Assignment 7: Bachelor's thesis

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"The impact of empty houses on house prices in the Netherlands"

Abstract

House prices in the Netherlands are high where vacancy rates are high. A remarkable observation in this research. One would expect that high vacancy rates causes oversupply and therefore have negative influence on house price levels. Furthermore the negative influence of empty houses on the street scenery could even strengthen that negative impact. This research investigates the impact of empty houses on house price levels in the Netherlands in 2015. By putting transaction data and neighbourhood statistics, including the percentage of empty houses, in a hedonic price model this research answers the question on what impact vacancy has on house prices. Besides important determinants as housing characteristics and location the percentage of empty houses contribute in a positive way to house price levels in the Netherlands. Further conclusions are that vacancy rates are originated by different reasons. Both with positive and negative influence on the environment. When the number of empty dwellings because of investment reasons can be incorporated in future research a more detailed conclusion can be provided on the effect of undesirable vacancy on house price levels.

Introduction

The Dutch municipality association (VNG) wrote a recommendation for municipalities to cope with empty properties. In their advice (VNG, 2015) they stated that empty properties may cause aging, decay, unsafety and a negative impact on the street scene. The municipality of Amsterdam recognizes the same negative effects (Gemeente Amsterdam, 2017) and proposed an integral approach to cope with empty houses and release the pressure on the local housing market. That empty properties are socially undesirable are made clear since 1981. To cover unattractive vacancy the Dutch government introduced the 'vacancy law' (Leegstandswet) that year. In the current quality the vacancy law gives home owners more opportunities to rent out their house temporarily. Most of the time when the owner already bought a new house and still needs to sell the previous house. At the other hand daily newspaper Trouw published an article (Trouw, 2017) about housing value in China. Although several skyscrapers are empty, housing value is still increasing. Therefor the question rises what the impact of empty properties on the environment and especially on the value of houses is? Under normal circumstances one would expect that lower vacancy rates indicates fever supply and therefor leads to higher house prices (Glaeser & Gyourko). Hoekstra, Gentile and Vakili-Zad (2008 and 2011) studied this phenomenon in a Mediterranean context and concluded that in Spain, Italy and Malta rising prices came with high vacancy rates and therefor is contrary to a general housing equilibrium. Hoekstra et al. called the studies in Spain and Italian the Mediterranean paradox and suggest to further explore this in other countries with a preference of home ownership. By analysing how vacancy has impact on housing value in the Dutch housing market, where vacancy rates or not so high as in Spain or Italy, we try to contribute to earlier studies on this phenomenon.

Since 2013 the housing market in the Netherlands is rising (see figure 1) while vacancy still has the attention of several governmental organisations. To gain better understanding of the effect of empty houses on the prices in the Netherlands this research will focus on house price levels and the percentage empty properties in neighbourhoods.

The main research question therefor is: *What is the relation between empty houses and house prices in the Netherlands?*

To answer this research question a theoretical review of previous studies on vacancy rates in other countries will be given and more in general we will take a look into which determinants are important for house price levels.

In the theoretical framework the question how vacancy rates affect house prices will be answered by analysing what researchers already published about this topic. Has vacancy, as expected, negative influence on the valuation of houses or are there other mechanisms or theories that should be taken into account? Previous studies, by Hoekstra, Vakili-Zad and Gentili, investigates the relation between vacancy and house prices in Mediterranean countries, but this study will look in detail into this phenomenon in the Netherlands. Furthermore the theoretical framework focusses on which other determinants are important for the level of house prices. The quantitative research question will be answered by analysing transaction data of the Dutch Cadastre in combination with several neighbourhood characteristics of the CBS. The most recent year were all the data are available is 2015 and therefor that year will be studied.

The structure of the paper is as follows: After the theoretical framework the used data and methodology will be explained. Thereafter the results of the multiple regression analysis will be presented. Lastly the conclusion will summarize the answers to both the theoretical and quantitative research questions.

Theoretical framework

To analyse the relation between vacancy and house prices levels in the Netherlands it is important to illustrate how vacancy can be considered. In academic literature a lot of attention goes to the difference between problematic and natural vacancy. Fielder and Smith (1996) described problematic vacancy as those houses that are likely to remain empty for a longer period of time because of pour conditions. More in general is long term vacancy considered as problematic by Wyatt (2008). Henderson (2015) came with another point of view on long term vacancy and explained that long term vacancy could also be caused by legitimate reasons. Besides the undesirable vacancy, houses can be empty because they are undergoing refurbishment, have e recreational/holiday purpose, are on the rental market (AirBnB for example) or are voluntarily kept away from the market because of investment reasons. Hoekstra and Vakili-Zad (2011) concluded that in a rising market, what the Dutch housing market is (see figure 1), keeping a second house is attractive.

