OFFICE SPACE VACANCY IN GRONINGEN

AN ANALYSIS OF THE IMPACT OF THE FINANCIAL CRISIS ON OFFICE SPACE VACANCY

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Bachelorthesis Sociale Geografie & Planologie 2015

Abstract

This thesis discusses the office space vacancy in the city of Groningen and discusses the role and impact of the financial crisis on office space vacancy and if vacancy did increase after the onset of the financial crisis.. This thesis provides an analysis of the developments that occurred in the office space market in the Netherlands and Groningen after the onset of the financial crisis and provides a comparison between these developments in Groningen and other urban areas, which will be done through analysing literature, market research reports and secondary data.

In this thesis it is observed that office space vacancy did increase after the onset of the financial crisis in both the Netherlands as a whole and the city of Groningen, which was caused by an increasing supply and a declining demand. This led to a situation with prevalent oversupply of office space that did not match the demand. Data shows that the vacancy rate of the office space stock in Groningen grew from 8.0% in the year 2008, which this thesis defines as the onset of the financial crisis, to 12.6% in the year 2009. Results show that Groningen is 'healthier' in regards to vacancy compared to a similar urban area such as Zwolle and in addition is currently starting to show signs of recovery. This is the result of successful transformation and demolition of vacant office space, but also due to an increasing absorption. This could mean that the office space market mechanism is recovering in the form of an increasing demand, which could lead to declining vacancy in the coming years.

Table of contents

1. Introduction

The Dutch economy took a turn for the worse in 2008 when the financial crisis hit. This was a turning point from economic growth in the Netherlands to a stagnant economic development and even decline. Effects of this economic decline in growth were visible in higher unemployment rates, decline of investments by corporations and government and a decline in consumer spending. All these factors had far reaching effects on the real estate market in the Netherlands. This thesis focuses on the effects of the financial crisis on the office space market and in particular office space vacancy.
The decline in economic growth has led to a decline in the absorption of office space, while the stock of office space was still growing. This has led to an significant increase in office space vacancy. The office space vacancy in Groningen in the year 2007 was 7,1% which increased to 8.0% in 2008 to 10.8% in the year 2012. This is substantially higher than the ‘’healthy’’ 5% threshold (Van Elp & Zuidema, 2010). The office space market in the Netherlands and in Groningen has moved away from an equilibrium. In comparison to some other areas in the Netherlands, Groningen is starting to recover and moving towards the healthy vacancy threshold.

Research on this topic is important and relevant, because the real estate market is still an important and active market. Despite the decline in economic stability in the real estate market, investments and real estate transactions are still being made. An analysis of secondary data and policy actions implemented by the municipality of Groningen might give greater insight in certain implications of policy on the office space market and how this might help shifting movement towards a healthy equilibrium.

The goal of this thesis is to find out what the effects of the financial crisis are on the office space market in the city of Groningen. This will be conducted with the help of an analysis of secondary data on office space vacancy and other factors from the year 2004 up to the year 2014. This thesis will focus specifically on the changes that has occurred through this years with recognizing the year 2008 as the onset of the financial crisis in the Netherlands. This thesis will also compare the situation in the city of Groningen to similar urban areas in the Netherlands in regards to office space vacancy, -stock and –supply and the occurred changes over time in these areas. An analysis of the current situation of the office space market will give insight in what developments of the office space market are occurring and could possibly be expected in Groningen

1.1 Research Questions

Main Question

- What was the impact of the financial crisis on office space vacancy in the city of Groningen?

Sub Questions

- What are the causes of the development of vacancy in Groningen?
- Is there a difference in office space vacancy in Groningen compared to Zwolle and some other urban areas in the Netherlands?
- What is the current situation of office space vacancy in Groningen?

1.2 Thesis structure

The structure of this thesis is as follows; theory based on literature, an analysis of literature and secondary data and the conclusions that were drawn from the results.

The theoretical framework chapters provides information on market mechanisms in the office space market and explains how vacancy arose, by zooming in on the contributing factors on both the demand side and the supply side of process.

The chapter results provides an analysis of literature and secondary data to provide the answers for the research questions of this thesis. This chapter starts with the explaining the current situation of vacancy in the Netherlands as a whole and how it arose and then starts to zoom in on the city of Groningen, providing an analysis of how vacancy arose in the city of Groningen, how it compares to Zwolle and analysing the current situation of the office space market in Groningen.

The chapter conclusions summarizes the results from this thesis, the answers of the research questions and a provides a brief discussion of the possible future scenarios of the office space market in Groningen.

2. Theoretical framework

This chapter will provide a theoretical framework that is based on literature for this thesis. The market mechanism and dynamics of the office space market and how office space vacancy arises will be discussed. It is of importance to have an insight in the functioning of the office space market to help explain how office space vacancy arises.

2.1 Market mechanism

The office space market and its market mechanism and dynamics are heavily subjected to fluctuations and distinguished by cycles of shortages and oversupply. This cycle is often called the 'hog cycle' (Van Elp & Zuidema, 2010). This cycle is caused by the non-transparency of the office space market combined with long construction period and a demand that is susceptible to fluctuations. This causes a cycle of periods with great shortages and great oversupply (Van Elp & Zuidema, 2010).

The process of real estate development in regards to office space development that often causes a mismatch between supply and demand can be explained by splitting it in two different levels (Kohsiek, 2006), namely

Macro-level: The main reason for the mismatch between demand and supply in the office space market is the static character of the office space stock, which cannot adapt to the demand of office space in a short period of time . Adding new office space to the stock by constructing new office space costs time, often between two and four years. This causes a delay. The demand is not static, but more dynamic and can easily fluctuate to a different level in the period of time that is needed for the construction of new office space. This can lead to the mismatch of demand and supply. (Kohsiek, 2006)

Micro-level: This level consists of actors that operate on a smaller scale compared to the macro-level. This level operates on project scale. The match between demand and supply on the micro (project) level is created by actors, that are defined as the different parties in project development, that actively try to match demand and supply by e.g. creating a demand for office space through contacting consumers. (Kohsiek, 2006)

2.2 How does office space vacancy arise?

In times of economic prosperity investors seek opportunities for investment. Before the onset of the financial crisis, real estate formed an attractive and suitable option for investment, with high returns. Investing in real estate kept rising due to it being ''cheap''. The overabundance of available money led to the derailing of the (real estate) system (Janssen-Jansen, 2012). This continuous investment led to an enlargement of the office space (over)supply that did not match the demand of office space in the Netherlands, which can be seen in a decreasing absorption of office space (see figure 1).

