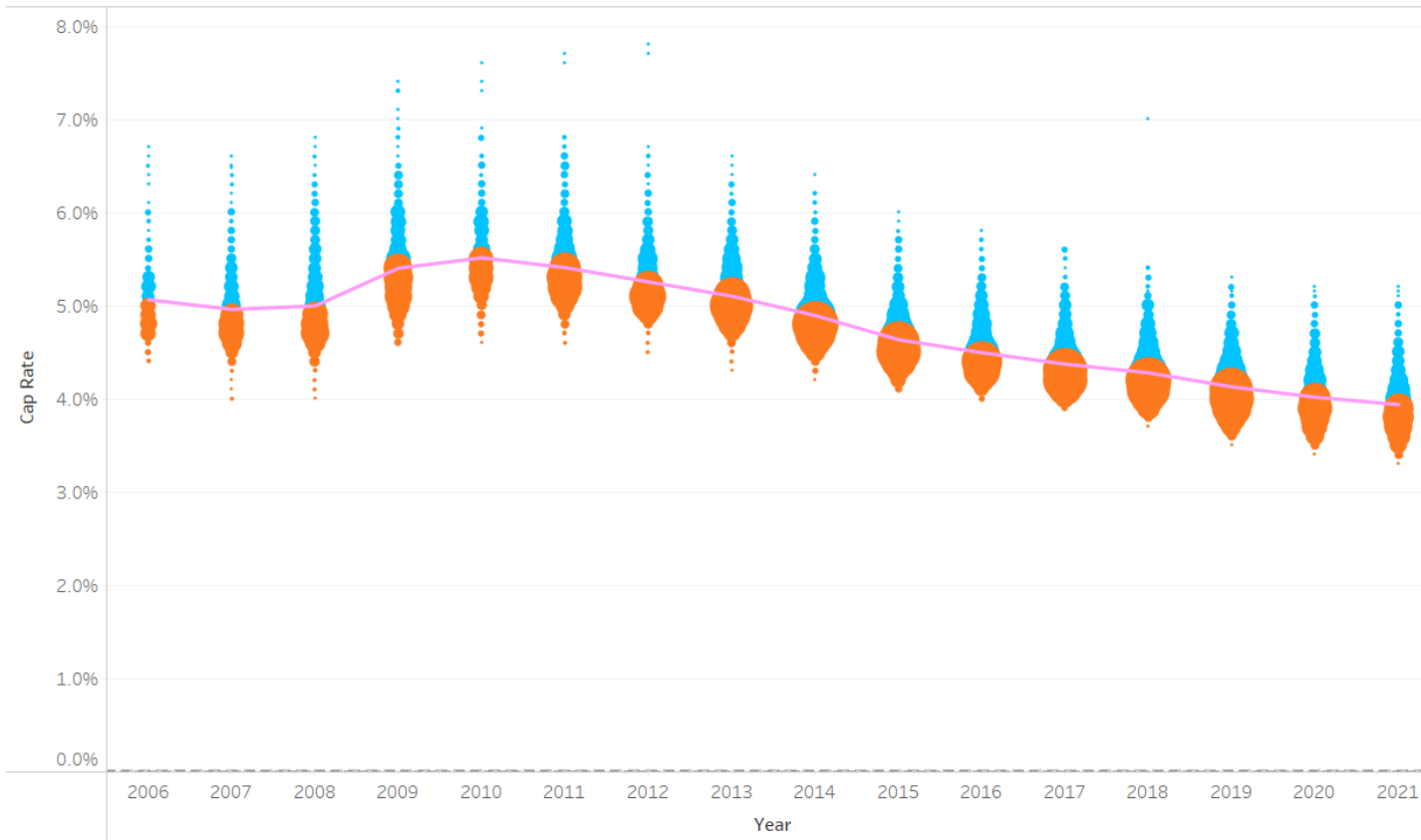
Change in 6-month Moving Average (Units Other than Studios) in Greater Tokyo



- Rents for non-studio units in the outer wards have grown steadily, slowing briefly in late 2020 before increasing again in 2021.
- At the end of 2021, they were 4 - 7% higher than in June 2019.

