

Housing market developments – 3rd quarter 2019

Strong house price growth outside the Randstad

Average house prices increased in the provinces of Zeeland and Drenthe with 8.5% and 8.0% year on year. The municipalities Alblasserdam and Hendrik-Ido-Ambacht are currently registering the fastest growth of all the municipalities in the Netherlands with 9.0%. The two largest cities, Amsterdam and Rotterdam, show average house price increases of respectively 3.6% and 7.2%. The Hague and Utrecht show average house price increases of respectively 6.7% and 7.3.

Transactions and number of homes for sale drops

The annual number of sales increased in five years from 137 thousand to 265 thousand houses. The number of homes for sale continues to decline. The ratio between the number of sales and supply has reached a factor 0.3 (sales > supply).

Housing affordability remains stable

On average, 14.6% of net household income was required to service housing costs, in 2008 the housing affordability peaked with 27.0%. The relatively good affordability is mainly the result of the current low mortgage interest.

CALCASA INDEXES 2019 Q3

Calcasa House Price Index (WOX) (1995Q1=100)	332
Calcasa WOX Top 15 Cities Index (1995Q1=100)	393
Residential price change	
WOX price change (year-on-year)	6.4%
WOX price change (quarter-on-quarter)	2.4%
WOX price change corrected for inflation (year-on-year)	3.8%
House price forecast	
Yearly price change 2019 Q4	7.2%
Quarterly price change 2019 Q4	1.5%
Housing affordability	
Affordability index	14.6%
Yearly change in housing affordability	2.4%
Quarterly change in housing affordability	0.7%
Transactions	
Number of transactions on a yearly basis (x 1,000)	265
Yearly change in the number of transactions	-1.8%
Quarterly change in the number of transactions	1.3%

*Housing stock January 1st, 2019, municipal reclassification 2018

Content WOX:

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Table 1

Calcasa key numbers Q3 2019
Source: WOX Monitor Calcasa

Average house price keeps rising

- The WOX (1995 = 100) currently stands at 332 points.
- Average house price: 326 thousand euro.
 - » Q-O-Q price development: +2.4%.
 - » Y-O-Y price development: +6.4%.
- The current Dutch inflation rate is 2.6% (which is the average rate for Q3 2019 according to Statistics Netherlands). In the third quarter of 2019, inflation-adjusted house prices rose by 3.8% y-o-y.

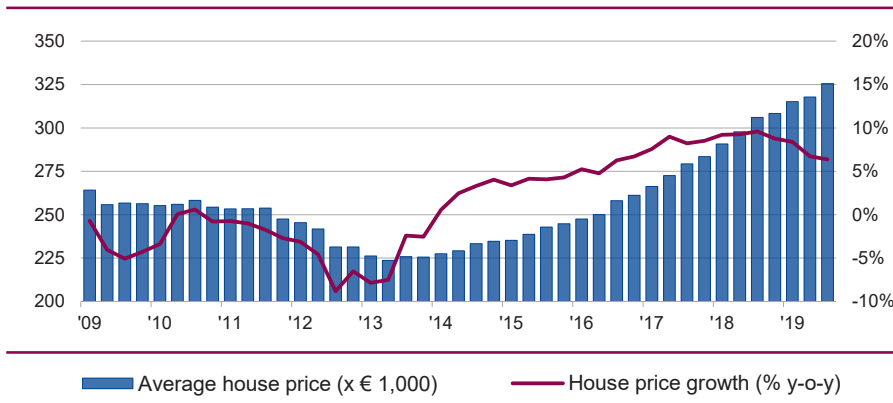


Figure 1

Average house price (x EUR1,000) and yearly price change per quarter in the Netherlands.
Source: WOX Monitor Calcasa

- Average price of a single-family house: 341 thousand euro.
 - » Q-O-Q price development of single-family houses: +2.4%.
 - » Y-O-Y price development of single-family houses: +6.3%.
- Average price for apartments: 284 thousand euro.
 - » Q-O-Q price development of apartments: +2.5%.
 - » Y-O-Y price development of apartments: +6.6%.

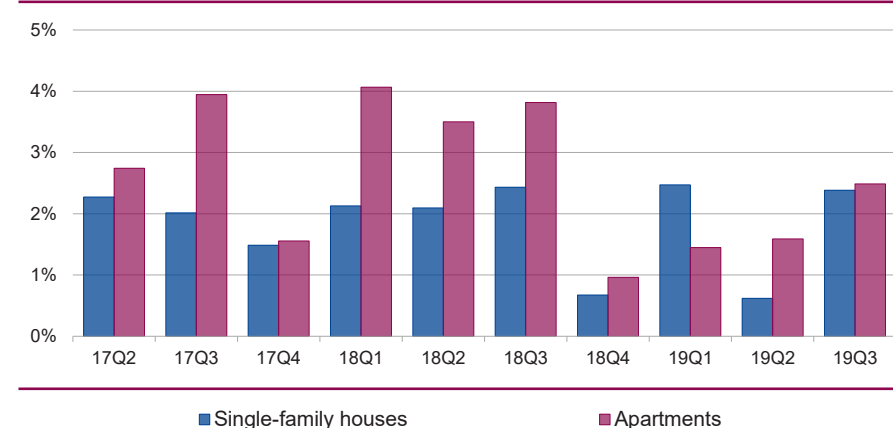


Figure 2

Q-O-Q price change per housing type in the Netherlands.
Source: WOX Monitor Calcasa

Highest price increase for less than 150,000 euro class

- Based on house price levels, Calcasa has divided the market into five price classes. Homes in the price class less than 150 thousand euros performed best with an annual average house price rise of 9.3%.
- The most expensive houses - worth 500k or more - increased the least in value; over the past year these homes increased in value by 3.0%.

Price class (euro)	Price development y-o-y
Less than 150,000	9.3%
150,000 to 250,000	8.0%
250,000 to 350,000	6.3%
350,000 to 500,000	5.5%
More than 500,000	3.0%
All residential properties	6.4%

Older apartments show biggest price increase

- Again, the value of apartments saw the biggest price growth in the past year; their average price rose by 6.6%.
- Apartments built between 1945 and 1979 are registering the fastest growth. Their value increased by 8.2% in the past year.

Development (y-o-y)	Construction year				Total
	<1944	1945-1979	>1980	>2000	
(semi) detached	5.5%	6.2%	5.9%	6.5%	6.0%
Terraced/corner house	7.2%	6.1%	6.5%	6.4%	6.5%
Apartment	5.2%	8.2%	6.8%	6.7%	6.6%
Total	5.9%	6.8%	6.4%	6.6%	6.4%

Forecast house price development in Q4 2019

- Q-O-Q price change: +1.5%.
- Y-O-Y price change: 7.2% (Q4 2018 - Q4 2019).
 - » Y-O-Y price change single-family homes: 7.0%.
 - » Y-O-Y price change apartments: 7.9%.

Calcasa publishes region-specific house price forecasts for four specific areas of the Netherlands, reflecting the diversity and variety displayed across the region.

- Western part: 7.3%
- Eastern part: 7.5%
- Northern part: 7.7%
- Southern part: 6.9%

Table 2a

Netherlands - price development per price class and transaction distribution over the last year.

Source: Calcasa

Table 2b

Netherlands - annual price development per construction year and housing type.

Source: Calcasa

Strong house price growth outside the Randstad

- Average house prices increased the most in the province of Zeeland, with an annual increase of 8.5% in value.
- Apartments in Flevoland and Gelderland are in demand, with values going up by 11.5% and 10.4% respectively.
- The lowest price increase was measured for houses in the provinces of North-Holland (5.2%) and North-Brabant (5.6%).