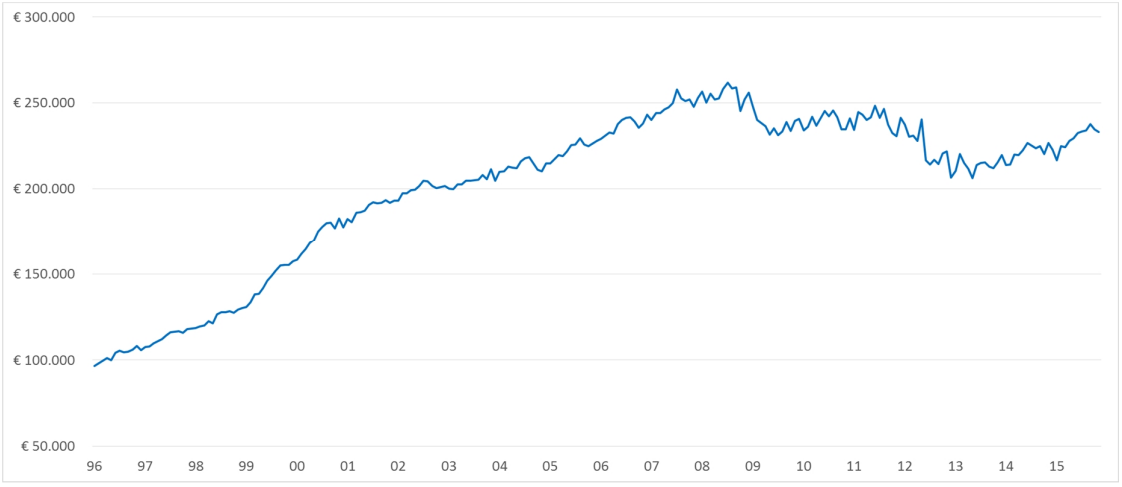


Figure 1 House price development in the Netherlands 1996-2015 (Source: Dutch Cadastre)

In the Spanish paradox Hoekstra et al. (2002) analysed rising house prices in combination with high vacancy rates. In their research they concludes that typical Spanish characteristics such as the culture of home ownership, housing policy and a long term rural to urban migration contributed to the paradox in

which high house prices came at the same time with high vacancy rates. The Dutch housing market over the last decade can also be characterized by the migration from rural areas to urban areas. In the Netherlands there are certain areas that suffer from population decline, such as Groningen (excluded the city of Groningen), Zeeland and Limburg. Urban areas as Amsterdam, Utrecht and The Hague are dealing with population increase and housing shortage. Contrary to countries like Spain and Italy vacancy rates are not so high in the Netherlands. Spain and Italy have vacancy rates over 20% while the Netherlands have a vacancy rate about 5%.

Furthermore Zabel (2014) developed a house price model in which vacancy rates are included. He stated that in a situation whit oversupply prices do not fall when vacancy rated are rising. In a situation of overdemand house prices will rise when vacancy rates drop. In the Dutch housing market both situation occur. The provinces Groningen, Friesland, Limburg and Zeeland have to deal with population decline while cities as Amsterdam and Utrecht are dealing with housing shortage. Huuka (2015) studied vacancy in Finland and mentioned that vacancy in rural areas, with population decline, is more problematic than vacancy in urban areas.

To perform a good analysis on the Dutch housing market it is useful to understand how house prices are affected. Capozza et al. (2002) concluded that population growth and real income are important parameters for the house price level. Visser et al. (2008) focussed on the physical aspects and the residential environment and mentioned that physical aspects of a house like size, number of rooms and housing type are the most important characteristics. In Visser et al. (2008) their most extensive model they concluded that 23% of the variance could be explained by housing characteristics. Other characteristics as location (7%) and functional aspects (10%) such as distance to the nearest supermarket had less impact. Social aspects counts for about 8%. Examples of these social aspects are population density in neighbourhood and percentage of non-western immigrants. When we take a closer look at the regression model we see that the t-value of 'social status of the neighbourhood' is relatively high. The article doesn't explain where this social status is based on and if vacancy is part of this social status.

Important thing to notice is that for a good operating housing market a certain amount of empty houses is needed. There is always a period for about three month needed to move to a new bought house. 'Planbureau voor de Leefomgeving' (PBL), a Dutch government related organisation, mentioned in the 'Compendium voor de Leefomgeving 2014' that 5% of the houses in the Netherlands are empty (CLO, 2014). In this indicator about the housing market an overview is given in which areas vacancy occurs most often. Recreational areas and areas with population decline have high vacancy rates and so does the private rental sector. Another particular area that deals with high vacancy rates and high prices is city of The Hague. The high vacancy rates can be explained by the 1.500 diplomats living in The Hague and they are not registered in the Dutch population registration. Population decline can have negative influence on the housing market, because of the lack of demand , but that doesn't count for recreational areas, the private rental sector and The Hague.

Based on Visser et al. (2008) the expectations on which characteristics are most important to determine house prices are mostly the physical aspects of the house and in lesser degree location and social aspects of the neighbourhood. Because of the negative impact of empty houses on the street scenery a negative impact on house prices is expected when the percentage empty houses is high. But based on previous studies on this topic it is thinkable that high prices might come with high vacancy rates.

To gain answers to the question how house prices are affected by vacancy in the Netherlands the following conceptual model is made:

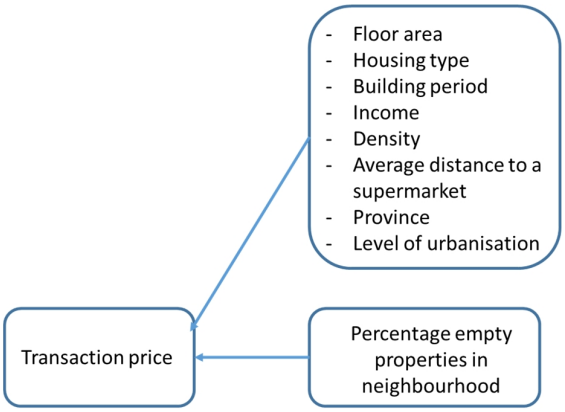


Figure 2 *Conceptual model*

This model takes both individual housing characteristics and environmental characteristics into account. The variable of interest is the percentage of empty houses in the neighbourhood and the dependent variable is house price. The determinant in the model are based on the studies by Capozza et al. (2002) and Visser et al. (2008)

Data and methodology

This research will approach house price levels and the different determinants who affects by analysing transaction data of the Dutch Cadastre and neighbourhood statistics so that housing characteristics as location, housing type, size and building period can be incorporated in the research in combination with environmental characteristics such as income, density and specifically empty houses.

