

# Redevelopment of Structural Vacant Office Space

*Causes, effects, instruments, policy and recommendations for municipalities to achieve successful redevelopment*

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## **Abstract**

In this research the purpose is to explore the knowledge and perspectives of policymakers and politicians regarding the (tools for) redevelopment of structural vacant office space, in order to make recommendations for municipalities. To pursue this goal several aspects of the structural vacancy of office space are discussed and underpinned by data gathered from interviews, literature and reports. The focus of the research on structural vacant office space is on the policy side of the problem and the redevelopment solution of the problem, focused on the role of the municipality.

The occurrence of structural vacant office space is caused by various factors as described in hog-cycle. The determinants of the hog cycle are: the long period of preparation and construction of real estate, economic fluctuations, the delayed reaction of supply on a change in demand and wrong incentives. The structural vacancy of office space has got a great number of negative impacts to the building itself, its surroundings and the region as a whole. To avoid these negative effects, a solution is to redevelop a property. In order to do so there are several instruments for the municipalities in order make the redevelopment of structural vacant office space more successful. The most important is the way of dealing with the zoning-plan. Even though civil servants and policymakers are aware of the negative effects of structural vacancy offices, there is no actively carried out policy in some municipalities to accelerate the redevelopment of structural vacant office space, in order to avoid the negative impacts that are connected to it.

There are three main solving strategies for municipalities given. The first is to achieve an overall higher level of knowledge for civil servants relating to the structural vacancy problem and the available tools to solve it. The second is to approach the players in the field actively and bring together the actors in the redevelopment process in order to create an incubator for new ideas and forms of redevelopment. The third is to assign a professional who keeps active in solving the problem and redevelopment, possibly at a higher level than one municipality.

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## 1. Introduction

In 2008, when the Lehman Brothers went bankrupt, the financial crisis was a fact (Taylor, 2009). The economic crisis, which started in the United States developed fast and affected the whole world (Rijksoverheid, 2016). This financial crisis had a big influence on the real estate markets (Blomer, 2012). The number of transactions of real estate dropped rapidly and a lot of offices became vacant or partly vacant (Blomer, 2012). The financial crisis also caused also the decrease of value of real estate (Blomer, 2012).

The high vacancy numbers nowadays can be explained by rapid economic ageing, the economic recession and the 'hog cycle' (Geraedts & de Vrij, 2004). This repetitive cycle plays a significant role, and will be discussed in the theoretical framework. Vacant offices do have several negative impacts; vacant offices cost the owner money, and vacant offices do not only have negative consequences for the buildings themselves but also for the surrounding areas (Geraedts & de Vrij, 2004). In terms of these negative effects on the environment and the livability of an area this topic is highly relevant. Therefore many researchers and institutions conducted research on this specific topic. For example the article of Rob P. Geraedts and Theo van der Voort (2003), titled: 'Offices for living in', concerning the potential for transforming offices into homes. As well as the recent article: "A new life: conversion of vacant office buildings into housing" by Hilde T. Remøy and Theo J.M. van der Voordt (2006) concerning the conversion of vacant office space into housing. Apart from these articles D.J.M. van der Voordt and R.P. Geraedts (2007), wrote a book about the transformation of offices concerning: concepts, actors, instruments and projects. This thesis will briefly discuss the causes of the office space vacancy and will focus on the policy-side of transformation of structural vacant office space.

The described negative impact of the financial crisis and the other causes of vacancy have led to a shift in dealing with real estate. The vacancy problem has led to new possibilities for example the conversion and redevelopment of (structural) vacant office space. The problem of structural vacant office space is still a relevant problem.. In order to get a grip on the solution of the problem many actors play their role. Such as owners, policymakers and politicians. In this research the purpose is to explore the knowledge and perspectives of policymakers and politicians regarding the (tools for) redevelopment of structural vacant office space, in order to make recommendations for municipalities. In order to investigate these perspectives and considerations the main question is:

### **In which way should the municipality apply policy to improve the redevelopment of structural vacant office space?**

In order to answer this main question several sub-questions are formulated:

- What are the causes of structural vacant office space?
- What are the negative effects of structural vacant office space?
- Which actors are involved by redevelopment of structural vacant office space?
- What are the policies and instruments of the municipalities regarding structural vacant office space?

### **Structure**

The structure of this thesis is as follows: first the theoretical framework, secondly the results and in succession the conclusion. Also the interview questions are given as well as some useful definitions.

The theoretical framework will provide an explanation of relevant concepts and theories from literature in order to understand the determinants of structural office space vacancy. The results chapter will provide an answer for the questions stated above. The results of the respondents will be complemented with relevant literature. The last chapter will draw conclusions based upon the primary and secondary data, and will give an answer to the main question. Next to that the last chapter will give some recommendations for further research and will reflect on the process and the thesis.

## 2. Theoretical Framework

This chapter will provide an overview on concepts and models, which are used to describe the development of office space vacancy. This is highly relevant because in order to investigate the influence of policies it is relevant to have an insight in the office space market and the causes of vacant office space.

A well-known model about the office space market is the four-quarter model of Fisher Dipasquale and Wheaton, also known as the FDW model (Kim et al., 2016). The Fisher-Dipasquale-Wheaton (FDW) model is a quadrant model, which defines the demand-supply equilibrium in the real estate market and traces the relation between the space market and the asset market (Wheaton & Dipasquale, 1992; Fischer, 1992). This is a graphic model, which contains four quarters. See the model in figure 1.