Q3 2019	Average price	Average price	Price change (year-on-year)
	single-family houses	apartments	
Groningen	232,000	218,000	6.1%
Friesland	233,000	199,000	6.8%
Drenthe	260,000	211,000	8.0%
Overijssel	270,000	193,000	6.7%
Flevoland	285,000	277,000	7.7%
Gelderland	330,000	229,000	7.3%
Utrecht	469,000	312,000	6.1%
North-Holland	443,000	414,000	5.2%
South-Holland	382,000	256,000	7.1%
Zeeland	243,000	220,000	8.5%
North-Brabant	340,000	242,000	5.6%
Limburg	257,000	187,000	6.3%
The Netherlands	341,000	284,000	6.4%

Table 3

Average price and y-o-y price development on province level
Source: WOX Monitor Calcasa

Zuidoost-Zuid-Holland fastest growing region

- The largest annual price increase of 8.8% is measured for houses in the NUTS III region of Zuidoost-Zuid-Holland. In this region the value of single-family homes rose by 8.9% and the value of apartments by 8.5%.
- Second-largest annual price increase is seen in the NUTS III region Zeeuwsch-Vlaanderen with an annual growth rate of 8.6%, here the value of single-family homes rose by 8.7% and the value of apartments by 7.6%.
- The NUTS III regions with the smallest price increases are Groot-Amsterdam (4.0%) and Alkmaar (4.0%).
- In 8 of the 40 NUTS III regions the annual increase for houses prices is more than 8%.

Housing affordability increases slightly

On average, 14.6% of net household income was required to service housing costs in the third quarter of 2019, compared to mid-2008 when housing costs represented 27.0% of net income.

- Q-O-Q change in net housing costs: -0.7%.
- Y-O-Y change in net housing costs: -2.4%.

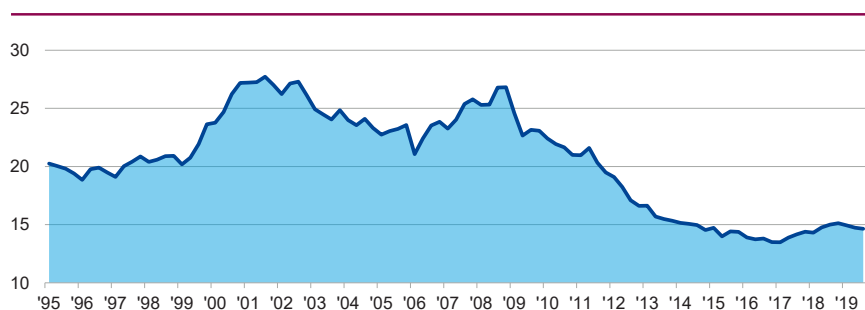


Figure 3

Housing affordability index* (in % of household income) in the Netherlands.
Source: WOX Monitor Calcasa

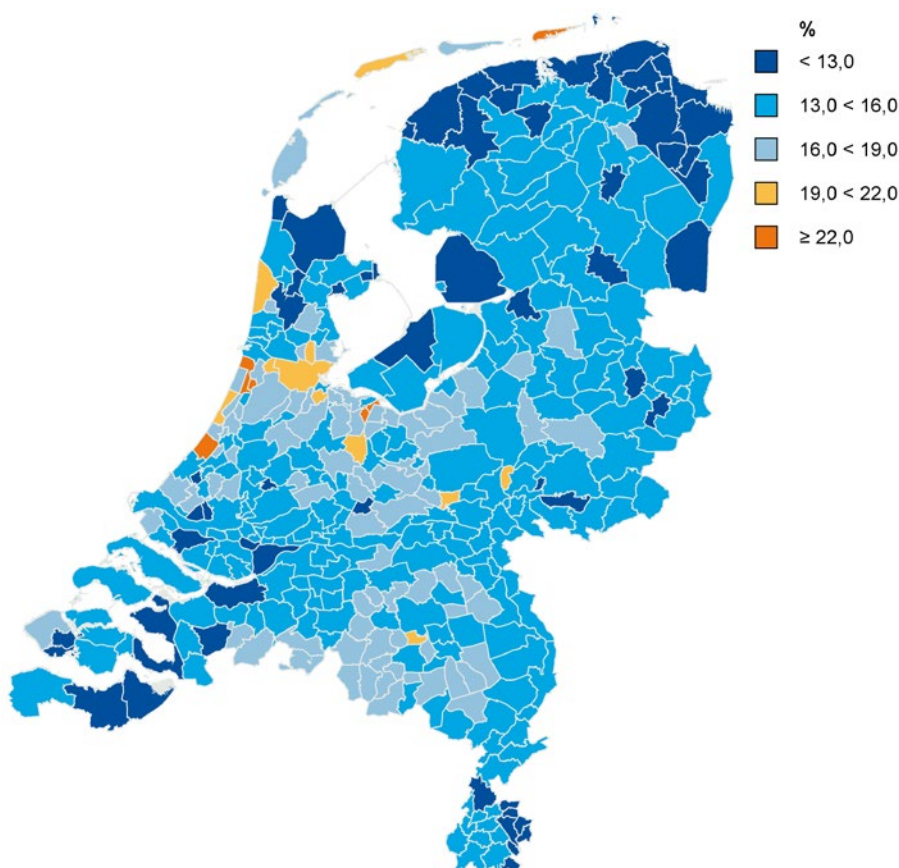


Figure 4

Affordability index per municipality (in %).
Source: WOX Monitor Calcasa

*The index measures the affordability of Dutch owner-occupied houses. It is calculated taking into account net housing costs, current average mortgage costs (current interest rate, maintenance costs, local taxes and fiscal treatment).

Number of sales

The annual number of transactions has decreased. 265 thousand residential properties were sold during the past year.

- Y-O-Y development, number of annual sales: -1.8%.
- Q-O-Q development, number of annual sales: +1.3%.

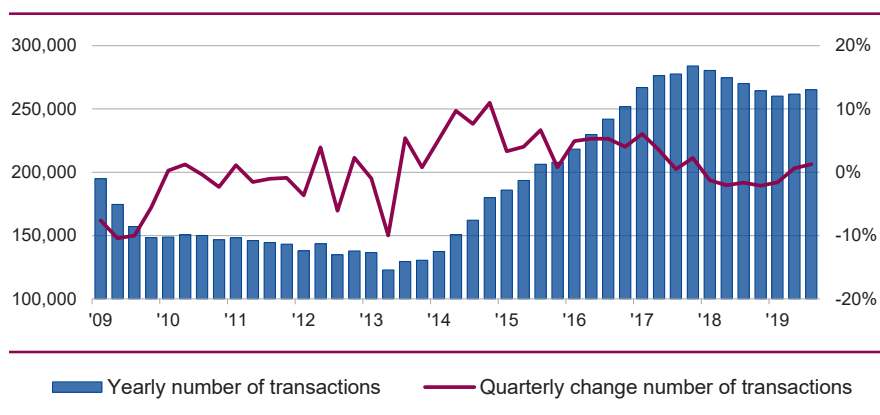


Figure 5

Number of annual sales* and y-o-y change in number of sales in the Netherlands.

Source: Statistics Netherlands, Land Registry, adaptation by Calcasa

* Calcasa shows the number of housing sales on an annual basis for a reliable picture of the long term trend (corrected for seasonal effects).

Apartment sales largest decline

- Transactions of all housing types but detached and semi-detached houses, decreased in the last quarter. Transactions of detached houses increased with 2.8%.
- Apartments sales decreased the most this quarter with 6.9% year-on-year. This is partly caused by a shrinking supply of apartments.

