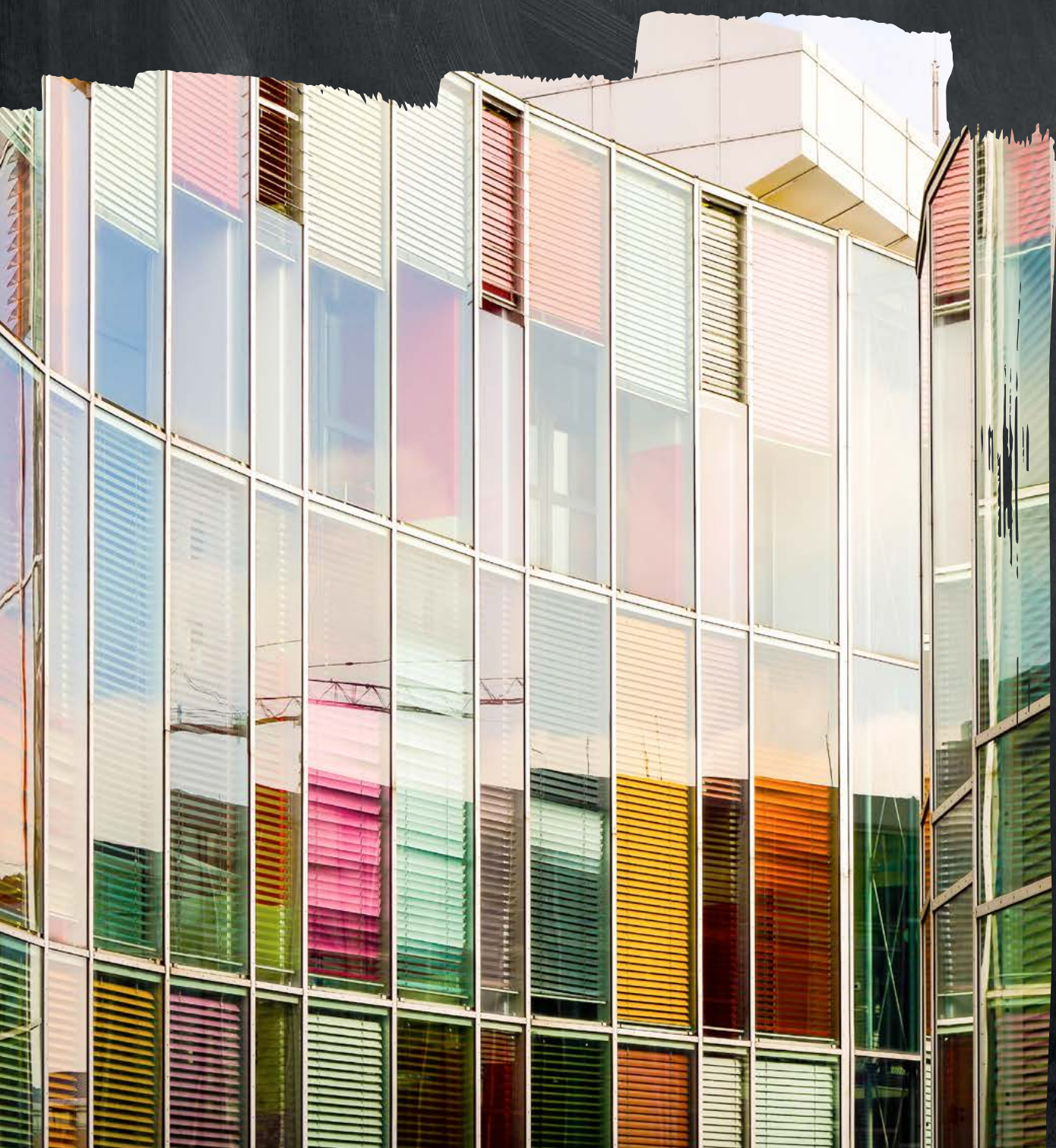


Leaseholds in Major German Cities

Analysis of their value drivers and significance on the investment market

March 2019



Leaseholds

coming to the fore

The German heritable building right is celebrating its 100th anniversary this year – and with it the possibility of splitting title to the site and the building into two independent rights. Many major cities such as Hamburg and Frankfurt have a large number of leasehold sites. Traditionally, leaseholds are created by large landowners such as municipalities, church or public sector institutions. Without losing title to their property, they make the land available for development in return for payment – with an eye on social or planning policy objectives, or in order to ensure the long-term economic exploitation of their interests. But leaseholds are also created by property companies and institutional investors. As yet, there is no central record regularly monitoring the market development with leasehold properties at federal level. The Deutscher Erbbaurechtsverband (German Leasehold Association) estimates that, across Germany, around 5% of sites could be subject to leaseholds. Of the nearly 30,000 property valuations undertaken by JLL in Germany since 2016, 4.5% included underlying leaseholds.

The scale of transactions in leasehold in Germany is still rather low. However, the competitive market environment and the enormous pressure on yields are having an increasingly positive impact on the liquidity of the market

for leasehold transactions. It is also against the background of high levels of demand and the corresponding strong increases in property and land prices (particularly for residential property) in German cities that leaseholds are once again coming to the fore – both for purchasers of properties (beneficiaries under leaseholds, referred to here as leaseholders) and also for owners of land (freeholders). Moreover, many municipalities are planning to grant leasehold ownerships over land in future rather than to sell it, in order to boost the construction of public housing and prevent speculation in land. This means that an investment in a leasehold property can be an alternative investment for institutional investors, if the contract is structured appropriately. Separating the building and the site leads to very different risk-return profiles for investors in land and in buildings. What are the resulting opportunities and risks from the investor's viewpoint? How does the investment market for commercial leasehold property look in the top seven cities? These are some of the questions into which this market study will touch upon. First, we shall highlight the main features and application of leaseholds from a German and international perspective, and also the drivers of the values of leaseholds.

Fixed-Term *Ownership*

The topic of leaseholds may be complex but the basic principle is simple: the usual unity of title to the land and the building is split up. Thus, during the term of the leasehold the building is not considered to be an integral part of the property. The legal basis is supplied by the Heritable Building Rights Act [Erbbaurechtsgesetz] (Erbbaurechtsgesetz). This provides that a leasehold can be granted only over the whole of the site. In order to create it, a notarised leasehold contract is required between the leaseholder and the freeholder. Leaseholds are also provided with their own land register (the leaseholds register), in which all rights and encumbrances equivalent to those in or over land are registered. The contractual and statutory terms are protected as rights in rem only when they are registered in the land register (as an encumbrance in Section II, with first-ranking priority). The owner of the building is granted a right to use the land against payment of a ground rent, usually annual, for a duration which is freely negotiable between the parties. This places the leaseholder in a position equivalent to an owner; thus he can dispose of the leasehold, create land charges over it and use the property himself or let it. If the contract is not extended, the leasehold will expire. It can also be ended earlier by so-called reversion – for example, if the leaseholder breaches his contractual obligations. In either case, the Civil Code [BGB] provides that the rights over all the structures on the site revert to the freeholder, together with his rights over the land. The Heritable Building Rights Act stipulates that a reasonable compensation for the building must be paid to the leaseholder. Whilst this can be freely negotiated for commercial buildings, for residential buildings it must be at least two-thirds of the current market value.

