



PROPERTY PRICE

INDEX

## Q1.2017\_ Strong demand sends prices higher yet again

Owner-occupied residential housing: + 5,6 %\*

Multi-family houses: + 6,0 %\*

Office properties: + 8,4 %\*

Retail properties: + 3,2 %\*

\* compared with the corresponding quarter the previous year

As expected, 2017 began with a further increase in prices on the German real estate market. The vdp property price index rose by 6.0% compared with the corresponding quarter one year earlier. This growth in prices was fueled by high investor liquidity, as a result of which the high level of demand on the German property market remained high in the first three-month period of 2017. This development was seen across all market segments and, in consequence, prices for both residential and commercial properties advanced further for yet another quarter in succession.

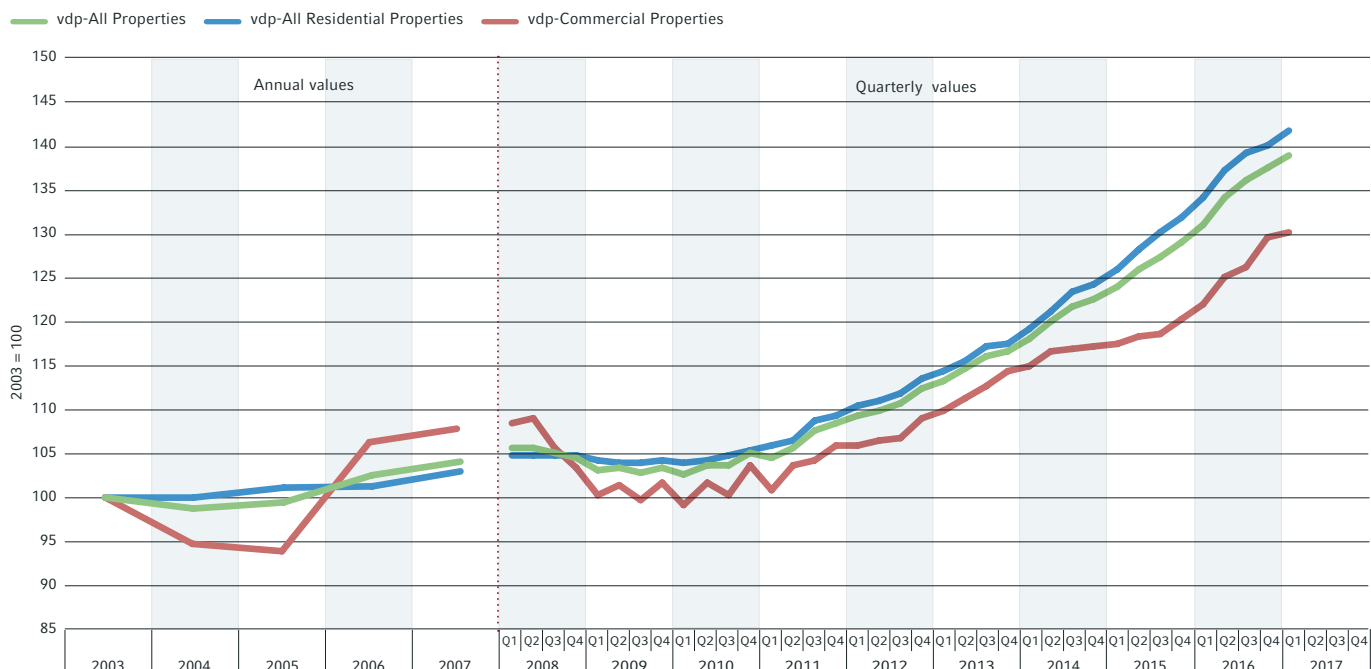
The German housing market itself recorded an increase of 5.7% compared with the corresponding quarter one year earlier. This development was attributable in particular to the climbing prices of multi-family houses, the capital values of which advanced by 6.0% in the first quarter of 2017. In this market segment, investor demand picked up once again on the one hand; on the other hand, the supply of suitable properties fell further. Accordingly, the strong pressure on returns persisted unabated, causing the cap rate index to decrease by 2.0%. Given that the market situation remained tense in numerous towns and cities, new lease rentals experienced a 3.8% rise.

