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## Preface

You are about to read a report on industrial property investment analysis in Orange County, California. At the same time, this research study is the result of my *Master of Science in Real Estate* at the University of Groningen which is conducted within the framework of the *Network for European and United States Regional and Urban Studies* (NEURUS) program.

After almost six years of studying this era has come to an end. After completing a *Bachelor of Science in Social Geography and Planning* and subsequently a *Master of Science in Planning* I have come to the point to graduate as *Master of Science in Real Estate* as well. I have performed my final thesis partially at the University of California, Irvine where I executed the fieldwork for my thesis during a four-month stay from September until December 2009. My stay in Orange County was definitely the best time of my student life and I want to thank the staff – in particular professor Scott Bollens – and my fellow-students who made me have a truly inspiring period abroad. I finished my thesis back home in The Netherlands stimulated by two NEURUS seminars (the first in Gainesville, Florida in September 2009 and the second in Berlin, Germany in March 2010) where all the participating exchange students presented their research designs and findings and consequently received critical feedback from various professors.

My fascination for industrial real estate originated from a congress I organized with four fellow students from Groningen in February 2009 on *the spatial quality of business parks*. My interest is further increased by U.S. literature on this topic and in-depth interviews with Orange County developers and investors. I would like to take this opportunity to thank the people who took the time to answer my questions and help me with my research. Without their contribution it would not have been possible to write this thesis. Finally, I owe many thanks to my supervisor from the University of Groningen, drs. Paul van Steen. I very much appreciated his ideas on the research directions I had to follow and his critical but constructive comments. Now it is time to say goodbye to my student life and enter the serious working life!

Jorrit Sennema

Groningen, April 2010

## Abstract

This thesis describes ‘successful practices’ of industrial property investment in Orange County, California. The performed research focuses on investor preferences and motivations more than on places or locations. Industrial properties in this report are defined as objects for the processing and storage of materials and goods, of which the share of industrial functions is larger than fifty percent of the gross market rent and the second use is smaller than twenty-five percent. The industrial real estate segment can be subdivided into activities like production, storage, distribution and research & development which are accommodated in three main building types: *manufacturing, warehouse and flex*. The industrial property sector of Los Angeles and Orange County is the largest regional market in the United States with a total stock of almost 920 million square feet (85 million square meters) of industrial space. Industrial real estate does not only have a function as a factor of production, but also as an investment opportunity which can generate income (i.e. rent) and competes with several financial assets in the capital market (e.g. stocks, bonds) and other types of real estate in the space market (e.g. retail, offices, residential).

Orange County has a clearly distinct space (or rental) and asset (or property) market for industrial real estate which is a criterion for the existence of an investment market. On the one hand there is the market for the usage of industrial property. Space is demanded by users or occupiers of industrial buildings (i.e. companies) and space is supplied by landlords (i.e. investors or developers). On the other hand there is the market for ownership of industrial property. Industrial assets make claims to future cash flows (i.e. rents) and are demanded as well as supplied by investors or developers. The attractiveness and thus the market value of an industrial real estate asset differ in time depending on the capitalization rate investors require. This capitalization rate is the property earnings divided by the property asset value and is determined by capital investment supply and demand in the asset market based on three factors: *Opportunity cost of capital; growth expectations and risk*.

Opportunity cost of capital is determined by the performances of other investment products in the asset market. These are influenced by macro-economic factors like inflation and interest rates realized on the capital markets. Growth expectations are mainly determined by future supply and demand for industrial space, which rely on local and national economies, which in turn are related to the capital markets. The level of riskiness of the cash flows that an individual property can generate in the future depends on its location, product, timing, price and contract. These five components are influenced by spatial trends, policies and regulations as well as by supply and demand in the space market.

In the Orange County industrial property market average asking lease rates are currently decreasing, which directly correlates to the increase in vacant and available space coming on line. When local and national economies are declining, demand in the industrial space market is likely to drop as well.