Besides the classic leasehold, in practice there are further types, for example a consolidated leasehold which represents an option for large projects. This is a single leasehold over several legally independent sites which may be owned by different people. In the case of the so-called

neighbouring leasehold, several independent leaseholds exist over adjoining sites in order to construct a building. Also, a subsidiary leasehold can be created over another existing leasehold. This subsidiary leasehold is quite rare in practice, because the freeholder has to consent to its creation.

Separation of Land and Building



Historical Development

The leasehold is one of the original forms of property ownership. The original concept underlying the principle goes back to the Roman Empire. It is less prevalent in countries in which it was displaced by private land ownership rights during Napoleonic times. This applies mainly to continental Europe. In Germany, the leasehold was re-introduced after the First World War. The Leaseholds Ordinance was adopted in 1919 with the aim of making it possible for lower-income households to own residential property. In the post-war period, and occasionally even in the 1990s, leaseholds were created mainly to encourage housing construction and reconstruction. Finally, in November 2007 the Leaseholds Ordinance was replaced by the current Heritable Building Rights Act, but its content was unchanged.

Clear Contract Terms for Better Planning Certainty

The leasehold contract contains provisions governing the nature and extent of the rights of use, reservations requiring the freeholder's consent to certain dispositions of the leasehold (for example, the creation of encumbrances and sale), its duration and the ground rent. Basically, the latter depends on the location and quality of the site and also its state of development and potential. The ground rent is usually based on a percentage of the current land value on conclusion of the contract at the start of the term. In practice, an indexation clause is agreed: indexation is linked to an official index such as the Federal Statistical Office's Consumer Price Index. For residential properties, the legislation provides that indexation may take place every three years at most. For commercial properties, the parties can negotiate it freely. The contract also includes terms governing the termination and winding-up of the leasehold on its expiry or reversion. The compensation clause determines to what extent compensation is payable (normally a percentage of the value of the building, which must then be determined). As well as the amount of compensation and the grounds for reversion, the contract should therefore set out the basis on which the value of the building can be determined at any time.

Besides the risk of vacancy and the cost of maintenance, the owner of the building pays all the one-off charges such as real estate transfer tax and land servicing charges, and also all recurring public and private law charges, in the same way as on a purchase of the freehold.

A Principle Found Around the World

In Germany, in the commercial sphere, leaseholds are frequently used where there is a particular economic, cultural, historical or government interest, such as for airport terminals and railway stations, ports or former government sites, or to promote local and economic development. Leaseholds are found across all use categories.

In Frankfurt am Main, for years it has been the norm to grant leaseholds over municipal land.

Currently, the city council holds around 4,500 leaseholds, mainly for residential properties. According to its city council, Hamburg intends to increase its proportion of leaseholds substantially from its present 4.3%. Over the past year, ground rents for commercial properties have been reduced to 2.2%. So far, Hamburg has created about 4,400 leaseholds. The State of Berlin is planning to reduce ground rents for new contracts, in view of the low interest rates on the capital markets. For commercial properties, a reduction in the interest rate is planned from its current 6.5% to 3.25%. To date, Berlin has created some 4,100 leaseholds.

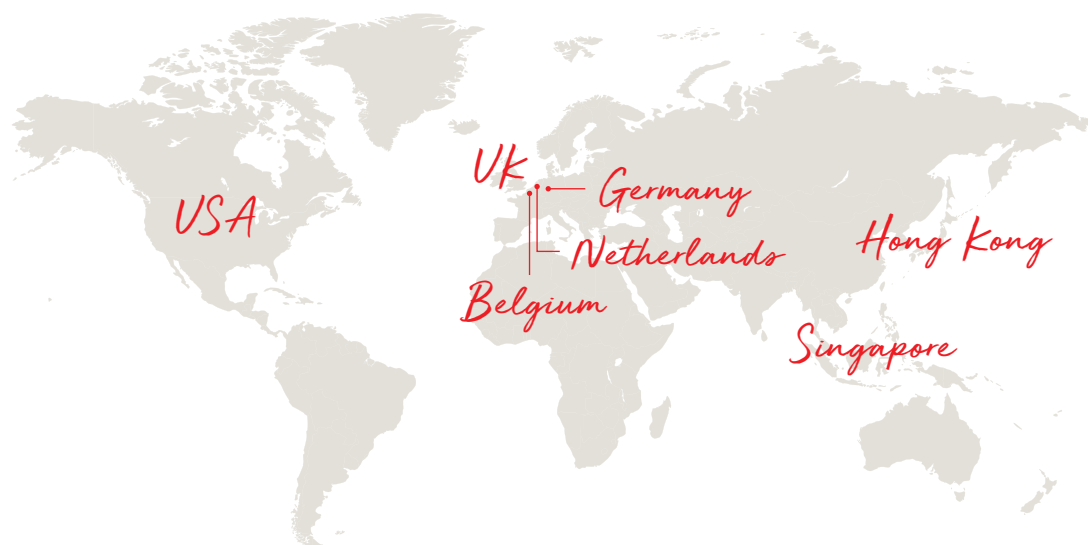
Leaseholds are not peculiar to Germany

Similar legal concepts, in various forms, are more widespread as a form of property ownership in many other countries. Most of the time, they are granted by the public sector. In England and Wales, for example, land formally belongs to the Crown, so that the only right which can be acquired is a right of possession. So-called freehold title is a perpetual right of ownership and possession over the land and buildings, whilst leasehold title is a right to build and use granted for a specified duration. This form can therefore be compared with the German leasehold. Large parts of London are so-called leasehold land, especially commercial properties. Erfpacht in the Netherlands and the Austrian Baurecht are equivalent to the German leasehold and play an important role in the provision of building land. In the case of the Swiss Baurecht, as with the German leasehold, the parties enjoy wide-ranging freedom of contract. For example, the approach taken by the City of Zurich is to promote not-for-profit housing construction – imposing corresponding conditions and usage restrictions on the leaseholder. In the USA, long-term ground leases play a major role on the property markets, particularly in the development of large scale commercial projects. Public institutions such as municipalities and port and airport corporations retain control over the project, and are often involved right from the design phase of the development proposal. Leaseholds are also widespread in Asia.

In China, for example, all land is owned by the state. In many international markets, commercial property held under leaseholds is much more widespread than in the German market. Very long lease terms are the rule in many countries, and these have a positive impact on investors' assessment of risk and the potential discounts.