In the regression model transaction data of the Dutch Cadastre and 'Centraal Bureau voor de Statistiek' (CBS) neighbourhood statistics 2015 will be used. Multiple regression analysis will be used in this research since it accounts for the effect of each of the separate independent variables.
To perform multiple regression the following data sources are used. The CBS collects a lot of data on neighbourhood level. The CBS is a governmental organisation that collects data and provides very reliable statistics on neighbourhood level. The definition of a neighbourhood is a particular area in a municipality with similar land use or social/economic cohesion, such as industry, residential high-rise or residential low-rise. For each neighbourhood are data gathered on topics like demography, living and income. For this research the following variables are used:

- Income; the arithmetic average income per person based on the total population and total income in the neighbourhood.
- Density; number of inhabitants per square kilometre determined by dividing the number of inhabitants on January 1st by the surface area of land in the neighbourhood in km².
- Level of urbanisation; based on the number of addresses per square kilometre.
- Percentage empty houses; number of empty houses divided by the total number of houses in the neighbourhood. An empty house is counted when there is no person registered on January 1st according the Key Register Persons (BRP).
- Average distance to a supermarket; the average distance over the road to the nearest supermarket for all the inhabitants of the neighbourhood.
- Income: Average income per inhabitant in the neighbourhood.

In the vacancy rates there is no distinction between undesirable, problematic, vacancy and general vacancy that occurs because of investments and recreational purpose.

House prices are provided by the Dutch Cadastre. This is a semi-governmental organisation that registers all transactions of land and real estate in the Netherlands. Therefor the used data is 100% complete and very reliable. A specific selection out of the transaction database of the Dutch Cadastre was made to analyse house price levels in this study. The following definitions are used:

- The transaction must be considered as a buying transaction (not exchange, inheritance etc.)
- The buyer must be a 'natural person'.
- The selling price must be in between €10.000,- and €5.000.000,-
- The lot contains (only) one house.
- The floor size of the house must be in between 20m² and 500m².

To relate the CBS neighbourhood statistics to the specific selection of housing transaction a spatial join in GIS (Geographical Information System) is executed. The environmental statistics of 12.237 neighbourhoods are added to 151.901 housing transaction in the Netherlands in 2015.

The model focusses, similar to Visser et al. (2008), on both housing and neighbourhood characteristics. The model specifications are:

$$P = \alpha + \beta_{x1} + \gamma_{x2} + \delta_{x3} + \zeta_{x4} + \eta_{x5} + \vartheta_{x6} + \iota_{x7} + \lambda_{x8} + \mu_{x9} + \varepsilon$$

In this model X1 stands for the floor size of the sold house, X2 for the housing type, X3 for the building period and X4 for the province in which the transaction took place. X5 represents the level of urbanisation in the neighbourhood, X6 is the income variable, X7 density and X8 the average distance to the nearest supermarket. lastly X9 is the percentage of empty houses in the neighbourhood. For the variables X2, X3, X4 and X5 dummy variables have been created. P in this model stands for the transaction price.

The hypothesis for this model is that there is a negative relation between the transaction price and the percentage of empty houses in the neighbourhood in which the transaction took place.

Table 1 Means and standard deviation of variables used in the regression model.

Variable	Mean	St. dev.	*n*
Selling price	€ 223.789	€132.988	151.901
Surface area	122,3	52,3	151.901
Density	5.041,23	3655,59	151.901
Income	€ 24.053	€ 5.093	151.901
Empty houses	4,56%	3,85%	151.901
Average distance to the nearest supermarket	0,84km	0,73km	151.901

In this dataset several outliers are left out of the analysis. The selling price have to be in between €10.000,- and €5.000.000,- and all of the neighbourhood statistics had to be filled in. Furthermore vacancy rates over 40% are left out of the dataset. Therefor 837 transactions are excluded.

When we take a first look at the data we see that the whole county of the Netherlands deals with a particular amount of empty houses. This varies from (almost) 0% up to 40% in certain areas. The map in figure 3 shows that there is not really a pattern in where vacancy rates occur more often. Some areas are noticeable for their relatively high vacancy rates. The 'Waddeneilanden', the islands North of the country, the coastal areas and 'the Veluwe' have high vacancy rates according to the CBS neighbourhood statistics. These can all be considered as recreational areas. This corresponds with what PBL concluded in the

compendium. At the other hand bigger cities, such as Amsterdam and Groningen have relatively low vacancy rates.