Transaction development y-o-y

Housing type	2018Q3	2018Q4	2019Q1	2019Q2	2019Q3
Detached	1.7%	-2.6%	-1.7%	0.7%	2.8%
Semi-detached	-2.1%	-6.3%	-5.0%	-0.6%	3.1%
Corner house	0.3%	-6.0%	-7.6%	-5.6%	-3.1%
Terraced house	-1.5%	-6.1%	-6.8%	-4.8%	-1.5%
Apartment	-7.7%	-10.9%	-11.8%	-9.4%	-6.9%
Total	-2.7%	-6.9%	-7.2%	-4.7%	-1.8%

Table 4

Y-o-y transaction development by period and property type

Source: WOX Monitor Calcasa

Sales in expensive price class increased

- The sale of homes in the price range 350 to 500 thousand euros increased by 18.1% in the past year, whilst homes above 500 thousand euros increased by 19.1%.
- Especially in the east (25.3%) and in the south (25.6%) of the Netherlands more expensive homes (>500 thousand euros) were sold.
- In the western part of the Netherlands the highest increase in sales was measured for houses above 500 thousand euros (16.0%).
- The lowest price segment (75 to 150 thousand euros) decreased the most in the western part of the Netherlands by 38.8%.

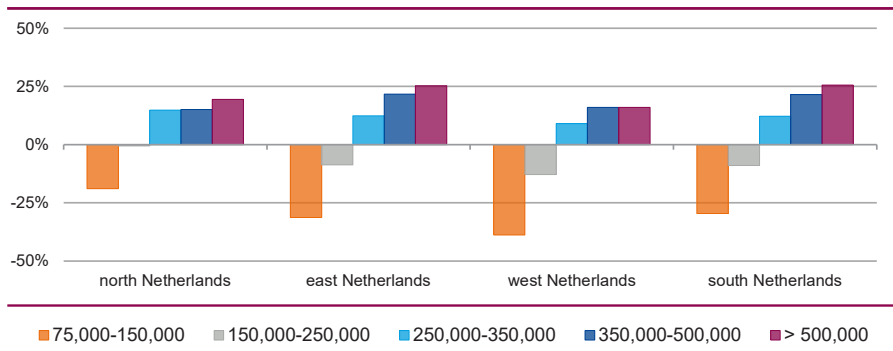


Figure 6

Growth (%) of share of housing sales per price class in North, East, West and South Netherlands in Q3 2019 compared to Q3 2018.

Source: WOX Monitor Calcasa

35% of housing sales within 150 to 250 thousand euros

- In the past year 35% of housing sales were within the price class of 150 to 250 thousand euros.
- The percentage of transactions in the price class 75 to 150 thousand euros decreased in four years time from 24% to 10%.
- The price segment 350 to 500 thousand euros increased in four years time from 8% to 17%.
- 11% of housing sales were within the price class of 500 thousand euros or more. Four years ago this was 5%.

Share of housing sales per price class

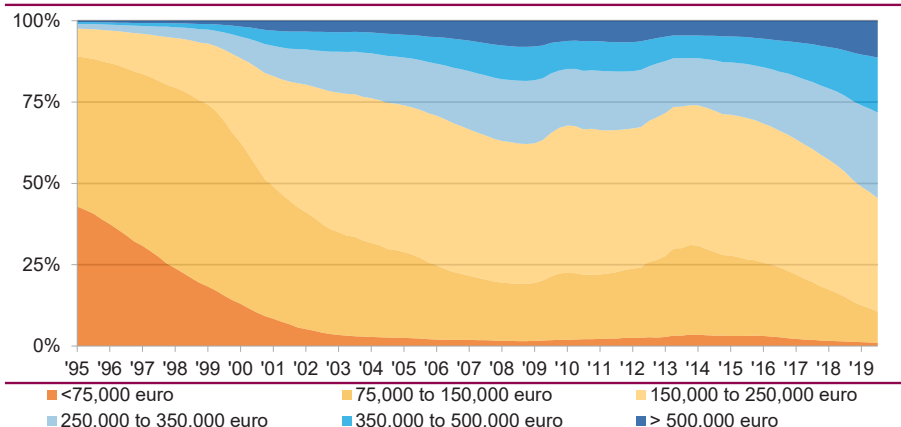


Figure 7

Share of housing sales per price class
Source: WOX Monitor Calcasa

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Groot-Amsterdam highest market liquidity

- In the NUTS III region Groot-Amsterdam 7.0% of the housing supply was sold during the past year. The regions of The Hague and Overig Groningen follow with 6.9% and 6.7% respectively.
- The NUTS III region Noord-Limburg had the lowest market liquidity: 4.9%.

NUTS III region	Percentage	NUTS III region	Percentage
	of housing supply sold last year		of housing supply sold last year
Groot-Amsterdam	7.0%	Noord-Limburg	4.9%
's-Gravenhage	6.9%	IJmond	5.0%
Overig Groningen	6.7%	Midden-Limburg	5.1%
Groot-Rijnmond	6.7%	Delft en Westland	5.2%
Zuidwest-Drenthe	6.5%	Twente	5.4%
Agglomeratie Haarlem	6.5%	Achterhoek	5.4%
Oost-Groningen	6.4%	Leiden en Bollenstreek	5.4%
Overig Zeeland	6.4%	Zuid-Limburg	5.4%
Flevoland	6.4%	Alkmaar en omgeving	5.5%
Zuidoost-Drenthe	6.3%	Oost-Zuid-Holland	5.5%

Table 5

Top 10 NUTS III regions with highest and lowest percentage of housing supply sold last year
Source: WOX Monitor Calcasa

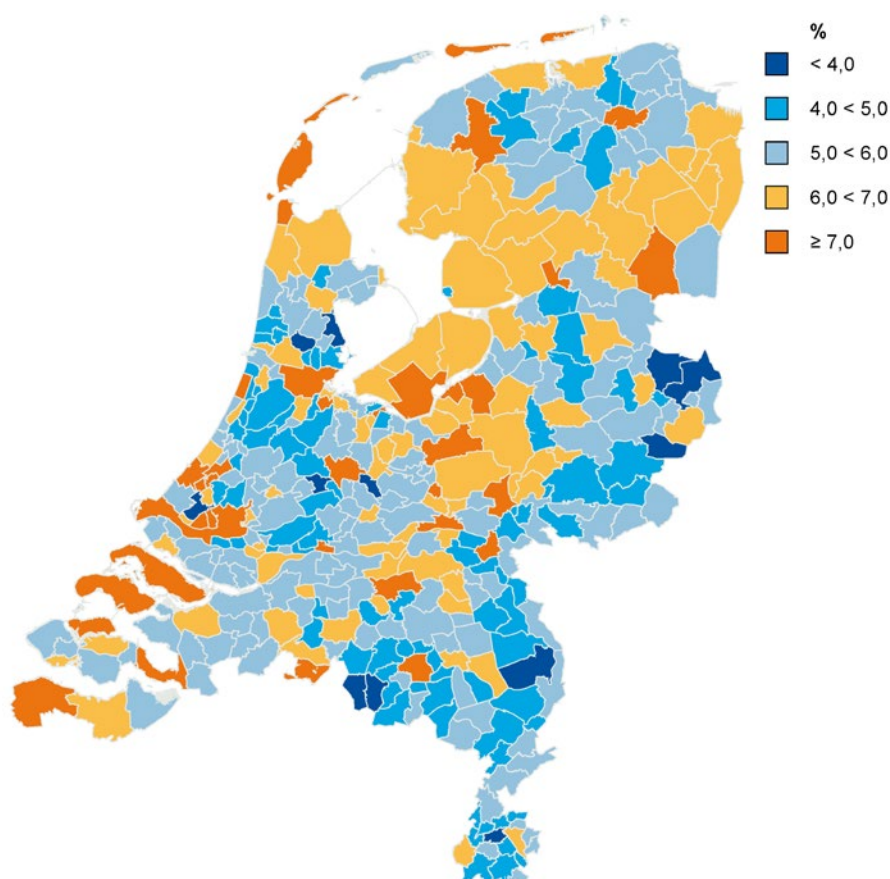


Figure 8

Market liquidity: sold homes as percentage of total number of owner occupied housing stock for previous year per municipality
Source: WOX Monitor Calcasa