In England and parts of Singapore, so-called virtual freeholds are a common concept. Under these, a property is made subject to a lease with a 999 year term. Furthermore, investors in some countries, for example in Belgium, benefit from tax savings on transactions in leaseholds.

Country-by-Country Comparison

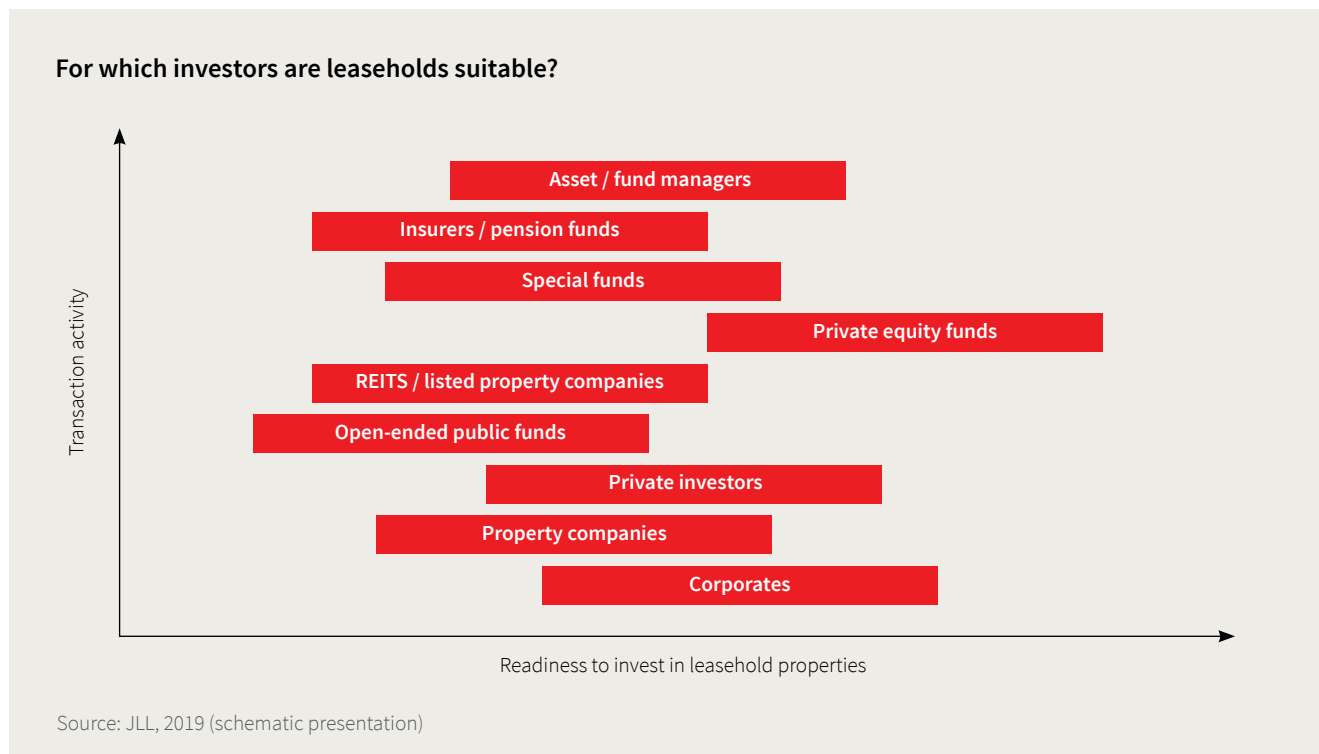


Country	Share of commercial property held under leaseholds	Usual duration	Annual ground rent
USA	no data	50 - 99 years	no data
Hong Kong	100%	50, 75, 99 or 999 years	Since 27th May 1985: 3% of the property's estimated annual rent (determined by the state)
Singapore	80%	30, 60, 99 or 999 years	No ground rent
Belgium	20%	99 years	Fixed amount or proportion of income from the property
Netherlands, particularly Amsterdam	80 - 85%	50 years	Fixed amount depending on the land value and municipality
UK, particularly London	40% (100% Canary Wharf)	Very long durations, sometimes 999 years	5-10% of the income from the property
Germany	ca. 5%	30 - 99 years	2-6% of the land value

Source: JLL, 2019

Leaseholds – an Investment with Advantages and Disadvantages

In our experience, in principle, investors are open to possible investment in leaseholds. Only a small percentage categorically rule out leaseholds transactions.



One of the advantages of investing in a leasehold is that higher returns can be achieved because the associated land is not purchased. As a result, it is possible to use a property for a limited time without tying up a high level of capital. Furthermore, if properties are let, the annual ground rent is deductible expenditure for tax purposes, whereas investments in the site are not depreciable under German tax law. Moreover, ground rent payments are not subject to the debt interest limit for business taxes (the “interest barrier”).

Against this, making a leasehold subject to a ground rent constitutes an obligation on the investor in a building, because the ground rent is payable even if no rental income is being generated from the building, for example as a result of vacancy. As the residual term becomes shorter and expiry looms, the chance of a profitable sale is reduced. The expiry of leaseholds can therefore represent a significant obstacle from the investor’s perspective.

It can therefore be seen in the case of deals with a short residual term that the discount increases exponentially as the residual term gets shorter.

The discount or the yield shift compared to freehold ownership therefore depends on the structuring of the leasehold contract. An investor-friendly structure provides for a long duration and a moderate ground rent. The level of ground rent compared to the rental income, and restrictions on dispositions and requirements for approval, are particularly crucial factors. The indexation of the ground rent should be structured such that a future positive movement in property values is substantially retained by the owner of the building. In addition, the leaseholder should be free to the greatest extent possible to make decisions about the servicing and management of the property. From the investor’s point of view, there should be no pre-emption rights or restrictions on use or a right to have a say on lettings.

Drivers

of value of leaseholds

Valuation Approaches for leaseholds

Using a simplified mathematical approach, the value of the site and the value of the leasehold would together add up to the value of the unencumbered property. In other words, the value of the leasehold would equal the value of the unencumbered property less the capitalized ground rent. However, this methodology does not reflect market practice because it takes no account of the use of the land by the leaseholder and any restrictions on use.

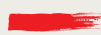
The valuation approach called “Münchener Verfahren“, developed by the real estate valuer Alfred Werth, has become the established market practice in the banking industry for valuing leaseholds. As a starting point, it is assumed that the title is an unencumbered freehold without any restriction of uses. Then, a total of four potential adjustments are applied to reflect the restrictions in a leasehold ownership in comparison to the a classic freehold interest.

The adjustments are explained below and illustrated by way of a sample calculation.



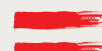
Freehold

(building + site)



Discounts

(because of restrictions)



*Value of the
Leasehold*

Adjustments: Valuation Parameters and Assumptions

The adjustments are crucial to the value of a leasehold. The following are the essential valuation parameters and assumptions when determining them.