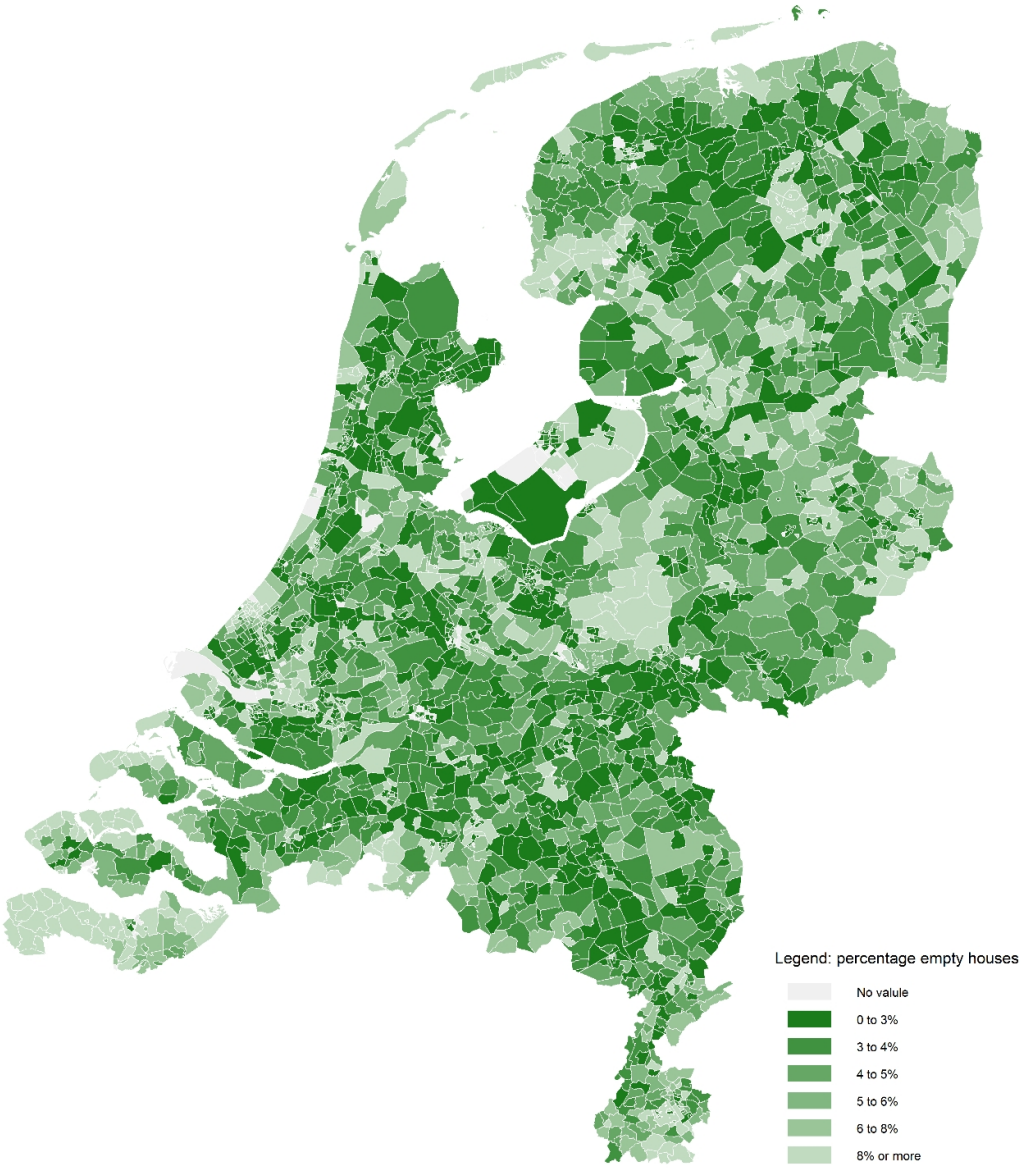


Figure 3 Percentage of empty houses per neighbourhood

The average house price of neighbourhoods in the Netherlands (figure 4) have a more clear pattern. The urban area from Amsterdam to Utrecht/Amersfoort have considerably high average square meter prices. Striking is that the coastal areas and the 'Waddeneilanden' seem to have high prices and high vacancy rates. In the Southwest of the Netherlands, where vacancy rates are high, the price is relatively low. However there are several neighbourhoods in that area with less than 30 transactions in 2015 and therefor no reliable average square meter price can be calculated.

