MANAGING VACANCY AT PORTFOLIO LEVEL
FOREWORD

This report comprises a research design for my master thesis within the graduation lab of Real Estate Management, at the department of Real Estate & Housing at the faculty of Architecture at the University of Technology in Delft. This research comprehends a graduation process of one year, namely from January 2013 until January 2014, and includes five interim assessments of which this report covers the second assessment (P2). This research proposal focuses upon the current problem including the continuation of oversupply and overproduction of office buildings, and in special upon the impact of vacant and obsolete office buildings upon the real estate portfolio of the investor.

The problem area of vacant office buildings still intensifies and becomes more and more significant. The slow comprehension of many participants in the office real estate market indicates that the time for addressing office vacancy asks for solution space. Although, many investors are still able to balance their financial feasibility, vacancy management can possibly enhance the optimization of the real estate portfolio. In this, the downgrading for their vacant properties comprises a major decision making criteria.

I would like to thank my main mentor Hilde Remøy, second mentor Philip Koppels, and labcoordinator Theo van der Voordt for their useful feedback, informative supervision and pleasant meetings so far.

Enjoy reading!

Delft, June 2013
Jeanne Borst
SUMMARY

RESEARCH PROPOSAL

Problem statement
The change of the current office market into a buyers’ and replacement market in combination with the continuous overproduction and oversupply, contribute to a difficult position of the real estate investor by resulting in (structural) vacancy within their real estate portfolio. Investors’ gain for a balanced consideration with regard to future use of (vacant) office space and related investments, asks for a well-substantiated decision making process. Subsequently, there is demand for vacancy management at portfolio level for future use of vacant office buildings. As such, vacancy management can enhance the considerations with regard to future use of vacant office buildings from the perspective of the investor. This research therefore aims to explore determining factors for decision making from the perspective of different type of investors. Furthermore, this research will provide detailed considerations with regard to portfolio management from the perspective of one type of investor.

Since this problem statement comprises two main objectives, this research will be two folded. The proposed research therefore emphasizes on answering the following questions:

- What are the determining factors for future use of vacant office buildings at portfolio level from the perspective of an investor?
- In what way can a decision structure be deployed to enhance vacancy management at portfolio level?

As a result of influences from the valuation of the user upon the property, which can be based upon either qualitative and quantitative characteristics of the building, the indirect and direct return of the investor are determined. In combination with the investor’s objectives, decisions with regard to the future use of the property are taken.

This research therefore focuses on the selection criteria with regard to the considerations of the investor for the categorization of the properties in deprived, mediocre and promising properties, and consequently the determining factors for future use of the (partly) vacant building. As such, the impact of vacant properties upon portfolio level is one of the criteria for decision-making. In addition, the category comprising promising properties is reducing, consequently reinvestment (within use adaptation) in the mediocre buildings can contribute to the supply of this type of property. Furthermore, conversion or temporal conversion of the building into another function is also a possibility. Finally, demolition and disposal are the two remaining options.

Research methods
The answering of the main research questions will be done in accordance with a qualitative and thus empirical research, by adopting both a structured and an unstructured approach. However, the focus will merely lie upon the unstructured approach, since this research will be used for exploring the variation and diversity of the stated problem. The identified variables, thus the determining factors for decision-making, will be measured on an ordinal level and is therefore classified as a qualitative study.

The methods for the conduction of this research will be both qualitative an quantitative, explanatory, and correlational. The main research methods include a desk research (DR) comprising a scientific literature study, and a field research (FR), concerning interviews and a Delphi study, followed by a detailed implementation study. This implementation study will be done using the Operation Research method, named Tetra. Tetra enables the possibility to make a detailed consideration for the future use of vacant properties in the portfolio.

THEORETICAL FRAMEWORK

Current trends office market
The market situation now finds itself in the contraction phase and causes a structural change in the real estate market. Hence, it is assumed that the real estate market, and in this particular case the investors, have to allocate a different strategy with regard to future use of their real estate investments and especially their vacant property. Consequently, the supply for office space structurally changed to a specified offer as an answer for current demand. Therefore, the real estate market now comprises an exceptional confluence of requirements and opportunities for both the investor and the tenant. Moreover, a structural change in trend can induce a drop in the asset performance and its value.
Different types of investors

Subsequently, there are four main investment styles, of which the value-added funds are now considered to be the style of choice, focusing on slightly higher risk and return on investment. Since it is assumed that there has been a structural change in the real estate office market, a focus upon the core-plus and value-add real estate investors is chosen for this graduation research.

The way of investing in real estate can be both direct and indirect. Furthermore, indirect real estate investments can be done in a Non-listed property fund or a Listed property fund.

The core-plus and value-add investor knows an average risk and related return on investment profile, and focuses on investment in different regions, types of real estate and developments. This type of investor therefore focuses on generating value during a growth phase, by investing in real estate using a relatively high leverage and high capitalization rate. Such investments include among others vacant offices, which are acquired for highly reduced prices. Consequently, the yields in the top, middle and basic segments present an increasing gap. In addition, the interest in listed property increased as well, as a consequence of a preference in indirect investments through specialists.

Portfolio management

A known characteristic of real estate portfolios is the diversification of assets and investments. Asset allocation is based upon the possible investment and desired return on investment, called Modern Portfolio Theory (MPT). Subsequently, promising assets compensate deprived assets within the portfolio. However, there is currently a high vacancy rate with regard to offices. Although all forms of vacancy can lead to a loss of income and higher operational costs, not every form of vacancy is considered to be an equally severe problem. However, this does not include that the investors’ portfolio contains no problematic properties. Consequently, real estate investors are becoming more aware of the realistic threat of vacancy in the investment portfolio. Vacant office buildings lead therefore to a reduction in return on investment and can thus lead to a possible negative cashflow. Interesting is the turning point of the building from a positive to a negative cashflow with regard to the percentage of vacancy in the building. Hence, the buildings’ negative cashflow may at first not be critical for the investor. Consequently, this reflects the value of the office buildings, which often have to be revaluated downwards. Therefore it is interesting to investigate which buildings are still offering space in accordance with current demand, and which buildings are difficult to find a tenant for. Subsequently, the research distinguishes deprived, mediocre and promising real estate, which is mainly based upon the location and the length of vacancy.

Vacancy management

Furthermore, the factors which influence the decision making of future use of vacant office buildings are determined according to the literature, focusing on consolidation, within use adaptation, conversion and disposal. This led to a analytical framework, comprising vacancy management in the form of a decision making structure including future use and possibilities, related to different causes, types, duration and extend of vacancy.
REFLECTION

SCIENTIFIC RELEVANCE

Despite the increasing attention on portfolio management decision-making in recent years, there are only a limited amount of practical publications on this field of knowledge. Various authors have studied this area of knowledge, among others Rosenfeld and Shohet (1999), who identify that the state of deterioration of building components and systems largely determines the need for renovation. In addition, Allanne (2004) tries to select feasible refurbishments actions during the conceptual phase of urban renewal project, using the multi-criteria ‘knapsack model’. Still, there is a gap in knowledge comprising rigorous yet practical decisions concerning existing build assets. Although, Langston and Smith (2011) focus upon refurbishment decision-making, with a specific interest in the application to on-going renewal choices for existing buildings, the need for mapping criteria, attributes and alternatives remains critical. Furthermore, Keeris (2007) identifies three types of risk with regard to portfolio management, namely specific risk, systematic risk and management risk. In his paper, Keeris assumes that with increasing size of portfolio both management risk and systematic risk increase by diversifying the real estate investments. As such, decision-making upon portfolio level with regard to future use of real estate within an asset allocated portfolio presents an interesting field of research. Consequently, literature presents much research with regard to portfolio investment decision-making (Baum & Turner, 2003; Bullen & Love, 2010; Lee & Byrne, 1998; Roberts & Henneberry, 2007; Trippie, 1989). Nevertheless, there is a gap in scientific knowledge addressing this topic with regard to determining factors for future use of real estate, thus management of vacancy at portfolio level. This research aims to contribute to the existing scientific knowledge by focusing on this field of research, namely vacancy management at portfolio level, and gains therefore at the identification of determining factors of decision-making for future use of vacant properties at portfolio level from the perspective of an investor.

SOCIAL RELEVANCE

The current Dutch office market presents a continuous overproduction and oversupply. In 2012, a Covenant has been signed to address this problem, and aims for a properly functioning office market, by focusing on the desired match of demand and supply (“Conventant aanpak leegstand kantoren,” 2012). Therefore the Covenant prescribes that developers must build new office buildings mainly in Growth Areas. Hereby, adding offices to the current stock is not the focus, rather present and future demand must be the guiding factor resulting from the needs of the user.

In addition, as mentioned previously, investors are confronted by vacancy within their real estate portfolio. Although the vacancy of property is primarily the problem of the investor, or owner of a vacant building which affects the owner of a building directly, it can be considered as a societal problem, since the owner is often an investor, private investor or group of private investors, open or closed funds, and whether or not stock market listed (Remøy & Van Der Voordt, 2006). However, disposal, conversion or within use adaptation of deprived and vacant real estate is often difficult with regard to the book value of the property. Moreover, in accordance with the current real estate market, many investors are not willing to make major decisions because of high risks, and do not accept the problem (Van Leeuwen, 2013). Therefore, many office buildings remain vacant, since investors are hoping for that one specific tenant. As a consequence, the value of many vacant properties are not conform the current real estate market, and presenting higher values per square meter. Nevertheless, doing nothing is no option. Thus, investors must be willing to devaluate their obsolete and vacant buildings to be able to converse or dispose the property.

Subsequently, there is demand for vacancy management at portfolio level for future use of vacant office buildings. As such, vacancy management can enhance the considerations with regard to future use of vacant office buildings from the perspective of the investor. In accordance with real estate magazines, it is stated that the time of entering the disposal of offices for future use is coming closer (Hanff, 2013). Hence, vacancy management can contribute to the solution space for impairment of vacant buildings and opportunities for future use of such property.
PERSONAL MOTIVATION

My personal interest in this problem area derived from a recent research commissioned by Atelier Rijksbouwmeester in cooperation with five lecturers and/or instructors of which one, professor Hans de Jonge, is professor at the department of Real Estate & Housing. Consequently, I realized the importance of this problem in many fields of the real estate market, as it is encountered in many related articles. Hence, I aim to contribute to the solution space of this problem area by presenting the results of the predefined research. I intend to increase the knowledge with regard to current real estate advise on the field of vacancy management at portfolio level. I therefore have a decision structure or decision model in my mind as an endproduct to enhance vacancy management of real estate investors in the office market. Furthermore I hope to gain personal insight in the professional field of real estate investors, and their motives with regard to decision making of vacant buildings.
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<th>ABBREVIATIONS LIST</th>
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</tr>
<tr>
<td>REIT</td>
</tr>
<tr>
<td>RPI</td>
</tr>
</tbody>
</table>
# TABLE OF CONTENTS

| COLOPHON | 2 |
| FOREWORD | 3 |
| SUMMARY | 4 |
| REFLECTION | 6 |
| ABBREVIATIONS LIST | 8 |
| TABLE OF CONTENTS | 9 |

## 1. RESEARCH PROPOSAL

1.1 MOTIVATION
   1.1.1 Current trends office market
   1.1.2 Demand for office space
   1.1.3 Adaptive re-use as a solution

1.2 PROBLEM OUTLINE
   1.2.1 Portfolio management
   1.2.2 Investment decision making process object level
   1.2.3 Vacancy within portfolio

1.3 PROBLEM STATEMENT
   1.3.1 Conceptual model

1.4 PROMBLEM DELINEATION

1.5 RESEARCH QUESTIONS
   1.5.1 Main research Question
   1.5.2 Sub questions

1.6 AIM OBJECTIVES
   1.6.1 Qualitative research objectives
   1.6.2 Type of research

1.7 METHODOLOGY AND PROCESS
   1.7.1 Research methods
   1.7.2 Research process

1.8 CONCLUSION

## 2. THEORETICAL FRAMEWORK

2.1 CURRENT TRENDS OFFICE MARKET
   2.1.1 Permanent shift in real estate trend
   2.1.2 Changing demand
   2.1.3 Vacancy
   2.1.4 Possibilities for future use

2.2 DIFFERENT TYPES OF INVESTORS
   2.2.1 Ways of investing
   2.2.2 Investment styles; risk vs. return on investment
   2.2.3 Types of investors; aim objectives and investment style
   2.2.4 Relation between different investors
   2.2.5 Impact of current market trends upon the real estate investor

2.3 PORTFOLIO MANAGEMENT
   2.3.1 Current portfolio management & decision making
   2.3.2 Portfolio management in relation tot property management when dealing with vacancy
   2.3.3 Categorization into deprived, mediocre and promising real estate
   2.3.4 Factors determining investment decision making

2.4 VACANCY MANAGEMENT
   2.4.1 Different ways to manage vacancy
   2.4.2 Excel model; preference measurement vacancy management

2.5 CONCLUSION

LITERATURE

APPENDIX A | VACANCY PROBLEM AREAS
1. RESEARCH PROPOSAL

The current Dutch office market presents a continuous overproduction and oversupply. Consequently, investors find themselves in a buyers’ market, presenting the tenant a strong negotiating power. Furthermore, the office market experiences high vacancy rates, comprising approximately 50% of structural vacant buildings. Subsequently, many investors are confronted by these current market conditions, encountering vacancy in their real estate portfolio. Addressing this problem area, reuse of office buildings by within use adaptation and conversion may offer solution space. Thus, there is demand for vacancy management at portfolio level for future use of vacant office space. This research will therefore focus upon the dependent factors at portfolio level, for the decision making for future use of vacant office space from the perspective of different type of investors.

1.1 MOTIVATION

1.1.1 Current trends office market

It can be stated that the current Dutch office market illustrates a continuous overproduction and oversupply. This is mainly caused by the previous booming years of the Dutch real estate office market. As such, overproduction included the construction of both many office buildings, comprising among others offices at B-locations and of no high quality. Today’s real estate market is therefore characterized by vacancy and shrinkage of demand for square meters by the market. The office market indicates a rise of the supply of office space up to 7.9 million square metres in the Netherlands, representing an increase of 4.9% in one year (DTZ Zadelhoff Research, 2013; Remøy & Van Der Voordt, 2011). Along with the supply of office space, the vacancy rises likewise, presenting 7.2 million square meters. Although the market takes up office space, office supply and vacancy continue to rise. This is caused by relocating organizations, which reduce the amount of workspace per worker, leaving behind more square meters of office space. Consequently, the take-up level of relocating organizations has been 12% less than the previous year. Moreover, the market defines a mismatch between demand and supply, initiated by the recent economic recession and new ways of working. Hence, part of the vacancy is structural, namely being vacant for more than 3 years with the same quantity of square meter office space. According to Wiegervick, the main opportunities can be found in user-oriented offices and redevelopment (Wiegervick, 2013). Many parties are now aware of the current office market conditions, and are focused upon recovery. Consequently, office owners and banks begin slowly to downgrade their property, municipalities adjust their plans and project developers are changing towards redevelopment and transformation.