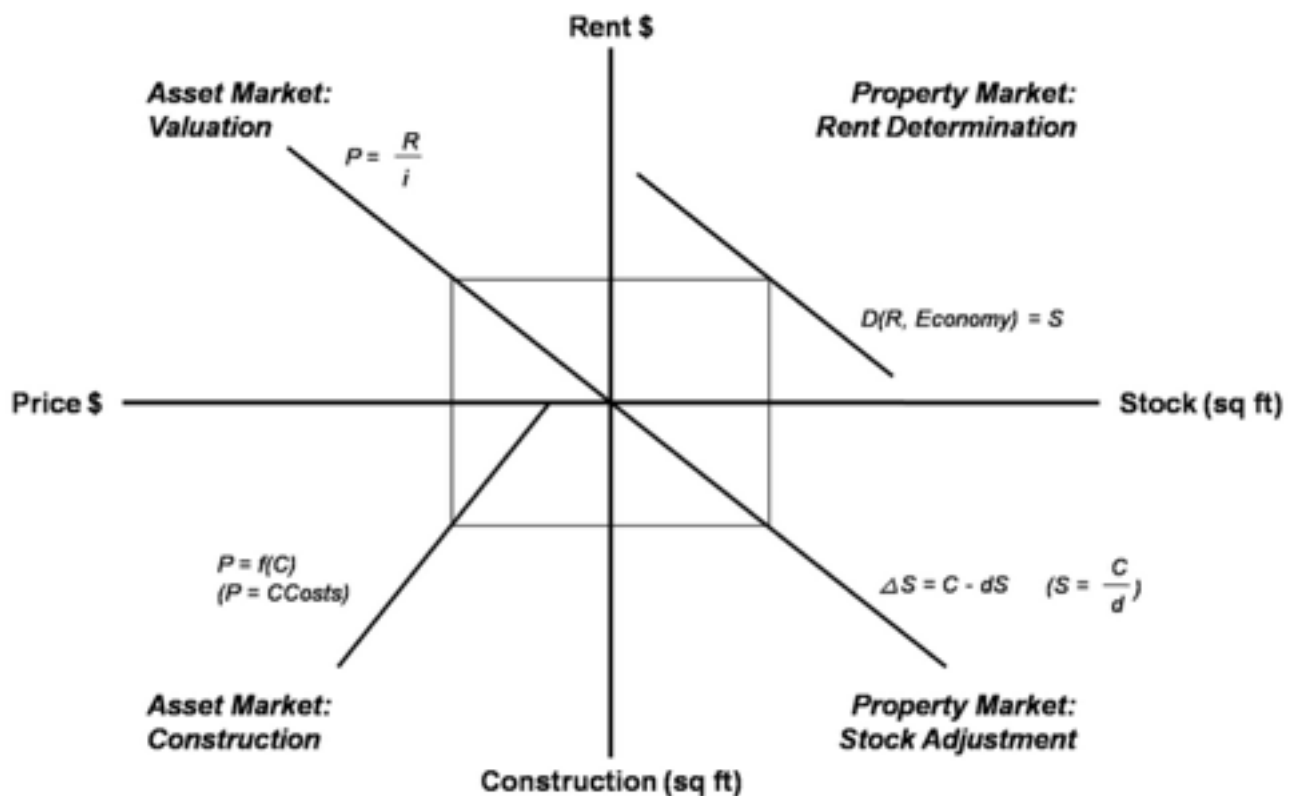


Figure 1: FDW model (Kim et al., 2016).

The quarter on the top right describes users-market. The graph shows how in a certain moment in time, the stock depends on the rent. The market consists of two axis: the rent (for a certain period) and the demand (for a certain amount of space). The demand is defined as the total stock of office space which is used at a certain moment. The demand of office space has got a negative relation to the rent (price) (Zuidema & Van Elp, 2010).

The asset market is described in the top left quarter of the graph. The investment value of the owner is depending on two main factors. The first one is the rent of the building, which is influenced by a number of criteria such as location, size, facilities and accessibility. The second one is the are the profitability requirements of the owner, which is mainly influenced by the risk of the investment (Zuidema & Van Elp, 2010). The line in the graph represents the cap rate of real estate: the ratio between the rent and the investment value. On the asset market the price of real estate is created, influenced by the rent-level on the rental market and via the cap rate. The higher the rent-level (R) (derived from the first quarter) the higher the price and the lower the cap rate (y), the higher the price (P).

The third quarter represents the construction market. The demand is determined by the investors with a price originated in the second quarter. The supply of new offices arises on the construction market, where the price of construction is influenced by both the land price and building costs. The supply of new office space also arises from renovations of old office buildings, this happens when the costs of renovation is lower than the construction costs of a new building. In a equilibrium these renovation costs and construction costs are the same, in which the price is caused by the profits of the investment value (Zuidema & Van Elp, 2010).

The last quarter describes the construction output (C) compared with the stock of offices (in square meters). A change in the stock of office space in a certain period of time is the result of the construction minus the withdrawal of the office space stock. In a equilibrium without a changing demand, the construction is the same as the replacement investments. The depreciation rate (d) determines the slope of the curve, the higher the rate the steeper the line. In other words, the more construction or replacement is needed to maintain the quality of the stock (Zuidema & Van Elp, 2010).