RESIDENTIAL CAP RATES

Average cap rates for J-REIT Residential properties in Tokyo

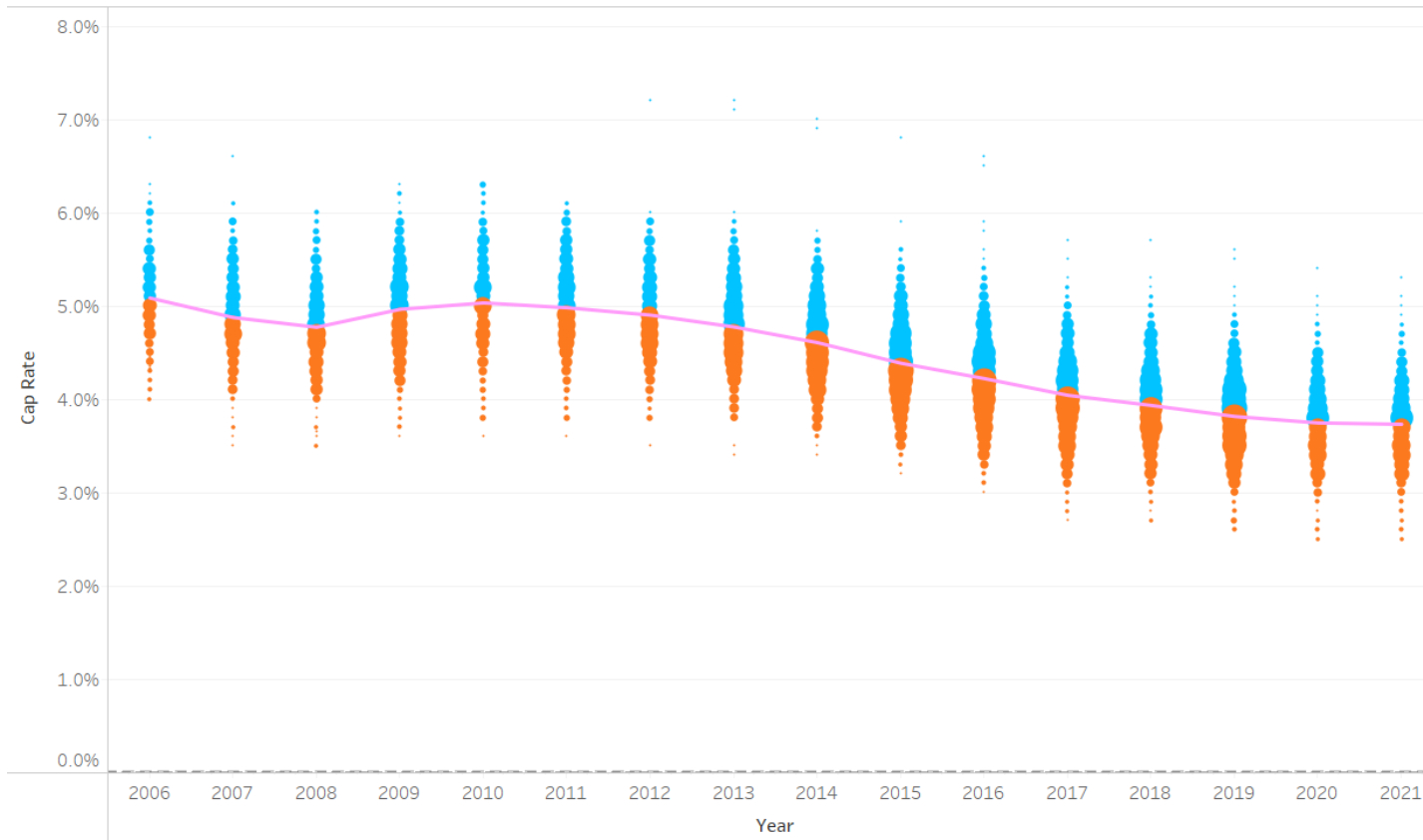


Source: J-REIT DB

- The size of each point on the graph corresponds to the number of properties at that cap rate.
- Cap Rate here refers to the Implied Cap Rate, which is the current annual profit as a percentage of the current property value.
- Average cap rate in 2021 so far is 3.88%, a decrease of 8 basis points from 2020.
- Although cap rates across Japan have been falling since 2010, in many areas they are beginning to level out. However, rates in Tokyo continue to exhibit a steady decrease.