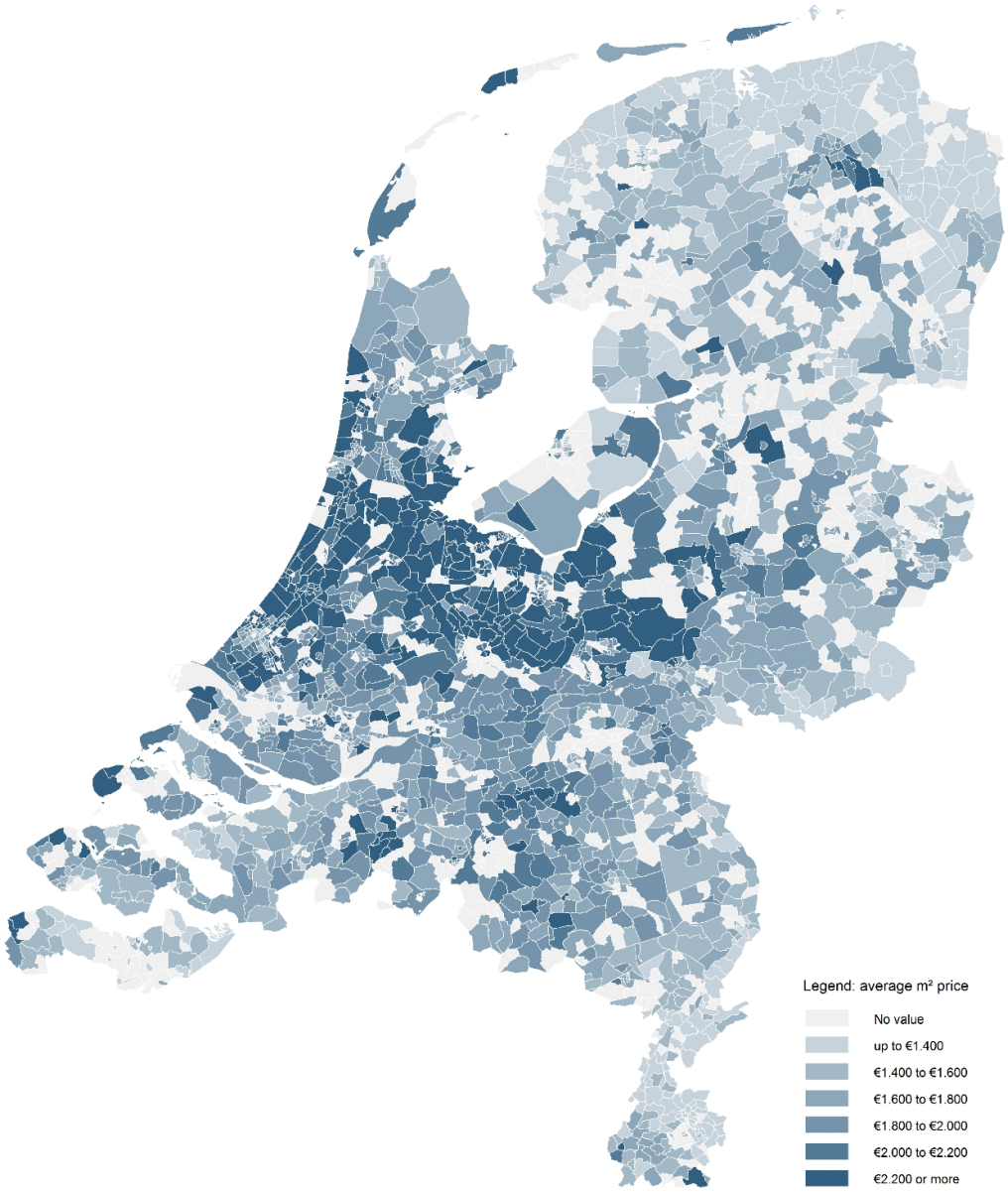
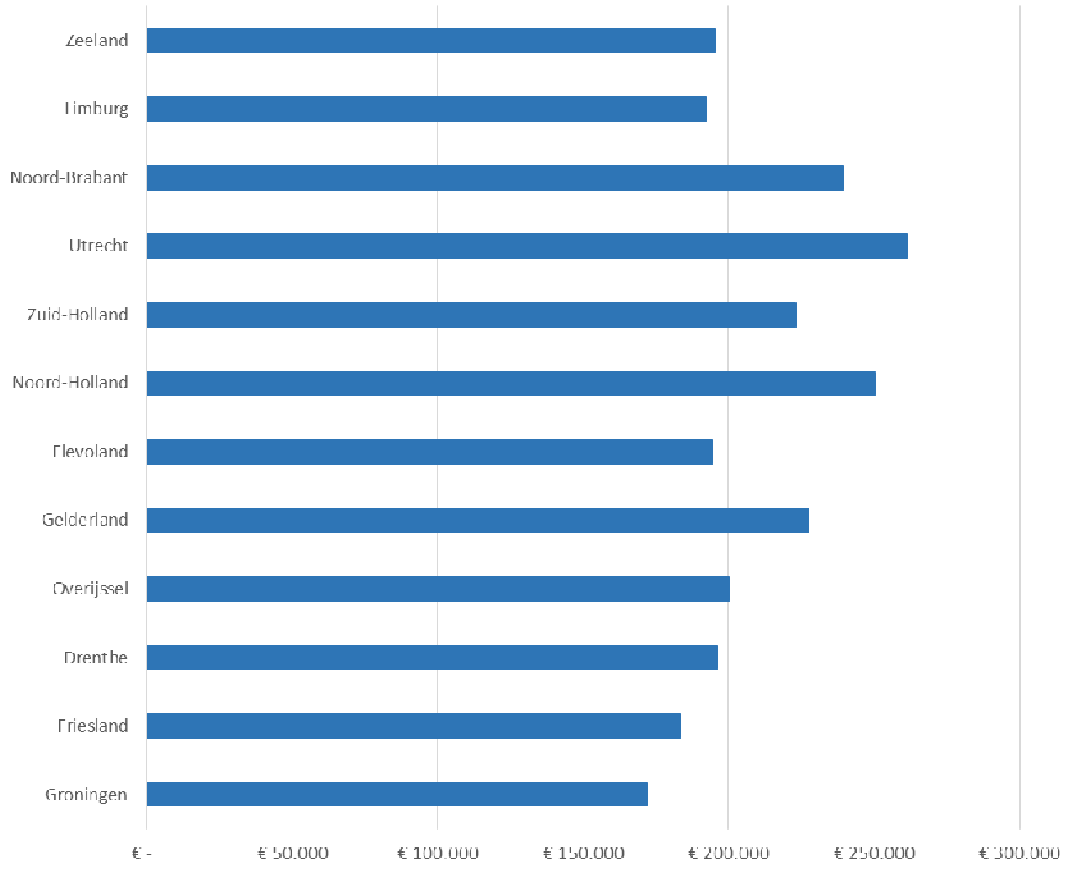


Figure 4 Average square meter price per neighbourhood

Table 2 shows the average price per province. Utrecht and Amsterdam, two urban areas, have the highest average house prices. In Groningen, Friesland and Zeeland, where population decline is at issue, are average prices low.

Table 2 Average house price in provinces in the Netherlands in 2015.



This first overview shows us that price levels in the Netherlands are diverse and partially based on the location. Vacancy rates in the Netherlands occur very varied. The maps and tables doesn't show a clear relation between house prices and vacancy. Therefor a regression model has been executed in which location is incorporated.

Results

In the regression model both housing and environmental characteristics have incorporated. The model explains 59,5% of the variance. The most important variable that influences house price is surface area. A second important variable is income, which Capozza et al. also described (2002). Furthermore is housing type also an important parameter for the house price level. Compared to terraced houses all housing types have higher prices, except apartments. In terms of money we see that a detached house is worth €81.932 more than a terraced house. When we look at the building period we see that newer building periods come with higher prices. Location is a third, very important, parameter for house price levels. The provinces with population decline have all negative coefficients. The price difference between Zuid-Holland, the reference province, and Groningen, Friesland and Limburg varies from €33.906 up to €50.569. Noord-Holland and Utrecht have the highest house prices.