In order to describe the development in structural office vacancy, often the hog-cycle is mentioned. It states that during a period of high demand for office space, next to a limited availability, many new building projects are initiated. But because a considerable length of time is required for development, planning and construction, the demand can drop considerably in the intervening period due to conjunctural factors (Geraedts & de Vrij, 2004). As a consequence of this the new offices may have no tenants when they are completed, which causes vacancy. The rise in vacant premises leads in turn to a downturn in demand, the effects of which only become apparent in the long term. (Geraedts & de Vrij, 2004).

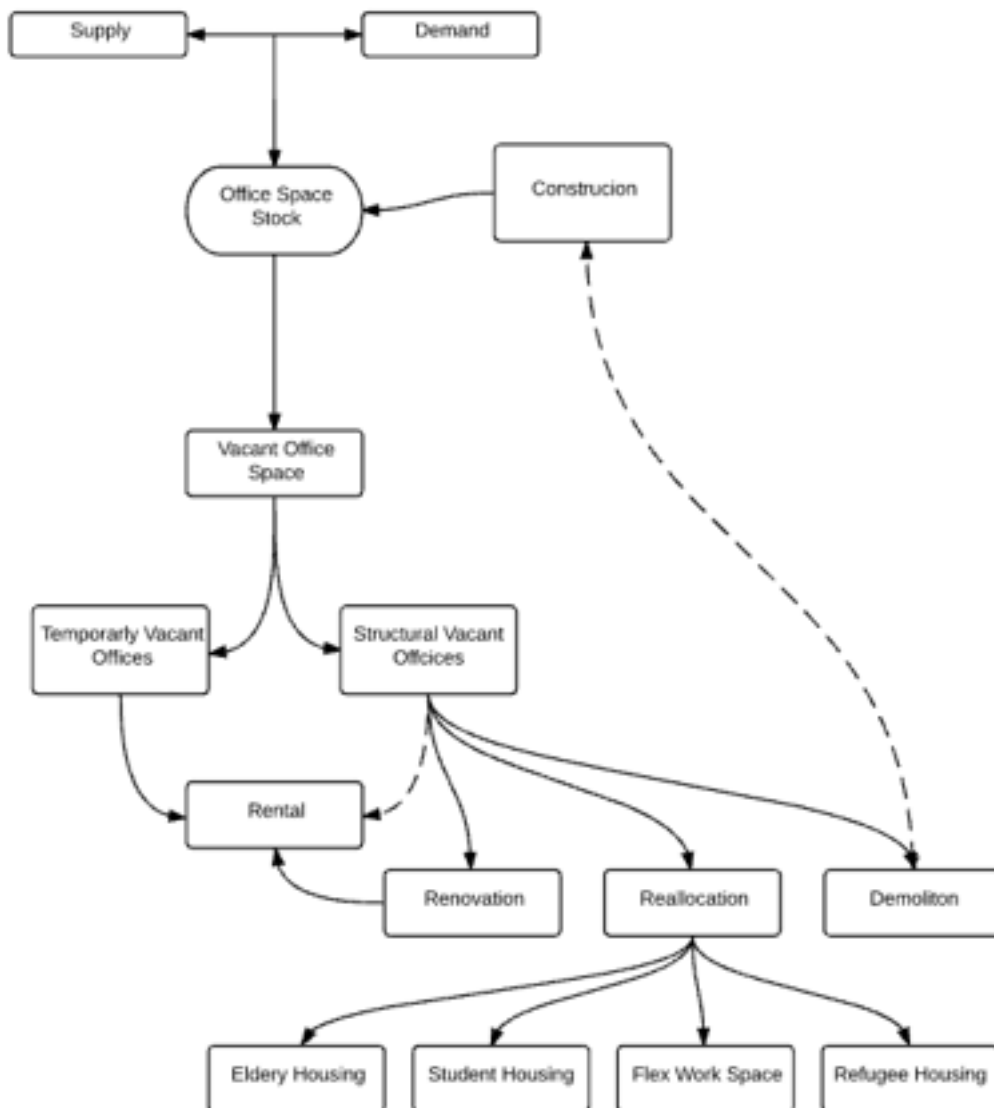
This hog cycle, (also called pork cycle) describes the developments in supply and demand on the rental market for office space, wherein there is a continuous shift from a shortage of office space to a surplus of offered office space and vice versa (Van Gool et al., 2007). According to Van Gool et al. (2007) the main causes of this shift are:

- The long period of preparation and construction of real estate
- Economic fluctuations
- The delayed reaction of supply on a change in demand
- Wrong incentives

Due to the long period of preparation and construction of office space buildings, the market may have changed when a office building is completed in relation to the start of the first plans. In some projects the developed space is not needed anymore when the buildings are completed, which causes vacancy. In a period of economic growth there are usually more ways to fund your plans, investors are more likely to take a higher risk. On the other hand, in a period of economic decline it is more difficult to find enough financial resources. The reaction of the supply of office space on a change in demand is slow and delayed. The demand of office space in the short term is inelastic (Van Gool et al., 2007). Profit of the development can only be achieved when a property is rented out and/or the sale of the real estate is assured. But when a developer states that the risk and investments are covered, he will continue developing even when the market-situation is not healthy (Van Gool et al., 2007).