The market for owner-occupied housing likewise continued on its upward path, so that the corresponding index gained 5.6% compared with the first quarter of 2016. The continuing distinct increase in prices, which is an indication that demand for owner-occupied housing remains consistently high, is due in particular to the development in prices for condominiums: these surged by 6.5% in the first quarter of the current year. By contrast, growth in prices for owner-occupied houses slowed down somewhat and rose by 5.3% over the same period.

For the second consecutive quarter, however, price movements on the German real estate market were predominantly driven by the commercial property market, with the corresponding index advancing by 6.7% compared with the first quarter one year earlier. This was mainly due to the market for office premises. The capital value index for office properties rose by 8.4% in the period under review. This steep increase was attributable to both the user market and the investment market. The market for tenants was characterized by a shortage in supply because of insufficient new construction activity. At the same time, demand was again spurred by the positive economic setting. Due to the shortage of office space, rents for offices were 3.4% higher than in the corresponding quarter in 2016. At the same time, office properties remained in the focus of investor interest, which led to a further decline in the cap rate index by 4.6%.

The retail property market also experienced a further pick-up in demand for investment properties in the first quarter of 2017. As a result, the capital values for retail properties went up by 3.2% compared with the first quarter of the previous year. This was chiefly because of the drop in the cap rate index by 2.3%. On the other hand, the landlords market was calm, with largely stable demand. In view of the strong competition from online retailers, bricks-and-mortar retailers seem to no longer be prepared to pay any amount of rent that is being asked. Accordingly, rents for retail space rose only slightly, by 0.8%.

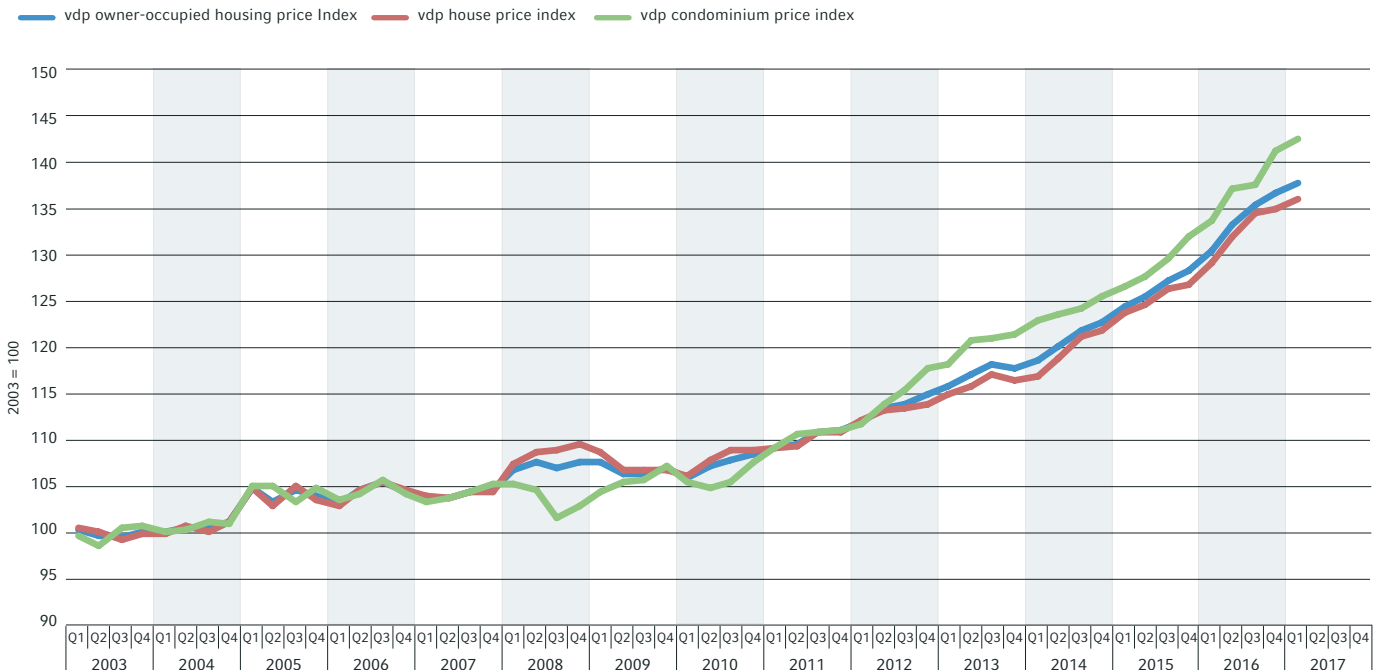
## Real estate market as a whole: All segments see strong growth in demand