Duration and residual term of the leasehold contract

Context	Approach
<p>Durations vary depending on the use of the property. Whilst they are usually 99 years or more for residential properties, for commercial properties they vary between 30 and 99 years.</p> <p>Whilst a long duration can usually be considered as non-critical for financing purposes, a very short residual duration may affect the suitability of the property for refinancing and thus the loan conditions. Pfandbrief Act §13 para.2 stipulates that loans may be granted against the collateral of fixed-term rights only if the repayment of the debt or mortgage is scheduled to end no later than ten years before the expiry of the right, and it will not continue longer than is required for the accounting depreciation of the building according to financial principles. In practice, this means that leaseholds with a term of less than 20 years are not considered suitable for lending by most Pfandbrief banks, and so they are seen as hard to sell.</p>	<p>In valuation theory, the right to the freehold site is viewed as perpetual (indefinite). Due to the limited duration of the leasehold, the value of the land after the expiry of the leasehold contract is deducted from the building assuming a freehold ownership. This value is discounted to the valuation date over the remaining residual term of the leasehold.</p> <p>In simple terms, the longer the residual duration of the leasehold contract, the higher the value of the leasehold, as long as the level of the ground rent is at market level.</p>

Compensation clause upon expiry of the leasehold

Context	Approach
<p>If the right to the land and all the building thereon will revert to the freeholder upon expiry of the leasehold, the (former) leaseholder must normally be compensated for the buildings. The amount of the compensation depends on the terms of the leasehold contract.</p> <p>Whilst the compensation is freely negotiable for commercial buildings, for residential buildings it must be at least two-thirds of the market value of the building at expiry of the leasehold.</p>	<p>As a result, the residual value of the building for which no compensation is payable in future is deducted from the value of the building assuming a freehold ownership. The value is discounted back to the valuation date over the remaining residual duration of the leasehold.</p>

Other restrictions on disposition

Context	Approach
<p>This adjustment is made if – as is quite normal – the leasehold contract includes restrictions on disposition, such as restrictions on development, requirements for approval, pre-emption rights, requirements for consent etc. One of the most common examples of this is the requirement for the freeholder's consent to the sale of, or creation of an encumbrance (by way of land charges / mortgages) over, the leasehold. The reason for agreeing restrictions on disposition is to protect the freeholder against “unfair” dealings in the leasehold, e.g. a sale to criminals or creating land charges over it for many times its value.</p>	<p>It is difficult to generalise the adjustment required in respect of restrictions on disposition.</p> <p>In practice, deductions are applied at the valuer's discretion based on empirical evidence. The decisive factor is an assessment of the extent to which the restriction impairs the operation and marketability of the leasehold.</p> <p>The deduction adopted is normally a percentage of the total value (3%-10%) or of the land value (5%-50%).</p>

Amount of the ground rent

Context	Approach
<p>If the ground rent – which is freely negotiable – reflects local market conditions, in practice it will fall in a range between 2% and 6% of the land value of the property (depending on the use). For residential properties and commercial properties in prominent locations, the range can be reduced to 2%-4% of the land value.</p> <p>In many municipalities, the level of ground rent is used as a policy instrument to control urban development. There are also examples in practice where the freeholder entirely waives payment of a regular ground rent and receives an initial lump-sum payment instead.</p>	<p>The ground rent is capitalized over the residual term of the leasehold. The resulting cash value is deducted from the value of the freehold.</p>

Way of limiting adjustments of the value of leasehold

As described above, in valuation practice, adjustments are made to reflect the restrictions which may arise under leasehold contracts. In order to avoid such potential adjustments, and the resulting impairment of liquidity of leaseholds on the property market, there are internationally accepted best practice rules about the structuring of leasehold contracts.

Leasehold contracts for commercial properties are basically freely negotiable between the parties to the contract. In addition to foundations, municipalities and churches, new market players are increasingly establishing themselves in the leasehold segment. They have set themselves the goal of optimising leasehold contracts for commercial properties legally and financially so as to enhance their liquidity in the real estate market. The primary objective of these players is to align leaseholds substantially to freehold properties so that the only remaining valuation deduction is in respect of the obligation to pay the ground rent. Contracts optimised in this way are based on international practice, which generally envisages longer durations for leasehold contracts, of 100 years and more as well as a very high degree of freedom in the operation, financing and sale of the leaseholds:

Best Practice Criteria	Contents of Optimised Contracts for limiting valuation deductions
Duration	<ul style="list-style-type: none">• Minimum duration of 100 years at conclusion of the contract
Option to extend	<ul style="list-style-type: none">• Automatic option(s) for the leaseholder to extend the leasehold upon expiry
Ground rent / indexation	<ul style="list-style-type: none">• Ground rent set at 2%-5% of the land value• Indexation of the ground rent based on the official Consumer Price Index
Ground rent in proportion to rent	<ul style="list-style-type: none">• Initial ground rent no more than 20% of target rent for the property
Restrictions on disposition	<ul style="list-style-type: none">• No consent required for letting, operation or sale of the property• No consent required for financing the property up to approx. 75% LTV
Reversion provisions	<ul style="list-style-type: none">• Compensation payable to the leaseholder of at least 85% of the value of the building in the event of reversion (early termination of the leasehold, for example in the event of lengthy default in payment by the leaseholder)
Compensation on expiry	<ul style="list-style-type: none">• Compensation payable to the leaseholder of at least 90% of the value of the building after expiry of the leasehold contract



Case Study on the Valuation of a Leasehold

We have based our calculation examples on the valuation of a hypothetical property in Frankfurt am Main, the details of which were as follows at the valuation date of 1st January 2019. We then use two scenarios to demonstrate the differences between a non-optimised leasehold (Scenario 1) and an optimised leasehold contract (Scenario 2).

Property		Office building
Street		Mainzer Landstrasse
City		Frankfurt am Main
Country		Germany
Lettable area		10,000 sqm
Built in		2010
Vacancy		0.0%
Agreed rent	/sqm/ month	€ 30.00
	Total per annum	€ 3,600,000
Market rent	Total per annum	€ 3,600,000
Net operating income from building (after operating costs)	Total per annum	€ 3,301,000