*Conceptual model*



### 3. Methodology

The aim of this research was to explore the considerations and perspectives of policymakers and politicians concerning the redevelopment of structural vacant office space. To do so the methodology mixed methods was applied. This type of research is a combination of elements of quantitative and qualitative research approaches, for a broad purpose of understanding of the elements in numbers and in depth (Clifford, French, & Valentine, 2010).

The primary data were collected during interviews with politicians and policymakers. To answer the main question and sub questions a case study about Groningen has been used. To collect the data from the respondents the instrument an in-depth-interview has been used. This method of in-depth-interviews offers the advantage to ask both underlying reasons and also getting more detailed information about motivations (Clifford, French, & Valentine, 2010).

For the interviews themselves, a semi-structured type was chosen. Semi-structured interviews are useful because you have both the structure which is important in order to compare the answers and analyze the interviews at a later stage of the survey. And on the other hand because semi-structured interviews give a possibility to ask furthermore in depth questions to the respondent to provide a deeper insight of ones opinion and considerations.

The secondary data which were used in this thesis consisted of articles, webpages, books and reports. The secondary data were used to give an overview of the development of structural vacant office space, and the actual size of the problem, this data are mainly quantitative data. Again, the case study of Groningen was used to answer the questions and to draw conclusions.

For researchers it is important to behave morally right and ethically (Clifford, French, & Valentine, 2010). In this research the data gathered were only used for this research, and for this thesis the data gathered from interviews are confidential. Next to that the respondents stay anonymous in order not to harm one of the respondents. The interview questions were designed in such a way that the answers of the respondents would correspond to the purpose of the interview, in order to collect usable data to answer the research questions.

## **Interviewed persons**

The respondents who participated in the research will remain anonymous. This paragraph will briefly summarize what the task is of the interviewed respondent. The purpose of the interviews was

Respondent A is a politician of the mid-left wing of the city council. The portfolio of respondent A concerns spatial planning and housing. Respondent A is also member of the council committee concerning spatial planning and housing. Some of the topics off this council committee are: planning and urban renewal, housing, neighborhood renewal, land, landmarks and urban policy coordination.

Respondent B is the program leader of spatial economics for the municipality. Tasks of respondent B are the development of visions, the development of policies and long-term planning visions. Respondent B is also involved with enterprises and businesses within the municipality.

Respondent C is a policy co-operator who has to deal with different files but all of them in the in the physical domain. In this way respondent C is also involved with the redevelopment of structural vacant office space and policies about the topic.

Respondent D is a co-operator of the municipality in the real estate field. One of the tasks of Respondent D is to connect supply and demand of real estate (not housing) in order to make the market healthy. Next to that respondent D is also involved with the municipals real estates.

Before interviewing there were several different objectives formulated in order to contribute to the research. These goals were also used when the questions were formulated. The first objective was to find out what the knowledge level of the respondents was regarding redevelopment of structural vacancy of office space. A second objective was to find out whether respondents were aware of the negative effects of structural vacancy and to what extent this problem a priority. A further objective was to determine whether the respondents were aware of the instruments en tools of the municipality in order to deal with redevelopment. The final goal was to find out what the respondents preconditions were for the redevelopment of structural vacant office space and whether policies are necessary to successfully run this process.

## 4. Results

### Causes

There are a number of different causes for structural vacancy. The hog-cycle is a good method to understand the background of vacancy. The economic fluctuations as a part of the hog-cycle are represented in figure 2.

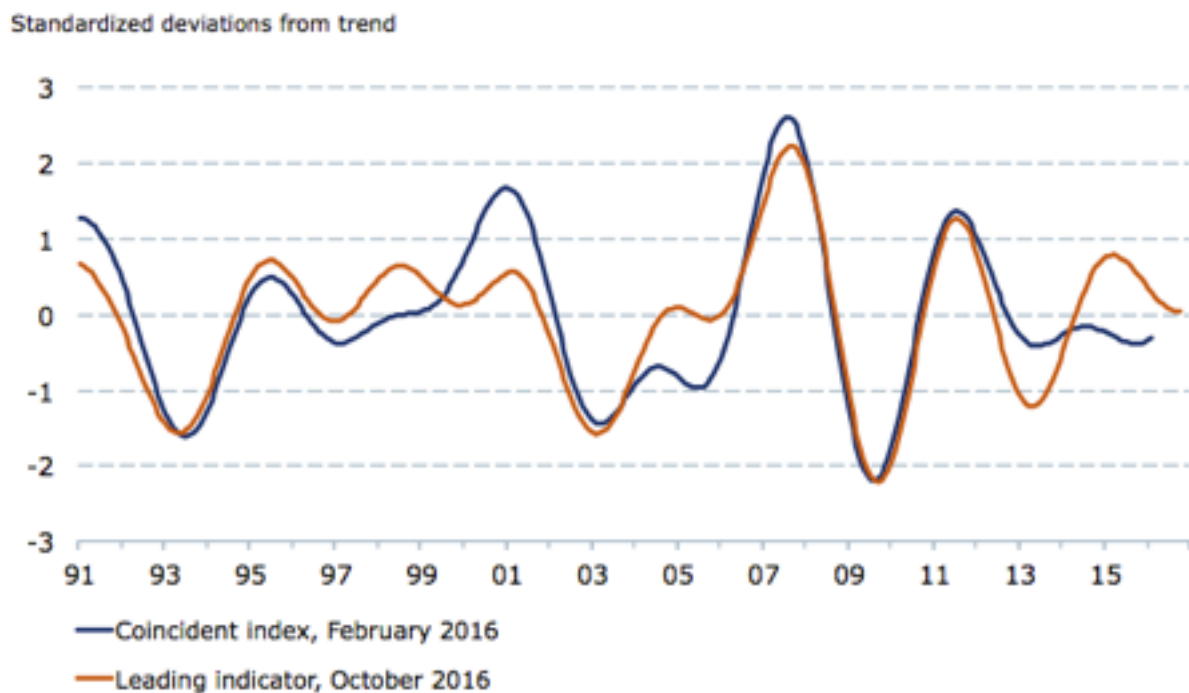


Figure 2: National Economic fluctuations (DNB, 2016)