Year	All properties		All residential properties		All commercial properties	
	Index	y-o-y change in %	Index	y-o-y change in %	Index	y-o-y change in %
2006	102.5	3.1	101.3	0.1	106.3	13.3
2007	104.1	1.6	102.9	1.6	107.9	1.5
2008	105.2	1.1	104.8	1.8	106.6	-1.2
2009	103.2	-1.9	104.0	-0.8	100.8	-5.4
2010	103.8	0.6	104.6	0.6	101.2	0.4
2011	106.6	2.7	107.5	2.8	103.7	2.5
2012	110.6	3.8	111.7	3.9	107.1	3.3
2013	115.2	4.2	116.2	4.0	112.1	4.7
2014	120.6	4.7	122.0	5.0	116.4	3.8
2015	126.6	5.0	129.2	5.9	118.7	2.0
2016	134.8	6.5	137.7	6.6	125.8	6.0

Quarter	All properties		All residential properties		All commercial properties	
	Index	y-o-y change in %	Index	y-o-y change in %	Index	y-o-y change in %
2015 Q2	125.9	4.9	128.4	6.0	118.3	1.5
2015 Q3	127.5	4.7	130.4	5.7	118.7	1.5
2015 Q4	129.1	5.3	132.0	6.2	120.3	2.6
2016 Q1	131.2	5.8	134.2	6.4	122.1	3.8
2016 Q2	134.3	6.7	137.3	6.9	125.2	5.8
2016 Q3	136.1	6.7	139.2	6.7	126.3	6.4
2016 Q4	137.6	6.6	140.1	6.1	129.7	7.8
2017 Q1	139.1	6.0	141.9	5.7	130.3	6.7