Determination of the Value of the Leasehold

Determination of the value of the leasehold		Scenario 1	Scenario 2
Land value		€ 20,000,000	€ 20,000,000
Preliminary Market Value assuming freehold ownership		€ 76,800,000	€ 76,800,000
1_Adjustment for limited duration of the leasehold contract			
Residual term of the leasehold		51 years	100 years
Capitalization rate		3.00%	3.00%
Discount factor		0.221	0.052
1_Adjustment for limited residual term	20.0 million x 0.221 or 0.052	-€ 4,429,533	-€ 1,040,825
2_Adjustment to reflect compensation clause			
Non-compensable portion		25%	10%
Residual term of the leasehold		51 years	100 years
Capitalization rate		3.00%	3.00%
Capitalization factor		25.951	31.599
Remaining useful lifespan of the building		61 years	61 years
Capitalization factor		27.840	27.840
Difference between capitalization factors		1.889	-3.759
Net operating income from building		€ 2,501,000	€ 2,501,000
2_Adjustment to reflect compensation clause		-€ 1,181,097	
3_Adjustment for other restrictions on disposition	10.00% or 3.00%	-€ 2,000,000	-€ 600,000
4_Ground rent		€ 600,000	€ 600,000
Capitalization rate		3.00%	3.00%
Residual term of the leasehold		51 years	100 years
Capitalization factor		25.951	31.599
4_Present value of ground rent payments		-€ 15,570,467	-€ 18,959,175
Total adjustment for leasehold		-€ 23,181,097	-€ 20,600,000
Market Value of the leasehold		€ 53,600,000	€ 56,200,000

Adjustment	Approach in Scenario 1	Approach in Scenario 2
Duration of the leasehold contract	Expiring on 31st December 2069, therefore 51 years remaining as at the valuation date	Expiring on 31st December 2118, therefore 100 years remaining as at the valuation date. Unilateral option for the leaseholder to extend
Compensation clause	25% of the Market Value of the building is not compensated at the expiry of the leasehold	10% of the Market Value of the building is not compensated at the expiry of the leasehold
Restriction on disposition	Approval required for alterations, pre-emption right and consent required for letting	Pre-emption right
Ground rent	3.00% of Land Value	3.00% of Land Value

By optimising the leasehold contract, the adjustments are reduced from € 23.2 million in the first scenario to € 20.6 million in the second scenario (-11%). The adjustment for the duration of the leasehold contract is reduced by 77%. An even longer contract duration would result in a further reduction. The adjustment for the compensation clause disappears completely, whilst the adjustment for the restriction on disposition is reduced by 70%. In the second scenario, the ground rent increases substantially because the assumed duration of the leasehold contract is almost twice as long.

Adjustments	Scenario 1	Scenario 2	Difference
Duration of the leasehold contract	- € 4,429,533	- € 1,040,825	-77%
Compensation clause	-€ 1,181,097	€ 0	-100%
Restriction on disposition	-€ 2,000,000	-€ 600,000	-70%
Ground rent	-€ 15,570,467	-€ 18,959,175	22%
Total	-€ 23,181,097	-€ 20,600,000	-11%

The ground rent still plays an important role in the financial viability of the leasehold because the ground rent makes up 92% of the total adjustments. Based on a preliminary Market Value of the freehold of € 76.8 million, after deductions the resulting value of the leasehold is € 56.2 million. Optimising the contract in Scenario 2 therefore results in an increase in value of € 2.6 million (+5%) compared to Scenario 1.

Sensitivity Analysis for Scenario 1

A leasehold is a limited-duration right to use a property. Theoretically, the value of the leasehold reduces over time. At the same time, the property markets, from which important valuation parameters such as market rents and yields (property yields / ground rents / net initial yields) are derived, also change. In Frankfurt, for example, according to the Land Valuation Board's figures, property yields for office properties in prime locations have fallen by 1.9 percentage points, from 5.0% (2011) to 3.1% (2017).

The question which therefore arises is: to what extent do market developments alter the changes in the value of a leasehold over time? In order to answer this question, the value of the leasehold under Scenario 1 has been calculated using various property yields, as at various valuation dates. The result, taking account of the two variables, is shown in the following matrix.

		Property yield								
		6.0%	5.5%	5.0%	4.5%	4.0%	3.5%	3.0%	2.5%	2.0%
Valuation date	01.01.2070	9,400,000	10,200,000	11,100,000	12,000,000	13,000,000	13,900,000	15,000,000	16,100,000	17,200,000
	01.01.2065	16,800,000	17,800,000	18,900,000	20,000,000	21,200,000	22,500,000	23,900,000	25,400,000	27,000,000
	01.01.2060	22,200,000	23,500,000	24,900,000	26,400,000	28,000,000	29,800,000	31,700,000	33,700,000	36,000,000
	01.01.2055	26,100,000	27,800,000	29,600,000	31,500,000	33,600,000	36,000,000	38,500,000	41,300,000	44,300,000
	01.01.2050	28,900,000	31,000,000	33,200,000	35,600,000	38,300,000	41,200,000	44,500,000	48,100,000	52,000,000
	01.01.2045	30,900,000	33,300,000	36,000,000	38,900,000	42,100,000	45,700,000	49,700,000	54,100,000	59,100,000
	01.01.2040	32,300,000	35,100,000	38,100,000	41,500,000	45,300,000	49,500,000	54,300,000	59,600,000	65,700,000
	01.01.2035	33,200,000	36,300,000	39,800,000	43,600,000	47,900,000	52,800,000	58,300,000	64,600,000	71,700,000
	01.01.2030	33,800,000	37,200,000	41,000,000	45,300,000	50,100,000	55,600,000	61,800,000	69,000,000	77,200,000
	01.01.2025	34,200,000	37,800,000	41,900,000	46,600,000	51,900,000	57,900,000	64,900,000	73,000,000	82,400,000
	01.01.2020	34,400,000	38,300,000	42,600,000	47,600,000	53,400,000	60,000,000	67,600,000	76,600,000	87,100,000
	01.01.2019	34,400,000	38,300,000	42,800,000	47,800,000	53,600,000	60,300,000	68,100,000	77,200,000	88,000,000
	01.01.2018	34,500,000	38,400,000	42,900,000	48,000,000	53,900,000	60,700,000	68,600,000	77,900,000	88,800,000
	01.01.2017	34,500,000	38,500,000	43,000,000	48,200,000	54,100,000	61,000,000	69,100,000	78,500,000	89,700,000
	01.01.2016	34,500,000	38,500,000	43,100,000	48,300,000	54,400,000	61,400,000	69,600,000	79,200,000	90,600,000
	01.01.2015	34,500,000	38,600,000	43,200,000	48,500,000	54,600,000	61,700,000	70,000,000	79,800,000	91,400,000
	01.01.2014	34,500,000	38,600,000	43,300,000	48,600,000	54,800,000	62,000,000	70,500,000	80,400,000	92,200,000
	01.01.2013	34,500,000	38,600,000	43,300,000	48,800,000	55,000,000	62,300,000	70,900,000	81,000,000	93,000,000
	01.01.2012	34,500,000	38,700,000	43,400,000	48,900,000	55,200,000	62,600,000	71,300,000	81,600,000	93,800,000
	01.01.2011	34,500,000	38,700,000	43,500,000	49,000,000	55,400,000	62,900,000	71,700,000	82,200,000	94,600,000
	01.01.2010	34,500,000	38,700,000	43,600,000	49,100,000	55,600,000	63,200,000	72,100,000	82,700,000	95,400,000

Source: JLL, 2019

This sensitivity analysis covers the years 2010-2070 (the duration of the assumed leasehold contract) and also a range of property yields between 2.0% and 6.0%. However, a yield lower than 3.0% would seem extremely unlikely.

