

How long will the tenants stay in the shopping center?

Average occupancy period and how the continuity rate changes over time

March 23, 2016

Xymax Real Estate Institute released a report on the average occupancy period of office tenants^{*1} in May 2014. In the report we analyzed the duration of office tenants' occupancy, which is a period between the start of the lease and the tenant's departure. Now a similar research report featuring shopping centers, one of the important retail properties, is available.

In this research covering shopping centers with 30 or more tenants or those with 5,000 tsubo or larger retail floor, the average occupancy period, which is a period between the start of the lease and the timing when 50% of the surveyed tenants moved out from the property, is estimated with the Kaplan-Meier method^{*2}. In addition, we have also estimated the average occupancy period of retail tenants in office buildings.

This is a useful indicator in various situations in real estate management and use: landlords and developers can use this as a reference of tenant turnover when estimating future performance of the property; retail business operators looking for a space for their store can use this as a reference when evaluating the shopping center.

- *1 Average Occupancy Period of Office Tenants released in May 2014
https://www.xymax.co.jp/english/research/images/pdf/140526_News-release.pdf
- *2 Kaplan-Meier method is explained at the end of this report.

Findings from Research

1) Shopping center tenants stay 10.7 years on average.

Annual departure rate of sixth-year tenants is particularly high, 18%.

2) Core and semi-core tenants (≥150 tsubo) tend to stay longer, 18.8 years on average.

After the sixth year, occupancy period of small/medium tenants (< 150 tsubo) becomes longer.

3) Reference: Retail tenants in office buildings resemble the pattern of office tenants.

Finding 1) Shopping center tenants stay 10.7 years on average

Annual departure rate of sixth-year tenants is particularly high, 18%.

Figure 1 shows the rate of retail tenants who continue to stay in the shopping center at each point of time since the start of the lease. The rate is 100% at the beginning (0 year, 0 month), then it decreases as tenants leave.

The average occupancy period of retail tenants, which is the period between the start of the lease and the timing when 50% of the tenants moves out from the property, was 10.7 years (128 months). The graph shows a notable straight down vertical line at the sixth year (72 months from the start of the lease). The annual departure rate of the sixth year is 18%, a very high percentage compared to other years (Figure 2).

This is largely due to the typical lease terms of shopping centers. In shopping centers of Japan's leading developers such as AEON Mall and LaLaport, a six-year fixed-term contract is said to be the most popular terms in recent years for an initial lease contract when a new shopping center opens.

How long will the tenants stay in the shopping center?

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Many of the landlords and developers, in order to maintain and improve the asset value of the shopping center, implement a renovation of the building (e.g. tenant replacements, etc.) in the sixth year when initial lease contracts expire. This influenced the sharp fall of the rate at the sixth year.