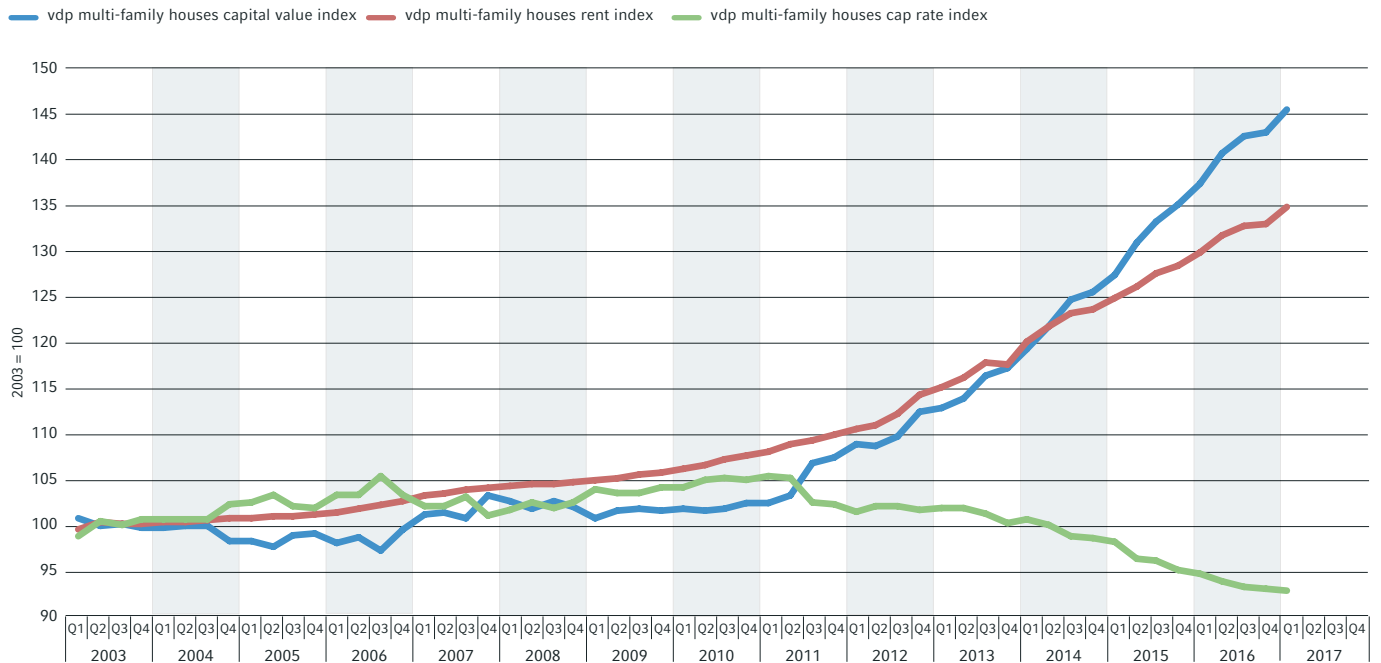
## Owner-occupied housing: No let-up in high demand for condominiums



Year	Owner occupied housing		Single family houses		Condominiums	
	Index	y-o-y change in %	Index	y-o-y change in %	Index	y-o-y change in %
2006	104.5	0.2	104.5	0.3	104.4	-0.3
2007	104.3	-0.2	104.2	-0.3	104.3	-0.1
2008	107.4	3.0	108.7	4.3	103.7	-0.6
2009	106.9	-0.5	107.3	-1.3	105.8	2.0
2010	107.5	0.6	108.0	0.7	106.0	0.2
2011	110.2	2.5	110.2	2.0	110.5	4.2
2012	113.6	3.1	113.2	2.7	114.8	3.9
2013	117.2	3.2	116.1	2.6	120.4	4.9
2014	120.9	3.2	119.7	3.1	124.0	3.0
2015	126.3	4.5	125.4	4.8	128.9	4.0
2016	133.9	6.0	132.7	5.8	137.3	6.5

Quarter	Owner occupied housing		Single family houses		Condominiums	
	Index	y-o-y change in %	Index	y-o-y change in %	Index	y-o-y change in %
2015 Q2	125.4	4.4	124.6	4.8	127.7	3.4
2015 Q3	127.2	4.3	126.3	4.3	129.6	4.4
2015 Q4	128.2	4.4	126.8	4.0	131.9	5.2
2016 Q1	130.4	4.7	129.2	4.4	133.7	5.7
2016 Q2	133.3	6.3	132.0	5.9	137.0	7.3
2016 Q3	135.3	6.4	134.5	6.5	137.4	6.0
2016 Q4	136.6	6.6	135.0	6.5	141.2	7.1
2017 Q1	137.7	5.6	136.0	5.3	142.4	6.5