The cyclical economic fluctuations are represented by a graph from DNB (De Nederlandsche Bank). The DNB business cycle indicator about economic fluctuations distinguishes four cyclical phases. After a cyclical peak the next phase is a period of cooling down. In this phase the economy is deteriorating, but economic activity is in the beginning still above its trend level. In terms of real estate this is a very important period, because the plans for new buildings are still initiated. Once the indicator drops below the trend level, the next phase begins. This is a period of recession in which the economy attenuates further. In this face the demand for office space will drop, and as a result there will be more vacant office space. This ends in an economic downturn when the economy enters the next phase: the recovery phase. During the recovery phase, the economic activity remains below its trend level. As soon as the economy has fully recovered, the phase of economic boom begins. This phase ends in a cyclical peak, after which the cycle starts all over again. All of

the respondents of the interview mentioned the economic crisis as one of the causes of structural vacant office space. One of the respondents stated: “Since the economic crisis we have seen the growth of vacant office space and nowadays there is a different view on the development of office space and commercial properties, developers and owners are to a lesser extent willing to take high risks. They are aware of the fact that the market is more saturated”.

Next to these economic fluctuations another cause for vacancy is the employment rate. The employment rate for the Netherlands is represented by figure 3. .

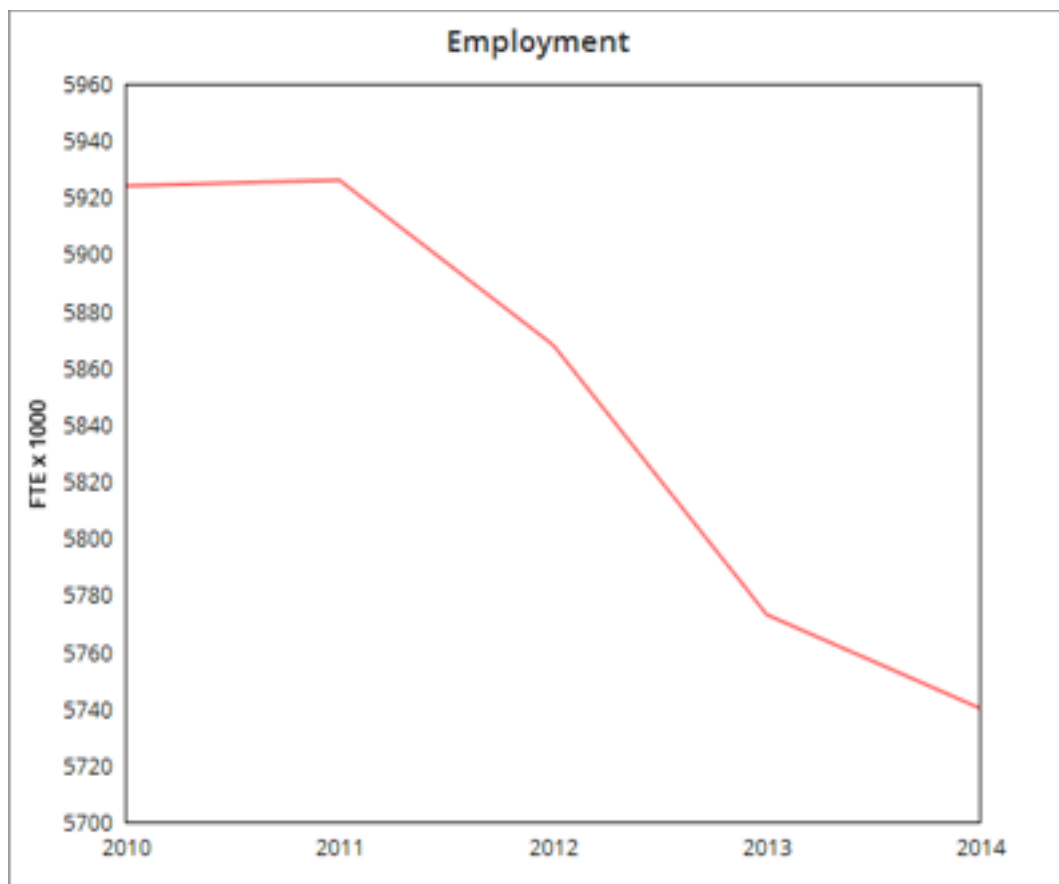


Figure 3: Employment of the Netherlands, CBS (2016)

The demand for office space depends on the employment. The employment and the demand for office space have a proportional relation, which means that the drop of employment since 2010 is also one of the factors that causes vacant office space. This is also concluded by Steinmaier (2011) who stated that the recent economic crisis has led to a decrease of (office)employment, and that it will continue to decrease the next coming years, which has got a negative effect on the demand for office space (Steinmaier, 2011).