Market liquidity: number of sales surpassed supply

- The annual ratio of houses for sale vs. sold has decreased to 0.3. This is an improvement compared to last year when this ratio was still 0.4.
- The annual number of houses sold: 265 thousand.
 - » Y-O-Y development: -1.8%
- Homes for sale in Q3 2019: 80 thousand
 - » Y-O-Y development: -25.8%
- The market liquidity is best in the municipality of Groningen with a factor of 0.16.
- In the municipality of Maasgouw the market liquidity is highest (worst) with a factor of 0.59, followed by the municipality of Bladel with a factor of 0.58.

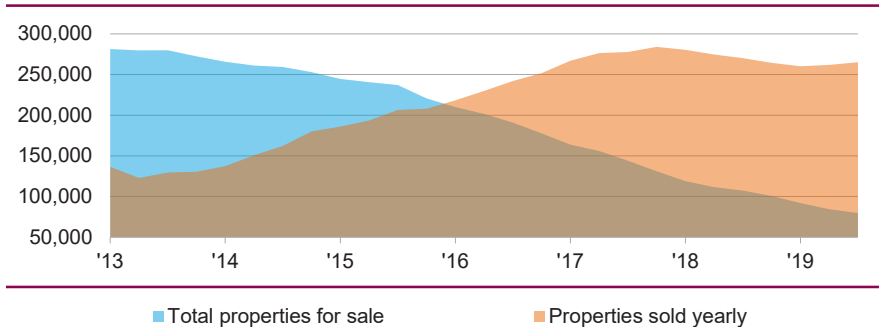


Figure 9a

Annual number of properties for sale versus number of properties sold over the period 2013-2019 in the Netherlands. Source: Multiple real estate agents, adaptation Calcasa

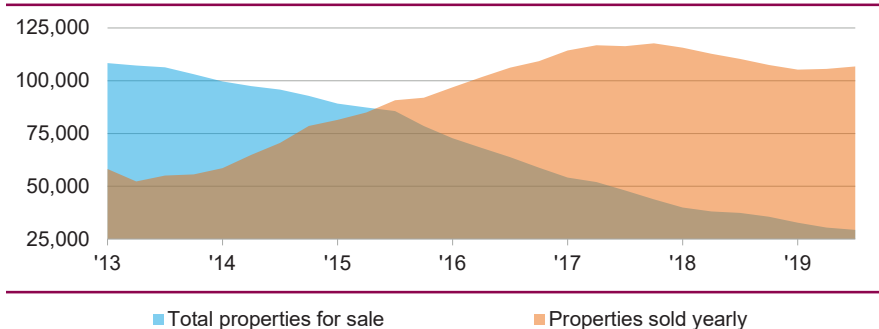


Figure 9b

Annual number of properties for sale versus number of properties sold over the period 2013-2019 in the Randstad. Source: Multiple real estate agents, adaptation Calcasa

- The relationship between the supply of owner-occupied housing and total owner-occupied housing stock is also a component of market liquidity. The percentage of the total owner-occupied housing stock that sold last year is 6.0% for the Netherlands.
 - o The percentage of family homes sold previous year: 6.2%.
 - o The percentage of apartments sold previous year: 5.5%.
- The share of owner occupied housing stock which was sold last year is highest in the city of Groningen with 9.0%.
- In the municipality of Edam-Volendam only 3.0% of the existing stock of owner-occupied homes has changed owners.