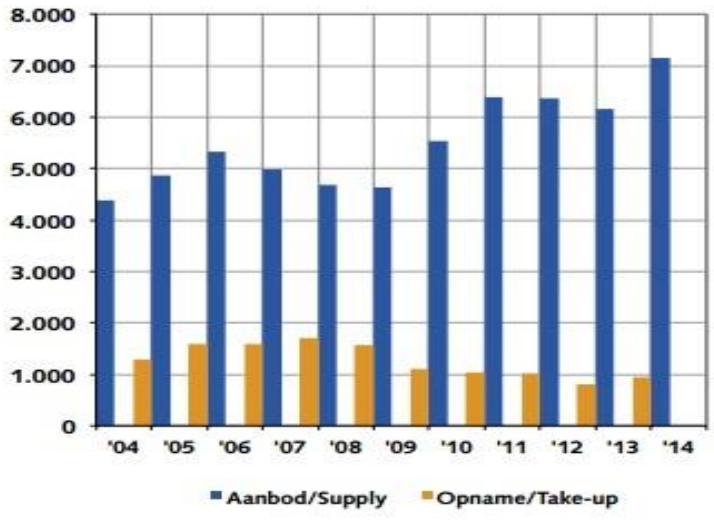


Figure 1: Absorption and supply of office space in the Netherlands (Dynamis, 2014)

Factors on supply side,
Investors and municipalities reacted on the growing demand by creating new construction opportunities and creating more supply of office space. Land allocation and investing in real estate projects can be very profitable for municipal governments, this can also strengthen the competitiveness of the municipality and aids in attracting businesses and this can lead to competition between municipal governments on attracting new businesses (Verpalen & van Winden, 2011). This also led to speculative realisation of office space, before the demand was actually there. According to Vader (2010) this rapid growth of office space realisation was stimulated by the fact that investors like municipalities got high returns from producing new real estate and expected the demand to keep rising. Municipal governments and the real estate sector, i.e. private investors, both are to blame for causing an oversupply of office space.

Factors on demand side are,
Economic stagnation, after the financial crisis hit, the demand of office space declined. This period of economic stagnation has caused a decline of employment in the office sector that will persist or the coming years according to Steinmaier (2011). The employment rate in this sector has declined with 1.4% from 2008 to 2009. This decline has a negative impact on the demand (Steinmaier, 2011).

The quantitative mismatch between supply and demand. Due to the static character of the office space stock, it cannot adapt timely to the office space demand. Construction of new real estate costs time, while demand is more dynamic and fluctuates more.

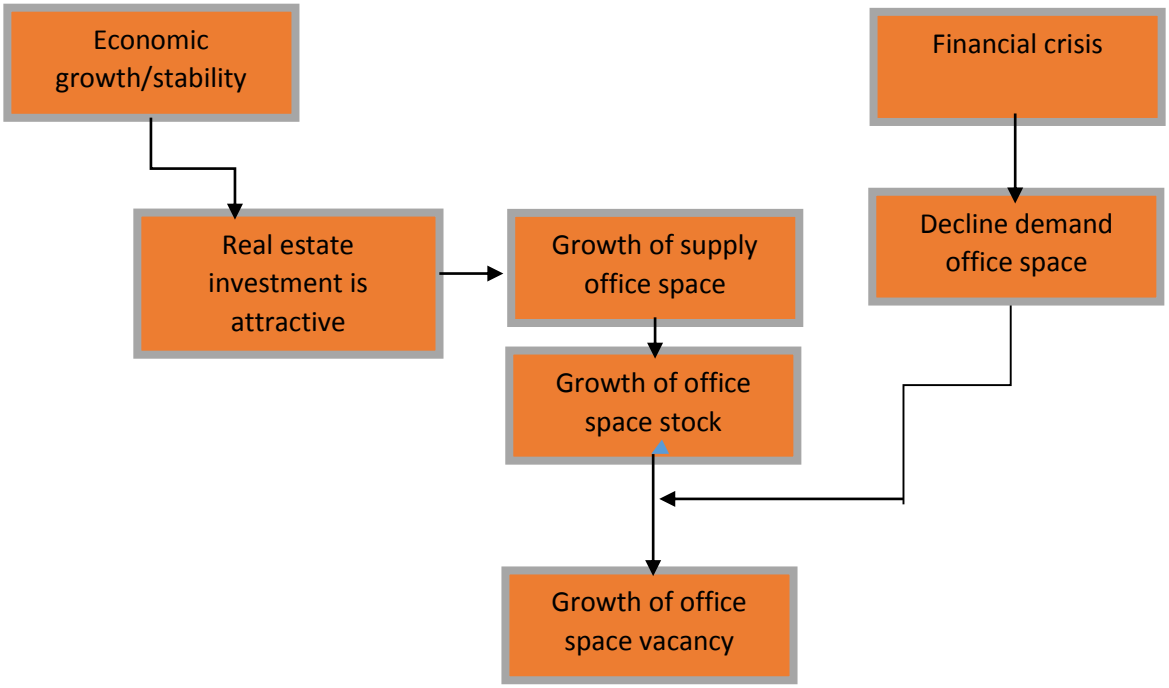
The qualitative mismatch between supply and demand. Buildings deteriorate over time, physically or economically. Innovation can cause a building to become economically deteriorated. Existing offices may deteriorate in the technical, structural or functional aspect and become obsolete for the consumer, causing the consumer to move to new a new office building.