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Another factor that influences the demand of office space is the actual office space that is needed per employee. In the period between 2003 and 2014 the actual office space per employee for the Netherlands as a whole has declined almost 15% (NFC, 2012). The way the office-based employment uses office space has changed strongly. Where traditionally every employee went on a daily basis to the office and had his own workplace we now see more and more that time- and location-independent work has grown (CPB, 2012). As a result, the working environment at an office has changed, which also influenced the demand for office space and caused vacancy. One of the respondents stated: "The demand for office space is influenced by the new work-methods such as flex work and the continuous growing number of freelancers". The mismatch between the type of supply and demand can also have its effect on the development of vacancy. Sometimes the new flex-work principle will led to flexible work spaces and a different type of demand, which is a problem when the property is not suitable and adaptable for flexible working spaces (Korteweg, 2002).

During the interviews the respondents indicated that structural vacant office space was also influenced by the location of the property and facilities nearby. Research by Remøy (2010) stated also that there is a significant relation between (the absence of) the facilities in the surrounding area of a property such as shops and cafes and the occurrence of structural vacant office space (Remøy, 2010).

Several respondents stated that the municipality is also responsible for the creation of structural vacant office space. On the one hand due the economic benefits that the municipality has by the sale of land and land development. On the other hand also in terms of the usage of office space. One of the respondents claimed: "The municipality is very directly involved with the occurrence of vacancy because they are one of the biggest users in the region". Research by Rigo (2008) confirms this and states that municipalities are playing a double role on the land market, and that it is questionable whether a municipality can make a good choice between financial aspects and qualitative aspects (RIGO, 2008).

One of the respondents stated: "The land development was one of the largest sources of income of the municipality". Marlet (2003) and Wassenaar (2005) stated that land development was the only source of income that municipalities both can control and collect, without interference from the central government. Next to that one of the respondents mentioned: "In the past the municipality had no vision regarding the development of offices and office real estate, which resulted in vacancy problems".

### **Negative Effects**

All of the respondents of the interview claimed that vacancy of office space had a negative impact on the surroundings and a negative impact to the direct area. One of the respondents stated: "The negative impact of vacancy is a big problem, when a property is vacant for a certain period of time it will attract vandalism, the dump of waste, unwanted occupation and it will give the area a negative image". Another respondent mentioned the economic decay and the physical deterioration of a building. This is also underpinned by Remøy and Van der Voordt:

"For society, vacancy presents problems of insecurity and social uncertainty and may bring about criminality ranging from vandalism and graffiti to break-ins, illegal occupancy and fires. As such, vacancy also has indirect effects through the negative image that it gives to the surrounding area and buildings. This can lead to deterioration of the area, with rising vandalism, technical decay and devaluation of its buildings." (Remøy & Van der Voordt 2006, p. 89)

One of the respondents stated that the occurrence of structural vacant office space is also a problem in terms of the attractiveness of an area for investors and enterprises. Van Gool et al. (2007) declared that districts of a city can be drawn into a downward spiral. Districts that have to deal with high vacancy rates are unattractive, and in some cases the tenants will move to other locations (Hulzebos, 2011). One of the respondents claimed that the attractiveness of an area is of high importance to the municipality, and that degradation of an area can not be tolerated.

## Actors

In terms of redevelopment or redevelopment of structural vacant office space there are several parties involved. These have their own interests and their own influence (Decisio, 2006). In figure 4 every actor is mentioned with their own interests.

Actor	Interest
Municipality	<ul style="list-style-type: none"> <li>- Vacancy is unwanted</li> <li>- image</li> <li>- liveability</li> <li>- land development in other area's</li> <li>- Enough residential buildings</li> <li>- Room for enterprises</li> <li>- Mixed functions</li> <li>- Mix redevelopment with restructuring</li> </ul>
Owner/(ex)user	<ul style="list-style-type: none"> <li>- Value development of property</li> <li>- Tax deductibility valuation</li> <li>- Price of vacancy (important)</li> <li>- Available liquidity</li> <li>- Positive development surrounded area</li> </ul>
Owner/investor	<ul style="list-style-type: none"> <li>- Value development of property</li> <li>- Return on portfolio (not object)</li> <li>- Image</li> <li>- Positive development surrounded area</li> </ul>
Property developer	<ul style="list-style-type: none"> <li>- Low purchase costs</li> <li>- Future earnings after redevelopment</li> <li>- Prestige objects</li> <li>- Positive development surrounded area</li> </ul>
Housing association	<ul style="list-style-type: none"> <li>- Social goals               <ul style="list-style-type: none"> <li>- liveability district/neighborhood</li> <li>- mixed functions</li> <li>- suitable residential supply</li> </ul> </li> <li>- Low purchase costs</li> <li>- Future earnings after redevelopment</li> <li>- Prestige objects</li> </ul>

Figure 4: Actors and interests (Decisio, 2006)

All the respondents mentioned the owner, municipality and the property developer and stated that the owner has got the most impact on redevelopment. One of the respondents claimed: "The owner and the property developer play the biggest role in redevelopment of structural vacant offices, and the municipality plays a facilitating role". Also two of the respondents claimed that in case of redevelopment the future user of the property should be involved in the planning process. This is also mentioned by Van Voordt et al. (2007) who states that next to consultants and architects also the future user of the dwellings are important, the users want affordable housing of good quality (when a property is



redeveloped into dwellings) .Due the big number of actors it is very difficult to control the process (Van Voordt et al., 2007).