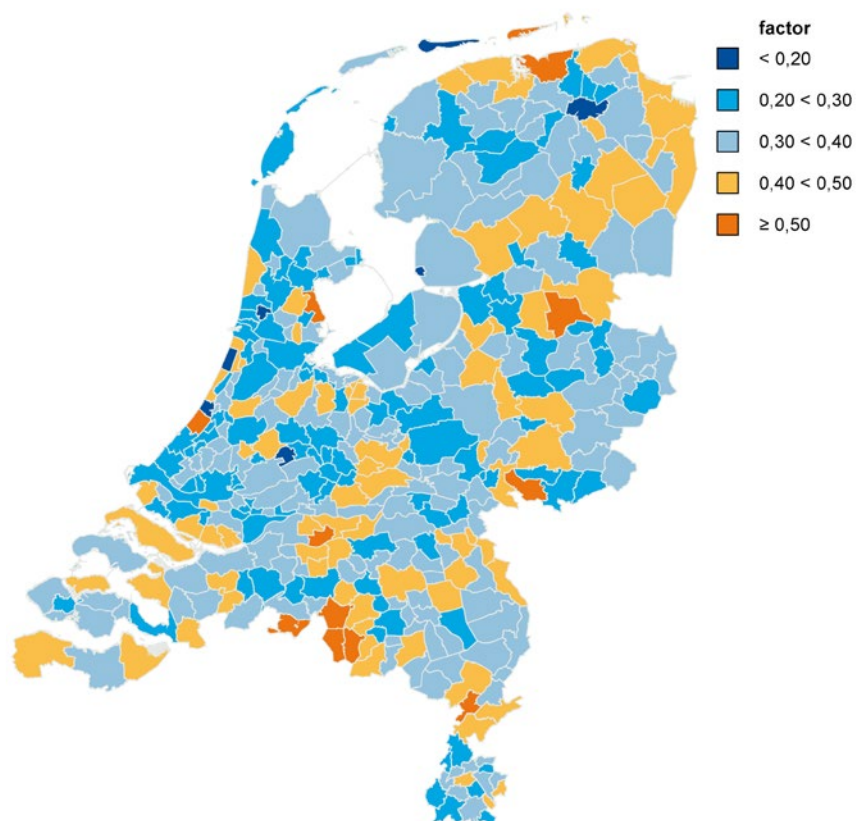


Figure 10

Supply/Sales ratio all properties per municipality

Source: WOX Monitor Calcasa

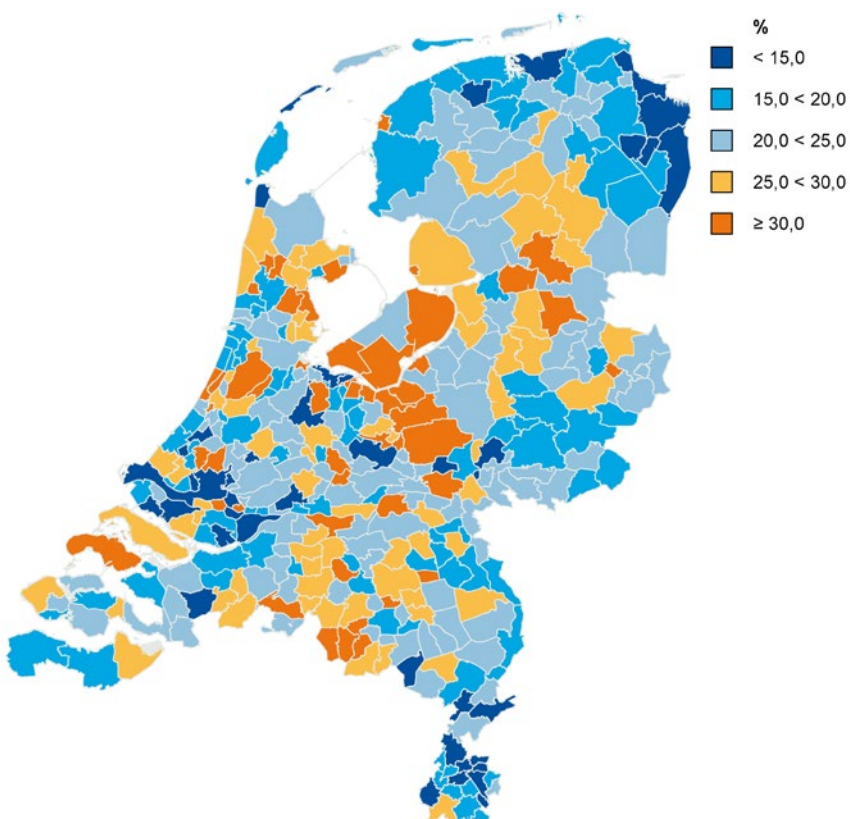


Figure 11

Percentage of properties with energy label A per municipality

Source: WOX Monitor Calcasa

Mortgage approvals are decreasing

Approximately 320 thousand mortgages were approved last year.

- Y-O-Y development, number of annual mortgages: -9.7%.
- Q-O-Q development, number of annual mortgages: -1.1%.

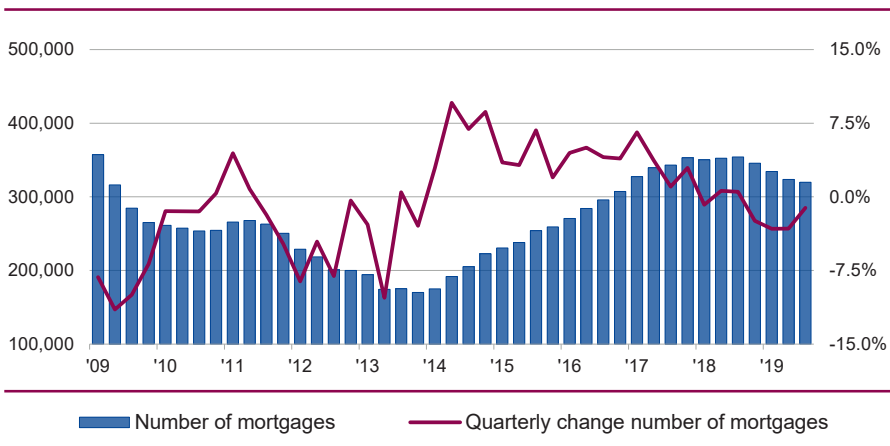


Figure 12

Number of mortgages
Source: Statistics Netherlands, Land Registry and adaptation Calcasa

Number of foreclosures through auction decreases

Over the last four quarters, 526 foreclosures have been registered by the land registry.

- o Y-O-Y development amount of annual foreclosures: -38.6%.
- o Q-O-Q development amount of annual foreclosures: -7.9%.
- The share of foreclosure sales versus total sales is 0.2%.
- The highest share of foreclosure sales to total sales is 1.9% in the municipality of Nederweert.
- 189 municipalities had no foreclosure sales in the past year. The largest municipality without foreclosure sales is Den Bosch.

Note that many foreclosed properties will be sold via the public market and not via auction. The reason is that proceeds of a sale of a home through a forced auction can be up to 40 percent less compared to a sale via the public market.

Due to the increase in the number of foreclosures after the crisis, the NHG has come up with stricter regulations allowing banks to only sell homes via auction if the selling price is less than 5% below market value. This is to avoid big losses.

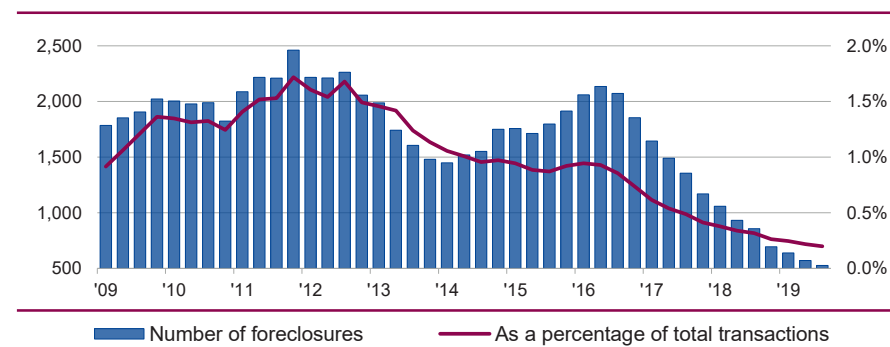


Figure 13

Number of yearly foreclosures and amount of foreclosures as a % of the total number of transactions in the Netherlands.
Source: Statistics Netherlands, Land Registry and adaptation Calcasa

Average price newly built homes increased by 13% y-o-y

- In the third quarter of 2018 the total amount of sales for newly built homes was 6 thousand. This is a decrease of 8.5% year-on-year.
- During the second quarter of 2019 the average price for newly built houses was 400 thousand euros. This is an increase of 13.2% compared to a year ago.

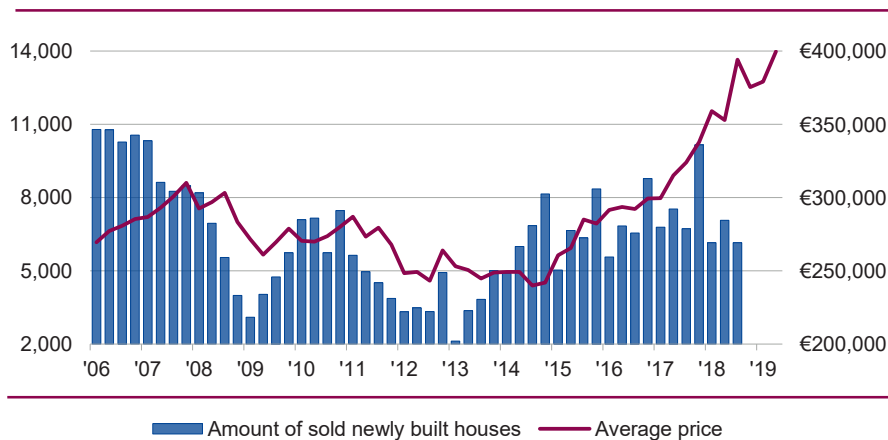


Figure 14

Average sales price for newly built houses per quarter in the Netherlands compared to the quarterly amount of newly built houses sold.

Source: CBS

Amount of households in arrears decreased

- Since 2015 the number of homeowners with payment problems decreased with 38%.
- Currently there are 70 thousand homeowners who have difficulty paying their mortgage: this is a decrease of 12.5% compared to a year ago.

