

vdp PROPERTY PRICE INDEX

German real estate comes up trumps again in 2016

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

Multi-family houses: + 5,8 %*

Office properties: + 10,1 %*

Retail properties: + 3,1 %*

* compared with the corresponding quarter the previous year

In the fourth quarter of 2016, the German property market was once again characterized by strongly rising prices. Compared with the corresponding quarter one year before, the vdp property price index climbed 6.6%. The reason for this price increase was fast-growing demand in all market segments. This demand, in turn, was driven by three factors. First, the German economy is on a stable growth path. Second, the demand for real estate was fueled additionally by the European Central Bank's expansionary monetary policy and the associated historically low interest rates. Third, in an environment of unexpected political developments and the investment market risks that they produce, investment in German properties gained further in terms of attractiveness in the asset markets.

The German housing market shows no signs of cooling down. Prices surged again, this time by 6.1%. This renewed increase is attributable, on the one hand, to prices for owner-occupied housing, which went up by 6.6% against the fourth quarter of 2015. This upward trajectory is mainly owed to higher prices for condominiums, which saw a rise of 7.1%; this was a somewhat stronger growth rate than the increase in prices for single-family homes, which advanced by 6.5%. Although new construction activity has been ramped up considerably in many parts of Germany, the demand for owner-occupied dwellings still seems to be outpacing supply.

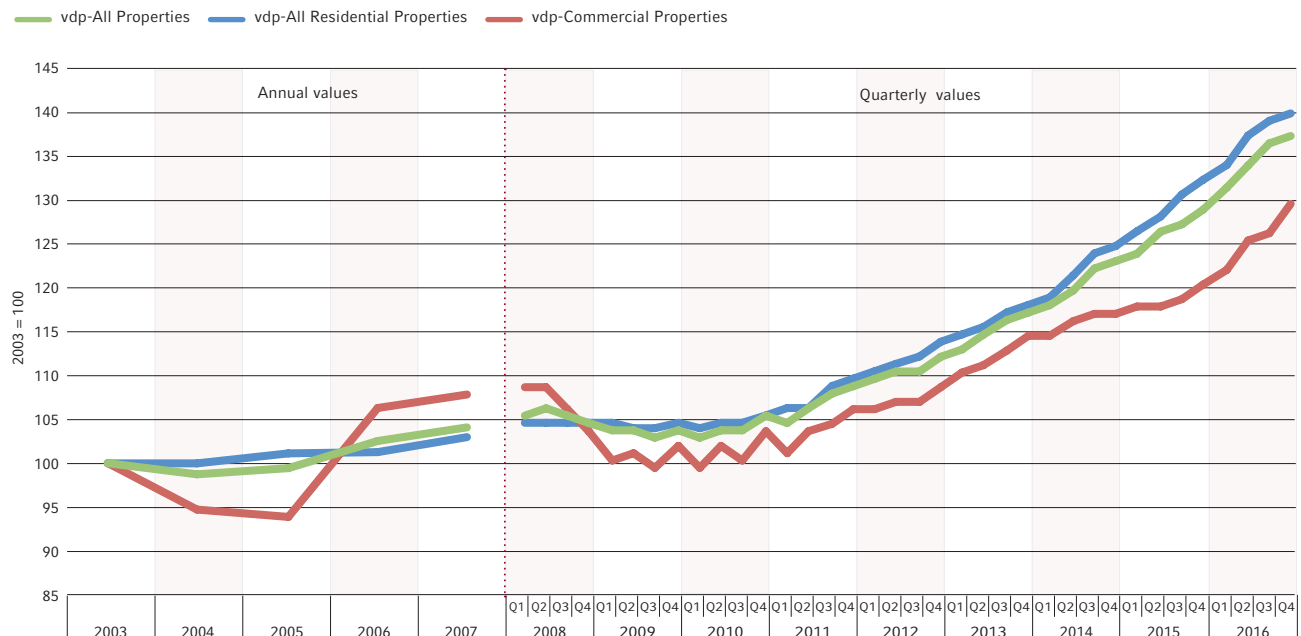
The demand for multi-family houses is experiencing a similar development. In a low-interest-rate environment, this serves to send prices up further – a trend with which housing rents could not keep pace. Whereas the capital values for multi-family houses posted an increase of 5.8% in the fourth quarter of 2016, rents went up by only 3.5% over the same observation period. At the same time, the cap rate index fell by 2.2%.