Buyers’ market

In addition to continuous rise of oversupply and overproduction, DTZ encounters several developments, which affect the property market (DTZ Zadelhoff, 2013). Among others, this is the reduction in the number of municipalities in the Netherlands. Although this leads to reduction of competition, it adds to the oversupply of offices since the demand for office space will shrink. However, on 27 June of 2012, the government, together with a number of umbrella organizations and several sector organizations, signed a Covenant to address the problem of vacant office space (“Convenant aanpak leegstand kantoren,” 2012). This Covenant aims for a properly functioning office market, by focusing on the desired match of demand and supply. Therefore the Covenant prescribes that developers must build new office buildings mainly in Growth Areas. Hence, adding offices to the current stock is not the focus, rather present and future demand must be the guiding factor resulting from the needs of the user.

1.1.2 Demand for office space

Replacement market

While the office market experiences high vacancy rates, as stated in the previous, even more disturbing is that approximately 50% of all vacant office space is vacant for three or more years (Remøy & Van Der Voordt, 2011). These structural vacant buildings are often obsolete, and no longer offering office space meeting the current demand. This can be explained by the continuous
overproduction, as discussed in paragraph 1.1.1, since overproduction makes the addition of high-quality offices possible. On the opposite a real estate office market, which enables less production of office space, will encounter less obsolete offices, as renovations are then needed to meet the demand.

Definition Obsolescence >> Loss in the existing value of the property due to depreciation, this can either be caused by physical deterioration, functional obsolescence or aesthetic obsolescence (definition based upon Baum, 2003)

According to Remøy (2007) the office market has become a replacement market, since the stock in use is relatively stable and has no demand for expansion. Consequently, the obsolete office buildings are a result of the replacement market, as office users move from existing buildings to new developments leaving the old building behind. This is supported by Bullen & Love (2010), indicating that throughout their lifecycle buildings decrease in performance. Subsequently, the building does not meet its current demand, and can be defined as obsolete. Since quantitatively there is no new office demand, these buildings are not taken up by the market.

Definition Replacement market >> Stock in use is stable, consequently there is no demand for expansion, hence the office market becomes a replacement market (definition based upon Remøy, 2007)

Take-up
As stated in the previous, there is only a specific new office demand, and therefore the take-up of office space has decreased. However, there is still demand for specific office space, namely demand for new high quality sustainable offices. According to DTZ Zadelhoff (2013), there has been a noticeable change in the type of organization taking up business space, indicating especially a decrease in take-up by the government and non-profit sector. Now, business service providers conceal a significant share in this market. Moreover, financial and economic business services sectors are experiencing more dynamic activity, which is mainly the result of down scaling and relocation of the business. In addition to the change of type of organizations, the amount of transactions has decreased (Bak, 2011). Bak states that this mainly showed in the medium-sized office category (1,000 – 5,000 sqm), though the take-up of larger office spaces remained steady and take-up of smaller office spaces even increased.

With regard to the increasing take-up of smaller office space, DTZ Zadelhoff defines a wide variety of office users with specific individual accommodation needs (DTZ Zadelhoff, 2013). Moreover, these office users are all highly affected by the economic crisis. This is supported by Dynamis, who encounters several trends with regard to decrease in demand for office space by large office users, namely flexible working space, need for efficient working space and continuation of the economic recession (Bröcker, 2013; Dynamis, 2013). Consequently, the market dynamics are considered to be changed permanently. However, with regard to the economic recession, a take-up of 35% is considered to be significant. In addition, the take-up by new office users and existing office users was positive. Nevertheless, as mentioned before, the government will dispose a large amount of office space, hence Utrecht, Amsterdam and The Hague will encounter problems in the coming future.

1.1.3 Adaptive re-use as a solution
In reaction to the oversupply and transition of the market into a replacement market, new developments have to consume less land, generate fewer private car miles, use exiting urban resources and conserve energy. With regard to the changing needs and demand of the office users, within use adaptation provides a way of retrofitting the obsolete office to current standards. If however, an office building is no longer possible to meet the needs and demands of the office user, adaptation may be a solution. Within this solution space, Heath defines the increase of residential functions within city centres as an integral tool of regeneration and sustainability. This is supported by Remøy and Van Der Voort (2011), indicating that residential conversion presents a solution for obsolete and vacant office buildings. In addition to residential functions, other functions for conversion of office buildings are also present.

Definition Within use adaptation >> retrofitting the obsolete office to current standards, to meet the needs and demand of the office user

Definition conversion >> adaption of an obsolete office into another function

It must be taken into consideration that continued development of new office buildings will increase the vacancy rate. Hence adaptive re-use of obsolete office buildings can contribute to the vacancy problem, however control of the office supply is needed to find a prolonged solution.
1.2 PROBLEM OUTLINE

The issues addressed in chapter 1.1 confront many investors, which are encountered in a portfolio of real estate, including different objects. Therefore, portfolio management within the current market conditions, as mentioned in the previous, is one of the important problem areas of today. In the subsequent, portfolio management is discussed from various perspectives, followed by the impact of environmental and social issues upon portfolio management. This is followed by the investment decision making process at portfolio level and dealing with vacancy in this real estate portfolio.

1.2.1 Portfolio management

With regard to property investments, different type of users can be distinguished, namely an owner and end-user, institutional investors, investor and project developer and private investors (further explained in the next paragraph). These different types of investors have a different focus on portfolio management, since their aim with regard to real estate varies.

**Owner & end-user, Investor, Investor & Project developer**

The owner and end-user invests in offices to be able to execute the core business. However, not all corporate leaders in many companies are aware of the strategic potential of their real estate (Lindholm & Levainen, 2006). These companies encounter their real estate as a cost of doing business rather than a value adding opportunity. Lindholm and Levainen allocate this to the lack of knowledge and experience of corporate officers with regard to property decision-making. The corporate real estate manager should therefore ensure the awareness of the top decision makers concerning potential contributions to the overall success of the core business by real estate decision making. The portfolio management therefore concerns real estate decision-making with regard to the profitability of the core business, hence decisions are based upon the match of current and future demand, and current and future supply. Hoendervanger et al. define four perspectives, namely strategic, financial, functional and physical, which should be integrated and balanced towards each other to enhance the

housing strategy (Hoendervanger, Van Der Voordt, & Wijnja, 2012). Den Heijer therefore introduces the CREM framework, which focuses upon the creation of an objective supply and demand analysis by making an inventory of the stakeholder problems in the current situation (a subjective analysis) (De Jonge et al., 2009)

**Definition Portfolio management of an owner & end-user >> Portfolio management concerns real estate decision-making with regard to the profitability of the core business (definition based upon Hoendervanger et al., 2012)**

The investor invests in property to gain profit, and has therefore a different perspective towards real estate. This can either be a private investor or a institutional investor, which can be non-listed property company or a listed property company (Gijsselaar, 2009). The portfolio management is focused upon the integration of the real estate investment policy within the real estate strategy (Van Driel, 2010). The real estate strategy specifies the segments of investment, location, demanded return on investments and sustainability criteria. For this research, there is only focussed upon investment in office buildings. Investors define benchmarks for the investment strategy, which includes the average of the participating portfolios with regard to the obtained result. These benchmarks are determined by key factors, including for example rentability, vacancy and response rate. These factors are defined by specific knowledge of the real estate market, and the quality of the building and location, it therefore requires a local approach.

The investor and project developer encounters the same portfolio management as the investor, although this investor will also develop the project itself, rather than only invest in the property.

**Definition Portfolio management of an investor >> Generation of real estate policy as real estate strategy with regard to property investment, taking segmentation, return on investment, location and sustainability criteria into account (definition based upon Van Driel, 2010)**

**Investors perspective during economic recession**

As mentioned in chapter 1.1.2, the economic recession highly affects the real estate market. Consequently, Hoffman et al. (2012) present the change of investor perceptions and drive trading and risk-taking behaviour as a
consequence of the economic recession of 2008-2009. They conclude that during the worst months of the recession, investors’ return expectations and risk tolerance decrease, while their risk perceptions increase. Contrary to popular beliefs and expectations from literature study in advance of the research, individual investors continue to trade and do not de-risk their investment portfolios during the crisis. Interesting, is the entry of individual investors in the stock market, derived from depressed asset prices seen as an opportunity. Hoffman et al. indicate the relationship of investors’ risk tolerance and risk-taking behaviour, which are time varying. However, investors’ portfolio risk seems to move in parallel with market risk. According to their research, this is caused by either the investors’ indolence and rebalances after price changes, thus drives ultimately portfolio risk. This is seen in the current Dutch office market, for the first time after the economic recession, investors dare to take risks again. According to Vastgoedmarkt (2013a), a percentage of the investors are expecting to increase the allocation of real estate within the investing portfolio.

1.2.2 Investment decision making process object level

**Investment decisions**

In addition to the decision making process of investors, one must understand that property investments differ from other type of investments due to lease structures, physical nature and the consequent depreciation of the property (Baum & Turner, 2003). Trippie (1989) describes the differences between other type of investments and real estate. It is difficult to allocate an incremental strategy for real estate decisions, since acquisition and divestment are often long-term investments. Moreover, mistakes are hard to correct on the short term and often impact the financial budget of the investor or organization. In addition, transaction costs are high, making long-term investments crucial. Finally, both active and passive management is possible. However, the most productive portfolios are seen as active. Hence, the performance of the portfolio is dependent upon the development and execution of an optimal long-term action plan for each property. Therefore, performance measurement systems, which compare income, capital, and total return within and across asset classes, are now standard. Baum and Turner argue the link between retention rates and total returns, stating that higher returns on equity can be achieved through rather reinvestment instead of a full distribution policy. It is suggested that investors who actively manage their assets, and thus the lease structure, positively influence the total return. Notable is, that lease contracts continuously seem to shift towards contract periods of five years (Dynamis, 2012). Furthermore, incentives as discounts of 20 – 25% and rent-free periods of 12 – 18 months are no exception. In addition, Baum and Turner suggest that some reinvestment of income is believed to be necessary to maximize returns, and more importantly that reinvestment relieves depreciation and thereby improves the net income growth. Dynamis indicates the importance of asset value, which is becoming more and more under pressure by the current economic recession, which leads to high uncertainty, as discussed in paragraph 1.2.1. Consequently, demand for office space decreases and rent levels lower, which leads to even more vacancy. Dynamis therefore supports the suggestion of Baum and Turner, since the value of an object is highly related to the return of investment. Additionally, this value becomes more dependent on the location of the property rather than the quality of the building, indicating an increase in differences between promising and deprived locations. Since, as stated in paragraph 1.1.1 we are experiencing a buyers’ market, there remains only demand for the best locations. Hence, risks with regard to vacancy of certain buildings become significant.

**Corporate social responsibility with regard to vacancy**

Vacancy of property is primarily the problem of the investor, or owner of a vacant building, which affects the owner of a building directly. However, the owner is often an investor, private investor or group of private investors, open or closed funds, and whether or not stock market listed. Many office buildings are therefore owned by pension funds. Consequently, the problem of vacancy can be considered as a societal problem, encountered at different levels (Remøy & Van Der Voordt, 2006; Ris, 2012). Subsequently, vacancy has not only a negative influence on the value of the building itself, but also on the surrounding buildings (Koppels, Remøy, & El Messlaki, 2011). At societal level, vacancy can present problems of insecurity and social uncertainty and may cause criminality issues. Thus, as an investor it is in your own and societal interest to embed corporate social responsibility in your investment strategy.

New build investments are currently not seen as corporate social responsible, a focus upon re-use is therefore desired. However, there are still buildings newly built at the moment, which influences the market developments negatively. Since only large companies are able to invest in new office space, smaller companies are encountering even more difficulties in the future. Thus as an investor, it is crucial to take corporate social responsibility into account, not only with regard to sustainability (triple P) issues as discussed in paragraph 1.2.2, but with regard to the problem of vacancy as well.
1.2.3 Vacancy within portfolio

As a consequence from the current office market in relation to investment decisions, there is a demand for vacancy management at portfolio level from the perspective of the investor. As discussed, considerations with regard to future use of the existing real estate portfolio and prospective real estate portfolio have to be allocated. Real life examples support this, focussing upon decrease of vacancy in their portfolio, re-use of obsolete buildings and space for a sustainable approach (Bayraktaroglu, 2013a). This example highlights the important focus upon ensuring the tenant with quality by reinvestment in the obsolete office buildings within their portfolio. Furthermore, the rent levels move along with current market conditions.

To be able to manage the office portfolio, investors tend to divide the assets into three categories, namely deprived, mediocre and promising properties (Vastgoedmarkt, 2013b). In accordance with DTZ, it is important to focus upon the qualitative differences of properties. The previously mentioned rent ability therefore increases when the property has a higher score upon market-, location- and object-specific characteristics.

Since vacancy is besides the deprived part, often found in the mediocre part of the portfolio, future use with regard to this category is interesting (Remøy & Van Der Voordt, 2006). The category comprising promising properties is decreasing, consequently reinvestment (within use adaptation) in the mediocre buildings can enhance the supply of this type of property. Furthermore, conversion or temporal conversion of the building into another function is also a possibility. In addition, demolition and disposal are the two remaining options. Figure 1 shows an overall scheme of the problem area, as discussed in the latter. The figure presents the different actors involved in the decision making process, namely the Investor (owner), user and project developer. As a result of influences from the valuation of the user upon the property, which can be based upon either qualitative and quantitative characteristics of the building, the indirect and direct return of the investor are determined. In combination with the investor’s objectives, decisions with regard to the future use of the property are taken.

**Impact of vacant property on real estate portfolio**

As mentioned in paragraph 1.2.2, investors tend to embrace a passive attitude towards vacancy in their portfolio. It is therefore interesting to explore the impact of the individual vacant buildings on portfolio level. Subsequently, it can be assumed that when at a certain point the cash flow of a building is considered negative, the portfolio can be negatively influenced. The cash flow of an office building can be negative when costs to maintain the building (e.g. service costs, insurance) are higher than the profit. Hence, it is asked at which point the vacancy at portfolio level reached the limit, meaning that the costs can no longer be covered by the profit. From that point onwards, investors may loose their passive attitude because of portfolio diversification, and tend to actively address the vacancy in their portfolio.
1.3 PROBLEM STATEMENT

The change of the current office market into a buyers’ and replacement market in combination with the continuous overproduction and oversupply, contribute to a difficult position of the real estate investor by resulting in (structural) vacancy within their real estate portfolio. Investors’ gain for a balanced consideration with regard to future use of (vacant) office space and related investments, asks for a well-substantiated decision making process. In addition, investors encounter the transition of focus from financial related decision making for investments into considerations comprising social and environmental issues. Although, the possibilities for redeveloping and adaption of existing office space for within use adaption and conversion are revealed at object level, there is still a lack of knowledge with regard to determining factors for future use concerning build assets at portfolio level including continuation, re-use, disposal or demolition. Moreover, investors tend to embrace a passive attitude towards vacancy, as a consequence of portfolio diversifications. In accordance with scientific literature and current real life issues, there is a demand for vacancy management at portfolio level for different type of investors.