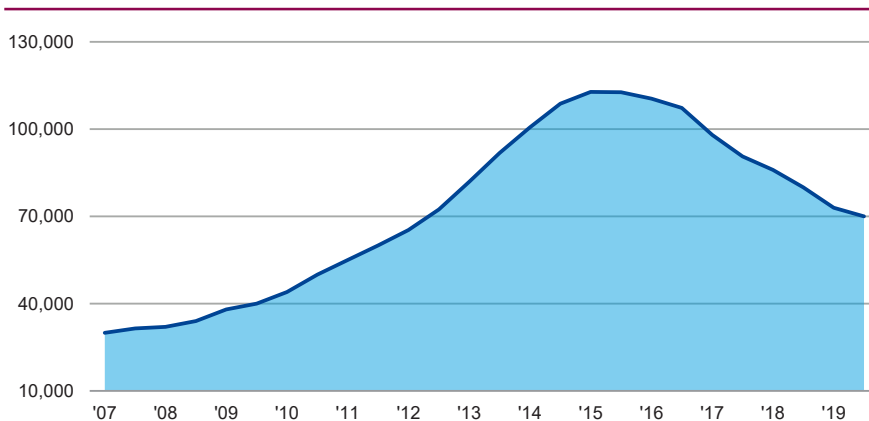


Figure 15

Number of borrowers with mortgage payment arrears

Source: BKR

Retail rental prices decreased by 6% in three years

The average office rental price increased by 4.7% y-o-y in 3Q2019

The Calcasa PropertyNL OPI (Office Price Index) showed a value of 99 (4Q2001=100) for the third quarter of 2019. The average office rental value is now EUR134 per square meter.

The average retail rental price increased by 1.0% y-o-y in 3Q2019

The Calcasa PropertyNL RPI (Retail Price Index) showed a value of 98 (4Q2001=100) for the third quarter of 2019. Compared to the third quarter of 2018, this is an increase of 1.0%. The average retail rental value is now EUR151 per square meter.

The average industrial rental price increased by 3.8% y-o-y in 3Q2019

The Calcasa PropertyNL IPI (Industrial Price Index) showed a value of 105 (4Q2001=100) for the third quarter of 2019, an increase of 3.8% compared to the third quarter of 2018. The average industrial rental value is now EUR63 per square meter.

The three real estate indices are based entirely on actual transactions and not on appraisals from professionals. The actual situation for the rental income may even be grimmer: in the actual rents any incentives given by the owner are not included.

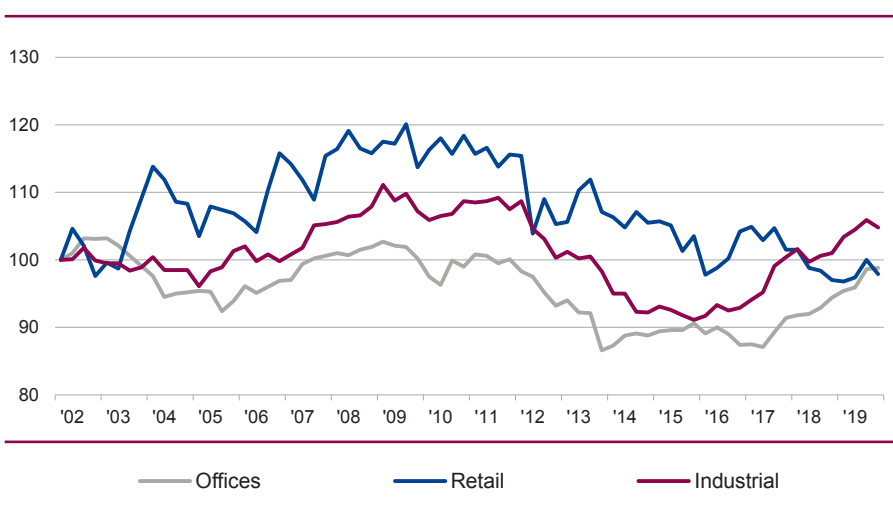


Figure 16

Development of Calcasa commercial real estate indexes (Q4 2001 = 100)
Source: Calcasa

Netherlands	Index (Q4 2001=100)	Average rent per m2	Y-O-Y price change	Three year price change
Offices (OPI)	99	€ 134	4.7%	13.1%
Retail (RPI)	98	€ 151	1.0%	-6.0%
Industrial (IPI)	105	€ 63	3.8%	12.8%

Table 6

Development of rental values of commercial real estate in the Netherlands
Source: Calcasa, PropertyNL

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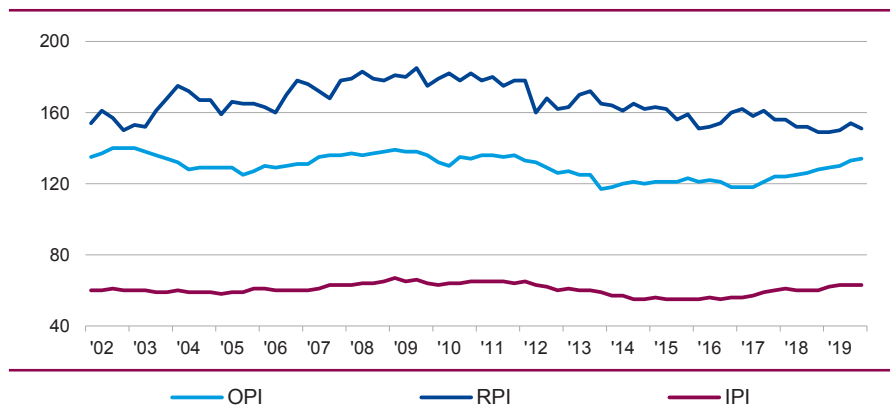


Figure 17

Development of Calcasa commercial real estate indexes (2001Q4 = 100)
Source: Calcasa, PropertyNL

Commercial real estate index: A scientifically justified methodology

Calcasa calculates price developments for commercial real estate by using realized rental transactions which have been gathered and checked by the research department of PropertyNL. Calcasa translates the rental transactions to determine a value for the entire stock of commercial real estate, using a hedonic modeling technique. A revaluation of the entire stock takes place each quarter and hence a more accurate and robust index is formed, capturing the developments in the commercial real estate market.

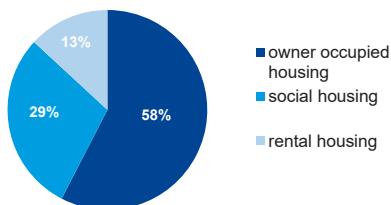
With the application of the hedonic method, it is essential that objects and their location are documented precisely, using the characteristics that influence the price. Hence, when using a hedonic index model, a range of object characteristics are taken into account, e.g. living area and year of construction.

It is equally important that multiple variables are included in the model, which describe the location of the object; an example of such variables would be distance to important amenities like city centers, airports, train stations and motorways. Using this methodology, Calcasa produces a quarterly index for the office market (with minimal space of 200 square meters), which is published in PropertyNL and the Calcasa WOX quarterly bulletin.

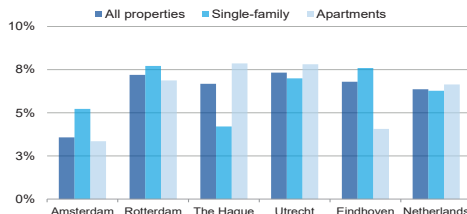
Dutch Housing Market Summary

	Largest cities	All properties	Singles-family	Apartments	Owner occupied	Rental	Total population	Total households	Annual sales	Current supply
Amsterdam	433,000	62,000	370,000	30%	70%	854,050	467,610	11,628		
Rotterdam	311,000	87,000	224,000	34%	64%	638,710	321,690	8,715		
The Hague	257,000	59,000	198,000	42%	56%	532,560	260,890	8,267		
Utrecht	151,000	68,000	83,000	45%	54%	347,480	178,190	5,265		
Groningen	101,000	37,000	64,000	38%	61%	202,810	122,540	3,470		
Eindhoven	109,000	68,000	42,000	45%	54%	229,130	118,270	3,655		
Provinces										
Groningen	277,000	183,000	94,000	55%	44%	582,940	292,260	9,906	3,026	
Friesland	298,000	244,000	55,000	61%	37%	647,270	290,340	11,119	3,590	
Drenthe	221,000	183,000	38,000	65%	33%	492,100	216,370	8,880	2,966	
Overijssel	500,000	385,000	115,000	60%	38%	1,151,500	499,030	17,139	5,074	
Flevoland	166,000	132,000	34,000	64%	35%	411,670	170,800	6,751	1,911	
Gelderland	894,000	676,000	218,000	60%	39%	2,060,100	914,370	31,975	10,081	
Utrecht	558,000	355,000	203,000	57%	42%	1,295,480	584,260	19,674	5,370	
North-Holland	1,318,000	669,000	650,000	50%	49%	2,831,180	1,352,240	42,198	11,790	
South-Holland	1,678,000	833,000	845,000	51%	48%	3,681,040	1,701,660	53,947	14,806	
Zeeland	185,000	151,000	34,000	65%	34%	382,300	173,950	7,623	2,560	
North-Brabant	1,116,000	847,000	269,000	61%	38%	2,528,290	1,134,720	39,363	12,788	
Limburg	529,000	391,000	138,000	60%	39%	1,117,200	527,920	16,538	5,668	
Netherlands	7,741,000	5,044,000	2,697,000	57%	42%	17,181,080	7,857,910	265,113	79,628	