For the first time since the first quarter of 2014, prices for commercial properties rose faster than for residential properties, and the respective index climbed by 7.8% over the fourth quarter one year earlier. Towards the end of 2016, domestic and foreign investor demand for commercial properties picked up again perceptibly.

Given the sound state of the user market, institutional investors' interest focused mainly on office properties, the capital values of which were 10.1% up on the corresponding quarter one year earlier. As a result of this very strong demand, pressure on returns rose further. The cap rate index consequently fell by 5.3%. At the same time, fourth-quarter demand for rented premises rose again significantly, too, such that rents experienced an increase to the tune of 4.3%.

There was a further increase in retail property prices of 3.1%. The supply situation is tight in this market segment, too, and investor demand is persistently high. The cap rate index declined by 2.2% as a result. At the same time, driven by positive sales figures, demand for retail space continued to see dynamic growth towards the end of 2016, pushing rents for retail premises up again slightly, by 0.8%.

Real estate market as a whole: Prices driven ever higher by strong demand



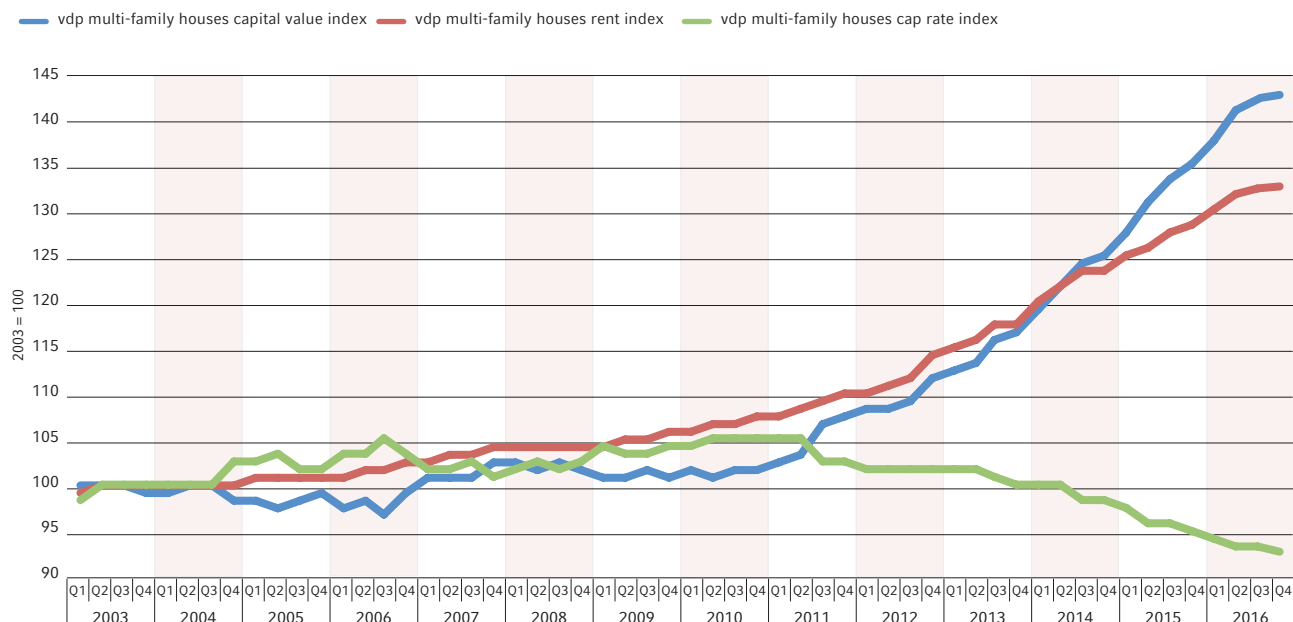
Year	All properties		All residential properties		All commercial properties	
	Index	y-o-y change in %	Index	y-o-y change in %	Index	y-o-y change in %
2006	102.5	3.1	101.3	0.1	106.3	13.3
2007	104.1	1.6	102.9	1.6	107.9	1.5
2008	105.2	1.1	104.8	1.8	106.6	-1.2
2009	103.2	-1.9	104.0	-0.8	100.8	-5.4
2010	103.8	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