This research therefore aims to explore determining factors for decision making from the perspective of different type of investors. Furthermore, this research will provide detailed considerations with regard to portfolio management from the perspective of one type of investor.

1.3.1 Conceptual model

Figure 2 presents the conceptual model based upon the problem statement. In combination with the scheme of the problem area (figure 1), it shows the relation between the selection criteria with regard to the considerations of the investor for the categorization of the properties in deprived, mediocre and promising properties, and consequently the determining factors for future use of the vacant property. Considerations of the investor are dependent upon the indirect and direct return on investment and other objectives, which are dependent upon the valuation of the user, which is derived from either or both qualitative and quantitative characteristics of the building. As such, the impact of vacant properties upon portfolio level is one of the criteria for decision-making.
1.4 PROBLEM DELINEATION

With regard to personal interest, time management, scientific and social relevance, the following delineation of the problem is chosen (see figure 3). My personal motive, deriving from participation in a research commissioned by Atelier Rijksbouwmeester\(^1\), results in an interest for dealing with vacancy in portfolio management. In line with current trends in the office market, this interest especially emphasizes on high vacancy rates in office space. As discussed in the problem statement, investors are encountering problems with regard to vacancy management at portfolio level, because of continuous oversupply of offices. The research will therefore focus on the investors’ perspective, by focusing on determining factors with regard to investment decision making for future use of (vacant) office space.

\[\begin{array}{|c|c|}
\hline
\textbf{What?} & \textbf{VACANCY MANAGEMENT AT PORTFOLIO LEVEL} \\
 & Office buildings \\
\hline
\textbf{For whom?} & \textbf{PRIVATE PARTIES} \\
 & Private Investor / Institutional Investor \\
\hline
\textbf{Where?} & \textbf{‘VACANCY PROBLEM AREAS’} \\
 & Netherlands \\
\hline
\textbf{Why?} & \textbf{OVERSUPPLY OF OFFICES} \\
 & High vacancy rate of obsolete offices within portfolio Replacement market & Buyers’ market \\
\hline
\textbf{How?} & \textbf{TOOL: DECISION STRUCTURE FUTURE USE} \\
 & From an investors perspective in the Netherlands \\
\hline
\end{array}\]

![Figure 3 | Problem delineation (own ill.)](image)

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1 Participation in research for Atelier Rijksbouwmeester 2013; ‘Leegstandsmanagement van publiek vastgoed’, as student assistant in cooperation with Hans de Jonge, Hilde Remøy, Theo van der Voordt, Hielkje Zijlstra and Philip Koppels.

1.5 RESEARCH QUESTIONS

1.5.1 Main research Question

The main research questions are formulated with regard to the defined problem statement. Since the problem statement comprises two main objectives, this research will be twofold. The proposed research therefore aims to answer the following questions:

1. What are the determining factors for future use of vacant office buildings at portfolio level from the perspective of an investor?
2. In what way can a decision structure be deployed to enhance vacancy management at portfolio level?

1.5.2 Sub questions

The sub questions are formulated according to four main theme’s, namely current trends in the office market, portfolio management, different type of investors and vacancy management at portfolio level. Together, the comprehensive sub questions aim to give a complete answer to the main research question as stated in the latter. The research methods are chosen to find a thorough answer to the sub questions, and will be discussed in paragraph 1.8.

Current trends office market

1. What causes the shift towards a buyer’s market?
2. What is the influence of a buyer’s market upon different types of investors?
3. What are the causes of vacancy of offices with regard to quality and quantity?
   a. What type of future use for offices can be distinguished?
   b. What property characteristics on portfolio level are determining for the type of future use?

Different type of investors

4. What type of investors can be distinguished?
   c. What is the relation of different type of investors towards each other?
5. What differences with regard to portfolio management can be distinguished?
   d. What factors determine preservation or disposal?
   e. How are different categories determined? (deprived, mediocre or promising)
f. What are the main factors with regard to the mediocre category to determine future use?
I. In what way influence current market conditions, corporate social responsibility and financial feasibility the decision making process?

**Portfolio management**
6. How can current portfolio management be defined?
   g. What are the main features and characteristics?
   h. What is the influence of objectives with regard to risks and return on investments upon the considerations of vacancy in portfolio?
   i. How is the book value of properties within the portfolio determined?
7. What is the impact of vacant office buildings on portfolio level?
   j. When is the percentage of vacancy determining for financial feasibility of the real estate portfolio?
8. What is the current decision making process with regard to portfolio management?
   k. How do investors currently cope with vacancy?
   l. What varies from the perspective of different types of investors?
9. What factors determine investment decision-making?
   n. What is the role of corporate social responsibility in portfolio decision-making?
   o. What is the role of current market conditions in portfolio decision-making?
10. What is the role of financial feasibility in portfolio decision-making?

**Vacancy management at portfolio level**
11. In what way can properties be identified which are suited for different types of future use?
12. What is the impact of either within use adaptation or conversion of vacant properties at portfolio level?
13. In what way can a decision making process contribute to managing vacancy at portfolio level?

### 1.6 AIM OBJECTIVES

The objectives of this research are mainly qualitative, focused upon vacancy management at portfolio level. Since the research comprises both exploration of determining factors for decision making from the perspective of different types of investors and detailed considerations with regard to portfolio management, the objectives both concern an exploring and correlational study (Kumar, 2011).

#### 1.6.1 Qualitative research objectives

The first qualitative objective of this research is to gain for a contribution to the reduction of the gap in knowledge of this field of research, being vacancy management at portfolio level. These aim objectives will be addressed in two stages. First, the current scientific knowledge and previous research will be used for creation of a theoretical framework. Secondly, a field research will contribute to development of this knowledge by additional knowledge from experience derived from the field of work. The second qualitative objective of this research is to gain for the deployment of a decision structure for future use of vacant properties within the portfolio of an investor.

**Sub aim objectives; exploratory research**

For the determination of factors for the categorization into deprived, mediocre and promising properties, the sub aim objectives are as follows:
- Identification of reasons of vacancy of offices;
- Identification of possibilities for future use;
- Identification of determining factors from the perspective of different types of investors (qualitative and quantitative) for categorization.

For the determination of factors for future use of (vacant) office buildings at portfolio level, the sub aim objectives are as follows:
- Defining impact of vacant property at portfolio level;
- Defining impact of future use of vacant property at portfolio level;
- Defining impact of financial feasibility, corporate social responsibility, building characteristics and market conditions upon determination of future use of property;
- Identification of determining factors from the perspective of one type of investor for future use of vacant property.

**Sub aim objectives; correlational study**

For the creation of a decision-making structure for future use of (vacant) office buildings at portfolio level, the sub aim objectives are as follows:
- Defining the approach to deal with vacancy in portfolio;
- Defining a decision-making process by means of the defined criteria.
1.6.2 Type of research

The answering of the main research question as defined in paragraph 1.5, will be done in accordance with a qualitative and empirical research, by adopting both a structured and an unstructured approach (Kumar, 2011). However, the focus will merely lie upon the unstructured approach, since this research will be used for exploring of the variation and diversity of the stated problem. The identified variables, thus the determining factors for decision-making, will be measured on an ordinal level and the research is therefore classified as a qualitative study. Although, the variables are identified by a qualitative research, the use of these variables within the deployment of a decision making structure will have a structured approach. This model can be considered as a quantitative model of the subjective findings during the empirical research. This research is therefore two folded, which will contribute to the optimization of the outcome of this research by complementing each other and reduce weaknesses (Groat & Wang, 2002). In Paragraph 1.8, the research methods and research process will be further elaborated.

1.7 METHODOLOGY AND PROCESS

For the conduction of this research and focus on the aim objectives, specific research methods are chosen. Time management, personal interest and relevance contributed for the choice for these research methods. In the following paragraphs, first the research methods will be discussed, followed by the research process and finally the anticipated end product.

1.7.1 Research methods

Following from paragraph 1.6.3, the methods for the conduction of this research will be qualitative, explanatory, and correlational. The main research methods include a desk research (DR) comprising a scientific literature study, and a field research (FR), concerning interviews and a Delphi study, followed by a detailed implementation study for one specific case. In the following, the different research methods will be discussed separately.

Qualitative research methods

Literature study

The desk research focuses upon the gathering, analysing and interpreting of information through a literature study. This literature study includes two stages, namely exploration of the problem and field of research, and the creation of a theoretical framework. The first is presented in this report, being the problem outline and statement. The second stage of the literature study will follow hereafter, using scientific articles, magazine articles, websites, previous research, reports and existing other existing data as input for the theoretical framework. This theoretical framework will comprise the answer of several the sub research questions associated with the sub topics; current trends offices market, different types of investors, portfolio management, and vacancy management at portfolio level, as presented in paragraph 1.5.2.

Interviews and Delphi study

The field of research concerns both explorative unstructured interviews and in-depth structured interviews, with respectively different types of investors (as defined in paragraph 1.2.1), and one type of investors (presumably institutional investors). The choice for interviewee’s is based upon the concluded desk research and available contacts via the supervisors and others involved. The first interviews, which are unstructured, will be used for insight in the differences between different types of investors and associated considerations with regard to future use of the properties within the real estate portfolio. Derived conclusions and knowledge from the desk research will together be the basis for the in-depth and structured interviews, which are than used for a Delphi study. The desired outcome of this Delphi study (or similar) is a ranking of determining factors for future use of vacant offices by different investors of one type. It is chosen to focus upon investors, rather than office tenants and other possible users, since the interesting part of the field of research considers the considerations of the investor for future use of vacancy and possible investments. The valuation of the office user will therefore probably be a variable influencing these considerations.

The interviews will be recorded and written out, to make preservation of interesting and valuable insights possible, which can be used during further research. The amount of interviews is based upon the findings during the desk research, supervision and explorative interviews. Provisionally, it is assumed that there will be approximately 4 explorative interviews and 10 to 12 in-depth interviews. Following from these in-depth interviews, expert meetings for the Delphi study will be organized for the evaluation and ranking of defined variables. Furthermore, the interviewees or experts will be asked to give feedback upon their ranking with regard to the average by all experts. Thus, the
research will not only be relying upon own findings from the literature study and interviews but also on the experience and knowledge of professionals.

**Qualitative & Quantitative research method**

*Detailed implementation study; Operation Research*

After the Delphi study, the findings will be implemented in a decision-making structure, which can be compared with a specific case. This implementation study will be done using the Operation Research method, named Tetra. Tetra enables the possibility to make a detailed consideration for the future use of vacant properties in the portfolio. It is desired to carry this out at a graduation company, who could benefit from the use of a decision making model for considerations with regard to future use of vacant office buildings at portfolio level. The aim for implementation of the decision model is to combine acquired knowledge with the practice, and to gain for mutual benefit. On one hand, the company or investor offers knowledge from the field and experience, on the other hand the investor can apply the gained knowledge to enhance successful decision making with regard to future use of properties at portfolio level.

*Multi-criteria analysis (MCA); User preference measurement*

A theory of (preference) measurement has been developed by Barzilai (Barendse, Binnekamp, De Graaf, Gunsteren, & Van Loon, 2012). The main results of this theory are the construction of measurement scales to which linear algebra and calculus are applicable. Based on this theory, a practical methodology for constructing proper preference scales, Preference Function Modeling (PFM), and a software tool that implements it, Tetra, have been developed. The process of using Tetra to make a decision includes seven steps:

1. Creation of a model;
2. Definition of the decision makers who will be involved in the process;
3. Definition of the alternatives with regard to the decision making;
4. Definition of the criteria upon which the decision will be based. These criteria can include main criteria and sub-criteria;
5. Definition of the weights for all the criteria. These are defined relatively, specifying how important each criterion is in relation to the other criteria;
6. The decision makers enter their ratings for each alternative with respect to each criterion. This is done in accordance to a pre-defined measurement scale from 0 – 1;
7. Solve the model that has been created by the previous steps to compute the overall scores and get a numerical rating of the alternatives that corresponds to the combined ratings of all of the decision makers.

This method will be used to model the decision making of the real estate investor on portfolio level. Therefore the criteria are the factors to determine the future use of the (partly) vacant office buildings. The alternatives are the different types of future use. Chapter 2 will further elucidate this type of preference function modeling and will discuss an example of the employment of the model for this specific research.

**1.7.2 Research process**

The presumed research methods, as described in the previous paragraph, differ in their procedures, data collection, analysis and implementations during the research process. This depends upon the nature of the research method, being qualitative or quantitative, and the desired outcome of the data collections and analysis. The use of different methods is spread over the total research process, including five interim assessments. Figure 4 presents the research design, including the use of the research methods and division into 5 periods of time. The research design consists of mainly three phases, and thus three (interim) conclusions. The colours white and green represent respectively desk research (DR - white) and field research (FR - green). The three phases will be discussed separately in the following paragraphs and will be concluded with the description of the desired end product.

**Phase 1**

Phase 1 (Ph1) includes both an explorative literature study and a detailed literature study, and orienting interviews. Since this report presents the results of period 1 (P1), the explorative research has already been conducted. Consequently, the problem outline, problem statement and research questions are formulated. Furthermore, this phase consists of orienting interviews, of which one is done already. The study so far will form the basis for the theoretical framework, as will be conducted after period 2 (P2). This theoretical framework will include existing scientific knowledge, theories, analysis of previous research and conclusions in relation to gained knowledge by the orienting interviews with different types of investors. During P1, a collection of scientific literature has already taken place, which will be enlarged during P2. Furthermore, the field of research will be explored during the literature study from different perspectives as well (e.g. tenant and project developer), to identify valuation of the property by the tenant and nature of factors in relation to the object specific characteristic and their impact upon decision making at portfolio level.
The literature study and orienting interviews will focus upon the first stage within the conceptual model, namely the categorization of real estate in deprived, mediocre and promising properties in relation with vacancy at portfolio level. Therefore, the following topics will be discussed:

- Main reasons for vacancy of real estate;
- Different types of future use;
- Portfolio management in relation to current economic recession;
- Determining factors with regard to categorization in deprived, mediocre and promising real estate;
- Determining factors with regard to quality and quantity at object and location level and market conditions for considerations of future use of vacant buildings within the real estate portfolio;
- Impact of future use of vacant office buildings on the real estate portfolio.

Deriving from the literature study and orienting interviews with different types of investors, a selection of criteria with regard to investment decision making of future use of (vacant) property will be identified. These criteria will be the input for phase 2.

**Phase 2**
After the formulation of the criteria after Ph1, Phase 2 (Ph2) will start by selecting approximately 10 / 12 investors of one type for the empirical study of in-depth interviews and the Delphi study. The choice for the investors is based upon own interest, acquired knowledge and in consultation with the supervisors. In addition to the answering of the interview questions, the interviewees will be asked to rank the importance of the criteria formulated in Ph1. Consequently, the criteria will be ranked to enable the deployment of a decision structure in phase 3 (Ph3). Although, the obtained knowledge will still be qualitative, the ranking of the criteria will make further research and implementation possible.