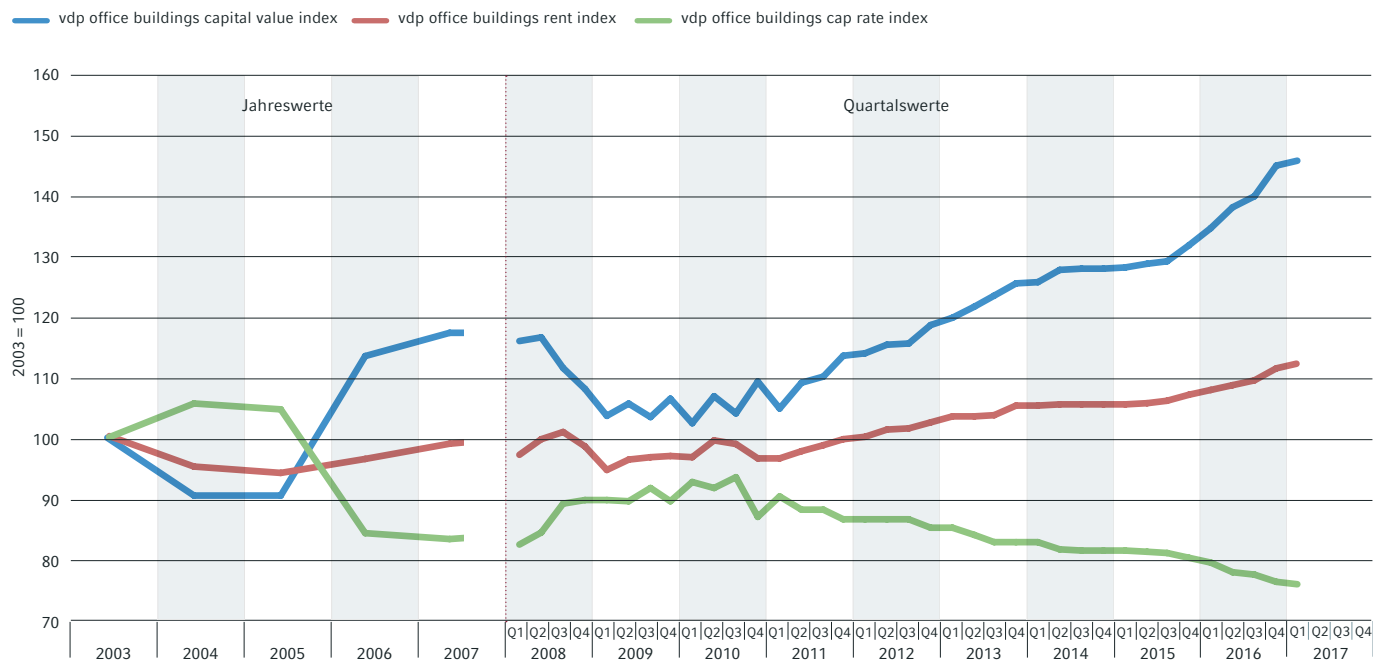
## Multi-family houses: Shortage in supply, while demand picks up significantly



Year	Capital value		Residential rents		Cap rate	
	Index	y-o-y change in %	Index	y-o-y change in %	Index	y-o-y change in %
2006	98.2	-0.2	101.9	1.0	103.8	1.2
2007	101.5	3.4	103.6	1.7	102.1	-1.6
2008	102.3	0.8	104.5	0.9	102.2	0.1
2009	101.3	-1.0	105.3	0.8	104.0	1.8
2010	101.8	0.5	106.9	1.5	104.9	0.9
2011	104.9	3.0	109.1	2.1	104.0	-0.9
2012	110.0	4.9	112.1	2.7	101.9	-2.0
2013	115.2	4.7	116.8	4.2	101.4	-0.5
2014	123.1	6.9	122.4	4.8	99.5	-1.9
2015	132.0	7.2	127.1	3.8	96.3	-3.2
2016	141.4	7.1	132.2	4.0	93.5	-2.9

Quarter	Capital value		Residential rents		Cap rate	
	Index	y-o-y change in %	Index	y-o-y change in %	Index	y-o-y change in %
2015 Q2	131.3	7.6	126.4	3.6	96.3	-3.7
2015 Q3	133.5	6.9	128.0	3.7	95.9	-2.9
2015 Q4	135.6	7.8	128.8	4.0	95.0	-3.6
2016 Q1	137.8	8.0	130.2	4.0	94.5	-3.7
2016 Q2	141.1	7.5	132.1	4.5	93.6	-2.8
2016 Q3	143.0	7.1	133.1	4.0	93.1	-2.9
2016 Q4	143.5	5.8	133.3	3.5	92.9	-2.2
2017 Q1	146.0	6.0	135.2	3.8	92.6	-2.0