When we put in the environmental characteristics we see that income strongly relates to the house price. Thereby should be taken notice that income is calculated in thousands of euro's. In lesser degree have density and empty houses/vacancy a positive effect on house prices. The further away a supermarket is, the lower house prices are.

Notable is that the coefficient of percentage empty houses is positive. That means that higher vacancy rates leads to higher prices, which is remarkable from a demand-supply point of view. At the other hand this conclusion can be substantiated by the fact that vacancy rates in the private rental sector and in recreational areas are relatively high and so are house prices. Also the result is positive the contribution is very small. The model predicts €1.428 increase of the house price when the vacancy rate increases by one percent. Hoekstra et al. also concluded a positive relation between rising prices and high vacancy rates. Because of the small contribution that vacancy rates makes to house prices in the Netherlands we can't compare the Dutch housing market with the Mediterranean countries and conclude that high vacancy rates come with high prices.

Lastly are urban areas more expensive than rural areas. Compared to the really urban areas all other levels of urbanisation have negative coefficients.

Table 4 The effect of the percentage of empty houses in a neighbourhood on the selling price of houses. The result of the regression: model (n=151.901)

Variable	β	t-value
Constant		(-80,309)
Housing characteristics:		
Surface area	0,478	(238,921)
Housing type:		
Detached	0,207	(98,394)
Semi-detached	0,079	(42.716)
Corner	0,032	(18,037)
Terraced (ref.)		
Apartment	-0,094	(-44,920)
Building period:		
1945 or older	-0,017	(-7,928)
1945-1959	-0,036	(-19,247)
1960-1979	-0,044	(-21,541)
1980-1999 (ref.)		
2000 or newer	0,048	(24,962)
Neighbourhood characteristics:		
% of empty houses	**0,041**	(22,137)
Income	0,358	(185,923)
Density	0,081	(30,125)
Average distance to a supermarket	-0,032	(-16,310)
Province:		
Groningen	-0,044	(-24,945)
Friesland	-0,046	(-25,245)
Drenthe	-0,053	(-29,365)
Overijssel	-0,028	(-14,532)
Gelderland	-0,008	(-4,012)
Flevoland	-0,032	(-18,018)
Noord-Holland	0,046	(23,683)
Zuid-Holland (ref.)		
Utrecht	0,058	(30,878)
Noord-Brabant	-0,002	(-1,123)
Limburg	-0,095	(-48,974)
Zeeland	-0,034	(-19,361)
Level of urbanisation:		
Really urban (ref.)		
Urban area	-0,028	(-10,977)
Urban/Rural	-0,022	(-8,178)
Rural	-0,041	(-14,609)
Really rural	-0,048	(-15,689)
R^2 (adjusted)	59,5	

Conclusions

Vacancy leads in the Netherlands to higher prices, which is remarkable. At the other hand there are several explanations for this phenomenon. So arises vacancy for different reasons. In a problematic manner, but also voluntarily with an investment or recreational purpose. For example in China prices for apartments in skyscrapers are very high although they are almost totally empty. From an investors point of view the price level of the apartments are more important than the vacancy rate. At the other hand governmental organisations pay a lot of attention to empty properties because they consider it as undesirable.

In the Netherlands vacancy rates occur in different parts of the country. In recreational areas, where average house prices are high, vacancy rates are also high. At the other hand, in rural areas with population decline vacancy rates are also high, but house price levels are relatively low. This might explain the insignificance in the first model for the variable empty houses. There are different reasons why vacancy rates can be high. The first one in recreational areas and in the private rental sector come with high prices and second one, in areas with population decline, come with low average prices.

The regression model shows a small positive effect of empty houses on the house price level. The standardized coefficient is 0,041. In other words one can say that when the vacancy rate in a neighbourhood increases by one percent the house price will increase by €1.428,- This contributes to what Hoekstra et al. described in their paradox, but in smaller proportions. The most important variable for the house prices is surface area ($\beta = 0{,}478$) and in lesser degree income and housing type. A fourth important factor is location. Noord-Holland and Utrecht have the highest house prices. Because location is incorporated in the model the negative impact that locations with population decline have on house prices is corrected for. The provinces Groningen, Zeeland, Limburg and Friesland, where population decline occurs, are all separately analysed and have negative coefficients.

The research question how vacancy rates/empty houses and other determinants influence house prices can be answered by that empty houses, remarkable enough, have a positive effect on house prices. Although vacancy rates have a certain impact on house price levels, other aspects are more important. So are housing characteristics like surface area, building period and housing type the most important. Furthermore are location and income important determinants. Neighbourhood characteristics do contribute to the house price level, but in less degree. That vacancy leads to higher prices was already concluded by Hoekstra et al. An interesting thing to notice is that in certain urban areas in China skyscrapers are empty, but house prices are still very high. Although the private rental sector in Netherlands is also recognisable for relatively high vacancy rates, it is unknown if the same phenomenon occurs in the Netherlands. The market share of institutional investors is still very small.

This research is mainly bases on CBS neighbourhood statistics and transaction data of the Dutch Cadastre. And empty houses is an administrative approach for real the real percentage of empty houses in a neighbourhood. Therefor conclusions based on this research should be interpret with caution. Furthermore vacancy rates are originated by different reasons. Both with positive and negative effects on the housing market. So does vacancy caused by population decline have other elaboration on house prices than vacancy caused by the recreational characteristics of the area. The relationship between empty houses therefor is complex. A certain amount is needed for a well-functioning housing market, while vacancy furthermore can both have positive and negative impact.