OFFICE CAP RATES

Average cap rates for J-REIT Offices properties in Tokyo



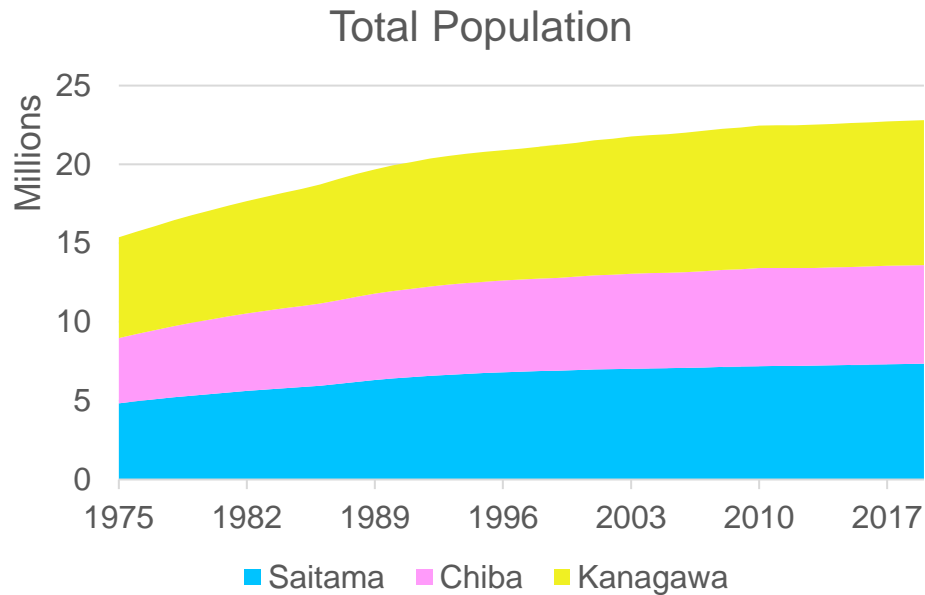
Source: J-REIT DB

- The average cap rate in 2021 so far is 3.72%, a decrease of 1 basis points from 2020.
- Unlike residential properties, the decline in office cap rates has slowed significantly in recent years.



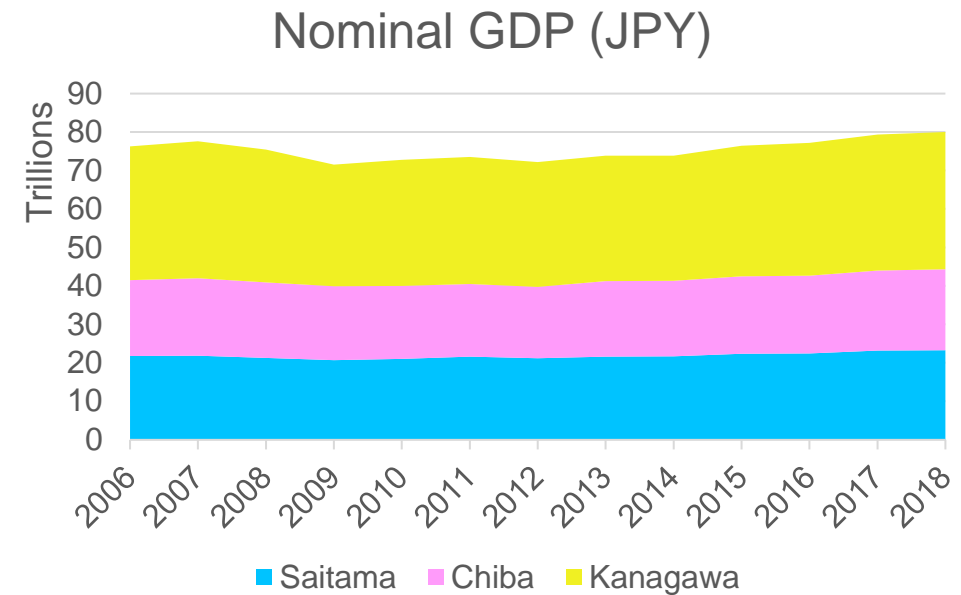
b. Greater Tokyo (ex Tokyo)