According to this analysis, at the commencement of the leasehold contract, the value of the leasehold was € 34.50 million having regard to the property yield at the time, of 6.0%. The value at 1st January 2019, of € 53.60 million, therefore represents a significant market-related appreciation (+55%), despite the reduced term of the leasehold contract.

A further decline in property yields, of 50 basis points to 3.5%, could contribute to the stability of the leasehold's value up to 2030.

This sensitivity analysis demonstrates that a leasehold can participate in developments in the market and that the evolution of the market, if it is positive, can compensate for the theoretical loss in value resulting from the decreasing residual duration of the leasehold over many years.

Higher Returns for Leasehold Properties

Separating the building from the land by way of a leasehold creates two titles with different risk/return profiles. One is the land subject to the leasehold, for risk-averse investors, and the other is the leasehold itself, for investors whose aim is to add value by constructing and operating buildings. In the section below, we investigate the effect of this separation on equity capital yields and on the internal rate of return (IRR) of a leaseholder's investment. For this purpose, the key return figures are determined taking the following parameters into account:

Assumptions	Freehold model (€ million)	Leasehold model (€ million)
General		
Financing costs	2.0%	2.0%
Amortisation	1.0%	1.0%
Inflation and indexation	2.0%	2.0%
Financing		
Purchase price	€ 76.8	€ 76.8
Less deductions for leasehold*		€ 20.6
Net purchase price	€ 76.8	€ 56.2
Purchaser's on-costs	7.5% € 5.8	7.5% € 4.2
Total purchase price	€ 82.6	€ 60.4
Rental income	€ 3.6	€ 3.6
Operating costs	4.3% € 0.2	4.3% € 0.2
less ground rent*		3.0% € 0.6
Operating profit	€ 3.4	€ 2.8
Gross multiplier	21.3 x	15.6 x
Net initial yield	4.2%	4.7%
Loan-to-value ratio	70.0%	70.0%
Debt finance	€ 53.8	€ 39.3
Equity capital requirement	€ 28.8	€ 21.1

* see Scenario 2

Including the input parameters in the model calculations over a period of ten years results in the key figures presented in the table below.

Freehold model (€ million)					Leasehold model (€ million)				
	Year 1	Year 2-9	Year 10	Average		Year 1	Year 2-9	Year 10	Average
Rental income	€ 3.6	...	€ 4.3			€ 3.6	...	€ 4.3	
Ground rent	€ 0.0	...	€ 0.0			€ 0.6	...	€ 0.7	
Operating costs	€ 0.2	...	€ 0.2			€ 0.2	...	€ 0.2	
Net rent	€ 3.4	...	€ 4.1			€ 2.8	...	€ 3.4	
Debt finance	€ 53.8	...	€ 48.9			€ 39.3	...	€ 35.8	
Interest costs	€ 1.1	...	€ 1.0			€ 0.8	...	€ 0.7	
Amortisation	€ 0.5	...	€ 0.5			€ 0.4	...	€ 0.4	
Debt service	€ 1.6	...	€ 1.5		VS.	€ 1.2	...	€ 1.1	
Distributable cash flow (pre-tax)	€ 1.8	...	€ 2.6	€ 2.2		€ 1.7	...	€ 2.3	€ 2.0
Interest coverage ratio	3.2 x	...	4.2 x	3.7 x		3.6 x	...	4.7 x	4.2 x
Debt service coverage ratio	2.1 x	...	2.7 x	2.4 x		2.4 x	...	3.1 x	2.7 x
Distribution yield (pre-tax)	6.4%	...	9.0%	7.7%		7.9%	...	10.9%	9.3%
Return on equity (pre-tax)	8.2%	...	10.9%	9.5%		9.8%	...	12.7%	11.2%
Unlevered IRR				4.5%					5.2%
Levered IRR				8.4%					10.5%

For the freehold title, the resulting average return on equity (pre-tax) is 9.5% and the levered IRR is 8.4%. For the leasehold, an optimised leasehold as described above in Scenario 2 has been assumed. The model calculation, taking account of this scenario and also having regard to the above input parameters, raises the average return on equity by 1.7 percentage points to 11.2% and the IRR by 2.1 percentage points to 10.5%. These figures illustrate the positive impact of a leasehold on the yield on this model investment.



Investment Market

for Leasehold Properties

Share of the Commercial Investment Market: Still Small, but Stable

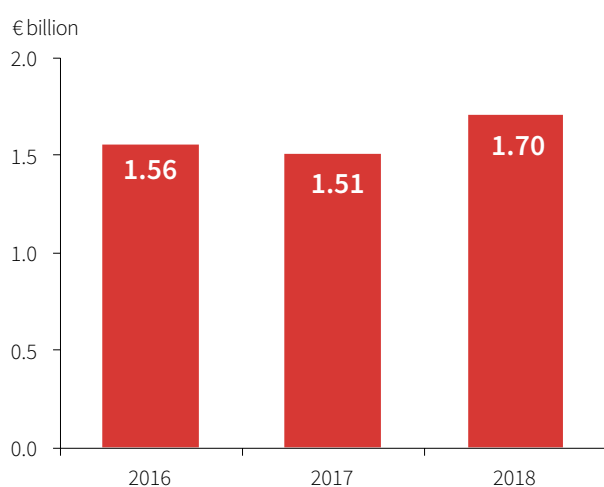
Demand for property investments in Germany is currently very strong. Low interest rates and intense pressure on many institutional investors to invest ensure that investment activity on the German property markets is brisk. In Germany, a total of € 79 billion was invested in commercial properties and residential portfolios in 2018. Whilst this fell just short of the record figure of € 80.3 billion in 2015, it significantly exceeded the 10-year average by 76%. A focal point for these investment activities is the top seven cities of Berlin, Düsseldorf, Frankfurt am Main, Hamburg, Cologne, Munich and Stuttgart. Nearly € 46 billion, more than half of the investment volume across Germany, was invested in these seven locations in 2018. Again, € 38 billion of this was accounted for by commercial properties.

Against a background which included the announcements by some large municipalities that in future they would attach greater importance to leaseholds when allocating public land, in the analysis below we address the question: How important are purchases of leasehold properties for commercial property investment in the top seven cities?

To investigate how often an investment involves a leasehold, around 2,400 transactions in the top seven German cities were analysed. The analysis was based on property purchases between 2016 and 2018. We considered offices, retail properties, hotels, mixed-use properties (where no single type of use in the property accounts for 75% of the total), logistics and industrial properties and also special-use properties (for example, leisure properties), as well as sites on which the development of commercial properties is proposed. A total of 47 transactions involving a leasehold were identified during the period referred to. This involvement took various forms; for example, leaseholds were created over entire properties or as a neighbouring leasehold.