As discussed before in the market mechanism chapter, there is a mismatch between demand and supply of office space. The discussed factors lead to a situation where there is

more supply and a high stock of office space in comparison to a generally decreasing demand in office space, which creates vacancy.

Office space vacancy should not inherently be considered as negative. Frictional vacancy within the 5% boundary is considered to be healthy and will function as a buffer for when demand rises (Van Elp & Zuidema, 2010). Vacancy above the threshold of 5 % can be considered as oversupply.

2.3 Conceptual model:



3. Research design

3.1 Data sources

This thesis will use an analysis of literature and secondary (quantitative) data to try and answer the research questions.

Literature: Literary research will form the basis for the theoretical framework that was used to formulate the hypotheses. This theoretical framework will be used, in combination with an analysis of secondary data, to try and answer the research questions and test the hypotheses of this thesis.

3.2 Data analysis

A combination of secondary data from two different sources will be used to analyse office space vacancy in the city of Groningen The two main sources of data are DTZ Zadelhoff and the municipal government of Groningen. These two institutions have cooperated on providing DTZ Research factsheets and 'Vastgoed-monitoren' (real-estate monitor) of Groningen.

This data will give insight in the course of different variables of the office space market in Groningen over the last ten years, i.e. 2004-2014. The main variables are: Stock, supply, absorption and vacancy. Analysing this quantitative data whilst creating a linkage with the theoretical framework of this thesis, will give insight in how vacancy has developed after the financial crisis hit in 2008 and how Groningen compares to other urban areas in the Netherlands in this aspect. This thesis focusses on the comparison between Groningen and Zwolle, but other cities that are somewhat similar in terms of the volume of their office space stock will be discussed as well. These other cities are Amersfoort, Arnhem and Den Bosch.

3.3 Quality of data

DTZ Zadelhoff Research and the municipality of Groningen have provided comprehensive data, which helps in providing a more precise analysis. The main problem of this data analysis is DTZ Zadelhoff and the municipality of Groningen have combined the data on vacancy with Assen for the years 2009 and 2010. This means that data of office space vacancy in Groningen for the years 2009 and 2010 have to come from a different data source. For the year 2009 the source for data of vacancy in Groningen is NVM Business. Due to absence of data on vacancy of the year 2010, the volume of vacancy will be estimated through interpolation of the data. The same goes for the data on vacancy in the year 2013 in Zwolle. Although access to this data would have given a slightly more precise image of the development of vacancy in the years following the impact of the financial crisis, it did not appear to be crucial for performing an analysis.

3.4 Hypotheses

This chapter will discuss the hypotheses of this thesis and explain how the hypotheses came to be. The hypotheses are:

1. After the financial crisis hit in the year 2008, office space vacancy has increased in the city of Groningen.
2. Office space vacancy in the city of Groningen is smaller compared to a similar urban area, Zwolle, in the Netherlands.
3. Groningen is currently recovering in terms of vacancy.

The first hypothesis is based on the conceptual model of this thesis. This model was constructed on the basis of literary research and shows in basic form the impact of the financial crisis on office space, namely an increase in vacancy due to a mismatch between (over)supply and (declining) demand. Therefore it is expected that vacancy has increased in Groningen after the onset of the financial crisis. This hypothesis will be tested by comparing the vacancy volume and rate in Groningen in the period of 2004-2014. If a large growth of vacancy volume and rate occurred shortly after the onset of the financial crisis (year 2008) the first hypothesis can be seen as confirmed.

The second hypothesis is based on the development of supply in the city of Zwolle and Groningen and how these compare to each other. This thesis compares the growth of supply of office space in cities that are close to each other in the volume of their office space stock. Figure 2 shows that Groningen has seen the smallest growth (51.8%) of the office space supply from 2004 until 2014 in comparison to the four other cities.

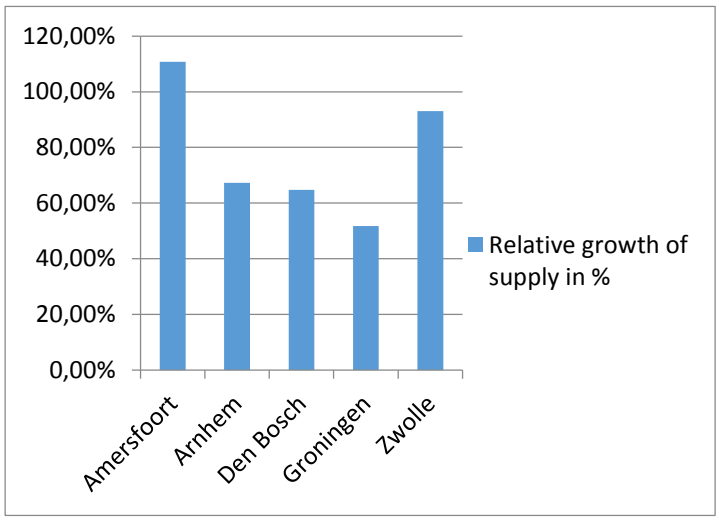


Figure 2: Relative growth of supply 2004-2014 (Dynamis, 2012;Dynamis, 2014)

The highest growth took place in Amersfoort (110.8%). Amersfoort is currently also the city with the highest vacancy rate (20%). The fact that the growth of office space supply in Groningen was considerably lower compared to the other cities formed the basis of the second hypothesis and thus it is expected that vacancy rates are lower in Groningen compared to other urban areas that are similar in terms of stock volume. The second hypothesis will be tested by comparing vacancy rates in Groningen and Zwolle in period 2006-2014. This period was chosen due to missing data on vacancy rates in Zwolle before the year 2006. This comparison will show the mutations of vacancy rate in both cities before and after the onset of the financial crisis and will tell which city has the highest vacancy rate and to which extent these rates have changed after the onset of financial crisis.