POPULATION & GDP



Source: <https://www.e-stat.go.jp/regional-statistics/ssdsview/prefectures>

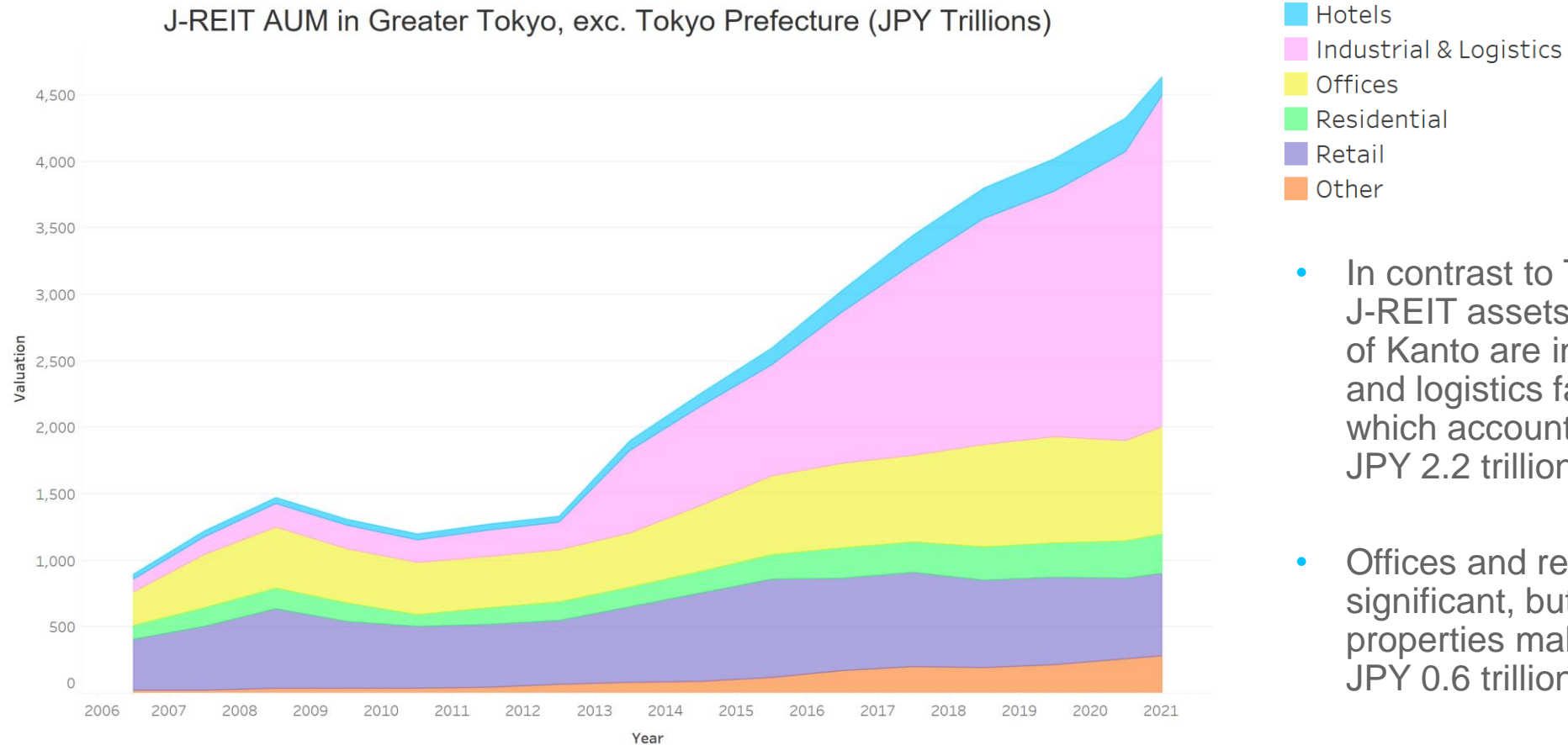
Like Tokyo, population has been growing constantly, reaching nearly 23 million in 2019. Kanagawa has the highest population, at 9.2 million, followed by Saitama at 7.4 and Chiba at 6.3 million.



Source: https://www.esri.cao.go.jp/jp/sna/data/data_list/kenmin/files/contents/main_2018.html

All three prefectures suffered significantly less economic damage from the financial crisis than Tokyo, although Kanagawa did take a bit of a hit. Since then, all three have grown slowly but steadily, reaching a combined GDP of 80 trillion yen in 2018.

ASSETS UNDER MANAGEMENT

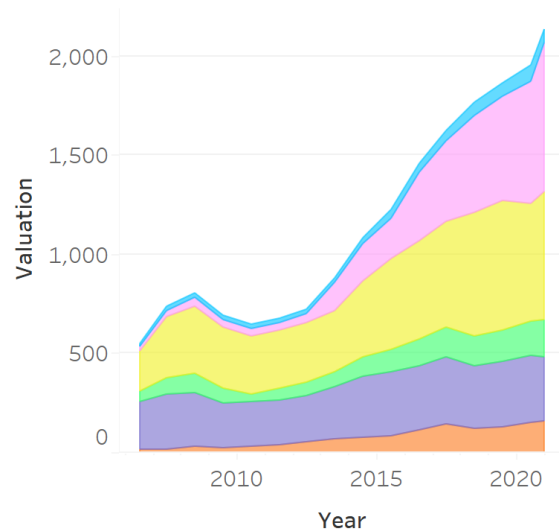


Source: J-REIT DB

- In contrast to Tokyo, most J-REIT assets in the rest of Kanto are industrial and logistics facilities, which account for almost JPY 2.2 trillion.
- Offices and retail are also significant, but residential properties make up just JPY 0.6 trillion.