Housing stock



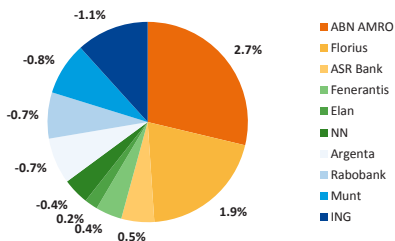
Y-O-Y price development largest cities



Mortgage developments

	Amount	Change
Sales with NHG	24,200	8.0%
Execution sales with losses	92	-47.1%
Households in arrears	70,000	-12.5%
Sold mortgages	319,856	-9.7%
Total mortgage debt	720B	1.3%

Top mortgage lenders: increase/decrease market share



Macro-economic figures

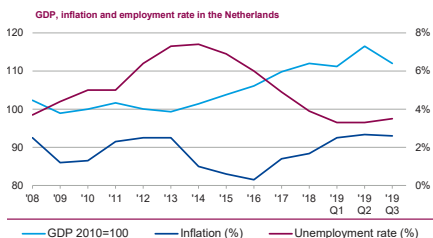


Table 7

Key figures for the Dutch housing market
Source: Statistics Netherlands, Land Registry

Figures 18 & 19

Source figure left: Statistics Netherlands
Source figure right: Calcasa

Table 8 & Figure 20

Source table left: Statistics Netherlands, NHG, BKR, Land Registry
Source figure right: Calcasa, IG&H

Figures 21 & 22

Source figure left: DNB, Statistics Netherlands
Source figure right: Calcasa, Statistics Netherlands

Appendices

Provinces	Detached houses	Semi-detached	Corner houses	Terraced houses	All single-family dwellings
Groningen	261,000	216,000	190,000	192,000	232,000
Friesland	300,000	221,000	184,000	170,000	233,000
Drenthe	339,000	238,000	195,000	179,000	260,000
Overijssel	391,000	260,000	228,000	215,000	270,000
Flevoland	494,000	318,000	247,000	233,000	285,000
Gelderland	458,000	316,000	265,000	239,000	330,000
Utrecht	758,000	516,000	380,000	356,000	469,000
North-Holland	586,000	479,000	374,000	341,000	443,000
South-Holland	580,000	440,000	336,000	313,000	382,000
Zeeland	332,000	229,000	195,000	185,000	243,000
North-Brabant	495,000	333,000	281,000	259,000	340,000
Limburg	366,000	237,000	217,000	207,000	257,000
Netherlands	440,000	325,000	291,000	277,000	341,000

Table 9

Average house price for single-family dwellings, per property type and per province in the Netherlands (in euros).
Source: Calcasa

Provinces	Porch flat	Gallery flat	Maison-nette	Up/downstairs apartment	All apartments
Groningen	199,000	176,000	192,000	204,000	218,000
Friesland	195,000	165,000	171,000	179,000	199,000
Drenthe	198,000	174,000	176,000	205,000	211,000
Overijssel	182,000	181,000	198,000	196,000	193,000
Flevoland	251,000	214,000	225,000	207,000	277,000
Gelderland	218,000	192,000	212,000	237,000	229,000
Utrecht	285,000	249,000	297,000	311,000	312,000
North-Holland	299,000	277,000	358,000	390,000	414,000
South-Holland	225,000	216,000	255,000	258,000	256,000
Zeeland	233,000	241,000	186,000	199,000	220,000
North-Brabant	245,000	213,000	235,000	246,000	242,000
Limburg	186,000	165,000	191,000	190,000	187,000
Netherlands	238,000	221,000	264,000	295,000	284,000

Table 10

Average house price for apartments, per property type and per province in the Netherlands (in euros).
Source: Calcasa

Municipalities	Highest	Municipalities	Lowest
	property values (x 1,000)		property values (x 1,000)
Bloemendaal	896	Delfzijl	167
Wassenaar	690	Oldambt	175
Heemstede	665	Veendam	185
Gooise Meren	530	Heerlen	186
De Bilt	517	Kerkrade	189
Zeist	487	Brunssum	190
Wijdmeren	486	Terneuzen	194
Bergen (NH.)	483	Leeuwarden	197
Amstelveen	480	Den Helder	199
Utrechtse Heuvelrug	476	Stadskanaal	201

Table 11

Top 10 highest and lowest property values, per municipality containing over 5,000 owner-occupied dwellings.
Source: Calcasa

Municipalities	Highest	Municipalities	Lowest
	annual price development		annual price development
Alblasserdam	9.0%	Bergen (NH.)	2.4%
Hendrik-Ido-Ambacht	9.0%	Heiloo	3.4%
Middelburg	8.9%	Amsterdam	3.6%
Westerveld	8.9%	Langedijk	3.7%
Schiedam	8.9%	Heerhugowaard	4.1%
Papendrecht	8.9%	Nederweert	4.1%
Dordrecht	8.8%	Wijdmeren	4.3%
Aa en Hunze	8.8%	Amstelveen	4.4%
Sliedrecht	8.8%	Diemen	4.4%
Velsen	8.8%	Weert	4.4%

Table 12

Top 10 highest and lowest price developments, per municipality with over 5,000 owner-occupied dwellings.
Source: Calcasa

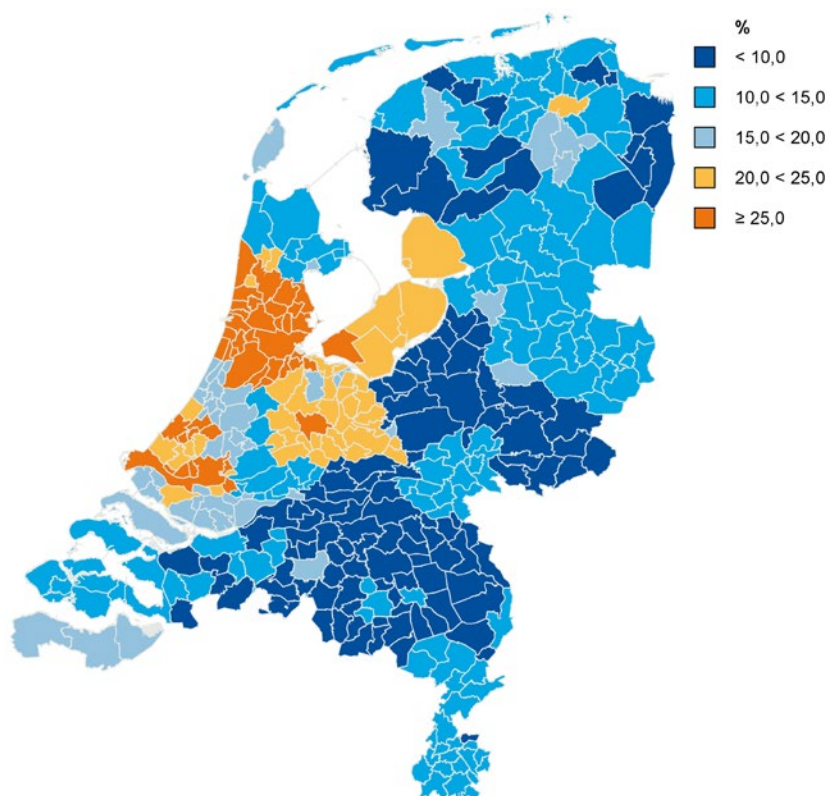


Figure 23

The price development of all houses per municipality in 2019Q3 compared to 2008Q3
Source: Calcasa