Figure 1: Rate of Tenant's Continuity in Shopping Center

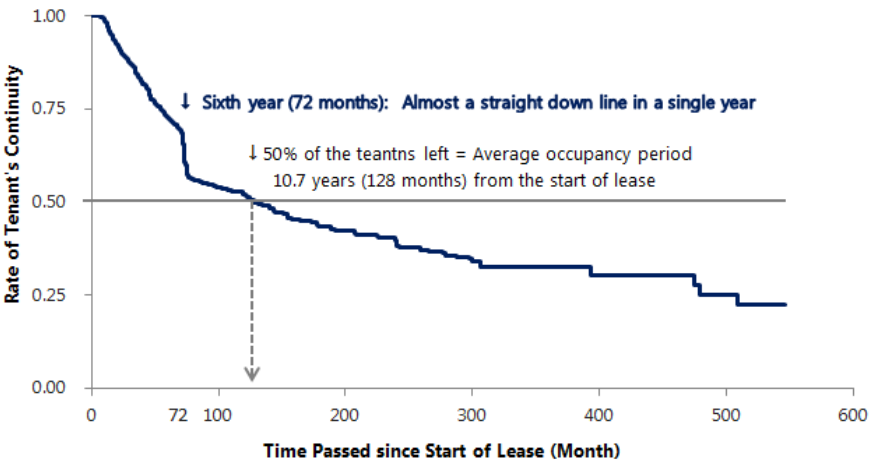


Figure 2: Annual Tenant Departure & Accumulated Tenant Departure

Shopping Center																
	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Year 11	Year 12	Year 13	Year 14	Year 15
Annual Rate	2%	8%	6%	8%	6%	6%	18%	2%	2%	2%	4%	4%	4%	1%	3%	2%
Accumulated Rate	2%	10%	15%	22%	27%	31%	44%	46%	47%	48%	51%	53%	54%	55%	57%	58%

Figure 2 shows the rate of departure of tenants. The annual departure rate^{*3} represents the ratio of tenants who left the property within the year to all the tenants existed at the beginning of the year. The accumulated departure rate^{*4} is estimated based on the rate of tenant's continuity in Figure 1 which was derived by using the Kaplan-Meier method.

*3 Annual departure rate = Tenants departed in the year ÷ All the tenants existed at the beginning of the year
 *4 Accumulated departure rate = 1 – Rate of tenant's continuity of the year

Finding 2) Core and semi-core tenants (≥150 tsubo) tend to stay longer, 18.8 years on average. After the sixth year, occupancy period of small/medium tenants (<150 tsubo) becomes longer.

As our next step, the occupancy period of shopping center tenants by size of the leased space (150 tsubo or larger / less than 150 tsubo) is estimated. (1 tsubo = approx. 3.3 sqm / 150 tsubo = approx. 495 sqm)

In Figure 3, the light-blue line represents tenants of 150 tsubo or larger space. The average occupancy period is long, 18.8 years (225 months). The line has no drastic decrease at the sixth year as we saw in Figure 1.

These tenants are positioned as core or semi-core stores in a shopping center. In some cases, their contract period is set longer than other tenants, such as 10 to 20 years. On renovation of the building, core and semi-core tenants are less likely to be replaced by other tenants. A large decrease in the continuity rate comes only at around 20 years (240 months) from the start of the lease.

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The purple line in Figure 3 represents tenants of less than 150 tsubo space. The average occupancy period is approximately 10 years (119 months). The overall pattern resembles that of Figure 1: there is a sharp decline after six years (72 months) from the start of the lease. The annual departure rate of the sixth-year tenants is particularly high, 21% (Figure 4).

Also in Figure 3, the tenants of less than 150 tsubo space show relatively slower departures after the sixth year; the continuity rate for the period of the next ten years is slightly higher than 10%, indicating that the tenants are more likely to stay if they renew the lease at the expiration of the initial six-year contract.