Consequently, industrial property 'cap rates' are slightly on the rise because of the lower growth expectations in the space market and thus higher perceived risk by investors. Rising cap rates lead to lower industrial property market values. The higher perceived risks associated with industrial property then lead to higher required returns by (equity) investors like REITs, because risk and return are positively correlated. The higher required returns than in recent years make it difficult for local developers to get good deals and projects. Lower growth expectations and higher perceived risk by investors make industrial property a less attractive investment. However, industrial buildings in Orange County are still desired because they are assets assessed to be relatively safe. Orange County is a (zoned industrial) land-constrained market with few development sites available. This is why there is not a large amount of industrial property supply on the market; investors who own industrial property in Orange County do not typically sell, thereby preventing the cap rates to rise explosively during the recent economic turmoil. Also the long-run marginal cost of supplying additional space to the market in Orange County is currently higher than the rents that can be generated in the space market. The replacement cost level of rent or long-run equilibrium rent is currently not high enough to support new construction in the development industry. There is a notable difference between the O.C. industrial space and asset market. Whereas demand in the space market has declined (because of a decrease in volume of production and consequently employment of the local economic base), demand in the asset market on the other hand has not collapsed. Despite decreasing cash flows, property values and thus total returns, the industrial product is still considered a desirable asset by investors.

*Property characteristics* form the main reason why industrial buildings are popular assets throughout Orange County. In general, industrial products are functional and provide flexibility for different operations. *Location* is another reason why industrial real estate is an attractive investment category in Orange County. The Los Angeles/Long Beach ports are situated adjacent to the L.A./O.C. border and generate flows of goods which are stored or processed in Orange County. Moreover, Orange County has a very diverse economic base driven by a wide range of industries that require industrial buildings to accommodate their businesses. *Concepts* are not decisive for most industrial investment decisions. O.C. industrial property investors tend to focus on building characteristics rather than on spatial building or business park concepts. *Development and investment strategies* in Orange County are to focus on flex properties with good transportation access, tenant mix and multiple uses. This type of industrial product is in demand and offers the possibility to spread risk. *Ownership* structures of industrial property (ventures) are diverse in Orange County. There is a lot of institutional ownership by pension funds and insurance companies investing through real estate investment trusts (REITs) having the legal form of a corporation or business trust. The main *risk* for investors today is tenant default and loan maturity, there is currently increasing vacancy and a downward trend in rents. However, the long-term confidence that the market will stabilize is intact.

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# Chapter 1 Research Design

## 1.1 Introduction

This research study is being conducted within the framework of the ‘Network for European and United States Regional and Urban Studies’ (NEURUS) program and serves as a thesis as part of the Master of Science in Real Estate at the University of Groningen, The Netherlands. Part of this program has been a four-month stay at the University of California, Irvine in the United States of America.

This thesis focuses on investments in industrial property on business parks in Orange County, in the state of California. Those investments can be in direct (i.e. real property) or indirect real estate (i.e. stocks and bonds), in public (e.g. REITs<sup>1</sup>, mutual funds) and in private markets (e.g. private equity, mortgages) and in listed or non-listed property ventures (Geltner *et al.*, 2007). The central question of this report is why industrial real estate is an attractive investment category in the USA, and more specifically in Orange County, California. Therefore, the success factors of investing in the industrial property sector of Orange County are studied.

This report will continue with some background information concerning industrial property. Then the major differences between the U.S. and the Netherlands with regard to investing in industrial property will be stressed and subsequently the motivation, problem definition and the research questions for this thesis are discussed. Finally the methodology and the relevance of this research topic are defined.