AUM PER PREFECTURE IN KANTO

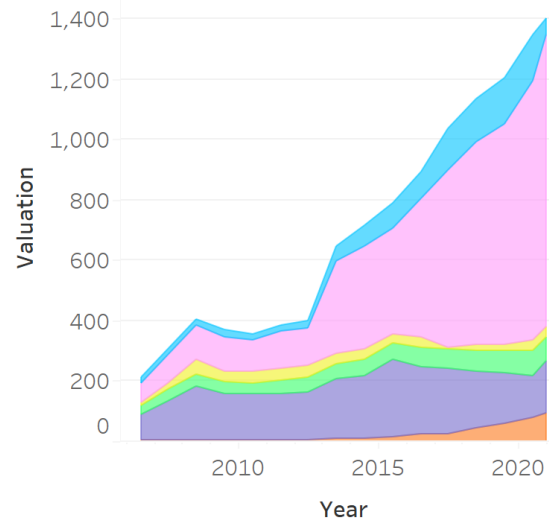
J-REIT AUM in Kanagawa (JPY Billions)



Kanagawa

AUM in Kanagawa is much greater than Chiba and Saitama, thanks to the JPY 646 billion of office properties.

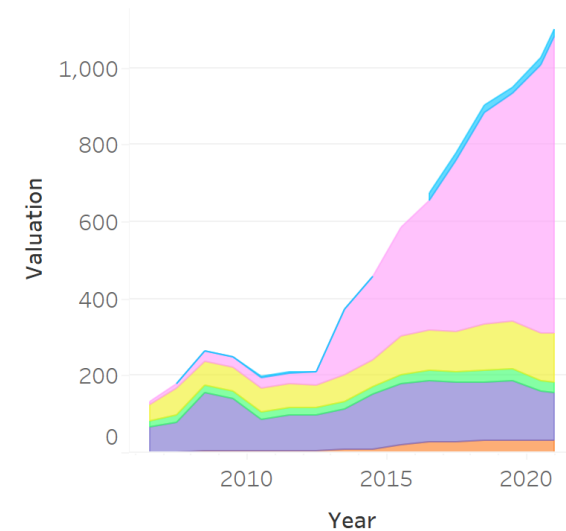
J-REIT AUM in Chiba (JPY Billions)



Chiba

Industrial and Logistics properties have boomed in the last 10 years, reaching almost JPY 1 trillion at the end of 2020.

J-REIT AUM in Saitama (JPY Billions)

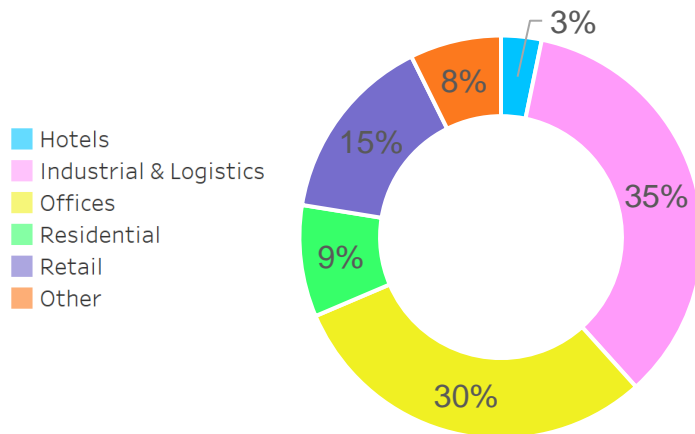


Saitama

Saitama has similar characteristics to Chiba, albeit with more offices and fewer hotels. Here, too, industrial properties dominate, accounting for JPY 770 billion of assets.

ASSETS UNDER MANAGEMENT 1ST HALF OF 2021

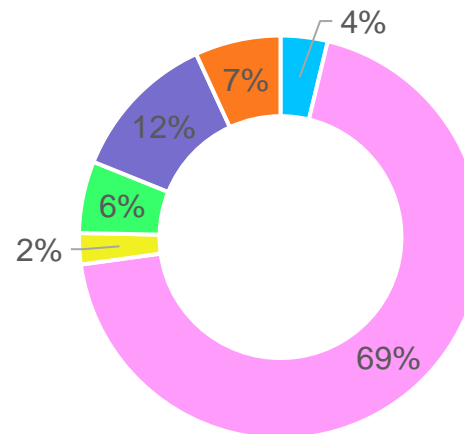
J-REIT AUM in Kanagawa
(JPY 2.1 Trillion)



Kanagawa

- Kanagawa has a relatively high proportion of office properties under management, at 30%.