## Policies and instruments

Policies are developed by different layers of the government. Each of these governments has its own policies and its own policy instruments. In figure 5 gives a representation of the governments and their policies/instruments. This paragraph will focus on the policy and instruments of the municipalities.

	Level	National	Area	Building	
Policy Instruments	Central Government	Office Fund	Expert team Office Conversion	Environmental Law	
		Demolish Fund	Legal Expertpool 'Financial loss due adjustments made in urban planning'	Reduce Transfer Tax	
		Reduce VAT rate	Vacancy fund in relation to 'office PPP'	Expert Team Office Adaptation	
		Spatial Development Strategy	Subsidies	Subsidies	
		Adaptation of a governmental decree	Steps for Sustainable Urbanization		
	Provinces			Provincial Environmental Regulation	Subsidies
				Spatial Development Strategy	Ordinance
				Subsidies	Provincial Zoning Plan
				Ordinance	Reactive Assignment
				Provincial Zoning Plan	Project Decision
	Municipalities		Application of the law: 'Crisis- en Herstelwet'	Environmental Plan	Adaptation of the Zoning Plan
			Increasing Property Tax on Vacant Offices	Spatial Development Strategy	Office Space Intermediary
			Application of the law: 'Wet Voorkeursrecht voor Gemeenten'	Regional Office Space Intermediary	Project Leader
			Restrict New Developments	Transferable Development Rights	Pilot projects
			Application of law: 'Wet Kraken en Leegstand'	Subsidies	Subsidies
				Area Manager	Approaching Office Owners
				Asset Investment Zone(BIZ)	Modification of Land Lease Contract
				Acquisition	Vacancy Regulation
				Improve Quality of an Area	Exemption/Abatement of municipal fees
				Adaptive Re-use Team	

Figure 5: Governments and their instruments (Based: Rodenhuis, 2012: Kops, 2014: policies, interviews and author) Found in (Zijlstra, 2015)

Other ways to influence the redevelopment of structural vacant office space for the municipality are the regional-plan and structure-plan, upgrading the quality of the surrounded area to attract enterprises, the implementation of transferable development rights, setting up a business investment zone, the appointment of a project manager, area manager or redevelopment-team (Zijlstra, 2015). Another way is the crisis- and recovery law of 2010, which consisted of several temporarily and permanent measures which gave the municipalities the opportunity to cope more rapidly with regulations and decision-making (Infomil, 2016). Besides that municipalities can give an exemption or reduction of fees in order to stimulate initiators (OGA, 2014). Another instrument is the introduction of a vacancy-statute in which the owners have a notification obligation to the municipality, so that the municipality and the owner can work together to find an appropriate solution (Kennisbankherbestemming, 2016).

According to the respondents the municipality has a facilitating role in terms of the redevelopment of structural vacant office space. One of the respondents stated: "There are a lot of possibilities for the municipality to contribute to the redevelopment of structural vacant office space, but it is demand driven". Another respondent mentioned: "The role of the municipality is facilitating and accommodating". Also literature research shows that the municipality has to a lesser extent a risk bearing role but more a facilitating role, and that investors and developers should bare this in mind (Buitelaar et al., 2013).

Dynamis (2016) concluded that one of the solutions for structural high vacancy of office space is the implementation of appropriate policies. One of the respondents stated: The redevelopment of structural vacant office space is to a lesser extend an urgent problem for the municipality. The priority is to achieve a healthy housing market and healthy real estate markets, and redevelopment is seen more as a result, then a stand-alone goal". One of the respondents stated that: "The problem of structural vacant office space in Groningen will solve itself without additional policies, the bottleneck is more in the business case of the developer and owner than it is in the absence of policy." Other municipalities in the Netherlands such as Amsterdam (19,7%), Rotterdam (19,6%) and Utrecht (17,2%) are more proactive in terms of reducing the structural vacant office space than Groningen (15%), even though the vacancy rates are not at a very higher level (PBL, 2015) .

## 5. Conclusions

This thesis is a contribution to existing research on the vacancy topic. In this research several aspects of the structural vacancy of office space are discussed and underpinned by data gathered from interviews, literature and reports. The focus of the research on structural vacant office space is on the policy side of the problem and the redevelopment solution of the problem, focused on the role of the municipality.

The main causes of structural vacant office space are connected to the functioning of the real estate market and office space market especially. The hog-cycle defines several causes for the development of (structural) vacant office space. The determinants described in the theory are: the long period of preparation and construction of real estate, economic fluctuations, the delayed reaction of supply on a change in demand and wrong incentives. These determinants are also described by literature and by the respondents of the interview. Economic fluctuations are visible in the recent years with the crisis as the main component. In addition, the municipality has also played an important role in the development of structural vacancy of office buildings, because the development of land was one of the most important financial resources. Next to that the municipality is one of the biggest users of office space in the region. Next to that the decrease of office space needed per employee and new ways of work played a reinforcing role.