## 1.2 Background Information

Industrial real estate (or property<sup>2</sup>) is one of the four major property categories and can be distinguished from residential; office; and retail assets. Industrial, office and retail assets are commonly referred to as commercial real estate (DiPasquale and Wheaton, 1992; Thrall, 2002; Urban Land Institute, 2004). The industrial segment can be subdivided into activities like warehousing, manufacturing, research and development, distribution and transportation which all need to be accommodated. The Dutch Commercial Property Index foundation (ROZ, 2009) defines industrial property as “objects for the processing and storage of materials and goods, of which the share of industrial functions is larger than fifty percent of the gross market rent and the second use is smaller than twenty-five percent”. The industrial property sector of Los Angeles and Orange County combined

---

<sup>1</sup> Real Estate Investment Trust (REIT): “corporation or trust that offers publicly traded common stock shares in companies that essentially do nothing but own (and manage, and buy and sell) income-producing properties and mortgages”. (Geltner *et al.*, 2007)

<sup>2</sup> Legally, real estate is ‘tangible property’ or ‘land and the permanent structures on it’. Real property is often considered synonymous but is more extensive since it includes the intangible rights (including ownership and use) associated with real estate as well. In this thesis both terms are used interchangeably. (Geltner *et al.*, 2007)

is the largest regional industrial market in the U.S. with a total stock of almost 920 million square feet (85 million square meters) of warehouse and distribution space (Prologis, 2009).

### **1.3 Motivation**

Industrial property is an unattractive investment category in the Netherlands for several reasons. (Institutional) investors are therefore almost absent in this market. For one, industrial land value is low because local municipalities compete with each other to attract businesses by providing land in abundance. Industrial land is almost considered a public good, as municipalities hold the monopoly stake in the land market, thereby preventing real estate developers from competing. The supply of industrial land is far greater than the demand because there is almost no regional coordination, despite various attempts to introduce change. Furthermore, the spatial quality of industrial property is often low and there is little management. In all, market conditions make industrial property unattractive for investors. (Buitelaar & Van der Krabben, 2007; Van 't Klooster, 2007).

In the United States the situation is very different. The industrial property sector has gained popularity in the 1990s primarily due to the fact that this segment of the real estate industry managed to avoid the overbuilding common in many other sectors. The occupancy levels for industrial properties have therefore been higher than those found in other types of commercial real estate. This has meant more stable and predictable cash flows for their owners (Mullaney, 1998). For developers, business parks (and therefore industrial real estate) offer flexibility because they have the benefit of deciding whether to sell unimproved land parcels or completed buildings in a business park. Risk is furthermore minimized by the opportunity to phase development, depending on market conditions (Urban Land Institute, 2001). Finally, while manufacturing employment dropped in the USA during the last decades, the absorption of industrial space was still rising in recent years (ULI, 2004; AMB Industrial Absorption Indicator, 2008).

All in all, the differences between the two countries with regards to the industrial property investment situation are large. A comparative study is not appropriate because the regional differences (between the countries as well as within) are too great. The context – for example when it comes to supply and demand or the real estate development process – is also different. Nevertheless, it is interesting for Dutch developers and investors to explore ‘Successful Practices’ for investing in industrial real estate in the USA in general and in Orange County, California more specifically.

### **1.4 Problem Definition**

Out of the total capital value of real estate assets in the Netherlands held by institutional investors (most of them investing through a REIT structure), only 2.4% is invested in the industrial segment (Investment Property Databank, 2009). Despite this, the property type performs equal to or better than retail, offices and residential assets in the last ten years. In the USA the share of industrial property in

the total capital value invested by the largest REITs is – according to the Investment Property Databank (2009) – 20.4%, although industrial real estate in the USA is performing below the average returns of all property over the last ten years. It is interesting to find out what the reasons are for these differences; why industrial real estate is such a popular investment category in the USA and what Dutch real estate investors and developers can learn from the American state of play. This thesis should eventually describe why the industrial segment in the USA has a greater share in overall real estate investments than in the Netherlands. It is therefore interesting what the Dutch can learn from the American, and more precisely, the situation in Orange County, California.

### 1.5 Objective

This master thesis will draw conclusions about the characteristics that are required for industrial property to become an attractive real estate investment category in the Netherlands. It aims to investigate similarities and differences between the Netherlands and Orange County in the field of industrial property characteristics, location, concepts, development and investment strategies, ownership and risk. The scientific relevance of this thesis lies in gaining knowledge of how future value and therefore sustainability, and thus attractiveness as an investment, of industrial property can be influenced by different concepts and development and management strategies. By describing and explaining the underlying processes it might be possible to predict and control those factors that determine the success of the development and the willingness to invest in future industrial property.