**Phase 3**
The acquired knowledge in Ph2 will be used for the deployment of a decision-making structure, focusing upon a process for decision making of future use of vacant office buildings at portfolio level. It is desired to perform this part of the research process at a graduation company, who is interested in such a structure and can provide the desired input for the deployment of this decision-making structure. After this part of desk research, the decision-making structure can be used for be implementation in a specific case (provided by the graduation company). It can both be tested and compared to a real life case to elaborate on the decision structure and strengthen its applicability.
Figure 5 | Research design (own ill.)

**DR: LITERATURE STUDY**
- Current trends office market
- Different types of investors
- Portfolio management
- Defining determining factors

**FR: ORIENTING INTERVIEWS**
- Private Investor
- Institutional Investor
- Investor / Project developer

**INTERIM CONCLUSION:** Factors determining investment decision making at portfolio level for different types of investors / choice for one type

**PHASE 1**
- PERIOD 1

**DR: RESULTS**
- Similarities and differences
- Most and least important factors determining decision making

**FR: DELPHI STUDY**
- Interviewing 10/12 different investors (of same type); ranking determined factors

**INTERIM CONCLUSION:** Most important factors for decision making; future use of vacant office building in portfolio

**PHASE 2**
- PERIOD 2

**DR: DECISION STRUCTURE**
- Developing decision structure for future use of vacant buildings at portfolio level

**FR: IMPLEMENTATION**
- Testing of decision structure at company in the Netherlands (difficult economy conditions)
- Possible testing of decision structure at company in other country (good economy conditions)

**PHASE 3**
- PERIOD 3 & 4

**END PRODUCT:** Decision structure for future use of vacant office buildings at portfolio level

**PHASE 5**
- PERIOD 5

**NOTE:**
- Figure 5 illustrates the research design as developed for the graduation laboratory REM project.
1.8 CONCLUSION

The change of the current office market into a buyers’ and replacement market in combination with the continuous overproduction and oversupply, contribute to a difficult position of the real estate investor by resulting in (structural) vacancy within their real estate portfolio. Investors’ gain for a balanced consideration with regard to future use of (vacant) office space and related investments, asks for a well-substantiated decision making process. Subsequently, there is demand for vacancy management at portfolio level for future use of vacant office buildings. As such, vacancy management can enhance the considerations with regard to future use of vacant office buildings from the perspective of the investor. This research therefore aims to explore determining factors for decision making from the perspective of different type of investors. Furthermore, this research will provide detailed considerations with regard to portfolio management from the perspective of one type of investor.

Since this problem statement comprises two main objectives, this research will be two folded. The proposed research therefore emphasizes on answering the following questions:

What are the determining factors for future use of vacant office buildings at portfolio level from the perspective of an investor?

In what way can a decision structure be deployed to enhance vacancy management at portfolio level?

As a result of influences from the valuation of the user upon the property, which can be based upon either qualitative and quantitative characteristics of the building, the indirect and direct return of the investor are determined. In combination with the investor’s objectives, decisions with regard to the future use of the property are taken. This research therefore focuses on the selection criteria with regard to the considerations of the investor for the categorization of the properties in deprived, mediocre and promising properties, and consequently the determining factors for future use of the (partly) vacant building. As such, the impact of vacant properties upon portfolio level is one of the criteria for decision-making. In addition, the category comprising promising properties is reducing, consequently reinvestment (within use adaptation) in the mediocre buildings can contribute to the supply of this type of property. Furthermore, conversion or temporal conversion of the building into another function is also a possibility. Finally, demolition and disposal are the two remaining options.

The answering of the main research questions will be done in accordance with a qualitative and thus empirical research, by adopting both a structured and an unstructured approach. However, the focus will merely lie upon the unstructured approach, since this research will be used for exploring the variation and diversity of the stated problem. The identified variables, thus the determining factors for decision-making, will be measured on an ordinal level and is therefore classified as a qualitative study.

The methods for the conduction of this research will be both qualitative an quantitative, explanatory, and correlational. The main research methods include a desk research (DR) comprising a scientific literature study, and a field research (FR), concerning interviews and a Delphi study, followed by a detailed implementation study. This implementation study will be done using the Operation Research method, named Tetra. Tetra enables the possibility to make a detailed consideration for the future use of vacant properties in the portfolio.
2. THEORETICAL FRAMEWORK

The market situation now finds itself in the contraction phase and causes a structural change in the real estate market. Hence, it is assumed that the real estate market, and in this particular case the investors, have to allocate a different strategy with regard to future use of their real estate investments and especially their vacant property. Consequently, the supply for office space structurally changed to a specified offer as an answer for current demand. Therefore, the real estate market now comprises an exceptional confluence of requirements and opportunities for both the investor and the tenant. Moreover, a structural change in trend can induce a drop in the asset performance and its value.

Subsequently, there are four main investment styles, of which the value-added funds are now considered to be the style of choice, focusing on slightly higher risk and return on investment. Since it is assumed that there has been a structural change in the real estate office market, a focus upon the core-plus and value-add real estate investors is chosen for this graduation research. This chapter will end with an analytical framework, including the management of vacancy as followed from the theoretical framework.

2.1 CURRENT TRENDS OFFICE MARKET

This paragraph aims to gain insight in the current office market trends, and will therefore consider the real estate cycle with regard to the current real estate market situation from the perspective of the real estate investor. This is followed by discussion of the changing demands from the perspective of the tenant. Moreover, the causes of vacancy and the different types of vacancy are examined. Finally, the possibilities for future use of vacant office buildings are elucidated.

2.1.1 Permanent shift in real estate trend

In accordance with Cuppen (2011), it can be stated that the real estate investment market structurally changed under the influence of the economic recession. Since the real estate value has decreased, one encounters less activity on the real estate market than before the recession. Consequently, real estate investments as long-term investments are replacing real estate investments as a financial instrument, comprising a stable return on investment and protection from inflation. In addition, real estate investors demand more stringent requirements with regard to real estate investments. Hence, the real estate investments are decreasing and the required return on investment increased.

Economic cycle

One can distinguish different types of cycles, presenting developments of activities or situations, which illustrate repeating characteristics in the form of a wavelength and amplitude. Consequently, Keeris (2008) identifies a cycle within the real estate market. Each cycle presents its own timepad within a periodically distribution of phases of the specific development, showing a consequent shift from a dale to a peak in the form of a curve and vice versa. Keeris identifies two important cycles, namely the long curve and the business cycle. The long curve has been identified by Kondratieff, indicating a predictable cycle with an average period of 54 years (45 – 60 years). The curve comprises four stages, the expansion phase of approximately 25 – 35 years, the transition phase, a contraction phase of approximately 10 years and a short transition phase leading to a new beginning of the expansion phase.

The expansion phase is characterized by a persion of important capital investments, often in relation to the release of new technical innovations and other developments. Subsequently, the expansion phase is followed by the contraction phase as a consequence of decreasing economic activities, the
elimination of outstanding debts and the re-stabilization of the economy. In addition, this period is used for the preparations for the introduction of new technological development in the next phase. Consequently, space is created for optimism and the next expansion phase of the long-term curve. According to Keeris (2013), the current market situation is now situated in the contraction phase of the economic cycle. This means, with regard to the theoretical cycle of Kondratieff, the economic situation is still 5 – 10 years away from the transition into the expansion phase.

Real Estate cycle
Next to the long-term international curve, Keeris (2008) identifies the short national business curve, being approximately 10 years for the office market. The business curve has not been scientifically proven, yet the results and effects cannot be neglected. In the positive phase of the office market cycle, the amount of vacancy is less than the equilibrium point and in the negative higher than the equilibrium point, which follows from the lack of knowledge and timing of the project developers. The cycle therefore considers the demand and supply of the real estate market. The real estate investor therefore aims to answer to the future demand, to enhance the amount of successful investments (De Jonge et al., 2009).

As mentioned in the previous, the market situation now finds itself in the contraction phase and causes a structural change in the real estate market. This change in trend will therefore cause a structural alteration in the business cycle of the office market. Hence, it is assumed that the real estate market, and in this particular case the investors, have to allocate a different strategy with regard to future use of their real estate investments and especially their vacant property.

2.1.2 Changing demand

Causes of a buyers’ market
As argued in the previous paragraphs, the economic recession is the main cause of the structural alteration in the business cycle of the office market. As a consequence the real estate market now identifies itself being a buyers’ market. As described by French & Jones (2010), from the period of 2004 to mid 2007 corporate occupation was being driven by a booming economy. Consequently, rents were increasing rapidly and lease terms were remaining similar and often in favour of the investor. Since the office market enabled the availability of cheap debt, the capital value of investments aggregated rapidly. In addition, the opportunities as a consequence of debt finance, allowed investors to enlarge the size of their portfolios. According to French et al. the sector became known as ‘priced for perfection’, since investors did not take the associated downside risks into account. Subsequently, the economic recession affected the investment market and the occupational demand significantly. As a consequence, the investors did not longer refered to the real estate market as a safe investment, which is uncorrelated to the broader market and less volatile than the stock market. Since the investments reduced, property prices dropped and a lack of development and construction led to less supply. Furthermore, occupational demand has been negatively affected and thus their investment possibilities with regard to housing of their business. Consequently, the real estate market experienced a sharp increase in yields along with a reduction in rental values, and thus presents a buyers’ market.

Current office demand
Following from the problem statement in chapter 1, there has been a noticeable change in the type of organization taking up business space. In addition, DTZ indicate that presently there are many self-employed workers without employees active, 1 to 10 in relation to 1 to 17 during the 1990s (DTZ Zadelhoff, 2013). These type of office users have entirely different accommodation requirements with regard to an organization with many employees. Since the self-employed workers often work at home, they lack professional facilities they need. DTZ identifies several office formats, which respond to this change in office demand.
• **WTC – Zuidas in Amsterdam**
  The WTC at the Zuidas in Amsterdam answers to the changing demand by providing office space with an international feel, which is also suitable for small businesses. Moreover, it is possible to rent one workspace or engage in short-term contracts. In addition, WTC now offers ‘Suit Offices’, which are fully furnished and equipped workrooms that can be operational within one day. Currently, the WTC has an occupancy rate of 97%, the same as before the economic recession. Thus, the WTC can be considered crisis-proof.
  
• **Regus**
  Another provider of office space is Regus, who focuses on flexible workspaces to accommodate the changing office demand from the office user. Regus assumes that next to the ‘core’ offices of a business, only flexible offices are needed to accommodate the rest of the business activities. This can be either renting of a certain number of square metres for a short-term, or even workplaces for work between appointments. With this office-space concept, regus focuses on the targetgroup of high-end professionals. Hence, the concept can be compared with a menu; many choices, but you pay for what you actually use. Finally the location is highly important, which must be easily accessible.

In accordance with DTZ, these new formats are all directly targeted at the office user, instead of the company as a whole. The supply for office space thus structurally changed to a more individual and specified offer as an answer for current demand.

**Negotiating power of the tenant**

Following from the current position in the real estate cycle, as discussed in paragraph 2.1.1, the balance of power now shifted to a buyers’ market. French et al. argue that where previously one party benifited over the other, the real estate market now comprises an exceptional confluence of requirements and opportunities for both the investor and the tenant during the Boom and Bust phases of the real estate cycle. According to French et al. (2010) the real estate market now finds itself in the bust phase of the office market cycle (see figure 6), indicating a high supply and low office demand. Because of the large supply of office space, the tenant allocates himself a position with a strong negotiating power. Tenants are therefore currently looking for ways to lower their rental and occupational commitments. Meanwhile, investors aim to increase the capital value of their real estate portfolio. Furthermore, new investors or investments are seeking for prime products; considering the quality of the tenant, term of the lease contract, and quality of the product. Therefore, the owner must meet the needs and demand of the tenant to ensure future contracts. Subsequently, rent levels often decrease and the quality of the building improves. In addition, corporates are gaining for the release of capital enclosed in owner occupied property. As a consequence, French et al. encounter the interaction of these two perspectives, which has led to an increase in the restructuring of existing lease contracts and an upturn of new sale and leaseback deals. This is supported by Baum and Turner (2003), who state that reinvestment in property can lead to higher total returns. Therefore, contracts are becoming more flexible, as argued in the previous paragraph, and encounter a shorter contract period. Finally, tenants ask for all-in prices, hence the owner is responsible for the service costs.

**2.1.3 Vacancy**

**Causes of vacancy**

In 2006, Keeris & Koppels already appointed the existing and rising problems with regard to office vacancy, indicating the probable involvement of a major redevelopment task for the enormous amount of office space (Keeris & Koppels, 2006). According to Keeris et al. approximately 50% of the current supply comes from new developments that have recently been completed or from projects in development where construction work has already started. One of the main causes of the high vacancy rate of office spaces can be subscribed to the continuous overproduction and oversupply, as stated in chapter 1.1. Consequently, the real estate market can be described as a replacement market, since there exist an ongoing demand for qualitatively higher locations and properties. With the intention to better regulate the real estate market, Keeris et al. argue that this can be best achieved by removing deprived real estate at the bottom of the market.

The deprived properties often suffer from deterioration and obsolescence (Baum & Turner, 2003). Consequently, although the valuation of properties are a function of economic growth, buildings become less valuable as they age as a result of wear and tear, and technology innovations. Baum et al. indicate six different types of obsolescence that result in depreciation of the property and therefore its existing value. Obsolescence can thus be caused for example by the physical usage, aesthetic value or functional abilities. Langston et al. support this by indicating that, although buildings are long lasting, they require continual maintenance and restoration (Langston, Wong, Hui, & Shen, 2008).
Consequently, a change in demand for their service or technical depreciation can lead to inappropriateness of the building. Langston et al. therefore mention change of the building likely for continuation of the investment, either demolition and new construction, or some form of refurbishment or reuse (see figure 7). A structural change in trend can thus induce a drop in the asset performance and hence its value. The possibilities for future use of the asset will be further elucidated in the coming paragraphs.

Figure 7 | Asset performance (own illustration based on Baum, 2003)

Furthermore, Langston et al. indicate advances in technology and commerce and user demands for more comfortable environments for work and leisure as causes for a large number of obsolete buildings. The useful and effective life of a building is thus determined by six different types of obsolescence, which are the following:

- **Physical obsolescence**
  While all buildings experience natural decay over time, accelerated deterioration leads to reduction of physical performance and obsolescence due to the age of the building;

- **Economic obsolescence**
  The period of time over which use of a particular building is considered to be the least cost alternative for meeting a business objective from the perspective of the investor. Economic obsolescence can also include the need for locational change;

- **Functional obsolescence**
  Change in owner objectives and needs leads to possible functional obsolescence of the purpose for which a building was originally designed;

- **Technological obsolescence**
  This is encountered when the building or component is no longer technologically the best alternative and replacement is undertaken because of expected lower operating costs or greater efficiency;

- **Social obsolescence**
  Fashion or behavioural changes (e.g. aesthetics, religious observance) in society can lead to social obsolescence of the building;

- **Legal obsolescence**
  A change in safety regulations, building ordinances or environmental controls may lead to legal obsolescence.