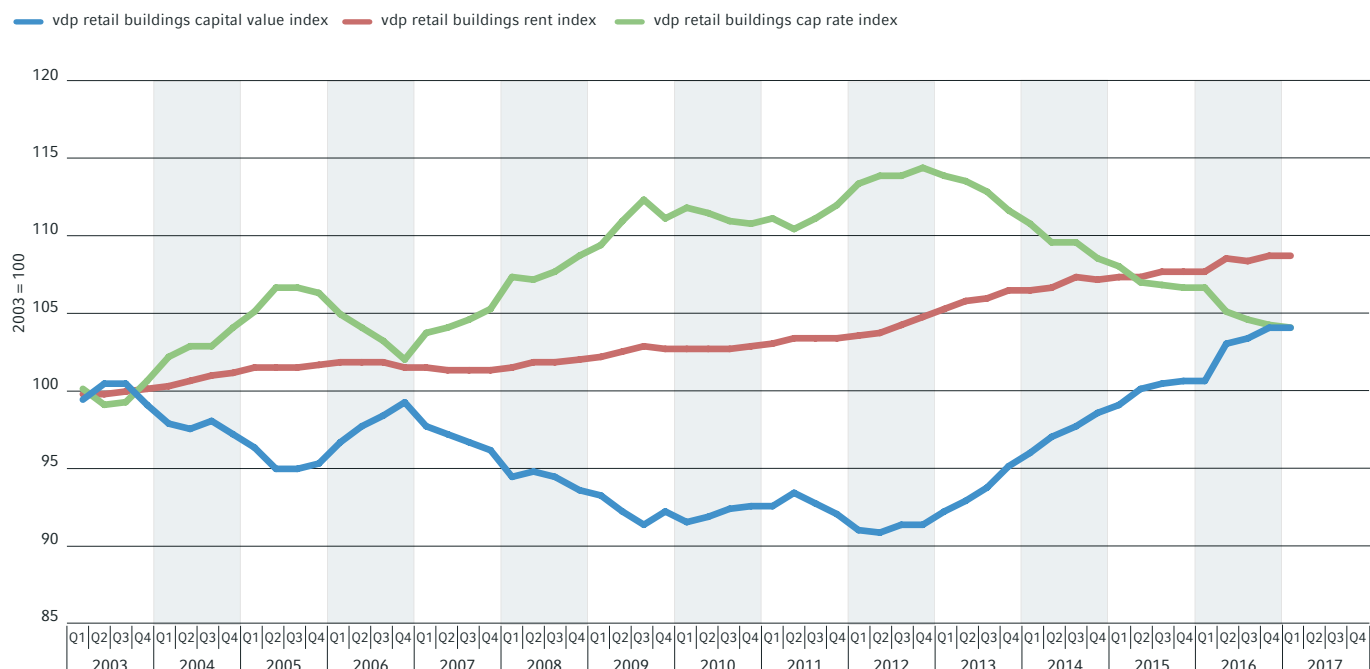
## Office and administration buildings: Investment and user markets drive rise in prices



Year	Capital value		Residential rents		Cap rate	
	Index	y-o-y change in %	Index	y-o-y change in %	Index	y-o-y change in %
2006	111.7	20.9	97.3	1.4	87.1	-16.2
2007	115.0	3.0	99.1	1.8	86.2	-1.0
2008	114.4	-0.5	99.7	0.6	87.3	1.3
2009	105.9	-7.4	96.6	-3.1	91.2	4.5
2010	106.7	0.8	98.4	1.9	92.3	1.2
2011	110.5	3.6	98.7	0.3	89.3	-3.3
2012	117.2	6.1	102.0	3.3	87.1	-2.5
2013	124.1	5.9	104.8	2.7	84.5	-3.0
2014	128.9	3.9	106.3	1.4	82.5	-2.4
2015	131.1	1.7	106.9	0.6	81.6	-1.1
2016	141.2	7.7	110.4	3.2	78.2	-4.2