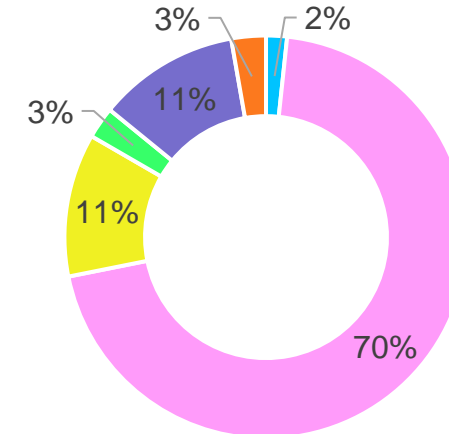
J-REIT AUM in Chiba
(JPY 1.4 Trillion)



Chiba

- Chiba and Saitama are the industrial powerhouses of the Greater Tokyo area, with 69% and 70% of AUM being industrial properties.

J-REIT AUM in Saitama
(JPY 1.1 Trillion)

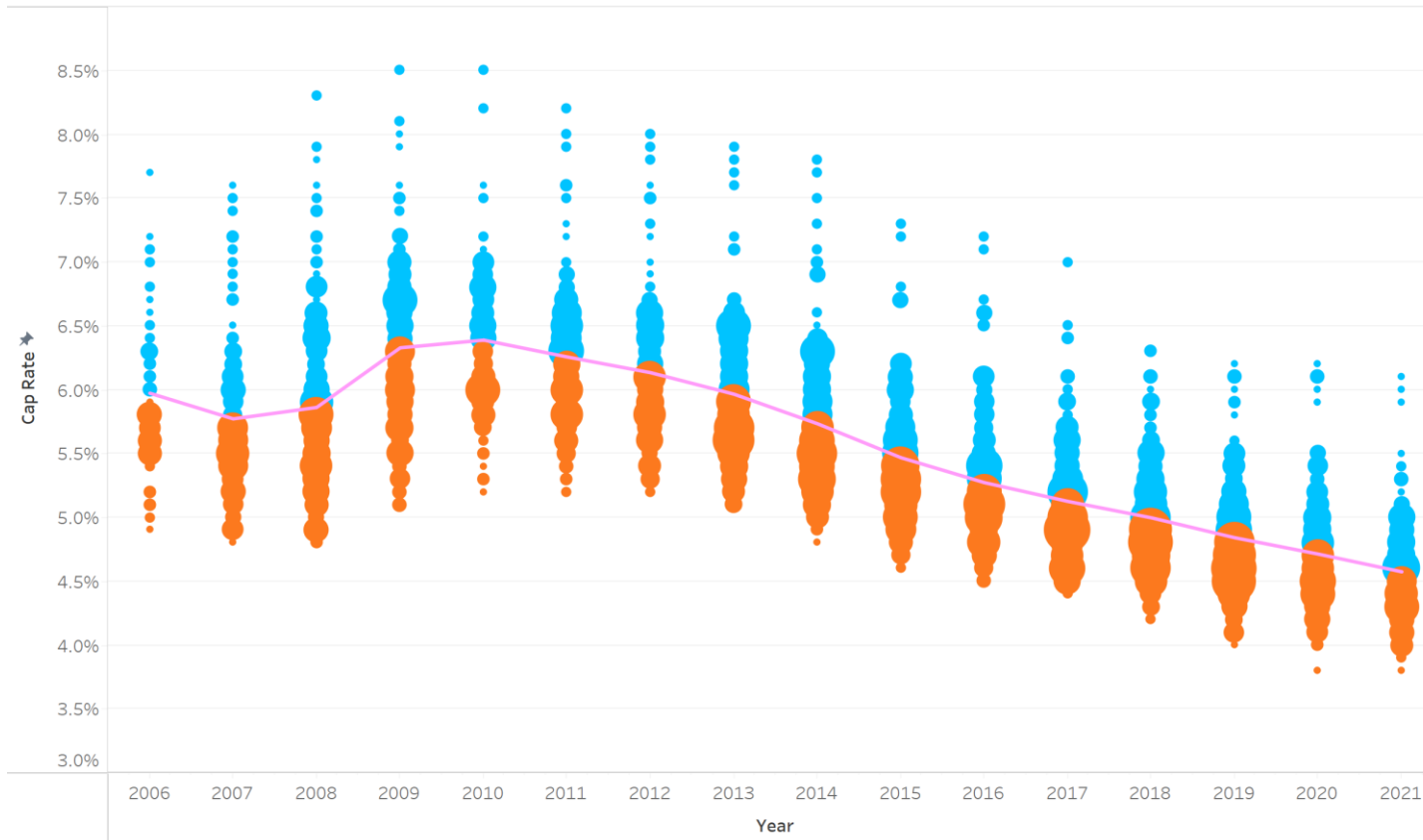


Saitama

- Although it has more offices than Chiba, at 11%, other types of properties make up a smaller proportion of AUM. This leaves Saitama with the highest percentage of industrial properties.