In future research on this topic the cause (recreation, population decline etc.) of the vacancy rates could be incorporated. Than the effect of problematic vacancy can be measured more precisely. Another aspect is that there might be a certain delay in the effect of empty houses on house prices in a certain area. A larger timescale might lead to better understanding of this delay.

Compared to empty facilities, empty houses are less recognisable and therefor may have less impact on the social quality of a neighbourhood. Empty shops for example probably have bigger impact on social

quality because they have a social function and are most often built on a central place in the neighbourhood. This research attempted to analyse this particular negative effect of empty properties, but for empty houses other factors play a role. In future research the effect of empty facilities like shops, schools and office buildings on house prices in that area might lead to better understanding of the negative impact that vacancy might have. At the moment of writing the availability of detailed data about empty facilities is not sufficient.

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Appendix A: Regression model

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,617[a]	,381	,381	104664,776
2	,626[b]	,392	,392	103727,875
3	,640[c]	,410	,410	102191,603
4	,757[d]	,574	,574	86829,607
5	,771[e]	,594	,594	84766,956
6	,771[f]	,595	,595	84682,088

a. Predictors: (Constant), BAG_OPP

b. Predictors: (Constant), BAG_OPP, Corner, Semi-detached, Detached, Apartment

c. Predictors: (Constant), BAG_OPP, Corner, Semi-detached, Detached, Apartment, 1960-1979, 1946-1959, 2000 or newer, 1945 or older

d. Predictors: (Constant), BAG_OPP, Corner, Semi-detached, Detached, Apartment, 1960-1979, 1946-1959, 2000 or newer, 1945 or older, INCOME, SUPERMARKET, P_LEEGSW, DENSITY

e. Predictors: (Constant), BAG_OPP, Corner, Semi-detached, Detached, Apartment, 1960-1979, 1946-1959, 2000 or newer, 1945 or older, INCOME, SUPERMARKET, P_LEEGSW, DENSITY, Groningen, Flevoland, Noord-Holland, Zeeland, Drenhte, Overijssel, Friesland, Utrecht, Limburg, Gelderland, Noord-Brabant

f. Predictors: (Constant), BAG_OPP, Corner, Semi-detached, Detached, Apartment, 1960-1979, 1946-1959, 2000 or newer, 1945 or older, INCOME, SUPERMARKET, P_LEEGSW, DENSITY, Groningen, Flevoland, Noord-Holland, Zeeland, Drenhte, Overijssel, Friesland, Utrecht, Limburg, Gelderland, Noord-Brabant, Urban/Rural, Urban , Rural, Really Rural

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1022444568467607,200	1	1022444568467607,200	93333,741	,000[b]
	Residual	1664010304445572,800	151899	10954715333,515		
	Total	2686454872913180,000	151900			
2	Regression	1052144867535221,000	5	210428973507044,200	19557,556	,000[c]

	Residual	1634310005377959,000	151895	10759472039,093		
	Total	2686454872913180,000	151900			
3	Regression	1100238361697157,000	9	122248706855239,670	11706,144	,000[d]
	Residual	1586216511216023,000	151891	10443123761,224		
	Total	2686454872913180,000	151900			
4	Regression	1541320954505140,500	13	118563150346549,270	15725,847	,000[e]
	Residual	1145133918408039,500	151887	7539380713,346		
	Total	2686454872913180,000	151900			
5	Regression	1595159480903648,200	24	664649783709855,340	9249,957	,000[f]
	Residual	1091295392009531,800	151876	7185436751,096		
	Total	2686454872913180,000	151900			
6	Regression	1597372255283212,800	28	570490091172577,600	7955,454	,000[g]
	Residual	1089082617629967,200	151872	7171056005,254		
	Total	2686454872913180,000	151900			

a. Dependent Variable: KOOPSOM

b. Predictors: (Constant), BAG_OPP

c. Predictors: (Constant), BAG_OPP, Corner, Semi-detached, Detached, Apartment

d. Predictors: (Constant), BAG_OPP, Corner, Semi-detached, Detached, Apartment, 1960-1979, 1946-1959, 2000 or newer, 1945 or older

e. Predictors: (Constant), BAG_OPP, Corner, Semi-detached, Detached, Apartment, 1960-1979, 1946-1959, 2000 or newer, 1945 or older, INCOME, SUPERMARKET, P_LEEGSW, DENSITY

f. Predictors: (Constant), BAG_OPP, Corner, Semi-detached, Detached, Apartment, 1960-1979, 1946-1959, 2000 or newer, 1945 or older, INCOME, SUPERMARKET, P_LEEGSW, DENSITY, Groningen, Flevoland, Noord-Holland, Zeeland, Drenhte, Overijssel, Friesland, Utrecht, Limburg, Gelderland, Noord-Brabant

g. Predictors: (Constant), BAG_OPP, Corner, Semi-detached, Detached, Apartment, 1960-1979, 1946-1959, 2000 or newer, 1945 or older, INCOME, SUPERMARKET, P_LEEGSW, DENSITY, Groningen, Flevoland, Noord-Holland, Zeeland, Drenhte, Overijssel, Friesland, Utrecht, Limburg, Gelderland, Noord-Brabant, Urban/Rural, Urban , Rural, Really Rural