The third hypothesis is based on the mutations of the GDP in the Netherlands. Mutations of the GDP show similarities with the mutations of office space vacancy in the Netherlands, as can be seen in figure 6 and 7. In 2014 the GDP has seen a positive growth, which leads to the expectation of a decline in vacancy. This hypothesis will be tested by comparing vacancy rates shortly after the onset of the financial crisis and how these rates developed in the last few years.

4. Results

4.1 Office space vacancy in the Netherlands

Vacancy of office space is a phenomenon that has been and keeps developing in the Netherlands. After the financial crisis hit in the year 2008 the stock of office space has kept rising, see figure 3 (Bak, 2013). The office stock has reached the point of 49.585.000 m² in the year 2014. In contrary to the demand of office space which started to decline as shown in figure 4.

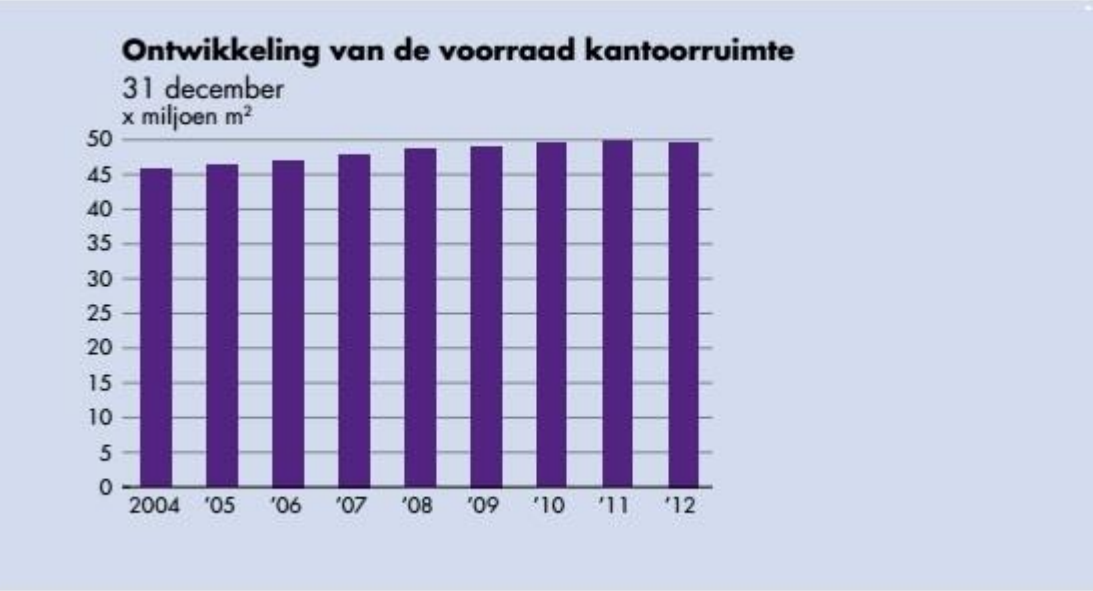


Figure 3: Development of office space stock in the Netherlands (Bak, 2013)

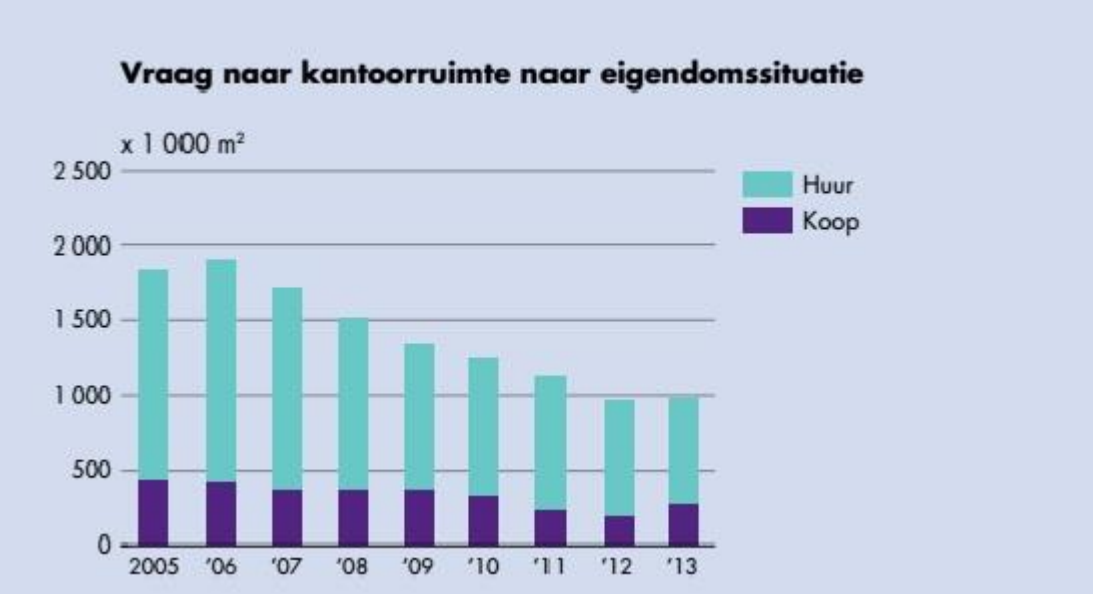


Figure 4: Development of demand of office space in the Netherlands (Bak, 2013)

The office space market reacts to economic fluctuations and as discussed before is distinguished by cycles of shortages and oversupply. There is a mismatch between demand

and supply which causes these cycling periods of shortages and oversupply.
This mismatch between demand and supply leads to (temporary vacancy) that will eventually be absorbed by the market in the hog cycle (Van Elp & Zuidema, 2010) This cycle was, as it looks now, disturbed by the financial crisis. Instead of a cycle of shortages and oversupply of office space that alternated, oversupply is prevalent combined with a continuous declining demand of office space. This has led to a huge increase in office space vacancy in the Netherlands, which reached the point of 16 percent of the office space stock in 2014. Exceeding the 5 percent 'healthy threshold' (Van Elp & Zuidema, 2010) by a large margin. According to Hajer & Uittenbogaard (2013) it would in theory be possible that demand of office space and hence the supply will be able restore when the economy starts to grow again, but considering demographic, economic and societal changes this probably won't become a reality, what could mean that the office space market no longer is subjected to the 'hog cycle', with cycling periods of shortages and oversupply.

