Trends in the Return on Real Estate Investment of J-REITs

by Kazumasa Takeuchi
Real Estate Investment Analysis Team
Financial Research Department
take@nli-research.co.jp

1. J-REITs and the Decline in Real Estate Returns

Thanks to the vigorous real estate investment of J-REITs (Japan-style real estate investment trusts) and private funds, the real estate investment market is thriving, led by office properties in Tokyo.

With the economy recovering and land prices bottoming out, real estate risk premiums have declined in central Tokyo, pushing up transaction prices (reducing investment returns) and fueling concerns among some observers of an impending real estate bubble.[1]

Ever since their listing on the Tokyo Stock Exchange in September 2001, J-REITs have actively employed their ample investment funds to purchase income properties. Meanwhile, low interest rates have desensitized domestic investors to lower returns. Observers blame both factors for the recent decline in returns (cap rates) of office properties in central Tokyo.

Cap Rate, Risk Premium and Property Price

According to the capitalization approach, an investment property's market value is derived as follows.

Market value = Annual net income / Cap rate

If net income is predicted to grow 0%, the denominator can be expressed as follows:

Cap rate = Risk free rate + Risk premium

Thus when properties have a low investment risk (risk premium), the cap rate falls, and as a result the market value rises. The cap rate is generally calculated by dividing net income by market value. Two common measures of net income are net operating income (NOI = Operating income from rental property + Depreciation expense) and net cash flow (NCF = NOI − Capital expenditure).

In this paper, when the cap rate is derived using NOI, we refer to it specifically as the NOI cap rate.

According to an estimate by Nikkei Real Estate Market Information, in the last two years J-REITs have accounted for approximately half of all office property transactions with returns

1 See "Tokyo Office Market Trends—Cloudy Outlook for Leasing, While Investment Heats Up," *NLI Research* no. 050128 (www.nli-research.co.jp/eng/resea/econo/eco050128.pdf).

below 5%—10 of 22 transactions in 2003, and 16 of 26 transactions in 2004.[2]

The lowest return was 3.3% for a 14.4 billion yen purchase of the former Urban Development Corporation headquarters building by Tokyo University of Science. Otherwise, however, J-REITs dominate the lower rungs: Nomura Real Estate Office Fund's purchase of the JAL Building (3.8%), Mori Trust REIT's purchase of the Mita MT Building (4.1%), Japan Real Estate's purchase of the Ebisu Neonade (4.2%), Global One's purchase of the Ginza First Building (4.2%), and Japan Real Estate 's purchase of the Higashi Gotanda Itchome Building (4.3%).

2. Expected Returns of J-REIT Purchases

In light of the low returns, below we examine the returns that J-REITs expected when they invested in these properties. Using J-REIT disclosures, which include appraisals made at purchase, we calculated appraised NOI cap rates for each purchase by property type, location and year of purchase (Figure 1).[3]

Figure 1 Appraised NOI Cap Rate at Time of Purchase (by Type, Location, and Year of Purchase)

Property type	Location	2001	2002	2003	2004	Average 2001–04
Office	Central Tokyo	6.4%	6.4%	6.1%	5.8%	5.9%
	Rest of Tokyo area		7.7%	7.7%	6.1%	6.5%
	Other areas		7.2%	6.7%	7.2%	7.0%
	Average	6.4%	6.8%	6.6%	6.1%	6.3%
Residential	Central Tokyo			5.8%	5.3%	5.5%
	Rest of Tokyo area			6.9%	5.8%	5.9%
	Other areas			6.5%	6.7%	6.6%
	Average			6.0%	5.7%	5.8%
Commercial	Average			6.1%	5.5%	5.7%
All types	Central Tokyo	6.4%	6.4%	5.8%	5.5%	5.7%
	Rest of Tokyo area		7.7%	7.3%	5.9%	6.1%
	Other areas		7.2%	6.6%	6.9%	6.8%
	Average	6.4%	6.8%	6.3%	5.9%	6.0%

Notes: Central Tokyo consists of Chiyoda-ku, Chuo-ku, Minato-ku, Shinjuku-ku and Shibuya-ku. Rest of Tokyo area excludes central Tokyo, but includes Chiba-ken, Saitama-ken and Kanagawa-ken. Other areas refers to the rest of Japan, primarily Osaka, Nagoya, and Fukuoka.
Source: J-REIT disclosures

As our results show, the average appraised cap rate of J-REITs (for all property types and locations) declined from 6.8% in 2002 to 6.3% in 2003, and 5.9% in 2004.