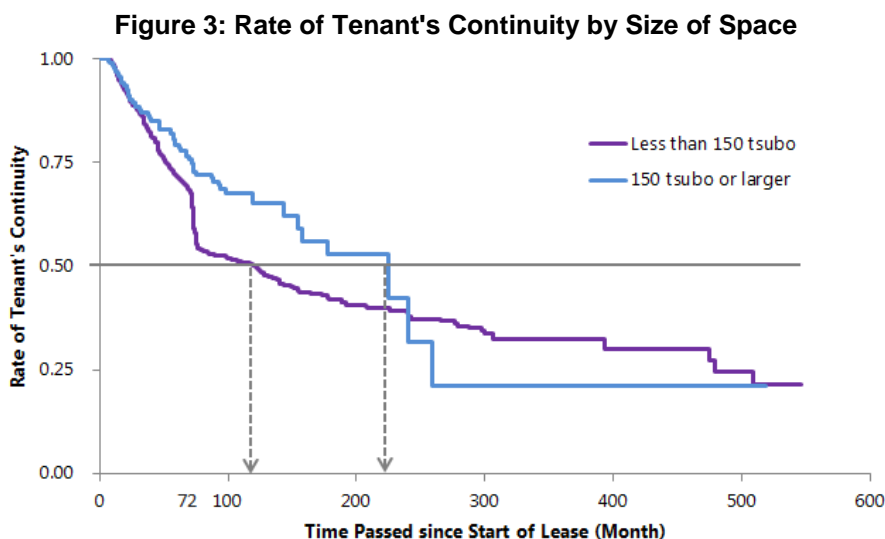


Figure 4: Annual Tenant Departure & Accumulated Departure by Size of Space

150 tsubo or larger																
	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Year 11	Year 12	Year 13	Year 14	Year 15
Annual Rate	2%	8%	3%	4%	5%	4%	5%	5%	1%	3%	NA	4%	5%	5%	6%	NA
Accumulated Rate	2%	10%	13%	17%	21%	24%	28%	31%	32%	35%	-	38%	41%	44%	47%	-

Less than 150 tsubo																
	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Year 11	Year 12	Year 13	Year 14	Year 15
Annual Rate	2%	8%	6%	8%	6%	6%	21%	2%	2%	2%	5%	4%	4%	1%	3%	2%
Accumulated Rate	2%	10%	16%	23%	28%	32%	47%	48%	49%	50%	53%	55%	56%	57%	58%	59%

• We have no data of 150 tsubo or larger space tenants who departed in Year 10 and Year 15; therefore "NA" is entered in each place.

Figure 4 is a table showing the tenant's annual departure rate and accumulated departure rate, similar to Figure 2, but this time they are shown by the size of leased space (150 tsubo or larger / less than 150 tsubo).

Finding 3) Reference: Retail tenants in office buildings resemble the pattern of office tenants

Finally, the continuity rate of retail tenants in office buildings is estimated and presented in Figure 5. The average occupancy period is 12.7 years (152 months). The overall pattern represents the average occupancy period of office tenants we released in May 2014.

Many of the lease contracts are two-year lease, which is similar to the typical lease contracts of office tenants. In case of convenience stores are, however, often under a long-term contract such as 20 years. Basically no renovation takes place after six years from the building completion. This influenced the average occupancy period of retail tenants in office buildings which tends to be longer than that of shopping center tenants.

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Figure 5: Rate of Retail Tenant's Continuity in Office Buildings

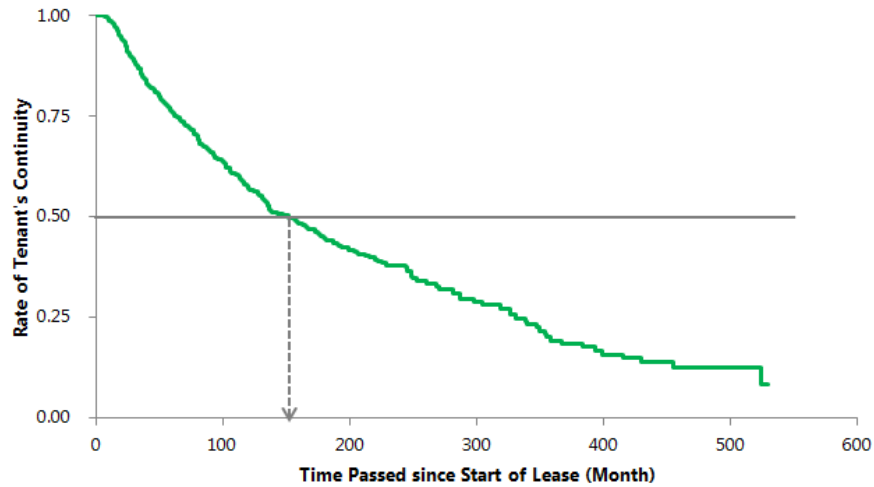


Figure 6: Annual Departure & Accumulated Departure of Retail Tenants in Office Buildings

Retail Tenants in Office Buildings

	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Year 11	Year 12	Year 13	Year 14	Year 15
Annual Rate	1%	6%	7%	6%	6%	5%	6%	5%	6%	5%	5%	7%	2%	5%	4%	5%
Accumulated Rate	1%	8%	14%	19%	24%	27%	32%	36%	39%	42%	46%	49%	50%	53%	55%	57%

Figure 6 shows the annual departure rate and accumulated departure rate of retail tenants in office buildings. The table indicates that the annual departure is relatively less volatile.