According to Van Elp & Zuidema (2010) the office space market can be divided in four different phases that have occurred from 1995 until present day, which can be used to explain the current situation of oversupply and vacancy in the Netherlands.

In the first phase, 1995 until 2001, the economy and employment rates are growing in the service sector. The rising of the value of office space and more flexible renting contracts lead to an increase in the demand of office space and new construction of real estate starts.

In the second phase, from 2002 until 2005, the office space market is subjected to the 'hog cycle' (Van Elp & Zuidema, 2010). Large amounts of new construction enters the market, but the demand decreases, which in turn led to an increase of vacancy. The third phase consists of growing investment and high returns in office real estate, see figure 5. The rapid growth of real estate value and attractive investment opportunities lead to the decline of vacancy.

Figure 5: Returns on office real estate in the Netherlands (Bak, 2013)

In the fourth and current phase,2008 until present time, The demand of office space decreased after the onset of the financial crisis, combined with a large oversupply of office space. This has caused a strong growth in vacancy in the Netherlands (Van Elp & Zuidema, 2010).

The linkage between office space vacancy and the course of the economy can be demonstrated by comparing the mutations of the gross domestic product and the course of office space vacancy over the years (see figure 6 and 7)

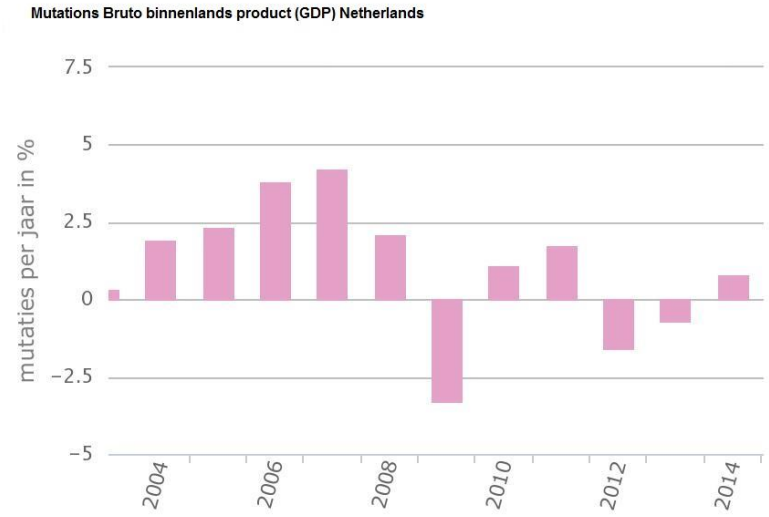


Figure 6: Mutations of Gross Domestic Product Netherlands (CPB, 2015)

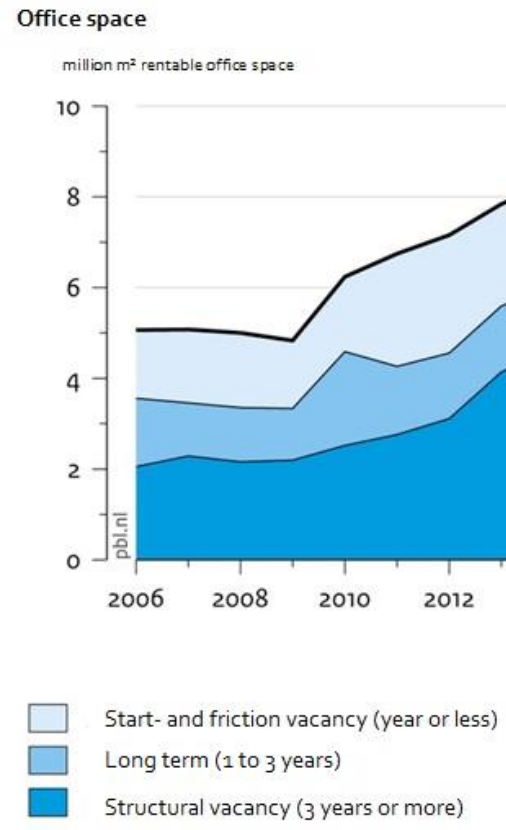


Figure 7: Office space vacancy (friction, long term and structural) in the Netherlands (PBL, 2014)

In these graphs it is visible that a negative growth of the GDP coincides with a growth of office space vacancy. Figure 6 shows a negative growth of approximately 3.5% of the GDP in the year 2009, which matches the strong increase in vacancy in the same year in figure 7.

4.2 Office space vacancy in Groningen; hypothesis 1

These developments that have led to the increase of office space vacancy have also occurred in Groningen. In the period of economic growth and prosperity before the financial crisis, investments and the rate of new construction of office space was high, which in turn led to a large expansion of the office space stock (DTZ Zadelhoff, 2009a). In the last ten years (2004 – 2014) the office space stock in Groningen has increased with 212.190 m², from 887.000 m² in 2004 to 1.099.190 m² in 2014, a relative increase of 23.9% (DTZ Zadelhoff, 2009a;Gemeente Groningen, 2014).

In de period 2002 until 2008, the influx of real estate investment phase (Van Elp & Zuidema, 2010), led to this stock expansion and an increase of the supply. The supply of office space in Groningen has increased from 128.000 m² in 2004 to 159.345 m² in 2014. The demand and absorption of office space, however decreased. The absorption decreased from 62.700 m² in 2008 to 42.500 m² in 2009 to 21.640 m² in the year 2010. In these years the stock and supply kept growing, combined with a decreasing demand and absorption, causing an increase in office space vacancy in the city.