[2] See "Review of Transactions in 2003," in *Special Edition: Reading Trends in Real Estate Transactions*, Nikkei Real Estate Market Information, March 2005.
[3] We used 127 appraisals. For the JAL Building, whose return Nikkei Real Estate Market Information estimated at 3.8%, we found a significant discrepancy with the appraised NOI cap rate of 5.1% and NCF cap rate of 5.0%.

For office properties, the appraised cap rate in central Tokyo has declined 0.3-percentage point per year since 2002 (to 5.8% in 2004). In the rest of the Tokyo area, the appraised cap rate plunged 1.6-percentage points in 2004 alone (down to 6.1%), while returning to the 2002 level in the rest of Japan (7.2%).

While residential property data is available only from 2003, the appraised cap rate parallels that of office properties, declining in central Tokyo and the rest of Tokyo, but rising elsewhere.

By location in 2004, the average appraised cap rate was 5.5% in central Tokyo, 5.9% in the rest of Tokyo (0.4-percentage point higher than central Tokyo), and 6.9% elsewhere (1.4-percentage points higher than central Tokyo).

By property type in 2004, the appraised cap rate in central Tokyo was 5.8% for office properties and 5.3% for residential properties, compared to 6.1% (office) and 5.8% (residential) in the rest of Tokyo, and 7.2% (office) and 6.7% (residential) elsewhere. Thus regardless of location, residential properties consistently show a cap rate that is lower by 0.3 to 0.5-percentage point, reflecting their lower risk premium.

Nonetheless, more office properties than residential properties have an appraised cap rate under 5%, including the Seibu Shinkin Shibuya Building (Nomura Real Estate Office Fund), Ginza First Building (Global One Real Estate), and Alliance (Nippon Building Fund). Thus while office properties have widely dispersed cap rates, residential properties in general have cap rates that are consistently low.

3. Actual Returns of J-REIT Purchases

While J-REIT disclosures provide extremely valuable data, NOI predictions often differ significantly from actual NOI. For example, since each property has special characteristics, appraisals may not accurately reflect management and marketing factors. In addition, economic conditions also have a large impact.

Below we analyze actual NOI cap rates for properties owned by J-REITs, and try to grasp trends in the cap rate. Our analysis covers twelve investment corporations for whose properties we could confirm investment dates and returns.[4] The number of properties is 315.[5]

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[4] The twelve corporations are: Nippon Building Fund Inc., Japan Real Estate Investment Corporation, Japan Retail Fund Investment Corporation, ORIX JREIT Inc., Japan Prime Realty Investment Corporation, Premier Investment Corporation, Tokyu REIT, Inc., Global One Real Estate Investment Corporation, Nomura Real Estate Office Fund, Inc., United Urban Investment Corporation, MORI TRUST Sogo Reit, Inc., and Nippon Residential Investment Corporation.

[5] Includes properties already sold not no longer owned by the J-REIT.

Specifically, we obtained NOI data for each property from financial statements one year after the year of purchase,[6] and annualized the NOI based on holding period. We then divided the aggregate NOI by the aggregate purchase price to obtain the average NOI cap rate. However, for more recent investments (particularly in the second half of 2004), we used financial statements for the same year.

We found that actual values diverge significantly from appraised NOI values. Due to the small sample size, individual properties exert a strong influence. Even though the number of J-REIT purchases has surged, their concentration in central Tokyo prevents us from making detailed breakdowns by location.[7]

By location, the actual cap rate is lowest in Tokyo's central 3-ku (5.4%) and sub-central 2-ku (5.3%) areas (Figure 2). This is followed by the rest of 23-ku Tokyo (6.5%), the Tokyo area (outside of 23-ku, plus the three neighboring prefectures; 6.6%), the Kansai and Fukuoka areas (both 7.1%), and the Chukyo (Aichi) area (7.9%).