### 1.6 Research Question

*What are the reasons that, contrary to the Netherlands, industrial property is an attractive investment category in the USA? What are the success factors and what can Dutch real estate investors and developers learn from the situation in Orange County, California?*

- 1a. What are the characteristics of industrial property in Orange County, where is it located and why?
- 1b. Which actors are involved in industrial property investment and how do they invest?
- 2a. What determines the risks of and returns on industrial property in Orange County?
- 2b. How does industrial property in Orange County perform compared to other property types?
- 2c. What were the annual returns on industrial property in the USA and Orange County in the past?
3. What are conditions for successful industrial property development and investment regarding characteristics, locations, concepts, development strategies, ownership and risk in Orange County?
4. In what ways can industrial property development and investment in the Netherlands benefit from (elements of) the situation in Orange County?

## 1.7 Relevance

The importance of real estate to society can be summarized by the following phrase from Van der Vlist (2009): “Real estate accommodates households and firms, generates employment and income, represents value and assets and occupies the scarce amount of available space”.

Real estate is a primary necessity in the sense that it houses people. It is also a necessity for firms to run their businesses, which is certainly the case for industrial activities such as warehousing or manufacturing. The relevance of conducting research on industrial property in this thesis is based on a combination of financial-economic and spatial factors, which are in fact closely connected since spatial quality is a determinant of the capital value of a property.

The industrial property sector is capital-intensive and occupies a large amount of space: “In the United States alone, industrial real estate encompasses to over 12 billion square feet (1.1 billion square meters) of space, making it the largest sector of the nation’s real estate both in area and value” (ULI, 2004). The industrial property sector of Los Angeles and Orange County is the largest regional market in the U.S. with a total stock of almost 920 million square feet (85 million square meters) of industrial space (Prologis, 2009). The industrial sector generates a lot of employment as well. However industrial real estate does not only have a function as a factor of production, but also as an investment opportunity which can generate income (i.e. rent). This means industrial property can be seen as potential future cash flows. It is therefore in competition for the investors’ money and competes with several financial assets in the capital market (e.g. stocks, bonds) and other types of real estate in the space market (e.g. retail, offices, residential).

Environmental issues also play an important role in the industrial property sector. Although many local economies have shifted away from heavy manufacturing and industrial land uses have transformed into lighter, higher-tech forms of business with less environmental impacts (ULI, 2001), real estate occupies land which is mostly scarce. This is certainly the case for a small country like the Netherlands, but it accounts for most of the urban areas in the U.S. – like L.A. and Orange County – as well. Investments made in real estate are usually long-lasting. This is a consequence of the longevity of built space. Therefore planning, development and management of industrial locations should be done carefully and deliberately. Moreover occupiers of industrial property become more demanding: “The concept of building a square box and then filling it with specialized machinery and equipment is no longer adequate. Today’s successful industrial buildings are built from the inside out, with the users’ requirements first and foremost in the design process” (ULI, 2004).