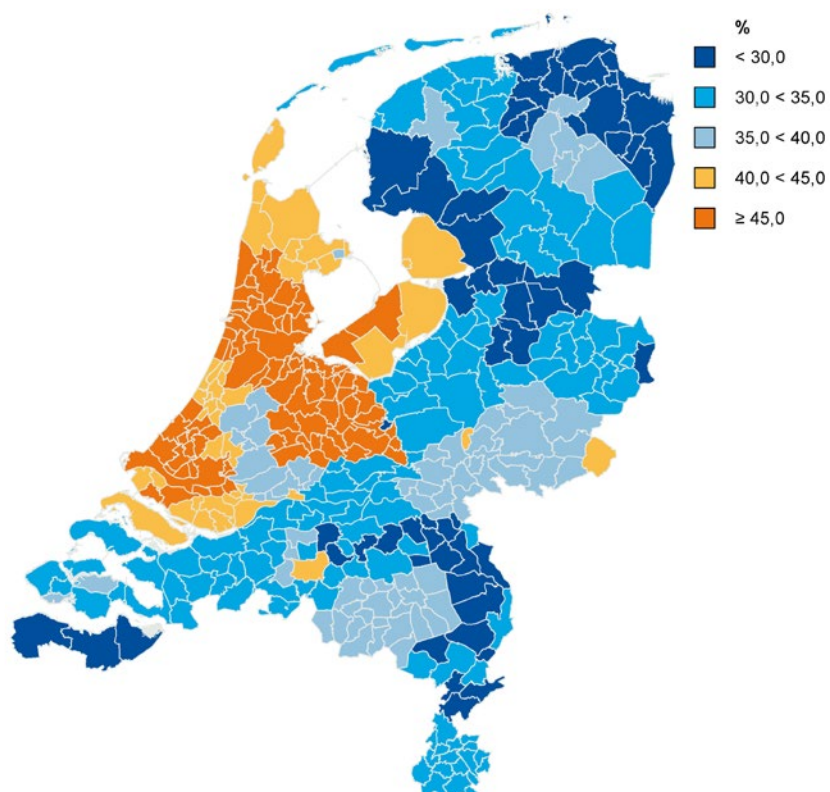
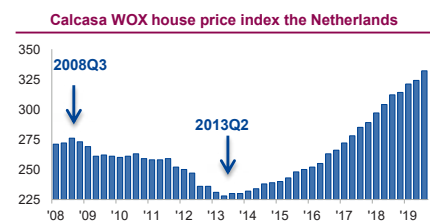


Figure 24

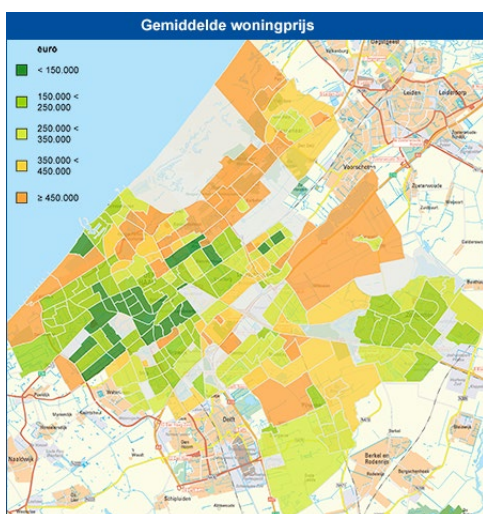
The price development of all houses per municipality in 2019Q3 compared to 2013Q2
Source: Calcasa



Visit calcasa.co.uk for more information

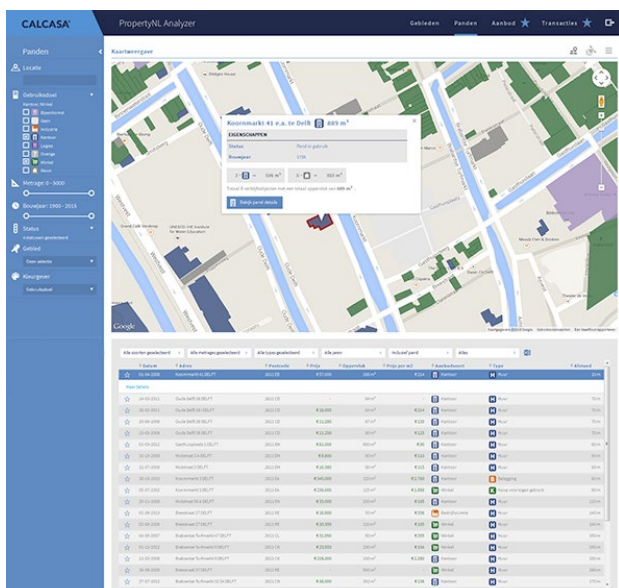
The WOX Monitor: All housing market data for every neighborhood

More information on price developments in various regional levels (neighborhood, municipality, province) is available via the WOX monitor.



Calcasa PropertyNL Analyzer

Analyzing the commercial real estate market is possible through the Calcasa PropertyNL Analyzer (“CPA”). CPA is an online application with information that is easily accessible for the office, retail and industrial markets. This tool increases the transparency in the property market. For more information contact Mr. Rogier van der Hijden: Rogier@Calcasa.nl



About Calcasa

Calcasa is an independent technology company specializing in the statistical analysis and valuation of real estate. The Calcasa Automated Valuation Model (AVM) for valuation of individual homes is unique due to its high coverage and accuracy. It is internationally recognized by the three major rating agencies and regulators. Mortgage lenders, investors, intermediaries, validation institutes, housing corporations, consumer organizations, real estate companies, broker organizations, government agencies and regulators rely daily on the solutions Calcasa. www.calcasa.co.uk

Calcasa WOX: A reliable house price index

Calcasa WOX is demonstrably the most reliable house price index in the Netherlands. Every quarter, Calcasa calculates a reliable house price index for each province, municipality, borough and neighborhood in the Netherlands. The house price index is calculated using the national data on transactions starting from 1993 and additional house and location characteristics from the database. The source data is screened for integrity, such that non-representative data is omitted for the index calculation. The developed methodology takes into account any over or under representation of sold properties, compared to the existing housing stock in that area. Unlike most house price indices, the Calcasa WOX does not simply calculate the coincidental development of sales for a specific area; rather it calculates the development of prices of the total housing stock.

European AVM Alliance (EAA)

Calcasa is a founding member of the EEA which was launched as a pan-European initiative at the end of 2012. The mission is to promote and standardize the usage of AVM's resulting in a consistent approach to automated valuations in Europe. Other members include Hometrack (UK), Eiendomsverdi (Norway), Värderingsdata (Sweden), CRIF (Italy), Tinsa (Spain), On-Geo (Germany) and On-Geo (Austria).

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