INDEX: 2003 = 100

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 Q1	124.0	5.0	126.1	5.9	117.6	2.3
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

INDEX: 2003 = 100

Multi-family houses: Capital values rise more sharply than housing rents



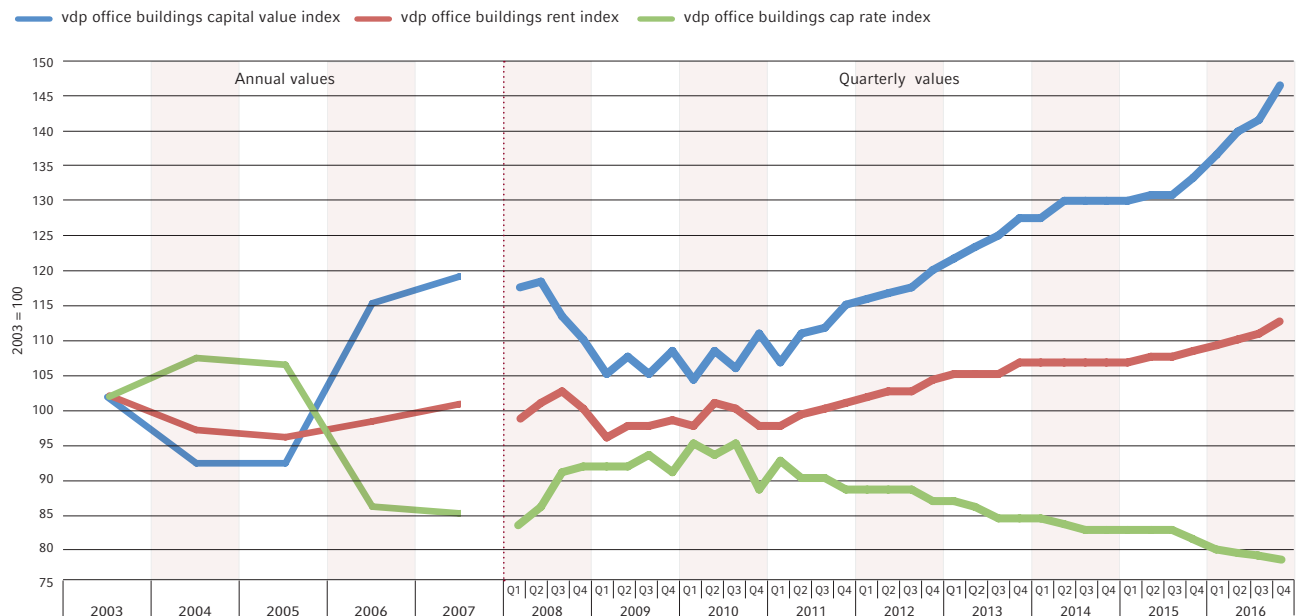
Year	Capital value		Residential rents		Cap rate	
	Index	y-o-y change in %	Index	y-o-y change in %	Index	y-o-y change in %
2006	98.2	-0.2	101.9	1.0	103.8	1.2
2007	101.5	3.4	103.6	1.7	102.1	-1.6
2008	102.3	0.8	104.5	0.9	102.2	0.1
2009	101.3	-1.0	105.3	0.8	104.0	1.8
2010	101.8	0.5	106.9	1.5	104.9	0.9
2011	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

INDEX: 2003 = 100

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 Q1	127.6	6.8	125.2	4.2	98.1	-2.5
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

INDEX: 2003 = 100

Office and administration buildings: Strong demand continues unabated despite high 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