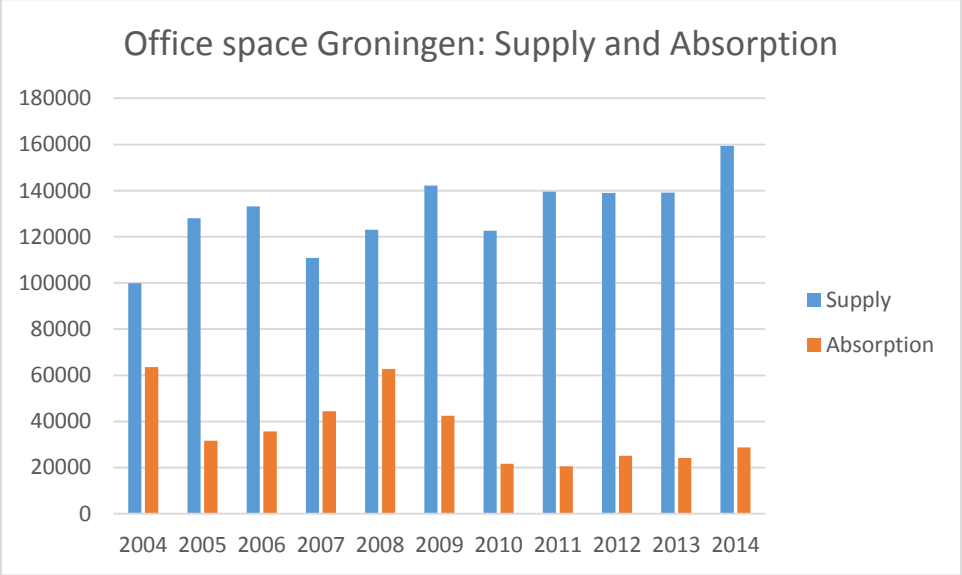


Figure 8: Supply and absorption of office space in Groningen

A strong increase of the supply combined with a decrease of the demand and absorption caused growth of office space vacancy. The increase of this supply, occurred in the period leading up to the onset of the financial crisis in 2008, wherein real estate investment had high returns for investors and thus was attractive (Vader, 2010) and led to the quantitative mismatch between demand and supply after the financial crisis hit, municipalities kept investing in land development. The reason was that the budget of municipalities consisted of profits from these land development project for a substantial amount and it was still profitable (Hajer & Uittenbogaard, 2013). The municipality of Groningen plays the role of investor in the office space market and had substantial plans for stock expansion before the financial crisis hit (DTZ Zadelhoff Groningen, 2006). The individual interest of municipalities in regards to earning from land allocation and –development plays a substantial role according to Janssen-Jansen (2012) in the investment policies of municipalities. Competition between municipalities means that abstaining from investing and developing is not an option, because it leads to the deterioration of their competitiveness (Verpalen & Van Winden, 2011). Figure 9 shows the strong increase in office space vacancy after the year 2008 in Groningen. Which

was caused by the increase of supply and the decrease of absorption as shown in figure 8 above. Figure 10 shows an increase in the vacancy rate which means that the relative vacancy of the stock grew as well, not just the volume in square meters. This means that the first hypothesis can be accepted. Vacancy volume and rates did increase after the onset of the financial crisis.

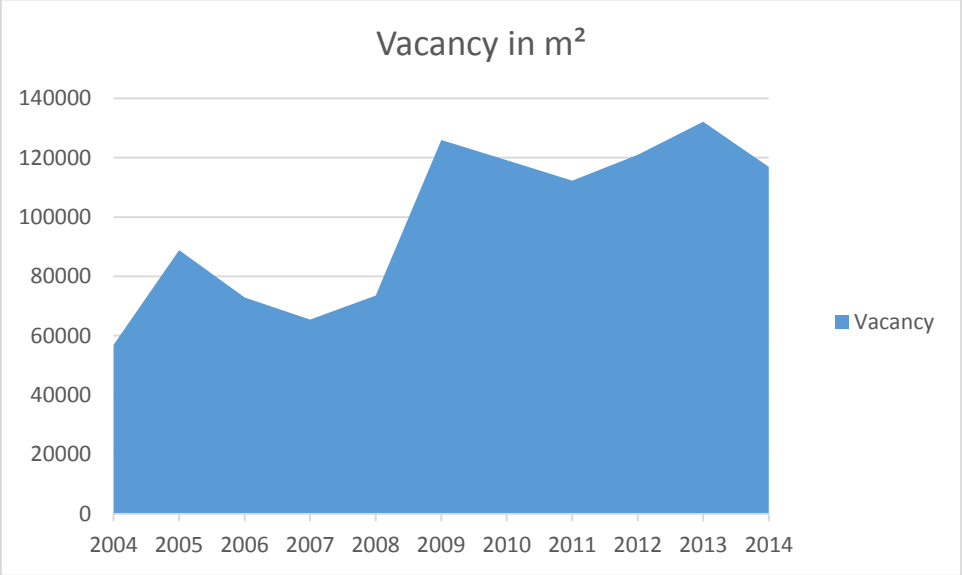


Figure 9: Office space vacancy in Groningen

The office space market of Groningen also deals with a qualitative mismatch between demand and supply, which causes a dichotomy in the market. The demand of the market concentrates on the best office space real estate and locations. While the older locations get driven out of the market, because of the physical and/or technical deterioration that these building have seen. (Gemeente Groningen, 2012). This means that these ‘deteriorated’ older office space locations often have to deal with long structural vacancy (Dynamis, 2012).

The office space market in Groningen can be divided in four different areas, wherein different office space locations are established. The municipality of Groningen has defined several of these locations as locations of extra interest. The four areas are North, East, West, South and the Centre, wherein the locations of extra interested are located in the centre, north, south and west. These locations of extra interest are respectively; Inner city and city station in the centre, Zernike-complex in the northern area, Martini Trade Park, Corpus den Hoorn, Europapark in the southern area and Kranenburg in the west (Dynamis, 2010;Gemeente Groningen, 2012).