Quarter	Capital value		Residential rents		Cap rate	
	Index	y-o-y change in %	Index	y-o-y change in %	Index	y-o-y change in %
2015 Q2	130.3	0.8	106.6	0.3	81.8	-0.5
2015 Q3	130.8	1.0	106.9	0.6	81.7	-0.5
2015 Q4	133.4	3.0	107.9	1.5	80.9	-1.5
2016 Q1	136.3	5.0	108.9	2.3	79.9	-2.6
2016 Q2	140.0	7.4	109.6	2.8	78.3	-4.3
2016 Q3	141.7	8.3	110.4	3.3	77.9	-4.7
2016 Q4	146.9	10.1	112.5	4.3	76.6	-5.3
2017 Q1	147.8	8.4	112.6	3.4	76.2	-4.6

## Retail buildings: High liquidity boosts demand



Year	Capital value		Residential rents		Cap rate	
	Index	y-o-y change in %	Index	y-o-y change in %	Index	y-o-y change in %
2006	98.3	2.5	101.7	0.1	103.5	-2.3
2007	97.2	-1.1	101.4	-0.3	104.3	0.8
2008	94.9	-2.4	101.8	0.4	107.3	2.9
2009	93.0	-2.0	102.5	0.7	110.2	2.7
2010	92.9	-0.1	102.7	0.2	110.5	0.3
2011	93.4	0.5	103.2	0.5	110.5	0.0
2012	91.9	-1.6	103.9	0.7	113.0	2.3
2013	94.1	2.4	105.5	1.5	112.1	-0.8
2014	97.7	3.8	106.6	1.0	109.1	-2.7
2015	100.3	2.7	107.1	0.5	106.8	-2.1
2016	102.8	2.5	107.9	0.7	105.0	-1.7

Quarter	Capital value		Residential rents		Cap rate	
	Index	y-o-y change in %	Index	y-o-y change in %	Index	y-o-y change in %
2015 Q2	100.3	3.0	107.0	0.7	106.6	-2.3
2015 Q3	100.6	2.5	107.2	0.3	106.5	-2.3
2015 Q4	100.8	2.0	107.3	0.5	106.4	-1.6
2016 Q1	100.8	1.5	107.3	0.4	106.4	-1.1
2016 Q2	102.9	2.6	108.0	0.9	104.9	-1.6
2016 Q3	103.3	2.7	107.9	0.7	104.4	-2.0
2016 Q4	103.9	3.1	108.2	0.8	104.1	-2.2
2017 Q1	104.0	3.2	108.2	0.8	104.0	-2.3

## Methodology

### Data basis

German financial institutions participating in the transaction database provide transaction details from their real estate financing business for input into the database. The database has been maintained since 2004 and provides statistically evaluable information on actual real estate transactions. Data are captured by the participating institutions in the form of appraisals of market and mortgage lending values that are prepared in the course of their mortgage lending activities. Property valuations are determined within each financial institution by certified property valuers or specially trained bank personnel. In addition to purchase price and date of purchase, the appraisal includes information about the property's macro and micro location, its age, layout and other price-influencing variables. In the case of certain types of property, information is also collected with regard to rental agreements and the date they were concluded. Information used to derive market and mortgage lending values is ascertained partly from submitted documentation and partly by valuers working in accordance with codified procedures. Table 1 provides an overview of the variables most frequently applied in the specification of individual indices for various market segments.