Data used in the analysis

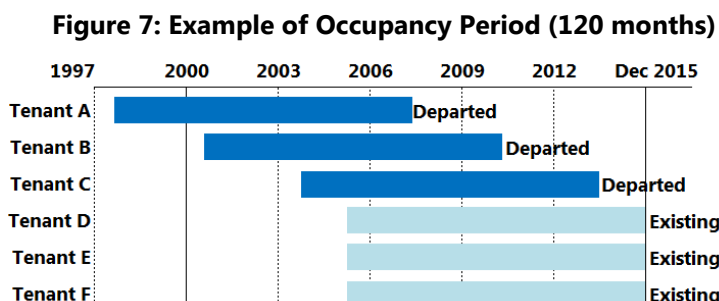
Subject Tenants	Tenants in Xymax Group-managed properties who fall into either of the followings. <ul style="list-style-type: none"> • Tenants in a shopping center with 30 or more tenants or with a total store area of 5,000 tsubo or more (20 shopping centers / 1,510 tenants) <p style="margin-left: 20px;">Breakdown of 1,510 tenants: 179 tenants (150 tsubo or larger) / 1,331 tenants (less than 150 tsubo)</p> • Retail tenants in office buildings (236 buildings / 730 tenants)
Period	January 2000 – December 2015
Start of Lease	Month and year when the tenant moved in to the shopping center for the first time.
Tenant's Departure	Month and year when the tenant finally moved out from the shopping center.
Occupancy Period	Period between the start of the lease and the tenant's departure (shown in number of months)
Ending Flag	This analysis separates the tenants into two groups: those moved out from the property before the end of the analysis period and those who are still staying in the property. <ul style="list-style-type: none"> • Tenants who moved out: 634 tenants in shopping centers / 357 tenants in office buildings • Tenants who are staying in: 876 tenants in shopping centers / 373 tenants in office buildings

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Analysis Method — Departed Tenants and Existing Tenants

Figure 7 shows example of the starting month and ending month of lease of six tenants whose occupancy period is the same (120 months = 10 years). The tenants who are still staying in the property as of the end of our analysis period (December 2015) are colored in light blue.



The occupancy period of the tenants who have already departed from the property is 120 months and this is the final result and will not change any more. However, the occupancy period of the existing tenants is not determined yet and will be finalized when the tenant actually leaves. Therefore, it is important to pay attention to this undetermined occupancy period of existing tenants. Because of this reason, rather than a simple average of all the data available at present, the occupancy period should be estimated after separating the data of departed tenants and that of existing tenants.

In this analysis again, as we did in the average occupancy period of office tenants, we applied one of the survival analyses^{*5} in medical, engineering and marketing researches called the Kaplan-Meier Method^{*6}. This method can distinguish the undetermined data, such as existing tenants in our case, from the data of departed tenants, and explain the tendency of the tenant's continuity rate.

***5 Survival Analysis**

Survival analysis analyzes the duration of time until an event happens, such as death, failure or expiration of contract. This method is used in many areas. In a medical research, it is used for the result of medicinal treatment or survival rate after a surgery. In reliability engineering, it is used for the failure rate. In marketing, it is used for the customer defection rate. In this report of the duration of time until the tenant's departure, the tenant's departure is the "event".

***6 Kaplan-Meier Method**

One of the methods of the survival analysis. In this method, the survival rate is estimated from two different data groups: the data where the event occurred and the data where the event did not occur as of the end of the analysis period (the latter is called "censored data". In this report, the tenant's departure is the "event", the tenants still staying in the property at the end of the analysis period is the "censored data" and the rate of tenant's continuity is the "survival rate". The average occupancy period is defined as when the rate of tenant's continuity becomes 50%.

Reference:

1) "Survival Analysis" by John P. Klein and Melvin L. Moeschberger, translated into Japanese by Mamoru Uchinami

For questions on this report, please contact us.

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