Figure 2　NOI Cap Rate of J-REIT Properties Purchased in 2004 (by property type and location)

<table>
<tr><th>Area</th><th>Total</th><th>Office</th><th>Residential</th><th>Commercial</th></tr>
<tr><td>Central 3-ku</td><td>5.4%</td><td>5.5%</td><td>4.9%</td><td rowspan="7">6.2%</td></tr>
<tr><td>Subcentral 2-ku</td><td>5.3%</td><td>5.6%</td><td>4.9%</td></tr>
<tr><td>23-ku</td><td>6.5%</td><td rowspan="2">6.7%</td><td>6.0%</td></tr>
<tr><td>Tokyo area</td><td>6.6%</td><td rowspan="4">7.3%</td></tr>
<tr><td>Kansai area</td><td>7.1%</td><td rowspan="3">7.0%</td></tr>
<tr><td>Chukyo area</td><td>7.9%</td></tr>
<tr><td>Fukuoka area</td><td>7.1%</td></tr>
<tr><td>Average</td><td>6.1%</td><td>6.1%</td><td>5.9%</td><td>6.2%</td></tr>
</table>

Notes: Tokyo central 3-ku consists of Chiydoa-ku, Chuo-ku and Minato-ku. Tokyo sub-central 2-ku consists of Shinjuku-ku and Shibuya-ku. Tokyo 23-ku consists of the 18 other ku. Tokyo area consists of Tokyo outside the 23-ku, and Chiba-ken, Saitama-ken and Kanagawa-ken.
Source: J-REIT disclosures

By type of property, the NOI cap rate is 6.2% for office properties, 5.9% for residential properties, and 6.2% for commercial properties. As with the appraised NOI cap rate, actual values are lower for residential properties than for office properties.

To track the cap rate by half-year period, we divided the geographical coverage into three areas. In the central Tokyo 5-ku area, the cap rate reached 6.2% in the first half of 2003 but turned downward, falling below 5% to 4.7% in the 2004 H2 (Figure 3).

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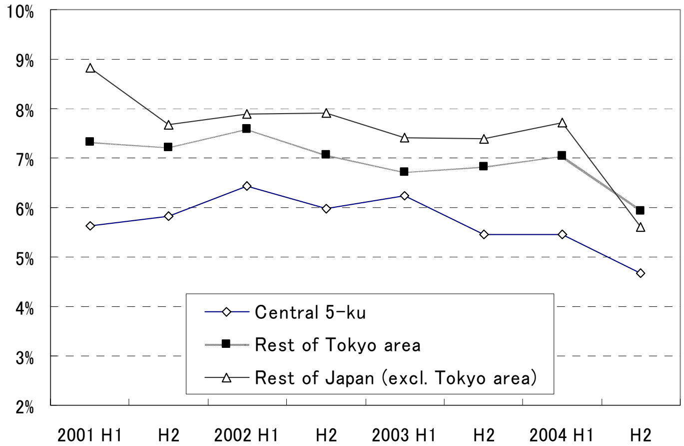
[6] In financial statements that include date of purchase, the return is often unstable because of the short duration of ownership and special factors. Thus we used financial statements one year after purchase.

[7] Property purchases by J-REITs have grown rapidly (see figure below). The initial disclosed value of 321.1 billion yen grew by 6.4 times to 2.697 trillion yen at 2004 yearend, while the number of properties rose 9.5 times from 44 to 418.

For the Tokyo area excluding central Tokyo, the cap rate hovered around 7% between 2002 H2 and 2004 H1, but dropped to 5.9% in 2004 H2. The rest of Japan also shows a sharp decline in cap rate in 2004 H2.

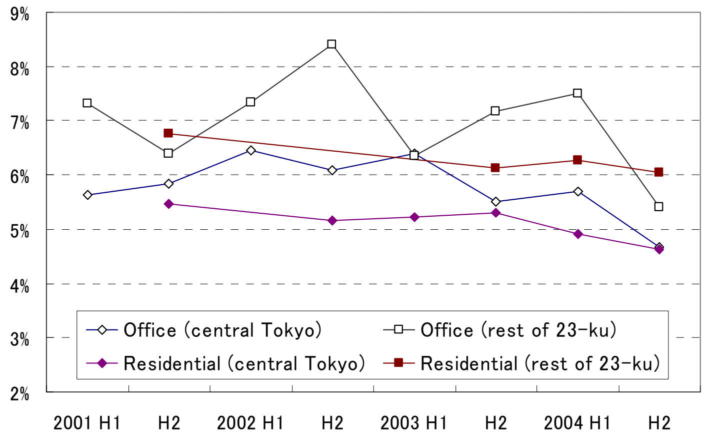
Thus the cap rate's decline began in central Tokyo in 2003 H2, and spread to other areas by the 2004 H2. However, since the data for 2004 H2 differs from other periods (use of same-year financial statements, and inadequate sample size due to recentness), values are likely to be underestimated. For Tokyo area by type of property, we find a downtrend for both office and residential properties, although residential properties fluctuate less (Figure 4).