The most problematic areas in regard to office space vacancy are mostly located in the southern and western areas of the city. Before the onset of the financial crisis, in the years 2005 and 2006, the locations Corpus den Hoorn, Martini Trade Park and Kranenburg experienced a strong growth of office space (supply). This area experienced a strong growth of vacancy after the impact of the financial crisis, which concentrated on the locations mentioned above and accounted for nearly 50% of the office space vacancy in the city of Groningen in the year 2009 (DTZ Zadelhoff, 2009). Office space locations such as Corpus den Hoorn have to deal with the earlier discussed qualitative mismatch, which is caused by deterioration of building in physical or technical aspect. These locations become less attractive and often experience long periods of vacancy (Dynamis, 2012).

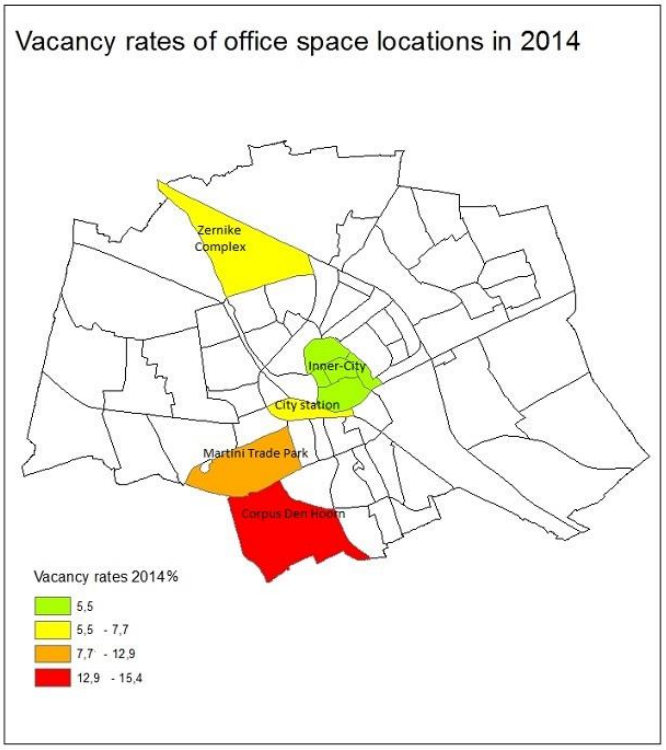


Figure 10: Vacancy rates office space locations

4.3 Urban benchmark; hypothesis 2

The office space market of Zwolle is a suitable candidate as benchmark for the office space market of Groningen. A comparison of these two markets will give insight in how the office space market of Groningen performs relatively compared to similar urban areas.

In the period before the financial crisis Zwolle experienced a strong growth of the supply of office space, just as Groningen and the Netherlands as a whole did. After the impact of the financial crisis the demand and absorption of office space decreased and led to a situation of oversupply with growing vacancy as a result.
Within Zwolle there are several office space locations that show some similarity with Groningen in term of concentration of vacancy. The main office space locations are Hanzeland, Inner-city, Voorsterpoort en Oosterenk. By zooming in on the location Oosterenk it becomes visible that Zwolle also deals a qualitative mismatch of supply and demand. Oosterenk is a location similar to Corpus den Hoorn in Groningen, with a large supply of outdated and deteriorated office space causing it to be an unattractive business location. More than half of the office space in Oosterenk has an unlikely probability of finding a business that is willing to rent it (DTZ Zadelhoff, 2011b).

Figure 11: Relative vacancy as a portion of the office space stock in Groningen/Zwolle

Research from DTZ Zadelhoff reveals that the office space market of Groningen is relatively healthier in comparison to Zwolle. This is visible in the form of a better ratio of absorption and supply and lower vacancy rates. Data in figure 10 shows that vacancy rates are lower in Groningen compared to Zwolle, thus confirming the second hypothesis. In the period before the financial crisis, 2005 until 2010, the ratio of absorption and supply was high in Zwolle, which turned around in 2010 when Groningen had a higher ratio. The relative vacancy (as a percentage of the stock) has been lower in Groningen, before and after the financial crisis, 2005 until present day, as shown in figure 9. Both cities experienced a growth of vacancy after the financial crisis hit. Vacancy rates in Groningen grew from 8.0% in 2008 to 12.6%, but decreased in the subsequent years. Vacancy rates in Zwolle grew from 11.4% in 2008 to 12.8% in 2009, which was a less explosive growth in comparison to Groningen, but kept growing in the subsequent growing as shown in figure 10. Both cities are still far from the ‘healthy’ 5% threshold (Van Elp & Zuidema, 2010), Groningen is however starting to move towards lower vacancy rates in contrast to Zwolle, where vacancy rates keep growing.

In comparison to other cities that show similarities in terms of their office space stock volume, Groningen has the lowest vacancy rate in 2014. These rates are 20% for Amersfoort, 17% for Arnhem, 13.5% for Den Bosch and 10.6% for Groningen in the year 2014. The second hypothesis predicted that Groningen would be 'healthier' in terms of office space vacancy rate. This prediction was based on the fact that Groningen had the lowest relative growth of office space supply in the last ten years. Higher growth of supply will often mean that the oversupply will be larger as well, which combined with a decreasing demand will lead to higher vacancy rates. This does seem to be the case for the cities Zwolle and the other cities in question, e.g. Amersfoort experienced the highest growth of their office supply in the last ten year, with a growth of 110.8% and currently has the highest vacancy rate (20%) of all five cities.

4.4 Current situation and developments; hypothesis 3

Since the year 2014, the office space market of Groningen is starting to show characteristics of recovery. The vacancy rate has dropped with 1.3% in 2014 compared to the year 2013, to a percentage of 10.6, thus goes against the trend in the Netherlands as a whole where vacancy rates keep increasing and reached the point of 15.7% of the office space stock in 2014. Striking developments can be seen on the locations Inner-city and Zernike Campus, where vacancy respectively dropped to 5.5% and 7.7% of the office space stock, which means that these locations come close to the healthy 5% vacancy rate. The stock of office space in Groningen also starts to decrease, which is the result of effective transformation and demolition of vacant office space (Gemeente Groningen, 2014).