Paragraph 2.4 will relate these types of obsolescence to vacancy management.

**Vacancy problem areas**
Although vacancy in the portfolio of an investor is at all times unwanted, some vacant properties are more of a thread than others. The location of the building is one of the main characteristics, which determine the extend of the vacancy. In Appendix A the supply of the offices in 2011 and the structural vacancy (30% or more vacant, and vacant for 3 or more years) in 2011 is presented (De Jonge & Remøy, 2013). From these figures it can be concluded that structural vacant buildings can mainly be found in and around the large cities, mainly Amsterdam, Rotterdam, The Hague, Utrecht, Breda, Eindhoven, Nijmegen and Groningen. Furthermore, structural vacancy can in fewer quantities be found in the surrounding areas, often being one large vacant building. In addressing the problem of vacancy from the perspective of an investor it is thus important to take the supply of office buildings and the extend of the problem of vacancy in the surrounding area into account. This is further elucidated in the next paragraph, which considers the different types of vacancy.

**Different types of vacancy**
Following from the causes of vacant offices, one can identify different types of vacancy. As stated in paragraph 1.1.2, approximately 50% of the current supply
of offices is vacant for more than three years with the same amount of square meters. This type of vacancy is called structural vacancy. In addition, an office building can be full or partial structural vacant. Moreover, office buildings are vacant due to the lack of a tenant and available for new tenants. These vacant buildings offered on the market can also be full or partial vacant. Keeris & Koppels describe twelve different types of vacancy, which are elucidated in the following (Keeris & Koppels, 2006). The types of vacancy are clustered according to the seriousness of the problem the vacancy is for the investor.

- **Natural vacancy; normal part of vacancy:**
  - Initial or start-up vacancy: the vacancy that occurs after completion of a new building or renovation of an existing one, up to the end of the first full year of exploitation;
  - Natural (normal) vacancy: the average period of vacancy regarded as normal for the category and type of real estate in question in the local submarket;
  - Change-over or frictional vacancy: the vacancy occurring up to a maximum of one year after the expiry of the last rental agreement.

- **Prolonged vacancy; potential boundary case:**
  - Prolonged vacancy: a period of up to two years’ vacancy immediately after the first year of frictional vacancy;
  - Operational vacancy: vacancy due to inadequate appearance, structure, size, arrangement, facilities etc.;
  - Economic/obsolescence vacancy: the economic consequences seen as vacancy of below market level rents and loss of yield;

- **Problematic vacancy; boundary case:**
  - Structural vacancy: the vacancy occurring after one year of frictional vacancy and two years of prolonged vacancy, without any short-term prospects of letting the property in question;

- **Critical vacancy; focus on transformation or redevelopment:**
  - Due to location: chronic vacancy due to failure of the location of the property to meet the location requirements in general;
  - Due to failure to meet general requirements: chronic vacancy due to failure of the property to meet general market requirements on function and operational performance;
  - Excess vacancy: the duration of the chronic vacancy as the difference between the actual period vacancy and the natural vacancy, in cases where there is absolutely no expectation of an acceptable yield;

- **Administrative vacancy; information and indication:**
  - Financial vacancy: the administrative presentation of the financial consequences of the loss of income due to vacancy
  - Pure vacancy: the administrative presentation of the actual duration or the financial consequences of a period of vacancy, apart from the period during which the building is unoccupied due to building activities

In paragraph 2.4 these different types of vacancy will be related to vacancy management from the perspective of the investor, by integrating the possibilities and determining factors for future use and ways of investing of the real estate investor.

### 2.1.4 Possibilities for future use

In the following, five different types of future use of offices are discussed, namely: consolidation, conversion, within use adaptation, demolition and possible re-build, and disposal.

#### Consolidation

Consolidation of a building asset refers to the extension of the life-span of the building by maintaining the building as it is. This includes the original function of the building, and preservation with regard to technical, functional and physical characteristics of the asset. Small refurbishments and upgrades may be possible to meet the needs and demands of the than current tenant. However, other types of future use can be considered when the building is vacant for a certain period, taking different types of vacancy into consideration as discussed in the latter.

#### Adaptive reuse; conversion

Adaptive reuse comprises two different types of adaption, namely within use adaptation and conversion. If a particular function is no longer relevant or desired, buildings may be converted to a new purpose, thus a ‘change of use’ (Langston et al., 2008; Wilkinson, James, & Reed, 2009). According to Bullen et al., adaptive reuse is therefore identified as a process to enrich the financial, environmental and social performance of buildings (Bullen & Love, 2010). For this development, a challenge lies within dealing with the physical legacy of the recent past, since obsolete offices often have similar characteristics with regard to the building and location (Heath, 2001; Remøy & Van Der Voordt, 2011). Subsequently, vacant and obsolete office buildings are mainly found in monofunctional office locations or industrial and distribution areas, offering few
facilities and poor access to public transportation, no appealing appearance, deprived flexibility and inadequate parking space. These locations are characterized as ‘vacancy problem areas’, which are discussed in the previous paragraph. Consequently, not all buildings are suitable for conversion, therefore possibilities of these kind of redevelopments are presented covering risks and opportunities. However, according to Langston et al., older buildings may have a character that can significantly contribute to the culture of a society and conserve aspects of its history. The preservation of these buildings is important and maintains their intrinsic heritage and cultural values. Moreover, Bullen et al. argue that by increasing the life of a building through reuse can lower material, transport and energy consumption and pollution, and thus contributes to sustainability.

Therefore, Remøy and Van Der Voorde define a list of adaptive reuse criteria for existing buildings, which enhance the transformation potential. These characteristics focus upon the market, location and building level and focus upon the target group. The location is most important, since this cannot be altered. In addition the structure and the floors are most crucial at building level for the transformation potential. Office buildings from the 1980s onwards often have a structure that is a multiple of 1.8 metres, which is well suitable for residential functions. With regard to the potential risks for legal, functional, technical and cultural feasibility and related financial feasibility of transformation projects, a free floor height of 2.6 meter is needed. In addition, the façade is one of the main factors, which influences the financial feasibility of a transformation. This is caused by requirements for thermal and acoustic insulation and the out-dated image of the building.

Adaptive reuse; within use adaption
As mentioned in the latter, another form of adaptive reuse is within use adaptation. Langston et al. refer to within use adaptation as refurbishment, which can be ranging from simple redecoration to major retrofit or reconstruction (Langston et al., 2008). In some cases, the building itself is in good condition, but the services and technology are outdated, in which case a retrofit process may be undertaken. In accordance with Wilkinson (2009), an office can be adapted and still remain an office. Within use adaption is therefore defined as an intervention to adjust or upgrade the building to suit new conditions or requirements.

Demolish and possible re-build
In addition to extend of the life span by either consolidation or a form of reuse of the building, demolition of the building followed by a potential new construction is also a possibility. According to Bullen et al., buildings are generally demolished because they no longer have any value (Bullen & Love, 2010). Possible causes of the drop in value of a building are mentioned in de previous, namely different types of obsolescence. In most cases, it is the market that sets this value, even though such an assessment can have been based on incomplete information, without investigating other potentials to extend the life of the building. Bullen et al. consider that adaption with regard to demolition is preferable because of gains in social value and no change in location. However, demolition can be an option when the life expectancy of an existing building is estimated to be less than a new alternative.

Disposal
Finally, there is a possibility to dispose the building from ones ownership, by selling the building for example to another real estate investor, corporation or private party. From the perspective of an investor the building may no longer fit into the real estate portfolio because of the type of asset, or it does no longer meet the financial requirements. In addition, a combination or disposal with conversion is possible, if the current owner does not choose to execute the conversion himself.

2.2 DIFFERENT TYPES OF INVESTORS

This paragraph aims to gain insight in different types of real estate investors, and will therefore first consider the ways of investing in real estate. This is followed by discussion of different investment styles allocated by real estate investors and presentation of types of investors concerning their aims and objectives, and style in an overall scheme. In addition, the relation between different investors is examined. Finally, the impact of current market trends as discussed in the previous paragraph upon the real estate investor is elucidated.

2.2.1 Ways of investing
Investing in real estate includes direct and indirect investment by capturing financial resources into building asset, with the intention to realise a continuous cashflow from the operation and selling of property (Van Gool, Brounen, Jager, & Weisz, 2007). Investing in real estate is therefore used as a product to generate income. Van Gool et al. therefore identifies different reasons to invest in real estate among other types of financial investments:
Return on investment of real estate is both direct (net rent income) and indirect (in- and decrease in value over time);

Risk characteristics of real estate investments because of a low correlation with the stock market and bonds. However, this is questioned by Baum (2006), stating that eventually the rent levels etc. are determined by the economic cycle as discussed in paragraph 2.1, as is the stock market;

Diversification of the investment portfolio to balance risk;

Protection against inflation because the increase of the rent is controlled in accordance to a standard rental agreement;

The real estate market can be considered inefficient, since it is not a perfect market due to a heterogeneous product and limited access to market information.

Figure 8 gives an overview of the ways of investing in real estate, both direct and indirect. Indirect real estate investments can be either done in a Non-listed property fund or a Listed property fund. These ways of investing will be discussed in the following.

**Direct investment**

Direct real estate investments are investments in property, which makes the investor the direct owner of the property. It therefore presents the investor several benefits and disadvantages. According to Cuppen (2011) the three main benefits are the following:

1. Full control of the strategy: investors can compose the desired portfolio and invest in a specific type of real estate. In addition, it is possible to determine the price and moment of transaction;
2. Active management of the portfolio: the investor can enhance the value of the real estate investment by actively manage the building assets;
3. Low volatility: the value of the asset is relatively stable in comparison with indirect investments.

However, according to Hoesli et al. direct investment also know some disadvantages (Hoesli & Lekander, 2008). Since the direct investments, resulting in a real estate portfolio, do often comprise a large lot size and are characterized by a high heterogeneity, the investor has to cope with a degree of unsystematic risk. Furthermore, direct investments are illiquid, making quick transactions of real estate difficult. In addition, small investments are regularly not possible, which challenges the investor to diversify his portfolio. Moreover, not all parties have all the necessary information with regard to the local real estate market. The seller often has more knowledge than a potential buyer with regard to the specific asset, even more information when it considers an international transaction. Finally, investing in real estate requires intensive management during the whole life cycle.

**Indirect investment; Non-listed property funds (‘REIT’s’)**

Next to direct investing in building assets, it is possible to indirectly invest in real estate. This can be through a Non-listed property fund (the so called Real estate investment trusts; REIT’s) or a listed property fund (see figure 8). Indirect investments in real estate do not enable the investor to directly own the real estate, instead the investor is owner of the financial shares, which ensure the investor of income through the revenues from the operating assets (Cuppen, 2011; Meijners, 2012). The main difference between indirect investments with regard to direct investments is that the investor has no majority in making decisions and setting out of the management strategy (Van Gool et al., 2007). Cuppen identifies four benefits of indirect investment in real estate:

1. Liquid investments: shares are more easily traded than direct real estate;
2. Local knowledge and information of the real estate market is not particularly necessary: it is assumed that the manager or initiator of the property fund acquires this information;
3. It is possible to make small investments and still ensure the investor of risk allocation;
4. It is possible to compose the desired portfolio by investing in different specialised real estate property funds.

Each property fund is specialised in a specific type of real estate and has its own investment characteristics, consequently a variety of property funds exist. In which property fund the investor invests is therefore based upon its characteristics, which are among others the following:

- **Strategy and investment policy**
  The investment strategy is the most important characteristic of the property fund. The investment strategy can comprise the type of real estate to invest in, locations of investments, and specific requirements with regard to risk and return on investment;
- **The manager or initiator**
  The manager is responsible for the execution of the investment strategy and aims for the realisation of the predefined aims and objectives of the fund;
- **Fund costs and performance objectives**
  This includes the costs of management of the property fund (comprising commerce, technical costs and administration costs);
- **Corporate governance**
  This characteristic includes the management style of the initiator of the fund and monitoring of the fund as a whole. Furthermore it comprises the way of responsible investments and policy of the fund towards among others shareholders and employees.

Non-listed property funds can be divided into two types of funds, namely open-end property funds and closed-end property funds. The following will elaborate on these two types of indirect investments.

**Open-end property fund**
An open-end property fund includes products like mutual funds, that invest in a collection of building assets to comprise the entire total investment portfolio (Investopedia, 2012). Open-end funds do not have a limit upon the amount of shares to invest in, which means that the more shares are created, the larger the property fund gets. Vice versa, when an investor sells his or her shares, by e.g. selling these to the other stakeholders, the fund will decrease in size. If a large amount of shares are sold (called aredemption), the fund may have to sell some of its investments in order to pay the investor. An open-end fund can not be compared to stocks, since it is not traded on the open market. At the end of each day, the funds reprice based on the amount of shares bought and sold. Their price is therefore based on the total value of the fund or the net asset value (NAV). The main characteristics of an open-end fund are thus the following:

- No limit for the amount of participating invested shares in the fund;
- Trading of shares is done through selling and investing of the shares from the fund and to other investors;
- Selling and buying price is determined by pre-defined requirements of the fund with regard to participations, price and period of payment.

**Closed end property fund**
A closed-end fund differs from an open-end fund, since it is much more comparable to an exchange traded fund than a mutual fund (Cuppen, 2011; Investopedia, 2012). Consequently, it only issues a pre-set amount of shares, which is affected by supply and demand. Subsequently, although the value of the shares is based on the NAV, it allows the trading price to be above or below its real value according to market conditions. In addition, nearly 70% of these shares use leverage as a way to produce more gains (i.e. using loans to invest, to enable large returns). The main characteristics of a closed-end fund are therefore the following:

- Limit upon the maximum amount of capital value that can be assembled without permittance of the other investors in the fund;
- Predetermined period of duration of the fund;
- Illiquid investment, the investors in the fund can only accede the fund after closing or at predetermined periods during operation of the property fund.

**Indirect investment; Listed property fund**
Investing in a listed property fund contains the investment in publicly traded assets on a given stock market (Meijners, 2012). The advantages of investments in a listed property fund are the liquidity of the listed products and possibility of quick wins. However, the volatility of investments in listed properties is considered to by high since its correlation with the overall stock market. It is therefore argued if listed real estate can still be considered a real estate
investment, since it is characterized by short-term trading with low trading costs and short-term performance measurement. Nevertheless, Meijners mentions an indication of the relation of the listed property to the underlying asset, since on the long run, the performance of public real estate does not differ significantly from private real estate investments.

2.2.2 Investment styles; risk vs. return on investment

Next to different ways of investing, real estate investors differ from the style of investing. Consequently, Baum (2008) in accordance with INREV (European Association for Investors in Non-listed Real Estate Vehicles) considers four main investment styles, being: Core, Core-plus, Value-add and Opportunistic. These investment styles differ themselves in levels of taken risk and related return on investment. Core funds are considered to be low risk funds with low return, while opportunistic funds are taking higher risks and therefore higher target returns. According to Baum, the amount of opportunistic real estate investors grew rapidly between 2000 and 2003. However, the value-added funds are now considered to be the style of choice, since the majority of new funds allocate this investment style.