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	32066,279	682,603		46,976	,000
	BAG_OPP	1567,389	5,130	,617	305,506	,000
2	(Constant)	38745,311	843,612		45,928	,000
	BAG_OPP	1440,882	5,944	,567	242,410	,000
	Apartment	2830,221	713,613	,009	3,966	,000
	Corner	3031,686	827,686	,008	3,663	,000
	Semi-detached	13680,662	931,355	,032	14,689	,000
	Detached	47565,362	927,514	,120	51,283	,000
3	(Constant)	48454,370	934,939		51,826	,000
	BAG_OPP	1391,954	5,947	,548	234,065	,000
	Apartment	-820,487	708,929	-,003	-1,157	,247
	Corner	5333,664	816,202	,014	6,535	,000
	Semi-detached	14097,971	924,816	,033	15,244	,000
	Detached	48937,356	921,744	,124	53,092	,000
	1945 or older	16252,188	782,612	,050	20,767	,000
	1946-1959	-17456,711	1014,111	-,038	-17,214	,000
	1960-1979	-26743,527	713,780	-,091	-37,467	,000
	2000 or newer	16876,012	852,580	,046	19,794	,000
4	(Constant)	-208717,473	1422,685		-146,707	,000
	BAG_OPP	1176,230	5,159	,463	228,016	,000
	Apartment	-28140,430	638,667	-,092	-44,061	,000
	Corner	11187,434	695,359	,030	16,089	,000
	Semi-detached	28646,172	806,387	,067	35,524	,000
	Detached	77725,025	833,589	,196	93,241	,000
	1945 or older	-4111,187	706,239	-,013	-5,821	,000
	1946-1959	-15961,518	869,662	-,035	-18,354	,000
	1960-1979	-10881,758	614,011	-,037	-17,722	,000
	2000 or newer	19851,263	726,060	,054	27,341	,000
	P_LEEGSW	675,095	63,647	,020	10,607	,000
	DENSITY	5,365	,077	,147	69,660	,000

	SUPERMARKET	-7424,386	340,516	-,041	-21,803	,000
	INCOME	10790,471	46,906	,413	230,047	,000
5	(Constant)	-171447,913	1672,003		-102,540	,000
	BAG_OPP	1214,715	5,085	,478	238,878	,000
	Apartment	-27147,859	627,037	-,089	-43,295	,000
	Corner	11901,322	679,070	,031	17,526	,000
	Semi-detached	32682,192	791,966	,076	41,267	,000
	Detached	79984,119	818,983	,202	97,663	,000
	1945 or older	-4547,962	694,455	-,014	-6,549	,000
	1946-1959	-15595,461	852,312	-,034	-18,298	,000
	1960-1979	-12615,644	602,928	-,043	-20,924	,000
	2000 or newer	17406,276	709,563	,048	24,531	,000
	P_LEEGSW	1481,885	63,583	,043	23,306	,000
	DENSITY	3,759	,082	,103	45,700	,000
	SUPERMARKET	-7062,309	334,220	-,039	-21,131	,000
	INCOME	9415,122	49,897	,361	188,691	,000
	Groningen	-33460,701	1357,286	-,044	-24,653	,000
	Friesland	-34698,935	1378,216	-,046	-25,177	,000
	Drenthe	-41619,756	1383,264	-,055	-30,088	,000
	Overijssel	-14450,291	1024,948	-,027	-14,099	,000
	Gelderland	-3716,952	832,296	-,009	-4,466	,000
	Flevoland	-26358,067	1467,725	-,031	-17,958	,000
	Noord-Holland	18020,288	769,545	,046	23,417	,000
	Utrecht	26165,235	854,965	,057	30,604	,000
	Noord-Brabant	-267,311	784,993	-,001	-,341	,733
	Limburg	-50889,411	1032,572	-,095	-49,284	,000
	Zeeland	-30990,059	1510,453	-,036	-20,517	,000
6	(Constant)	-156823,279	1952,753		-80,309	,000
	BAG_OPP	1213,828	5,080	,478	238,921	,000
	Apartment	-28671,510	638,280	-,094	-44,920	,000
	Corner	12243,044	678,775	,032	18,037	,000
	Semi-detached	34058,470	797,322	,079	42,716	,000
	Detached	81932,582	832,701	,207	98,394	,000
	1945 or older	-5597,544	706,079	-,017	-7,928	,000
	1946-1959	-16492,945	856,918	-,036	-19,247	,000
	1960-1979	-13003,489	603,648	-,044	-21,541	,000
	2000 or newer	17731,095	710,336	,048	24,962	,000
	P_LEEGSW	1428,401	64,526	,041	22,137	,000
	DENSITY	2,932	,097	,081	30,125	,000
	SUPERMARKET	-5820,839	356,888	-,032	-16,310	,000
	INCOME	9342,255	50,248	,358	185,923	,000

	Groningen	-33906,043	1359,214	-,044	-24,945	,000
	Friesland	-34794,507	1378,251	-,046	-25,245	,000
	Drenthe	-40704,875	1386,149	-,053	-29,365	,000
	Overijssel	-14907,288	1025,834	-,028	-14,532	,000
	Gelderland	-3345,969	833,906	-,008	-4,012	,000
	Flevoland	-26469,203	1469,031	-,032	-18,018	,000
	Noord-Holland	18215,943	769,144	,046	23,683	,000
	Utrecht	26395,345	854,817	,058	30,878	,000
	Noord-Brabant	-884,108	787,022	-,002	-1,123	,261
	Limburg	-50569,354	1032,571	-,095	-48,974	,000
	Zeeland	-29304,310	1513,541	-,034	-19,361	,000
	Urban	-8576,677	781,353	-,028	-10,977	,000
	Urban/Rural	-7348,662	898,570	-,022	-8,178	,000
	Rural	-14180,957	970,729	-,041	-14,609	,000
	Really Rural	-17462,482	1113,069	-,048	-15,689	,000

a. Dependent Variable: KOOPSOM