Figure 3　NOI Cap Rate Trend by Location (semiannual)



Note: Tokyo 23-ku area consists of the Tokyo area excluding the central 5-ku.
Source: J-REIT disclosures

Figure 4　NOI Cap Rate Trend by Property Type in the Tokyo Area (half-year)



Source: J-REIT disclosures

In 2004 H2, the cap rate was 4.7% for office properties in central Tokyo, while that of the rest of the Tokyo area plunged to 5.4% in 2004 H2. The cap rate was 4.6% for residential properties in central Tokyo, and 6.0% for the rest of the Tokyo area.

Finally, to grasp the determinants of the NOI cap rate for office properties, we performed regression analysis and found the following (Figure 5):

(1) when the unit purchase price (per leasable space) exceeds 100,000 yen, the cap rate decreases 0.104-percentage point;

(2) for every additional 1,000 square meters of floor space, the cap rate decreases 0.011-percentage point;

(3) compared to central Tokyo, the cap rate is 0.48-percentage point higher in the rest of the 23-ku, 0.69-percentage point higher in the Tokyo area (outside the 23-ku, plus three adjacent prefectures), 1.37-percentage point higher in the Kansai area, 0.79-percentage point higher in the Chukyo and Fukuoka areas, and 0.84-percentage point higher in the rest of Japan;

(4) compared to 2004, the cap rate was 0.31-percentage point higher in 2001, 1.00-percentage point higher in 2002, and 0.40-percentage point higher in 2003.

In addition, for office properties in Tokyo's central 5-ku in 2004, when the unit price per leasable floor space is 1 million yen per square meter and total floor space is 10,000 square meters, we found that the cap rate was 5.91%. Age of property has a positive but insignificant effect, ostensibly because building reforms and renewals reduce the effect the age factor.[8] We found no significant differences between Tokyo's central 3-ku and sub-central 2-ku areas.

Figure 5　Factor Analysis of the NOI Cap Rate

(Coefficient of correlation: 0.4074)

Variable	Coefficient	t-value
Constant	0.0706	17.62
Purchase price / leasable space (¥ million)	−0.0104	−4.45
Floor space (1,000 ㎡)	−0.00011	−1.96
Tokyo 23-ku (excl. central 5-ku) dummy	0.0048	1.53
Tokyo area (excl. Tokyo 23-ku) dummy	0.0069	1.871
Kansai area dummy	0.0137	3.634
Chukyo/Fukuoka dummy	0.0079	1.985
Rest of Japan dummy	0.0084	2.373
2001 dummy	0.0031	1.082
2002 dummy	0.0100	2.86
2003 dummy	0.0040	1.222

Source: J-REIT disclosures

[8] When the same regression analysis is performed for appraised returns, age of property has a significantly positive effect on return.

Conclusion

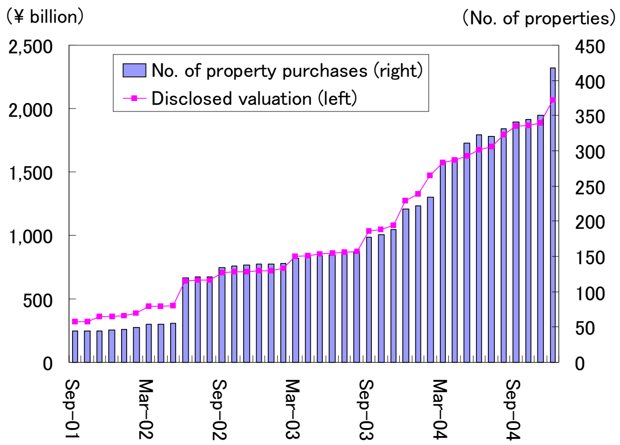
J-REITs have been blamed for the decline in investment returns in central Tokyo. However, practically no studies have been made on J-REIT real estate investment returns.

Looking at cap rate trends based on J-REIT disclosures, we found that the cap rate has trended downward, falling in 2004 to 4.7% for office properties and 4.6% for residential properties in central Tokyo.

J-REIT disclosures serve to increase transparency in real estate investment. Given the widespread availability of market information, the decline in returns no doubt reflects market forces.

Considering that J-REIT disclosures have significantly improved transparency and decision-making in the real estate investment market, we hope that all J-REITs will release appraisal data including returns. Finally, for data comparison purposes, when J-REITs do release data on returns, they must make clear whether they are using the NOI or NCF cap rate.

Figure 5 Disclosed Valuation and Number of J-REIT Purchases



Source: Investment Trusts Association, Japan