Besides the fact that the office space market of Groningen starts to show characteristics of recovery by active intervention in the form of transformation and demolishing of oversupply. There are also signs that the vacancy problem is starting to resolve through the market mechanism itself, which creates a positive prognosis for the future if this development continues. This positive development is visible in the growth of the absorption of office space since 2013. The absorption increased from 24.183 m² in 2013 to 28.700 m² at the end of 2014. The arrival of companies such as IBM on the edge of the inner-city can be designated as possible causes of this increase.

In the year 2014, the economy of the city Groningen and surrounding region grew with 0,4%. In addition there was a growth of business start-ups of 2.2% in 2013, from which 70% was in the services sector (Brink, 2014).

It can be concluded that characteristics of recovery of the financial crisis are present in Groningen. These characteristics come in the form of economic recovery in the city and surrounding region and improving vacancy rates, absorption rates and a reduction of the office space. It can be concluded that transformation and demolition of vacant office space has a positive effect. The growth of absorption rates could be interpreted as a sign that the office space market is starting to recover in the form of a growing demand of office space, which is caused by e.g. a recovering economy. This potential growth of demand could reduce the existing oversupply of office space with declining vacancy rates as a result in Groningen. However, the existing data can't be used as an indication of an existing trend and coming years will therefore have to reveal if this is the case. Therefore this thesis cannot completely confirm the third hypothesis. There are signs of recovery, but whether the office space market is recovering and will keep recovering will have to be revealed over time, since current indications do not demonstrate a trend.

5. Conclusions

The office space market was distinguished by cycles of oversupply and shortages, the so called hog cycle (Van Elp & Zuidema, 2010). This cycle seems to be disturbed after the onset of the financial crisis in the Netherlands. Instead of recovery due to rising demand of office space, there's an ongoing situation of growing oversupply. A correction of the production is staying out and the supply keeps on growing (Janssen-Jansen, 2010).
In the period prior to the onset of the financial crisis it was attractive to invest in office space real estate due to a growing value of this real estate and high returns on the investment. A large volume of production resulted in a strong growth of the office space stock and supply of office space. This in turn resulted in a growing oversupply after the financial crisis hit, due to a strong declining demand, causing growing vacancy.

These developments of the office space market also took place in Groningen, where vacancy grew strongly after the financial crisis hit. The strong growth of the supply of office space also took place in Groningen caused by excessive production of new office space real estate, combined with a declining demand after the financial crisis hit. Which resulted in a situation of oversupply with vacancy as the result of this. Besides a quantitative mismatch between demand and supply, there's a qualitative mismatch resulting in vacancy as well. Deteriorated office space locations such as e.g. Corpus den Hoorn are characterised by concentrated vacancy, due to these building physically or technically deteriorated and thus not being in conformity with the required standards of users.

The situation of the office space market in Groningen is relatively 'healthier' compared to a similar city such as Zwolle. Both cities experienced a growth in vacancy after the financial crisis hit. The growth of vacancy in the following year after the start of the crisis was the least explosive in Zwolle in comparison to Groningen, but kept growing substantially in the consecutive years in Zwolle. In contrast to Groningen where vacancy kept growing to a smaller extent after this first explosive growth and even starts to decline now. Both cities are still far for reaching the healthy 5% threshold of vacancy. Groningen is however starting to move in the right direction in contrast to Zwolle, where vacancy rates keep rising.

These signs of improvement started to become visible since 2013. Vacancy in Groningen starts to decline and thus goes against the national trend. Several office space locations in the city are almost reaching the healthy 5% threshold. These positive developments are a result of active intervention in the form of transformation and demolition of oversupply, but there are also signs that vacancy starts to resolve through market mechanisms. This is visible in the growing of the absorption of office space since 2013. This growth of absorption could mean that the office space market starts to recover in the form of a growth in the demand of office space, due to e.g. a recovering economy. This growing demand could reduce the oversupply with lower vacancy rates as a result. The coming years will have to reveal if this is the case.

It can be concluded that the financial crisis had a negative impact on the office space market of Groningen, with growing vacancy as a result. The main cause being a strong growing (over)supply caused by overproduction of office space real estate, combined with a declining demand after the financial crisis hit. Through a benchmark comparison with a similar city such as Zwolle and three other cities, it can be concluded that office space market in Groningen is relatively performing better in terms of vacancy rates and is starting to show signs of recovery. An improvement of the market situation will have a positive effect on vacancy rates in Groningen if this improvement persist in the coming years, where growing demand could reduce the oversupply of non-deteriorated office space, while transformation

and demolition could form the solution for the deteriorated, qualitative mismatched oversupply of office space. The coming years will have to reveal if

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Definitions

Office space: Space that is being utilized for operating a business, profession or service where no product is manufactured, but where only services are operating. (Besselaar, 2011).

Supply: The quantity of square meters of real estate that fall under the category of offices, that are offered for rent or sale. Supply includes existing and office space that is being constructed that are offered for rent or sale. Supply is not identical to vacancy, office space that is offered on the market doesn't have to be vacant.

Vacancy: Offered space that is currently not in use (anymore). Vacancy only includes offered office space in existing offices that are not being used (anymore) at the moment of inventarisation.

Structural vacancy: Office space that is vacant for a long period of time (3 years)

Absorption: Office space which is sold or rented on the real estate market.

Office space stock: Existing office space or office space that is being constructed.

Rent: The actual basic rent per square metre rentable floor space (Bak, 2011).

Financial crisis: A disruption to financial markets in which adverse selection and moral hazard problems become much worse, so that financial markets are unable to efficiently channel funds to those who have the most productive investment opportunities (Mishkin, 1992). This thesis defines the year 2008 as the start of the present financial crisis.