Measured against the total number of transactions, the proportion of leasehold transactions is relatively small (2%), but in terms of volume of transactions it is significantly higher. In the three years under review, between € 1.5 billion and € 1.7 billion was invested each year in leasehold properties. Measured against the total volume of transactions in the use categories referred to during the same period (€ 98.4 billion), this represents a 4.7% share.

Transaction volumes of leasehold properties

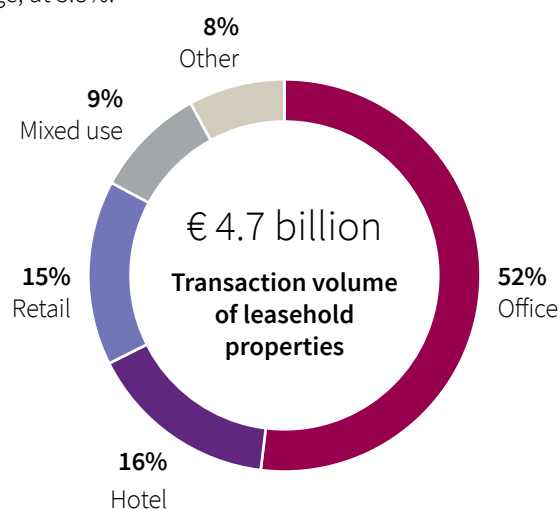


Source: JLL, 2019

Only in occasional cases is the information that a property transaction involves a leasehold made public. The freeholder is often the public sector. For example, in 2017 Gerchgroup acquired the WDR-Karree beside Cologne Cathedral, in order to develop an area with a hotel and office and retail space and apartments. Parts of the site were acquired from the City of Cologne under a leasehold. But the freeholders also include the Church and private companies. Another example is the Esprit headquarters in Ratingen near Düsseldorf, which was acquired from the Swiss investor Gold Tree under a leasehold. There, the freeholder was the investment manager Continuum Capital, acting on behalf of a German pension fund.

Analysed by use, the statistics are dominated by office investments. At € 2.4 billion, they have a 52% share, followed by hotels with 16% and retail properties with 15%. Basically, in the top seven cities the largest share is

accounted for by office investments. Almost € 64 billion was invested in office properties over the three-year period; of this, the share of leasehold properties was below average, at 3.8%.



Source: JLL, 2019

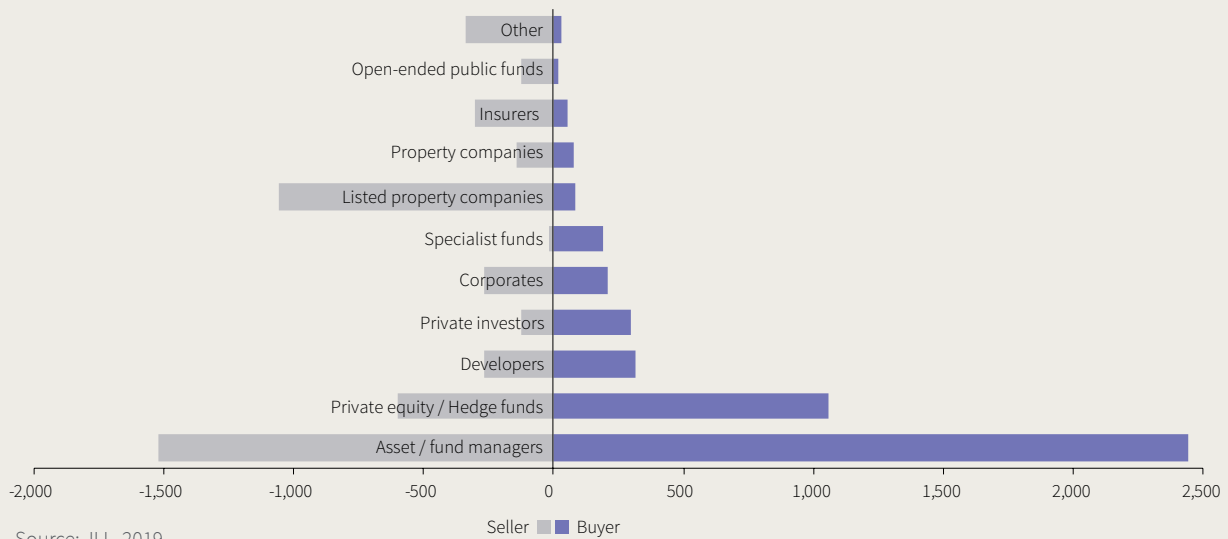
Transaction volumes in the top seven cities, 2016-2018 (€ billion)

	total	of which, leasehold properties	share
Office	63.84	2.42	3.8%
Hotel	7.50	0.73	9.7%
Retail	9.45	0.71	7.5%
Mixed use	6.43	0.43	6.7%
Other	11.22	0.37	3.3%
Total	98.44	4.66	4.7%

Source: JLL, 2019

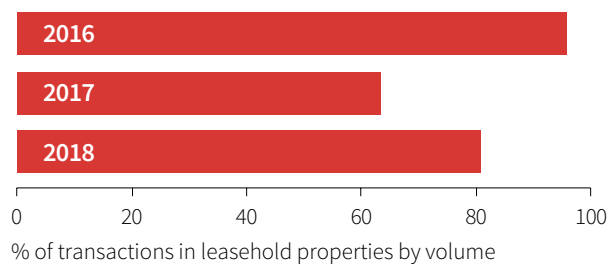
In regional terms, the most important location is Frankfurt. A total of € 2 billion has been invested here in leaseholds. Also, five of the 14 transactions in Frankfurt were for hundreds of millions of Euros. These include the sale of the Frankfurt Airport Center (FAC) office complex, which was sold in the second half of 2018 by its previous owners Madison International Realty and Peak Side Capital to a joint venture made up of Godewind and ERWE. After Frankfurt comes Munich, with € 1.15 billion, and Hamburg, with nearly € 800 million of leasehold transactions by volume.

Volume of leasehold property transactions by category of buyer and seller



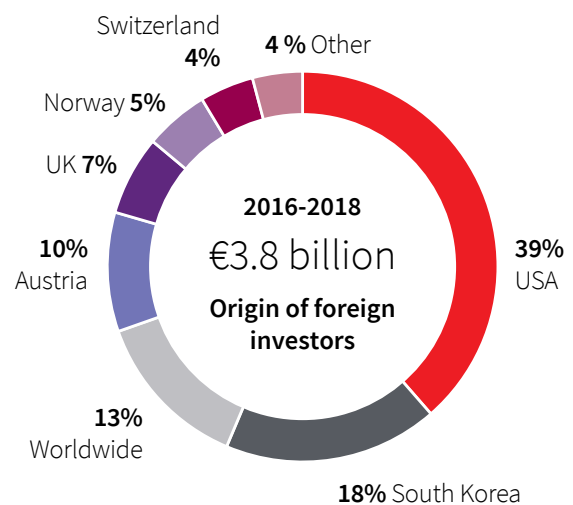
Foreign investors account for a large proportion of the volume of transactions in leasehold properties. The average over the three-year period 2016-2018 stands at 80%. In comparison, within the total volume of investments in the top seven cities, of €98.4 billion, foreign investors account for just 50%.