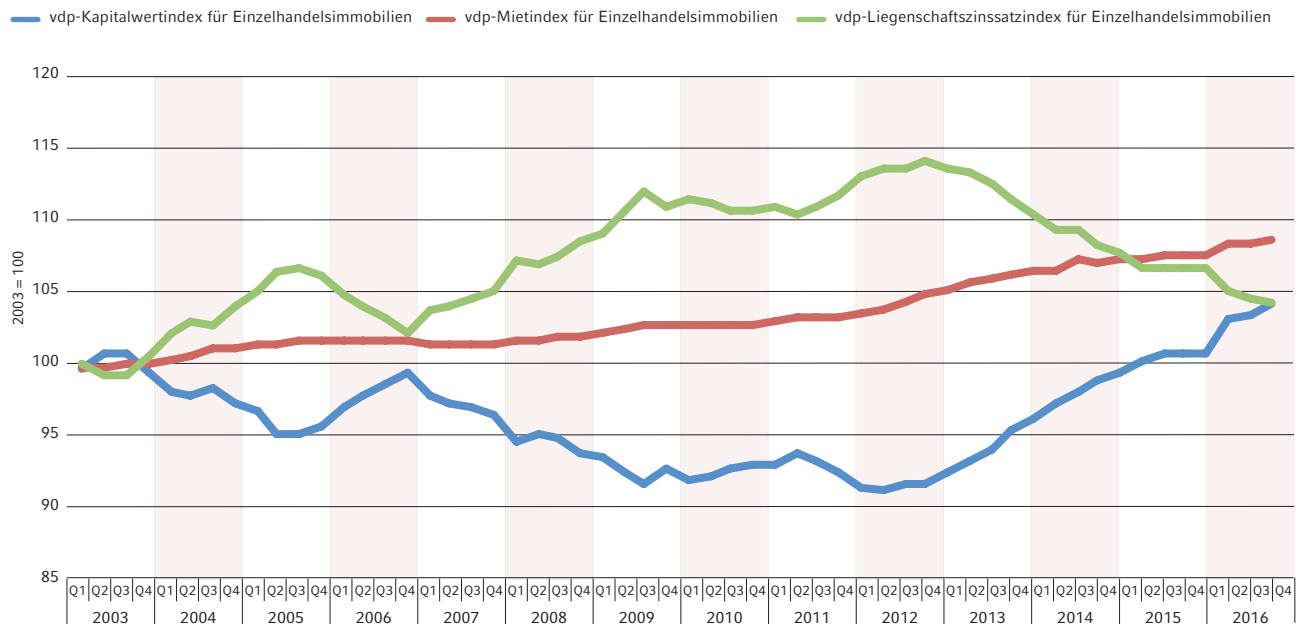
INDEX: 2003 = 100

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 Q1	129.8	2.0	106.4	0.2	82.0	-1.8
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

INDEX: 2003 = 100

Retail buildings:

Ongoing demand pressure pushes prices up further



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

INDEX: 2003 = 100

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 Q1	99.3	2.9	106.9	0.7	107.6	-2.3
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

INDEX: 2003 = 100

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 ²
Plot size	Metric	Plot size of property in m ²
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 ²

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.

The accompanying press releases are published in German and English on the websites of the Verband deutscher Pfandbriefbanken e.V. (vdp) www.pfandbrief.de and vdpResearch GmbH www.vdpresearch.de. They are also published via press agencies.

Contact



Dr. Franz Eilers

Head of Real Estate Research
Tel.: +49 (0)30 206229-16
eilers@vdpresearch.de



Andreas Kunert

Indices Project Manager
Tel.: +49 (0)30 206229-17
kunert@vdpresearch.de

Liability disclaimer

The data and information contained in this publication are based on the transaction database, which we regard as reliable. However, we are unable to guarantee the accuracy and completeness of the data. All opinions expressed reflect the current assessment of vdpResearch GmbH. No warranty is given with regard to the content of these opinions and prognoses. In particular, no liability can be assumed for future economic and technical developments. Data and information contained in this publication can change in the future without prior notice.