RESIDENTIAL CAP RATES

Average cap rates for J-REIT Residential properties in Greater Tokyo

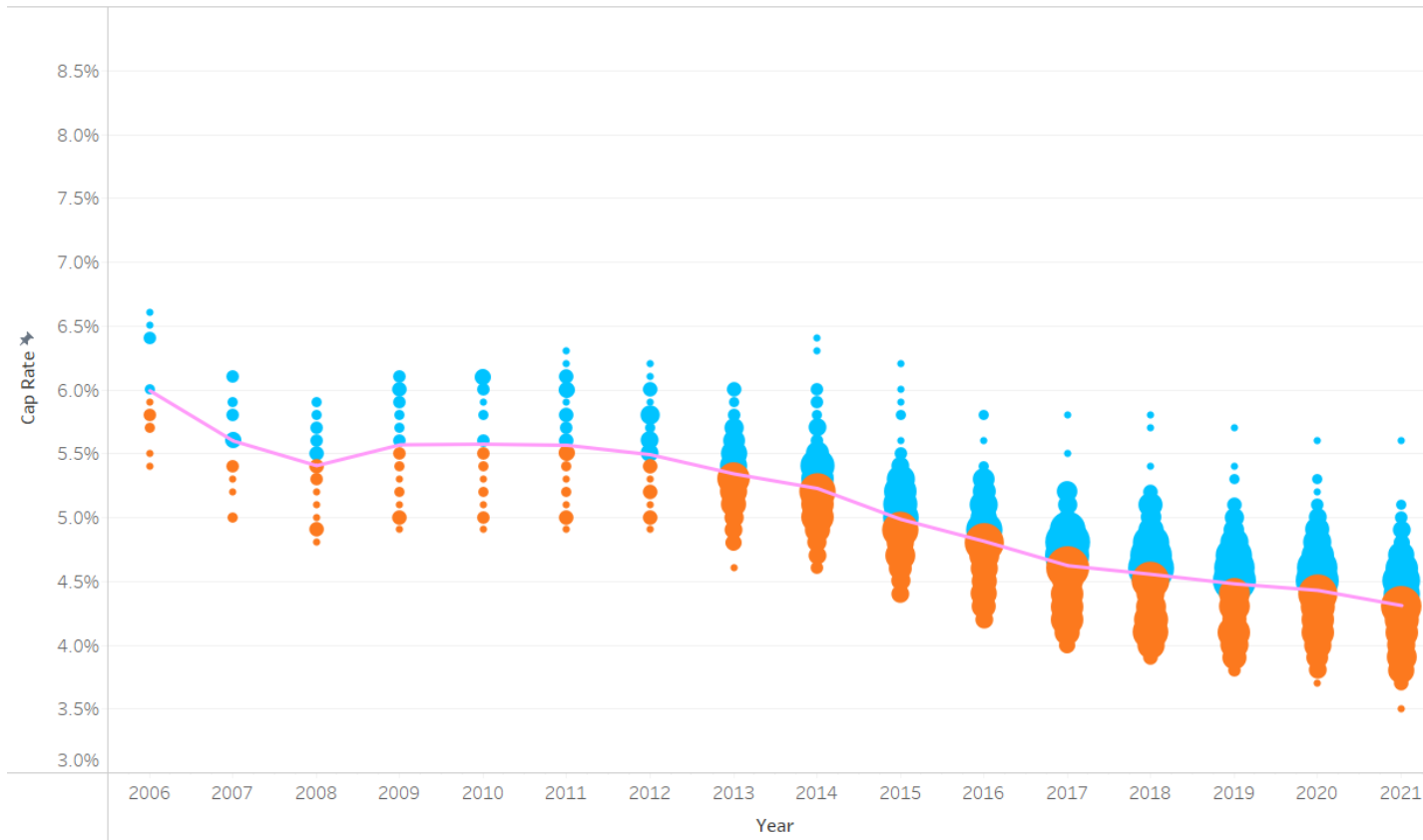


Source: J-REIT DB

- Average cap rate in 2021 so far is 4.51%, a decrease of 14 basis points from 2020.
- This rate of decline has remained fairly steady since 2017, seemingly unimpacted by the pandemic.