In addition, Hoesli & Lekander (2008) consider the four-quadrant model with regard to investment styles of real estate investors, which comprises two axes, namely equity/debt and private/public. These two axes include much of the complexity faced by the investors when allocating an investment approach. As discussed in the previous paragraph, the real estate investor can choose to invest in either public or private property funds and listed or non-listed. For example, equity, or direct real estate investments offers the investor an exposure to the return on equity of real estate assets.

According to Blackrock (2010) the allocation of an investing style of an investor is important for three reasons:

1. Investment selection process: styles provide the investor with a method of understanding the characteristics of individual funds;
2. Performance measurement: tools to better understand initial objectives, to find the most appropriate peer group, and perform more comprehensive attribution analysis;
3. Tracking style drift: investors need to gain full understanding of their overall risk level at any given point in time;
4. Index construction: additional style-based indexes will enable investors to distinguish among investment styles as well as property type, geography, and manager.

In the following the four different investment styles with regard to their focus on either equity/debt, private/public, risk and rate of return on investment.

Core investment style

The core management style allocates the lowest risk and related return on investment profile (Cuppen, 2011). Core funds mainly invest in real estate at economic strong locations, namely A-locations (e.g. centre of large cities), against long-term lease contracts with considered to be qualitatively high tenants (strong financial situation). Furthermore, core funds are characterized by a considerably low leverage and a responsible dispersion in types of real estate, and regions and countries.

According to BlackRock (2010), some investment surveys indicate that investors increasingly prefer core style investing. As a reaction upon the economic recession, a shift towards lower risk investments was noticed. Corporate Real Estate in the portfolio of the investor is therefore seen as a stable investment, ensuring a relatively high income. In addition it is secured against inflation, diversificates the portfolio and provides a fixed income.
The last investment style, opportunistic secondary and tertiary assets, focuses on generating value during a growth phase, by acquiring assets, by provision of equity to troubled owners, or by taking up land or development deals that need to be recapitalized. Current market conditions thus provide many opportunities for this investing style, for example by offering innovative loans with high capitalization rates, focusing on financial restructurings, and international and emerging market strategies.

Core-plus & Value-add investment styles
This investor style knows an average risk and related return on investment profile, and focuses on investment in different regions, types of real estate and developments (Cuppen, 2011). Core-plus and Value-add focus on generating value during a growth phase, by investing in real estate using a relatively high leverage and high capitalization rate (BlackRock, 2010). However, the office market now finds itself in an extraction phase, as shown in paragraph 2.1. Therefore, core-plus and value-add investors currently focus on purchasing for example whole real estate portfolios, which are no longer wanted by core style investors. Since the office market previously found itself in booming market conditions, core investors in the past began to invest in B-locations as well, which are now often problematic to find a tenant for. Core-plus and value-add investors see this type of building investments as an opportunity to invest in (see figure 9). Subsequently, core-plus and value-add investors try to identify market inefficiencies and underperforming assets to reposition and thereby creating value through intensive management. Hence, BlackRock argues that such a repositioning strategy would even make more sense for the currently bifurcation of the office market, with growing price differences between high quality core assets and secondary and tertiary assets.

Opportunistic investment style
The last investment style, which focuses on a relatively high risk and related return on investment, is the opportunistic investor (Cuppen, 2011). Opportunistic investors adopt a high leverage and know a high exposure towards real estate developments by investing in all kinds of types of real estate and locations. Consequently it can be argued that return expectations for opportunistic strategies are aimed to excessive return and of high risk (BlackRock, 2010). Opportunistic investors often invest in single assets only, however finding attractive deals of interesting distressed highly discounted real estate is difficult. One must bear in mind that focusing only on discount peaks rather than future associated risks can be disappointing.

Nevertheless, opportunistic fund managers are looking for distressed loans and properties to buy, which are subject to foreclosure. This is done through acquiring assets, by provision of equity to troubled owners, or by taking up land or development deals that need to be recapitalized. Current market conditions thus provide many opportunities for this investing style, for example by offering innovative loans with high capitalization rates, focusing on financial restructurings, and international and emerging market strategies.

2.2.3 Types of investors; aim objectives and investment style
Next to the ways of investing in real estate and the different investment styles, one can distinguish several types of investors, which are mainly categorized in private and institutional investors (Cuppen, 2011). Both type of investors differ from each other in their level of professionality, the size of their financial resources to be able to invest and the period of investment options. In the following these different types of investors will be elucidated, including institutional investors, private investors; family funds, large private investors and small private investors.

Institutional investors
Institutional investors comprise among others; pension funds, insurance companies, investment institutions, banks and investment funds (Cuppen, 2011). For institutional investors it is important to ensure the capability to meet the future objectives, for example paying pensions. In the Netherlands, the large institutional investors, with an investment scope in the Netherlands of at least 100 million euros, are a member of the Institutionele Vereniging voor Beleggers in Nederland (IVBN).

According to Callen & Fang, the literature describes two different views of institutional investors, namely monitoring and short-termism (Callen & Fang, 2013). Since large institutional investors manage large share-holdings, they gain higher benefits from monitoring their organization and gathering market information than small investors. By doing so, institutional investors ensure a
consistent investment strategy through all the layers of the organization, aiming for maximization of long-term value, rather than objectives with regard to short-term return on investment. Consequently, Callen et al. present empirical results with regard to a variety of advantages from institutional ownership, such as firm growth, turnover rates and management disclosures. Furthermore it intends to enhance the corporate value as a whole. However, due to the current economic situation, the institutional investors sooner intend to just sell of unfavourable performing building assets, since monitoring and active management is considered to be too costly and time-consuming. In addition, institutional investors are characterized as allocating a diversified investment portfolio, to diversify risk and maintain liquidity. Thirdly, institutional investors intend to act as traders, basing their investments on current earnings and thus emphasize on short-term performance.

Private Investors
Private investors are a very heterogeneous group of real estate investors, and therefore cannot be defined as one group (Cuppen, 2011). Furthermore, within the group of private investors the level of professionality differs exceedingly, as also the investment period, the objectives with regard to return on investment and the size of financial investment capability. Three main types of private investors can therefore be distinguished, namely:

1. Family offices: investing in indirect, both listed and non-listed real estate;
2. Large private investors: investing in indirect, both listed and non-listed real estate;
3. Small private investors: investing mainly in direct real estate and indirect listed real estate.

It can be assumed that from family offices towards small private investors the financial investment capability reduces. In the following these three types of investors will be described separately.

Family fund
A family fund is an organization that manages private financial assets of a family (Cuppen, 2011). Within a family fund, experts in the field of stocks, bonds and real estate are found to set out the investment strategy. Therefore, family funds are considered to be highly experienced and professional, and thus can be compared to institutional investors with regard to their way of investing. Family funds mainly invest in indirect real estate through both listed and non-listed property funds, however the participation in an indirect non-listed property fund will often be larger than participation in an indirect listed property fund.

Large private investors
Next to the family fund, one can distinguish the large private investor (Cuppen, 2011) A large private investor can vary in size of financial investment capability, though will often be slightly smaller than a family fund. A private investor is considered to be large when its investing for more than € 100.000, in real estate. Large private investors invest in the same funds as the family fund, namely listed and non-listed property funds, however participation in non-listed property funds is considered to be larger. Therefore is can be assumed that a large private investor consciously invests in real estate.

Small private investors
Thirdly, small private investors can be distinguished as one of the types of private real estate investors. Small private investors can also vary in size, but mainly invest directly in real estate or indirect in a listed property fund. It can thus be argued whether, when a small private investor is investing in a listed property fund, this is done consciously.

2.2.4 Relation between different investors
According to Cuppen (2011), the main difference between the institutional investors and private investors is heterogeneity of the group of private investors compared to the homogeneity of the group of institutional investors. Institutional investors mainly invest in long-term investments, while private real estate investors differ significantly in their size of portfolio, period of investment and financial investment capability. In addition, the private investors are considered to be more opportunistic investors than institutional investors. As a result of the previous paragraphs, discussing ways of investing, investment styles and different types of investors, figure 10 on the next page presents a combination and overview of the investment styles of different types of real estate investors. Although INREV considered the four types of investment styles, namely: core, core-plus, value-add and opportunistic, as investment styles for non-listed property funds, the scheme tries to combine these investment styles with different ways of investing. Consequently institutional investors are assumed to be investing in a core style, family funds as core-plus, large private investors as value-add and small private investors as opportunistic.
Figure 10 | Investment styles of different type of real estate investors (own illustration based on Baum, 2008; Cuppen, 2011; Gijselaar, 2010; Investopedia, 2013; Keeris, 2013; Meijners, 2012)
Furthermore, the scheme links the different investors and investment styles to the possible ways of investing, being direct investments, indirect listed property funds and indirect non-listed, both open-end and closed-end property funds.

To be able to get insight in the size of the different types of investors in the Netherlands, information from IVBN is used to provide an overview (IVBN, 2012). However, not all desired data is available, thus full insight in the financial assets of the Dutch investment market is not attainable. Nevertheless the following table gives some idea of the size of investors in the Netherlands.

<table>
<thead>
<tr>
<th>INVESTMENT STYLE</th>
<th>TYPE OF INVESTOR</th>
<th>SIZE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Core</td>
<td>Institutional investors</td>
<td>50 billion</td>
</tr>
<tr>
<td>Core / Core-plus</td>
<td>Institutional investors and private investors from foreign countries</td>
<td>24 billion</td>
</tr>
<tr>
<td>Core-plus / Value-add / Opportunistic</td>
<td>Private investors: family funds, large and small investors</td>
<td>62 billion</td>
</tr>
</tbody>
</table>

Table 1 | Size of different types of investors (IVBN, 2012)

It can be concluded that both the institutional investors and the private investors account for a large amount of the total investors in the Netherlands.

2.2.5 Impact of current market trends upon the real estate investor

According to Vastgoedmarkt (2013a), institutional investors are willing to invest more in non-listed property funds with a higher risk and return on investment profile. In addition, the amount of value-add and opportunistic investment styles increased from 9 to 18 percent in the last year. Furthermore, the real estate market presents several examples of investments in office portfolios, and even transactions of portolios as a whole, for example Merin, NSI and MPC Capital (Vastgoedmarkt, 2013c). This phenomenon is in line with the theory presented in paragraph 2.2.4 of Baum (2008) and BlackRock (2010), stating that core-plus and value-add investment profiles intend to increase during the current economic situation, since core investors want to dispose (part of) their low performing real estate. Since it is assumed that there have been a structural change in the real estate office market, a focus upon the core-plus and value-add real estate investors is chosen for this graduation research, Therefore, the following paragraphs will consider the literature from the perspective of an core-plus or value-add investor.

Corporate social responsible investments

As already argued in chapter one, corporate social responsible (CSR) investments become more crucial when investing in real estate, since vacancy is considered to be a societal problem (Remøy & Van Der Voordt, 2006; Ris, 2012). Various studies encounter the role of financial performance characteristics in value creation, being size, book market value (BMV) and market diversification. However, Newell & Lee (2012) focus on the studies that considered non-financial factors and the relationship between corporate social performance and corporate financial performance, which have shown to be a positive relationship. Consequently, the integration of CSR in the investment strategy has been acknowledged in several REIT’s in the recent years, focusing on environment, social and governmental indicators. In addition, investors and fund managers need to focus more on CSR during the recent years because of the willingness to create and extend the financial investment capabilities (Hek, 2013). Moreover, one can think of anticipation on possible value creation of building assets on a specific location by finding a value adding opportunity through, for example conversion of one building that is already owned by the investor. By doing so, it is interesting to investigate the possibilities in combining CSR with return on investment, namely investing beforehand in the surrounding area of the building that will be converted, which will enable increase in value of surrounding buildings.

Impact of negotiating power of tenant upon the investor

In addition to the increasing focus of investors on CSR investments, the investor has to deal with the strong negotiating power of the tenant. As discussed in paragraph 2.1, due to the current market situation as a result of the economic recession, the office market shifted towards a buyers’ market. French & Jones (2010) therefore consider the shifting focus of the investor with regard to the demand for office space from the perspective of the tenant. Many experts substantiate the location of the building as the main driver to ensure return on investment and lower vacancy risks. However, during the downturn in the 1980s, a good location did not even secured the investor of a stable return on investment. Therefore, the capital return as part of the total return is currently to be considered as the main contributor to reduce risk.
Nevertheless, investors encounter the challenge of reduced liquidity because of the risk aversion in the banking sector, resulting in a selective attitude and only lending to high quality and stable investors. Consequently, the investment market became more stricter, reducing use of high leverage and investing in large transactions. Moreover, the supply of good quality commercial building assets decreases, particularly in prime locations. Subsequently, investors are as mentioned before, willing to sell their secondary real estate rather than hoping for the achievement of higher returns in the future. However, investors are not always able to sell their unwanted real estate, leaving the investor to continue to encounter challenges as rental affordability of the tenant, inevitability of voids and the need to offer incentives and high customer management to enhance prolonged solutions. Hence, investors will need to remain flexible as occupiers review their strategies in order to take advantage of incentives, shorter leases and current market conditions (Bayraktaroglu, 2013b). Good relationship management and a foresight to negotiate to protect future cash flows means that intensive management can enhance and protect capital values.

2.3 PORTFOLIO MANAGEMENT

This paragraph aims to gain insight in the current portfolio management of the core-plus and value-add type of investor with regard to vacant real estate. It will therefore first consider the decision making structure of the investor, which is followed by discussion of the impact of vacancy upon portfolio level. In addition, the factors determining the categorization into deprived, mediocre and promising real estate will be elucidated. Finally, the factors determining the future use of vacant real estate are elaborated, which will be done in relation with the predefined types of future use in paragraph 2.1.

2.3.1 Current portfolio management & decision making

Portfolio diversification and modern portfolio theory

A known characteristic of real estate portfolios is the diversification of assets and investments (Geltner & Miller, 2001; Keeris, 2007; Van Driel, 2010). Asset allocation is based upon the possible investment and desired return on investment, called Modern Portfolio Theory (MPT). As explained by Geltner, modern portfolio theory tells us that all investors should hold their portfolios on the efficient frontier, presenting the optimal asset allocation within the portfolio. Investors therefore gain for portfolio diversification to aim for predefined return and risk objectives. It is consequently considered that the optimum allocation to real estate in the portfolio should be approximately twenty percent of the multi-asset portfolio (Ali, 2006). Reducing real estate investment risk by portfolio diversification is thus a crucial part of investment decision to the success of portfolio management strategy. Investors’ diversification strategies are mostly focused on differences in real estate type and geographical spread of the investments. Moreover it is noticed that fund managers employ a strategic top-down approach rather than letting the portfolio evolve as more buildings are acquired.