There are many negative effects of structural vacant office space on the building itself, on the surrounding area, on the district of a city but also on a region as a whole. The structural vacancy of office space on a small scale causes vandalism, the dumping of waste, unwanted occupation, physical deterioration and economic deterioration of a building. Besides that on a larger scale it also causes the creation of a negative image of the region, which is problematic in terms of attracting new businesses and enterprises to an area. Another impact of the occurrence of structural vacant office space is the negative impact on society as a whole. All these effects indicate that solving the structural vacant office space of an area is a relevant and important task.

There are several actors involved in the redevelopment process of structural vacant office space, each with their own interests, which makes it a difficult problem to solve. The municipality plays a important but facilitating and demand-driven role. Next to that the property developer and owner (both investors and users) of a property have the prominent role in the redevelopment process. Also the future user of the redeveloped property should be involved by the process of redevelopment of structural vacant office space. According to

policy-makers the developer should be the initiator of redevelopment of structural vacant office space, which is highly influenced by the business case of the developer and/or owner.

There is a wide range of instruments for the municipalities in order to cope with the structural vacancy in their district. The most important is the way of dealing with the zoning-plan, this can be either strict, semi-flexible or flexible. Besides that there are several other tools such as the regional-plan and structure-plan, upgrading the quality of the surrounded area to attract enterprises, the implementation of transferable development rights, setting up a business investment zone, the appointment of a project manager, area manager or redevelopment-team, the compliance of the crisis- and recovery law of 2010, introducing a exemption or reduction of fees in order to stimulate initiators and the introduction of a vacancy-statute. Remarkable is that the respondents of the interview did not mention this wide range of measures, but focused on the zoning plan.

In some municipalities the attitude towards solving the structural vacancy problem is more proactive than in Groningen. Therefore, it is recommended to the municipality of Groningen - but also other municipalities without a proactive attitude towards redevelopment - to actively address the problem of structural vacant office space, in order to avoid the negative effects of structural vacancy on the city and region. This can be accomplished by three main solving strategies. The first is to achieve an overall higher level of knowledge for civil servants relating to the structural vacancy problem and the available tools to solve it. The second is to approach the players in the field actively and bring together the actors in the redevelopment process in order to create an incubator for new ideas and forms of redevelopment. The third is to assign a professional who keeps active in solving the problem and redevelopment, possibly at a higher level than one municipality.

About the topic of structural vacant office space and redevelopment, several scientists conducted research. Nevertheless there are still several recommendations for further research. One recommendation for further research is to examine how regional differences in the structural vacant office space occur and differ from each other. Another recommendation for further research could be the examination of effectiveness of different policies in order to solve the structural vacancy problem. One last recommendation for further research is to find out what the views and wants are of the future users for the redeveloped property, in order to match the supply and demand of redeveloped properties.

During this research there are several remarks for reflection. The number of interviews is on the low side, by adding more respondents to the thesis will provide a more reliable image of the problem. Next to that the scientific quality of the thesis could be improved by conducting more literature research, in order to give a more robust theoretical framework and a deeper analysis of the gathered primary data of the interviews.

## 6. Definitions

**Initial vacancy:** Initial vacancy occurs in office space that is developed, and by which there is not a tenant at the moment of completion of development (Van Gool et al, 2007). This initial vacancy occurs only at new developed real estate. In economic periods of progress developers will take this initial vacancy as part of the risk.

**Frictional vacancy:** A part of the vacancy of office space is due the relocation of businesses and enterprises, this is called frictional vacancy. This vacancy is necessary for a proper functioning real estate market. At a 5% vacancy, the market is still in equilibrium (Bak, 1980). If the percentage drops under this 5%, shortage occurs on the market. When the percentage is higher, there is an oversupply on the market. Office space which is defined as frictional vacancy are usually likely to be rented out again, especially in a recovering or healthy office space market (Waaning et al, 2006).

**Cyclical vacancy:** At the moment of a decrease in the demand of office space the vacancy will rise. Cyclical vacancy occurs due a mismatch in supply and demand, caused by the cyclic character of the economy as a whole. Thereby these offices are likely to be rented out again when the economy as a whole improves (Waaning et al, 2006).

**Structural vacancy:** Office space that is vacant for three years or more is defined as structural vacant office space. These offices are most likely to be never rented out anymore (as an office). Only when the demand of office space has risen above the supply, these office buildings are likely to be rented out. Most of these structural vacant buildings are outdated and renewal or serious maintenance. Another possibility to deal with this structural vacancy is demolition

## 7. Interview questions

### *General questions*

- *What is your role in the organization you work for?*
- *What is your role concerning spatial planning and real estate?*

### *Questions about vacancy*

- *What do you think are the main causes of structural vacant office space?*
- *In which way has the government or municipality contributed to the occurrence of structural vacant office space?*
- *In which way do you think that structural vacant offices have a impact on the direct environment?*
- *To what extent is structural vacant office space an urgent problem for the municipality/ government?*
- *Is the attitude of the municipality towards redevelopment of structural vacant office space more reactive or proactive?*

### *Questions about solutions for vacancy*

- *Which conditions are necessary for the successful development of a vacant office?*
- *Which actors are relevant in terms of redevelopment of structural vacant office space?*
- *Which of the actors is the most influential in a redevelopment process?*
- *To what extent appropriate policy for redevelopment of vacant offices necessary?*
- *What are the tools / instruments for the municipality to succesful corporate in redevelopment of structural vacant office space?*
- *Is there policy made for the redevelopment of structural vacant office space?*
- *What do you think is the best option when it comes to redevelopment of structural vacant office space?*

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