LOGISTICS CAP RATES

Average cap rates for J-REIT Logistics properties in Greater Tokyo

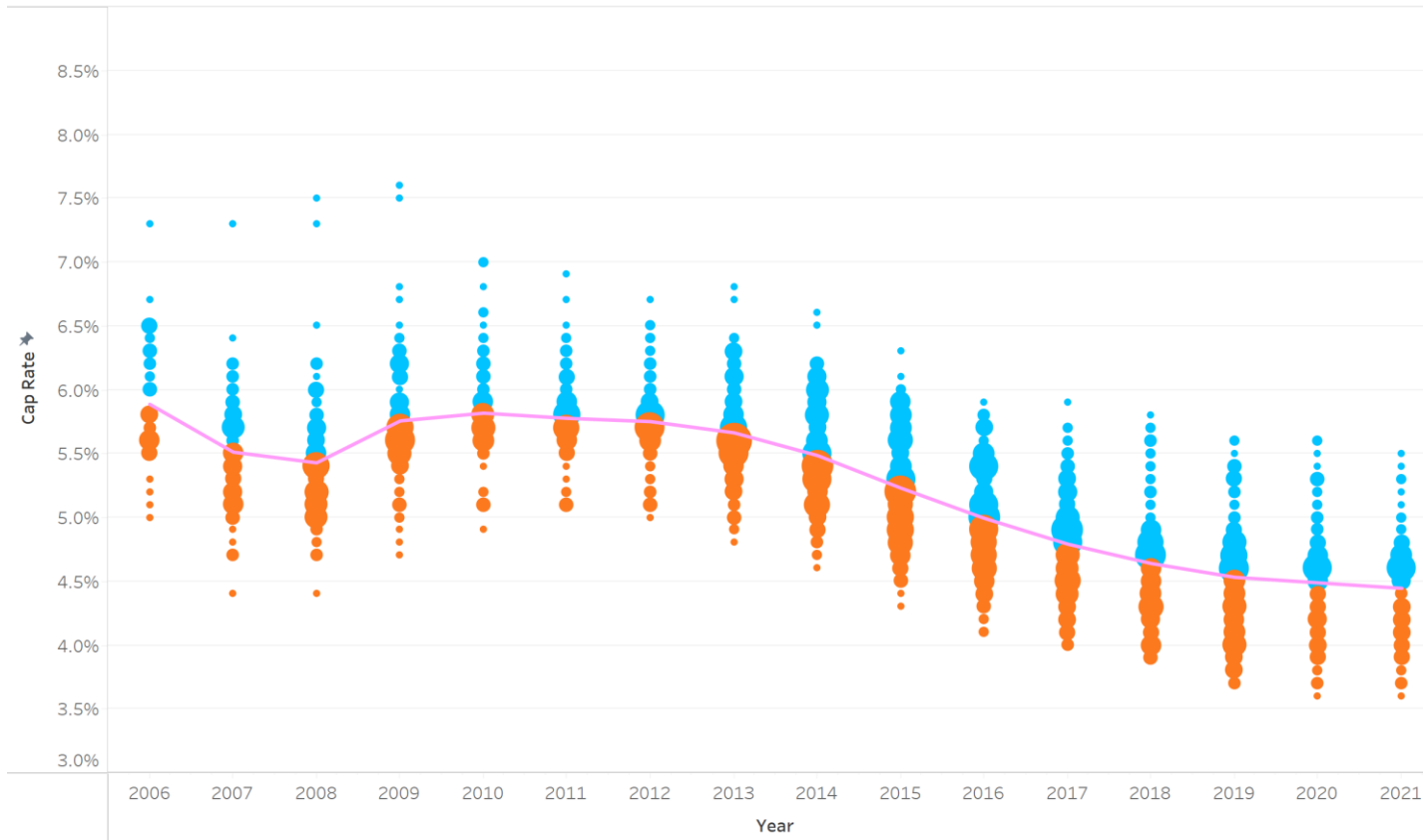


Source: J-REIT DB

- The average cap rate in the first half of 2021 was 4.31%.
- From 2009 to 2011, cap rates remained steady at 5.57%, but they have been steadily declining ever since.

OFFICE CAP RATES

Average cap rates for J-REIT Offices properties in Greater Tokyo



Source: J-REIT DB

- Average cap rate in 2021 so far is 4.44%, remaining almost unchanged from 2020.
- Cap rates have remained steady since 2019 – however, the rate of decline had been slowing before then.

c. Other



Other Regions such as Nagoya, Osaka, Fukuoka are available upon request

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Thank you for your interest in our presentation