Subsequently, promising assets compensate deprived assets within the portfolio. Although, there is currently a high vacancy rate with regard to offices, institutional investors often encounter only a single or few vacant offices within a large portfolio among a variety of assets (Keeris, 2013). Consequently, investors incline to accept the vacancy within their portfolio and do not downgrade their vacant offices (Worms, 2013). Instead, institutional investors downgrade the vacant building slowly, spread over a long term, with the intention to sell or dispose after many years. Hence, this non-realistic and passive attitude of investors as a consequence of the portfolio formation enlarges the vacancy problem. Nevertheless, most large investors did adapt MPT as a standard tool for understanding how the real estate holdings behave, whether independently or as part of the overall investment holdings. MPT thus concentrates on both risk and return, however it can rather be considered as risk management.

Impact of environmental and social issues upon portfolio management

From the perspective of all types of investors, the financial feasibility is one of the main factors determining the real estate strategy (Van Driel, 2010). For investors, the total rate of return and internal rate of return is distinctive for portfolio management. Information extracted from asset management, as performance analysis at object level is guiding for portfolio management. However, environmental and social issues are experienced to be crucial for the feasibility of the investment. According to Van Driel, the type of real estate and location characteristics influence the decision-making at portfolio level. Although the tenant is now seen as an asset as well, location characteristics are still of high importance. Pivo and Trippie, who state that investment decisions within real estate portfolios are highly influenced by environmental and social issues, and affect the value and prospective investment performance of the assets, support this (Pivo, 2008; Trippie, 1989). Pivo defines responsible property investment (RPI) in order to understand and respond to the issues discussed in
the previous paragraph. Since these issues increase in importance with regard to governments, businesses and society, thus the context in which real estate decisions are made, responsible property investment can enhance the financial feasibility of portfolios, by improving the social and environmental performance of their portfolio. Responsible property investment focuses on a variety of real estate characteristics with regard to location, design, management and investment strategies. By focussing upon these real estate characteristics, the value of the investment and property can increase, since it will better meet the needs and demands of the tenant. Hence, including responsible property management into decisions will improve an investor’s performance on previously discussed issues.

**Adaptive management; triple P**

Since responsible property investment can enhance the performance of portfolio management, one must look into the investment decision-making process itself (Langston & Smith, 2011). In accordance with Langston and Smith, there is a demand for a transparent understanding of the aims or preferences of multiple stakeholders that support optimal decisions with regard to the built environment. Consequently, since these decisions are associated with uncertainty, there is a demand for a flexible framework that enhances predictions based upon experiences for improvement of future decision-making. Hence, Langston and Smith defined a Multiple Criteria Decision Analysis (MCDA). In combination with the MCDA, Langston and Smith advert to Adaptive Management (AM), which has the potential to improve the expected net benefit of specific development initiatives. A combination of MCDA and AM provide a structured, clear decisions and allow for refinement of criteria goals and weightings based on feedback regarding actual project performance. By implementing both MCDA and AM within the decision making process, both resource objectives are maximized and the gathering of information with regard to improvement of future management is enhanced. The implementation and use of MCDA for this research will be further discussed in paragraph 2.4.

As a consequence of the previously mentioned issues, a focus upon financial, social and environmental considerations within the decision making process is essential (people, planet and profit, triple P). Therefore, Langston and Smith conceptualized various criteria and their ability to be measured and assembled into a decision model, for existing building management. MCDA identifies preferred alternatives, by combining criteria and attributes, which reveal the preferences of the decision maker. Therefore, values that reflect subjective and objective considerations from the perspective of the decision maker are inserted in the process. Consequently, MCDA has been applied to among others property problems, focused upon asset management applications. Langston and Smith use MCDA to select suitable refurbishment opportunities for real estate. However, there appears to be no clear agreement on the identifications of key criteria, attributes and weighting, since these seem to depend on the specific context and to vary for each case.

**Office investment decision making from the perspective of investors**

Although there is little knowledge about the decision making process for existing buildings, research is done with regard to the decision making process for purchasing properties. Roberts and Henneberry (2007) found that according to their qualitative case studies, the real decision making is considerably simpler than the normative model, namely setting a strategy, searching for properties, market analysis and finally the purchase of properties. Hence, Roberts and Henneberry proposed an integration of several stages of the normative model into the real decision-making.

First, the investors set the decision criteria, goals and formulation of a fully defined strategy. Secondly, the investors can undertake an exhaustive search of all suitable geographical areas, or for properties only in predefined areas. Thirdly, selection of possible properties with regard to a market analysis is done by the investor, which is followed by the fourth stage, namely consultation of other parties. This consultation with other parties within the company is needed for approval of the purchase, which reflects the dependent position of the investor. Finally, the investor can purchase the property by selecting and negotiating.

**Current investment decision making ‘Core-plus’ and ‘Value-add’ investor**

According to DTZ Zadelhoff and as presented in paragraph 2.2, demand among investors can be divided into two distinct types (DTZ Zadelhoff, 2013). Current trends in the real estate market show that on one hand there is demand for relatively safe property investments by mainly long-term core investors, and on the other hand core-plus and value-add investors seem to focus on highly risky but very high-return investments. Such investments include among others vacant offices, which are acquired for highly reduced prices.

An example is the purchase of the Merin portfolio (previously Uni-Invest), which is focusing on the acquiring of opportunities on the Dutch Office market. Furthermore, private investors appear to invest in offices at low prices. Consequently, the yields in the top, middle and basic segments present an increasing gap. DTZ Zadelhoff expects that the yields will even rise further in all
real estate segments. With the start of Merin adopting a large portfolio, including older office buildings, interest among other private investors is instigated. In addition, the interest in listed property increased as well, as a consequence of a preference in indirect investments through specialists. These portfolios often comprise newly built logistics centres with long-term lease-contracts, which secures the investors of relatively low-risk investments.

2.3.2 Portfolio management in relation tot property management when dealing with vacancy

In accordance with Ali (2006), a portfolio is defined as a list of investments. Consequently, the management of a portfolio comprises the managing of asset classes used for investment purposes. It therefore requires active property investment management to cope with among others inefficiencies in the real estate market, high transaction costs and the complexity of individual properties. The aim of investors is to maximise value of the company. Subsequently, the real estate decisions at property level, which have consequences for the value on portfolio level, will affect the value of the company. Managing the real estate portfolio (MREP) is thus highly important for the company, and hence includes real estate acquisitions, disposal and restructuring of the portfolio. Ali emphasizes that real estate decisions on portfolio level should therefore be made with knowledge of the empirical context of the asset, advocating the potential market reaction to these property decisions.

The impact of vacant office buildings upon portfolio level

As discussed in paragraph 2.2, various types of vacancy can be distinguished (Keeris & Koppels, 2006). Although all forms of vacancy can lead to a loss of income and higher operational costs, not every form of vacancy is considered to be an equally severe problem. Since the real estate market is cyclic in nature, as stated in paragraph 2.1, the rise of the vacancy level is becoming more accepted, being in the extraction phase of the cycle. However, this does not include that the investors’ portfolios contain no problem properties, rather the opposite. Consequently, real estate investors are becoming more aware of the realistic threat of vacancy on the investment portfolio.

Considerations with regard to vacancy at portfolio level

Since it is considered that there are various types of vacancy, as discussed in paragraph 2.1, management on portfolio level with regard to vacancy differs.

The subsequent will therefore describe considerations with regard to vacancy at portfolio level for different types of vacancy.

- **Natural vacancy; normal part of vacancy**
  When a building is new built or renovated for the market, the building can encounter initial or start-up vacancy. This type of vacancy represents a large part of the annual supply. However, it can be considered that under the current conditions, this start-up vacancy increases (Van Zuijlen, 2013). The real estate investor takes this into account by accepting a certain level of start-up vacancy when deciding for to make an investment decision. Although, this type of vacancy increases, it will not have the main focus when estimating the overall extent of the vacancy problem by the investor. In addition to the start-up vacancy, one can identify the natural or normal vacancy, which is normally to be found around 5 – 6% of the total rented floor area. This is to ensure a proper functioning real estate market. Although, normal vacancy is not desired in one’s portfolio, it is accepted to be able to keep one’s properties lettable.

  Furthermore, in some cases the vacancy is considered to be frictional vacancy, as a normal part of the rental process. It is assumed that this type of vacancy will increase in the coming years, since the average length of lease contracts still decreases (Louw & Niemeijer, 2013). This is a result of the attitude of office user, who is looking for more flexibility with regard to their accommodation as discussed in the previous paragraphs. Keeris & Koppels consider the reduction of the lease contracts in 2005 to 4 years instead of 5. Currently, the lease-contracts are even dropping to 3 years, involving a boost of fricitonal vacancy. In addition this is the cause of the current replacement market as discussed in chapter 1 and the autonomous growth of the office market as a whole.

- **Prolonged vacancy; (potential) boundary case**
  Measures to deal with prolonged vacancy, as result of the causes discussed in the latter, can be tried before the property can be written of as unlettable. First, normal maintenance of the specific building is needed. The first possibility is to upgrade the building, followed by renovation and finally a change in the target-group and/or the way to market the property.

- **Critical vacancy; focus on transformation or redevelopment**
  If none of the above-mentioned measures helps to find a tenant for the building, it can be concluded that the property is no longer suited for the proposed function. Disposal, demolition or conversion is than an option for the future of the vacant property.
Possible negative cashflow of vacant office buildings
As stated in the previous paragraph, vacant office buildings lead to a reduction in return on investment and can therefore lead to a possible negative cashflow. Consequently, a lack of return on investment will influence the portfolio of the investor. When more than one property is vacant, this can induce eventually a negative cashflow of the overall return on investment of the whole portfolio. The cashflow of an office building comprises a diverse range of costs, including operational, maintenance, and capital expenditure on both the building and infrastructure (McAllister & Loizou, 2009). These costs can be either constant or variable, and can therefore be divided into four categories:

1. Constant costs, the most certain and most predictable responsibilities: these are mainly constant and consist of key staff and operational costs;
2. Periodic costs, which are reasonably predictable: these relate to the replacement of existing equipment of the facilities. These costs are relatively predictable, since they are necessary to the continuing operation of the building, and thus will need to be spent at certain points during the life cycle of property;
3. Variable costs, which depend on the level of operations within the building: elements of this group may have either a positive or a negative correlation with occupancy rates and can be divided into two main categories:
   a. Positive costs are outgoings that are incurred as occupancy increases;
   b. Negative costs are additional costs that are incurred when occupancy decreases. These may involve payment of business rates, power supply and other service charges;
4. Large-scale upgrading of the building and replacement of the infrastructure to prevent technological obsolescence: these expenditures are uncertain both in terms of quantity and timing.

Consequently, the following costs can be identified for vacant buildings (de Kopgroep, 2008; IPD, 2011).

- Constant operating costs: Redemption of investment, Property tax; Building insurance; Maintenance costs; Administration costs; Water taxes.
- Variable operating costs: Management costs; Marketing and promotion costs; Service costs; Mutation costs.

As mentioned in chapter one, interesting is the turning point of the building from a positive to a negative cashflow with regard to the percentage of vacancy in the building. Figure 11 illustrates the correlation of the vacancy rate with the cashflow of a building, namely a reduction of the rental income due to vacancy, and a reduction in the variable costs and stable constant operating costs. For example, with an occupancy rate of 30% the cashflow will become negative, since the constant operating costs and variable costs are no longer covered by the rental income.

Subsequently, since these costs have to be paid by the owner of the building, the building will encounter a negative cashflow. However, the portfolio of the investor can still be profitable, since other buildings in the portfolio will cover these losses. Hence, the buildings’ negative cashflow may at first not be critical for the investor. This will be further elucidated in the empirical research.
### 2.3.3 Categorization into deprived, mediocre and promising real estate

As a consequence of the real estate market cycle, one can assume that each building at some point in time, will have the potential to be rented out (DTZ Zadelhoff, 2012). However, this can no longer be stated under the current market conditions, since the real estate market structurally changed. Consequently, this reflects the value of the office buildings, which often have to be revaluated downwards. Therefore it is interesting to investigate which buildings are still offering space in accordance with current demand, and which buildings are difficult to find a tenant for. Subsequently, DTZ distinguishes deprived, mediocre and promising real estate, which is mainly based upon the location and the length of vacancy. The categories of the office buildings therefore have the following characteristics:

<table>
<thead>
<tr>
<th>PROMISING</th>
<th>MEDIocre</th>
<th>DEPIVED</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Close to major city stations;</td>
<td>- Good locations within neighbouring municipalities or secondary locations within key cities;</td>
<td>- Structural supply (three years or longer);</td>
</tr>
<tr>
<td>- Availability of amenities;</td>
<td>- Competitive supply of offices;</td>
<td>- No or minimal distinctive capability;</td>
</tr>
<tr>
<td>- Limited competing supply;</td>
<td>- Rents under pressure;</td>
<td>- Offices designed according to a standard format;</td>
</tr>
<tr>
<td>- Rents not under structural pressure;</td>
<td>- Prominence or status of secondary importance;</td>
<td>- No flexibility in use of location;</td>
</tr>
<tr>
<td>- Attractive architecture;</td>
<td>- Physical characteristics offer potential for alternative uses;</td>
<td>- Many offices built during the period 1980-2000;</td>
</tr>
<tr>
<td>- Function of office complements its environment;</td>
<td>- Good parking ratio.</td>
<td>- Large volumes.</td>
</tr>
</tbody>
</table>

#### Table 2 | Characteristics of promising, mediocre and deprived real estate (own table based on DTZ Zadelhoff 2012)

DTZ identified factors on market, location and building level to determine the category of a specific office building, which are the following:

<table>
<thead>
<tr>
<th>MARKET</th>
<th>LOCATION</th>
<th>BUILDING</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Location; city centre;</td>
<td>- Caring public space;</td>
<td>- Distinctiveness architecture;</td>
</tr>
<tr>
<td>- Urban area;</td>
<td>- Attractiveness access route;</td>
<td>- Multi-purpose;</td>
</tr>
<tr>
<td>- Historically developed towns and cities;</td>
<td>- Amount of vacancy in the surrounding area;</td>
<td>- Styling of the building;</td>
</tr>
<tr>
<td>- University city;</td>
<td>- Accessibility by public transport;</td>
<td>- Energy label;</td>
</tr>
<tr>
<td>- Labour force for office jobs;</td>
<td>- Closeness to facilities;</td>
<td>- Identity;</td>
</tr>
<tr>
<td>- Increase in labour force.</td>
<td>- Image of the surroundings;</td>
<td>- Price/quality ratio;</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Number of square meters;</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Flexible lay out of floors;</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Finishing;</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Parking ratio;</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Attractiveness hall and entrance;</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Prominent;</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Favourability tax purposes;</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Options for expanding or downsizing;</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Air-conditioning.</td>
</tr>
</tbody>
</table>

#### Table 3 | factors determining categorizations on market, location and building level (own table based on DTZ Zadelhoff, 2012)

The current market now already presents offices, which are for example refurbished to upscale a building from the mediocre to the promising level (DTZ Zadelhoff, 2013). Consequently, 8 the top 20 transactions of last year were formerly categorized as mediocre.
2.3.4 Factors determining investment decision making

Factors of influence upon future use

Different authors discussed the factors of influence on the decision making of the investor during the recent years. Before identifying the factors, which determine the type of future use, table 4 gives an overview of the factors, which cross the mind of the investor during the decision making as described in the literature.