Copyright

Content, especially where it relates to information, data, texts and maps, is protected by copyright. Reproduction requires the prior consent of vdpResearch GmbH.

The member institutions of the **Association of German Pfandbrief Banks** (Verband deutscher Pfandbriefbanken, vdp) have been the market leaders in commercial real estate finance in Germany and hold sizeable market shares in residential real estate finance as well. As the representative of its member banks, the vdp performs this function vis-à-vis all executive bodies of politics on both the national and the European stage and a wider public.

The vdp's know-how is tailored towards the specific interests of the Pfandbrief issuers, namely, the Pfandbrief business and the underlying business fields property finance, public-sector lending, ship and aircraft finance. The vdp assists its member banks also in regulatory matters and represents them vis-à-vis national regulatory authorities. By means of group governance, member institutions exchange information and experiences in vdp committees, which are then summarized and developed into market standards. The vdp also assists its member banks in the efficient structuring of their specialized loan or issuance businesses.

vdpResearch GmbH is a subsidiary of the Association of German Pfandbrief Banks. It works extensively, from a lending perspective, on compiling, analysing and forecasting real estate prices, focusing both on individual properties and real estate markets as a whole. Its remit includes providing comparative prices, comparative rents and other evaluation criteria relating to individual properties. At the same time it is charged with compiling and forecasting market price trends by property type on a regional and national basis. In order to carry out these tasks, it uses analytical tools specific to the real estate market, together with comprehensive models designed to examine market trends as a whole.

Figures provided by vdpResearch are regarded by numerous banks as a crucial tool for valuing and assessing property and market risks. The Germany-wide real estate price indices which it prepares for the Association of German Pfandbrief Banks are also directed at interested members of the public. These provide an overview of general trends in real estate prices in Germany.

vdp MEMBER INSTITUTIONS

Berlin Hyp

BLB / Ihre Spezialisten.
Ihre Bank.

 **Aareal Bank**

 **Bayern LB**


Die WorksiteBank.

 **„Deka“**


Calenberger Kreditverein · Öffentlich-rechtliche Hypothekendarlehenbank · geg. v. d. G.
Calenberger Göttingen-Gründerbörse-Hilfskassenverband ritterschaftlicher Kreditvereine

COMMERZBANK 

 deutsche apotheke-
und ärztebank



**DG
HYP**

DEUTSCHE/HYPO
Ein Unternehmen der NORD/LB

DKB
Deutsche Kreditbank AG


PUBLIC SECTOR FINANCE
REAL ESTATE FINANCE
DEUTSCHE
PFANDBRIEFBANK

 **Düsseldorfer
Hypothekenbank**



 **Haspa**
Hamburger Sparkasse

Helaba 
Landesbank
Hessen-Thüringen

**HSN
NORDBANK**

 **HypoVereinsbank**
UniCredit Group

ING DiBa
Die Bank und Du

 **Kreissparkasse
Köln**

LB BW
Landesbank Baden-Württemberg

 **LandesBank
Berlin**


M. M. WARBURG & CO. HYPOTHEKENBANK

 **MünchenerHyp**

 **NATIONAL-BANK**
Mehr. Wert. Erfahren.

 **NATIXIS**

NORD/LB

 **Postbank**


Nürnberg eG


RKI
Ritterschaftliches Kreditinstitut Stade
Pfandbriefanstalt des öffentlichen Rechts
gegründet 1826

saar LB

 **Santander**
CONSUMER BANK

SEB


Sparda-Bank Südwest eG

 **Sparkasse
KölnBonn**

 **Stadtsparkasse
Düsseldorf**

**VALOVIS
BANK**

WestImmo

 **WL BANK**

 **wüstenrot**
Partner der Württembergischen



**VERBAND DEUTSCHER
PFANDBRIEFBANKEN**

Georgenstrasse 21
10117 Berlin
Telephone: +49 30 20915-100
e-mail: info@pfandbrief.de
www.pfandbrief.de



Georgenstrasse 22
10117 Berlin
Telephone: +49 30 206229-17
e-mail: info@vdpresearch.de,
www.vdpresearch.de