Table 1: Variables from the vdp's transaction database

Variable	Scaling	Characteristics
Macro location	Nominal	District or town in Germany
Micro location	Ordinal	Very good - good - average - moderate - poor - catastrophic
Living /usable space	Metric	Living or usable space m <sup>2</sup>
Plot size	Metric	Plot size of property in m <sup>2</sup>
Year built	Metric	Year property built
Layout	Ordinal	Very good - good - average - moderate - poor - catastrophic
Condition	Ordinal	Very good - good - average - moderate - poor - catastrophic
Saleability	Ordinal	Very good - good - average - moderate - poor - catastrophic
Sub-property type	Nominal	Division of market segment into sub-segments
Purchase price	Metric	Purchase price of property in Euros
Rent	Metric	Contractual rent of property in Euros per m <sup>2</sup>

Substantive definitions of individual variables are coordinated with financial institutions via the contractual relationship between them and the vdp. In addition, property valuation in Germany is subject to strict regulations, which ensure that the valuation processes of individual institutions are harmonised to the greatest extent possible, especially as a result of the *Verordnung über die Grundsätze für die Ermittlung der Verkehrswerte von Grundstücken* (Regulation on the Principles for Determining the Market Value of Property – abbreviated to ImmoWertV) and the *Beleihungswertermittlungsverordnung* (Regulation on the Determination of the Mortgage Lending Value – abbreviated to BelWertV). Because the purchase prices and significant price-influencing characteristics of individual properties are determined in a uniform manner and because they are input into a uniform database structure, it is possible to analyse the data with the help of complex statistical procedures.

### Calculation

As a result of the distinct heterogeneity of real estate properties and in order to be able to measure pure price changes, it is necessary to take account of the varying quality of the properties concerned when measuring prices. Various procedures exist which take explicit account of the differences in the quality of individual properties in order to be able to measure pure price changes.

All vdp real estate indices are calculated by making use of so-called hedonic models. The hedonic model is based on the idea that heterogeneous commodities can be described by reference to their characteristics. In other words, a commodity can be represented as the sum of its characteristics. With regard to real estate, this means that this set of attributes might include, for example, details of physical characteristics such as plot size, living area, year built and details as to the property's location. Each of these named attributes has a specific influence on the price of the property, but there is no market for the attributes themselves; they cannot be sold separately and therefore cannot be viewed in isolation. It is possible, nonetheless, implicitly to determine the proportion of the overall price of the property which each individual attribute makes up by examining real estate supply and demand. Multivariate regression models are used for this purpose, helping to provide a statistical estimate of the marginal contribution of each attribute. It is assumed that the model incorporates all relevant attributes and that deviations occur simply by coincidence and are not indicative of any systematic structures.



## Weighting

The overall index is the weighted arithmetical average of the various price indices for residential and commercial real estate. The weightings used correspond to the share of monetary turnover in the German real estate market constituted respectively by residential and commercial real estate. Based on details provided by valuer committees (Gutachterausschüsse), these averaged 75.6% and 24.4%, respectively, between 2007 and 2012.

The price index for residential real estate is the weighted arithmetical average of the price index for owner-occupied housing and the capital value index for multi-family houses. The weightings used correspond to the proportion of private households in Germany that own dwellings or land. In 2003 this amounted to 48.8%. It therefore follows that the proportion of households that did not own dwellings or land amounted to 52.2%.

For the commercial property price index, the weightings attributable to the office property capital value index and the retail property capital value index correspond to the proportion of loans in the accounts of Pfandbrief Banks that were granted to these two categories. The figures for office property and retail property amount to 60% and 40%, respectively.

## Publication

All vdp real estate price indices are published on a quarterly basis. Each year's first quarter index figures are published on 10 May of the same year (six weeks after the end of the quarter under review). Other publication dates are as follows:

- 10 August, 2nd quarter
- 10 November, 3rd quarter
- 10 February of the following year, 4th quarter (including figures for the year as a whole)

The index figures are released at 2:00 p.m. on the respective publication dates. Where the publication date falls on a Saturday, Sunday or public holiday, the index figures are published on the next working day at 2:00 p.m.

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