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Location; Flexibility; Specification; Credit-worthiness; Single- or multitenant; Period to expiry; User clause; Rent review clause; BREEAM rating; Economic obsolescence; Functional obsolescence.</td>
<td>Potential total return; Location; Quality tenant; Physical environment; Quality of external environment.</td>
<td>Design standard; Maintained service level; Regulatory compliance; Demand; Fit for purpose; Current user satisfaction; Economic performance; Culture and heritage (social values); Environmental values; Term of perspective (short: 5 years, medium: 15 years, long: useful life of the property).</td>
</tr>
</tbody>
</table>

Table 4 | factors of influence on decision making (own table based on Sah, 2011; Roberts et al., 2012; Langston et al., 2011)

Consequently, Sah (2011) identifies factors that cause volatility in property returns, namely leasing and releasing, tenant default, estimated resale value change and yield shift. These factors are forward looking in nature, and can thus be managed going forward. According to Roberts et al. (2012), the location of the site is the most important factor since it is directly related to the potential for total returns. In addition, as argued before, the investors view a development as a financial asset rather than as a physical site occupied by tenants. However, Roberts et al. argue that this might change in a market downturn, as we are currently in, where the issues of the tenant retention become increasingly important to the investor.

Factors to determine different types of future use at building level / portfolio level

The factors to can be categorized as physical, social, legal, economic and environmental characteristics (Wilkinson et al., 2009). This is in accordance with Langston et al. (2008), who identify the different types of obsolescence (paragraph 2.1). This categorization of factors will therefore be used for this graduation research.

Consolidation (Bullen & Love, 2010; Van Zuijlen, 2013)

- Physical obsolescence:
  - Sustainability performance;
  - Suitability for function.
- Technical obsolescence:
  - Technical performance (maintenance costs).
- Social obsolescence:
  - Corporate social responsibility.
- Economic obsolescence:
  - Commercial performance;
  - Building demand and function;
  - Return on investment;
  - Quality of tenant;
  - Need for incentives;
  - Term of contract;
  - Financing of the property (e.g. via fund);
  - Demand from possible new tenant;
  - Building and function wanted in the portfolio.
- Environmental characteristics:
  - Supply of function in the surrounding area.
- Vacancy:
  - Extend and duration of vacancy.
Adaptive re-use: conversion (Wessels, 2012; Wilkinson et al., 2009)
- Physical obsolescence:
  - Size: total floor area, height, depth, floor shape, grids, floor to ceiling height;
  - Building characteristics: size and height, depth, structure, envelope, internal space layout, access, services, acoustic separation, fire safety;
  - Layout;
  - Flexibility.
- Technical obsolescence:
  - Technical performance;
  - Structure: penetration for services.
- Social obsolescence:
  - Corporate social responsibility.
- Economic obsolescence:
  - Demand for new function;
  - Valuation of high and best use;
  - Willingness to invest;
  - Function wanted in the portfolio: portfolio diversification;
  - Demand for new function.
  - Closed business case;
  - Services: meet new use requirements.
- Environmental characteristics:
  - Availability of facilities;
  - Site: orientation, external noise, car parking, external access;
  - Accessibility.
- Vacancy:
  - Duration and extend of vacancy.

Within use adaptation / renovation (Langston & Smith, 2011)
- Physical obsolescence:
  - Fitness for purpose: level of suitability of the design to its functional objectives and includes flexibility and technology support;
  - Utilization: reflecting the occupancy characteristics of the property;
  - Design standard: level of quality, including durability and appearance;
  - Condition: physical characteristics of the property.
- Technical obsolescence:
  - Maintained service level: level of upkeep and includes regular repair and cleaning.
- Social obsolescence:
  - Corporate social responsibility.
  - Culture and heritage: level of social contributions that the property delivers and includes community enhancement and sense of place.
- Legal obsolescence:
  - Regulatory compliance: level of conformity, including certification and public safety.
- Economic obsolescence:
  - Risk and opportunity;
  - Portfolio diversification;
  - Asset valuation;
  - Willingness to invest: devaluation of the building;
  - Term of perspective (short, medium and long);
  - Economic performance: return on investment, demand for function, supply of function in the surrounding area, possible return on investment after conversion, available resources to invest;
  - Demand or relevance: level of usage and includes occupancy rates and capacity;
  - User satisfaction: level of endorsement of the property and includes comfort and perceived utility.
- Environmental characteristics:
  - Environmental values: level of sustainability that the property delivers including carbon footprint and habitat protection;
  - Locational context: possible conversion of other buildings in the surrounding area.
- Vacancy:
  - Duration and extend of vacancy.

Disposal (Bullen & Love, 2010)
- Physical obsolescence:
  - Utilization: reflecting the occupancy characteristics of the property;
- Technical obsolescence:
  - Technical performance;
  - Maintained service level: level of upkeep and includes regular repair and cleaning.
- Social obsolescence:
• Corporate social responsibility;
- Economic obsolescence:
  • Possible selling price;
  • Return on investment;
  • Negative / positive cashflow.
  • Building and function wanted in the portfolio;
  • Quality of tenant;
  • Building demand and function;
  • Commercial performance;
- Environmental characteristics:
  • Supply of function in the surrounding area;
- Vacancy:
  • Extend and duration of vacancy;

These factors will be used for the development of the decision model, using the Tetra PFM method. This will be further discussed in paragraph 2.4.2.

2.4 VACANCY MANAGEMENT

This paragraph will combine all the information presented in the paragraphs of this chapter. First, different ways to manage vacancy will be discussed as following from the different types of vacancy, obsolescence and future use. Furthermore an analytical framework will be presented, which will form the basis of the empirical research during the next phase. The paragraph will end with a first concept of the preference-model as discussed in paragraph 1.7, using Tetra. Which is based upon the gained knowledge in this chapter.

2.4.1 Different ways to manage vacancy

As previously discussed, vacancy can occur due to many causes, namely different types of obsolescence (paragraph 2.1.3). Furthermore, vacancy can be present in any type of form, being natural, prolonged, problematic and critical vacancy. In addition, a building can be fully or partly vacant. Therefore, the current and future cashflow of a (partly) vacant building is considered to be interesting, since a negative cashflow can occur and be of significant influence on the investors’ portfolio. Consequently, paragraph 2.3.2 discussed considerations with regard to vacancy on portfolio level. This was followed by factors to determine future use, and factors, which determine decision making of vacant office buildings. According to Van Zuijlen, ways to manage vacancy can include for example: incentives; temporal use; active marketing; small upgrading; extra services; multi-tenant buildings (e.g. combining two (partly) vacant buildings, to be able to sell or converse the other), renovation, conversion and disposal.

Vacancy management in relation to type of vacancy; Analytical framework

Figure 13 on the next page presents an analytical framework, comprising the ways to manage vacancy in relation to obsolescence and type of vacancy. The increase of costs of different possibilities for future use has been related to the adaption costs of a building in accordance with Brand (1994), presented in figure 12. The thickness of the lines represents the relative amount of costs to adapt the specific part of the building, both in figure 12 and 13. The analytical framework considers the duration and extend of the vacancy, which will than be related to the type of vacancy and possible cause. Consequently, the types of future use are associated to the type of vacancy, which is followed by possible actions.

The analytical framework is a first step towards the decision structure, as discussed in paragraph 1.7. It now mainly focuses on vacancy management on object level. The structure will be further elucidated during the empirical study during Ph3 and be tested with real life cases and further developed based on results and literature study. The aim is to enlarge the framework by implementing decision making on portfolio level.

Figure 12 | Adaption costs according to the six layers of the building (own illustration based on Brand, 1994)
Figure 13 | Vacancy management analytical framework (own illustration based on Brand, 1994; DTZ Zadelhoff, 2011; Keeris & Koppels, 2006; Langston et al., 2008; Van Zuijlen, 2013; Wilkinson et al., 2009)
2.4.2 Excel model; preference measurement vacancy management

The decision making for future use of vacant office buildings based upon the presented literature study in paragraph 2.1 until 2.4.2 can be operationalized within a preference measurement model. This model (see concept version in table 5) will enable the real estate investor to make well-considered decisions for the future use of (partly) vacant office buildings in the portfolio. The model will be used as a tool for this research for a detailed implementation study during the field research (FR), as described in paragraph 1.7. Therefore, the development of the model will be based upon both literature and results from the empirical research. The aim for this model is to compare a decision made in real life situation, or simulation, with the best alternative outcome of this model.

The model includes two main steps, namely (1) the analysis of different types of future use for the separate (partly) vacant buildings (assuming there are more (partly) vacant buildings in the investors’ portfolio), and (2) the analysis of the best alternative for the (partly) vacant office buildings on portfolio level. Based on these two steps, the model will provide the best alternative for the future use of vacant office buildings within the portfolio of the investor. The criteria for the analysis of the building and portfolio are currently based upon the literature study, and will be expanded during the P3 and P4 phase. The criteria are divided into two main categories, which are qualitative and quantitative factors, and are further divided into different types of obsolescence as discussed in paragraph 2.1.3. The model is thus composed as follows:

**Step 1: Scores different types of future use on object level**

During this step, the buildings are scored with regard to different types of future use, for now these include: Consolidation, Conversion, Within use adaptation, Demolition and Disposal (see example of Renovation and Conversion in table 5, page 47). In accordance with literature, factors are determined forming the criteria for the preference measurement of the type of future use. Consequently, these differ for each of the types of future use, since other criteria apply to the type of use. The weighing of the criteria will be based upon the obtained insight in the preferences of the investor during the Delphi-study in phase 2.

**Step 2: Scores different alternatives upon portfolio level, a combination of future use of the buildings**

As already mentioned, the scores of the types of future use on building level will be combined with other criteria to analyse the different alternatives of combinations of future use of the different (partly) vacant buildings. This step is the most interesting part of the model, since correlations between the buildings are influencing the decision for the composition of the portfolio of the investors. Although on object level the building may for example be perfectly fit for conversion into dwellings, on portfolio these buildings can negatively influence each other since there is a scarce demand for this type of dwellings.

Eventually the model will, being based on the determined criteria and scores of different alternatives, suggest the most preferred outcome. It is than interesting to see whether in real life, the investor made the same decisions. In the end, the preference model for vacancy management can possibly provide a tool for investors to manage their vacancy and determine the most optimal future use for the (partly) vacant buildings.

2.5 CONCLUSION

The market situation now finds itself in the contraction phase and causes a structural change in the real estate market. Hence, it is assumed that the real estate market, and in this particular case the investors, have to allocate a different strategy with regard to future use of their real estate investments and especially their vacant property. Consequently, the supply for office space structurally changed to a specified offer as an answer for current demand. Therefore, the real estate market now comprises an exceptional confluence of requirements and opportunities for both the investor and the tenant. Moreover, a structural change in trend can induce a drop in the asset performance and its value.

Subsequently, there are four main investment styles, of which the value-added funds are now considered to be the style of choice, focusing on slightly higher risk and return on investment. Since it is assumed that there have been a structural change in the real estate office market, a focus upon the core-plus and value-add real estate investors is chosen for this graduation research. The way of investing in real estate can be both direct and indirect. Furthermore, indirect real estate investments can be done in a Non-listed property fund or a Listed property fund.
The core-plus and value-add investor knows an average risk and related return on investment profile, and focuses on investment in different regions, types of real estate and developments. This type of investor therefore focuses on generating value during a growth phase, by investing in real estate using a relatively high leverage and high capitalization rate. Such investments include among others vacant offices, which are acquired for highly reduced prices. Consequently, the yields in the top, middle and basic segments present an increasing gap. In addition, the interest in listed property increased as well, as a consequence of a preference in indirect investments through specialists.

A known characteristic of real estate portfolios is the diversification of assets and investments. Asset allocation is based upon the possible investment and desired return on investment, called Modern Portfolio Theory (MPT). Subsequently, promising assets compensate deprived assets within the portfolio. However, there is currently a high vacancy rate with regard to offices. Although all forms of vacancy can lead to a loss of income and higher operational costs, not every form of vacancy is considered to be an equally severe problem. However, this does not include that the investors’ portfolio contains no problematic properties. Consequently, real estate investors are becoming more aware of the realistic threat of vacancy in the investment portfolio. Vacant office buildings lead therefore to a reduction in return on investment and can thus lead to a possible negative cashflow. Interesting is the turning point of the building from a positive to a negative cashflow with regard to the percentage of vacancy in the building. Hence, the buildings’ negative cashflow may at first not be critical for the investor. Consequently, this reflects the value of the office buildings, which often have to be revaluated downwards. Therefore it is interesting to investigate which buildings are still offering space in accordance with current demand, and which buildings are difficult to find a tenant for. Subsequently, the research distinguishes deprived, mediocre and promising real estate, which is mainly based upon the location and the length of vacancy.

Furthermore, the factors which influence the decision making of future use of vacant office buildings are determined according to the literature, focusing on consolidation, within use adaptation, conversion and disposal. This led to an analytical framework, comprising vacancy management in the form of a decision making structure including future use and possibilities, related to different causes, types, duration and extend of vacancy.
## Table 5 | Preference measurement excel model vacancy management (own ill.)

### RENOVATION

<table>
<thead>
<tr>
<th>Building</th>
<th>A1</th>
<th>A2</th>
<th>A3</th>
</tr>
</thead>
<tbody>
<tr>
<td>A1</td>
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<td>A2</td>
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<tr>
<td>A3</td>
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<td></td>
<td></td>
</tr>
</tbody>
</table>

### CONVERSION

<table>
<thead>
<tr>
<th>Building</th>
<th>A1</th>
<th>A2</th>
<th>A3</th>
</tr>
</thead>
<tbody>
<tr>
<td>A1</td>
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</table>

### PORTFOLIO

<table>
<thead>
<tr>
<th>Building</th>
<th>A1</th>
<th>A2</th>
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### Notes
- The tables above represent the results of the preference measurement model for vacancy management in a portfolio context.
- Each row in the tables corresponds to a specific building, while the columns represent different categories and metrics used for evaluation.
- The scores and percentages indicate the extent to which each property meets the specified criteria.
- The final column labeled 'SCORE' indicates the overall evaluation score for each building.
LITERATURE


APPENDIX A | VACANCY PROBLEM AREAS

Structureel leegstaande kantoorgebouwen:
minimaal 30% leegstand in drie opeenvolgende jaren.

Gebouwwrottie (in m² v.v.z.)
500 - 1,000
1,000 - 2,500
2,500 - 5,000
5,000 - 10,000
>10,000

2011

Aanbod als percentage van de voorraad
<5%
5% - 10%
10% - 15%
15% - 20%
20% - 25%
>25%

Bronbestanden:
DTZ Zadelhoff
Basis Administratie Gebouwen
Kantoren in Cijfers 2011

Bewerkt door:
Real Estate & Housing
Technische Universiteit Delft