Purchases by foreign investors



Source: JLL, 2019

Many foreign investors are often familiar with the topic of leaseholds from their home countries and therefore also purchase leaseholds in Germany. It is not surprising that the USA leads the investor ranking, with a 39% share. Ground leases are very common in the property markets there. In South Korea too, which is in second place with 18%, leaseholds are common and exist in two different forms.



Source: JLL, 2019

In contrast, among many German investors there is scepticism about investment in leaseholds. A survey of selected institutional investors revealed that, for a leasehold to be acceptable, it must have a duration of at least 50 years, or the duration of the leasehold must exceed the remaining useful lifespan of the property. It is also important to a purchaser that the ground rent can be calculated over the long term and fixed in the contract. Absolute clarity about the reversion of the leasehold is also required.

Leasehold Prices Move in Line with the Market

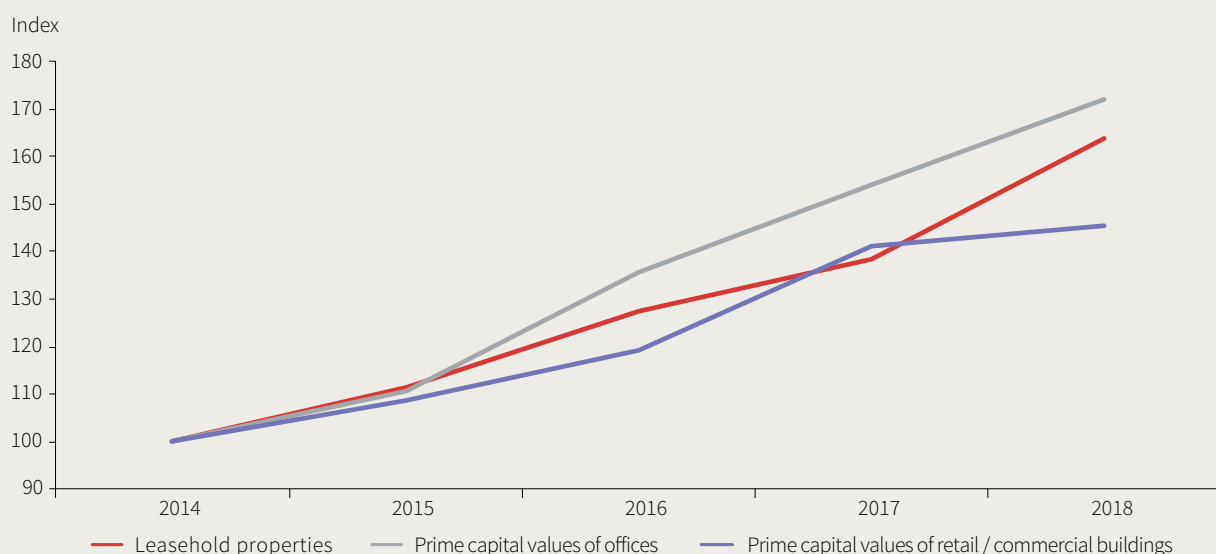
An analysis of transaction activity in the property markets of the top seven cities over the past three years reveals that an investment market exists for commercial leasehold properties. Even if this is a small segment, movements in transaction volumes appear relatively stable. Of the 47 transactions responsible for the total volume of € 4.7 billion, there are ten properties which have changed owner more than once during the past ten years. We have used these repeat sales to measure the movement in prices.

To do this, we established the sale prices of each of the ten properties at the different points in time and recorded the increase or fall in price between the respective sales. We then calculated this overall change as an annualised change in value for the years between the times of the sales. For each year, we therefore had annual changes in

value for several buildings, from which we could calculate an average value for the year.

These ten properties include buildings in different use categories. Most of them are office buildings, but they also include hotels and commercial buildings with a high proportion of retail space. Nevertheless, it should be noted that the sample is relatively small and that the various properties also changed between the different points in time. In some cases, this relates to occupancy rates or aspects of the leasehold structure, such as a contractual reduction in the residual term, or its renegotiation and extension. Despite these limitations, the figures reflect market trends. For one thing, the effects described should largely cancel one another out; also, the effect of any outliers is reduced by using average calculations to determine annual price increases.

Changes in capital values



Source: JLL, 2019

The chart shows very positive movement in values of the leasehold properties under consideration. Between the end of 2014 and the end of 2018, the overall increase was 64%, an annual growth rate of 13%. Movements in the capital values of prime offices and retail/commercial buildings in the top seven cities are shown for comparison. These values are calculated from the prime yields and rents at the respective times, and so are based on the capital values of the best properties in the best locations. This comparison shows that changes in the values of the properties in the leaseholds sample were of the same order and that these properties are also following current market trends, i.e. that they are gaining in value in the present upswing.

Leaseholds

are gaining in importance

The Erbbaurechtsverband Deutschland (German Leasehold Association) estimates that the proportion of leasehold properties is around 5%. An analysis of investment activity in Germany's seven largest property markets reveals that 4.7% of transactions by volume between 2016 and 2018 were made up of leasehold properties. This shows that, whilst leaseholds may still be the exception rather than the rule, they represent a noteworthy part of the overall property market. In particular, leaseholds are not in any way decoupled from current market trends, as demonstrated by both valuation scenarios and also the empirical evidence of price trends for selected leasehold transactions over the past three years, rather they participate in price increases to the same extent as freehold properties.

The current tight and highly-priced property markets in many parts of Germany, especially in the major conurbations and growth regions, shed a new light on leaseholds as a traditional solution and on their present significance in the commercial property markets in Germany's real estate strongholds. But it is not only the major cities such as Berlin, Hamburg, Munich and Frankfurt which are increasingly focusing on granting leaseholds to preserve their influence on urban development on the one hand and to counteract speculation in building land on the other. Smaller municipalities also want to use them as an urban planning instrument to achieve their own economic, social and housing goals. They include the City of Freiburg which intends to give priority in future to granting leaseholds instead of the sale of land, and Regensburg where council land is to be allocated only by way of leaseholds.

If reality matches these political pronouncements, players in the property sector will have no choice but to get to grips increasingly with leaseholds. This will affect both developers, which will be constructing buildings on sites granted to them by way of leaseholds, and investors who will acquire the properties either at an early stage in the course of a development project or as final investors. The volume of transactions in leasehold properties is likely to increase over the medium-term.

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