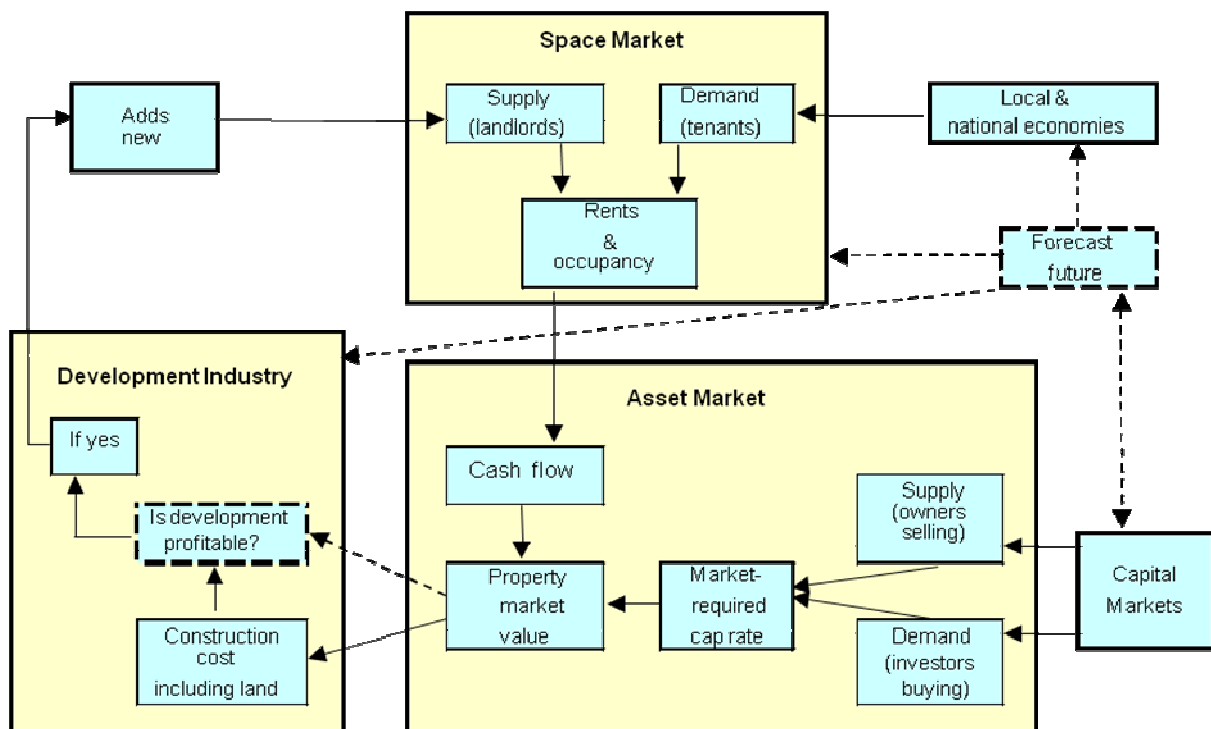
## Chapter 2 Theoretical Framework

### 2.1 Introduction

This chapter deals with significant literature concerning real estate investment in general applied to industrial real estate in particular. The theories and models used in this literature review combine new and old insights and aim to offer a reinterpretation of industrial real estate as an investment category. At the end of this chapter all theories reviewed come together in a conceptual model which will be the theoretical basis for the rest of this report.

### 2.2 Real Estate System

Two basic markets are relevant to commercial property investment analysis: the space market and the asset market. The space market is the market for the usage of real property. This type of market is often referred to as the real estate usage market or the rental market. On the demand side are individuals, households or firms. This thesis assumes that demand in the model presented in figure 2.1 consists of (potential) users or occupiers of industrial space. On the supply side are real estate owners (e.g. developers or REITs) who rent space to tenants. Underlying the demand side of the space market are the local and national economies which determine the need for industrial space. As can be seen in figure 2.1 the interaction of supply and demand determines the rents and occupancy levels of industrial real estate.



**Figure 2.1** The Real Estate System: Interaction of the Space Market, Asset Market and the Development Industry (Geltner *et al.*, 2007)



The asset market, on the other hand, is the market for the ownership of real estate assets. Real estate assets in this thesis consist of industrial property; that is, land parcels and the industrial buildings on them. These industrial buildings make claims to future cash flows for the owner, i.e. they generate rents. Therefore industrial real estate assets compete in the capital market with other forms of assets like stocks, bonds and other property types. Industrial real estate is therefore part of the larger capital market. The value of industrial real estate is determined by the demand and supply of investors<sup>3</sup> and the capitalization rate<sup>4</sup> they require. These 'cap rates' interact with the realized cash flows in the space market and consequently determine the market value of industrial property. A cap rate is determined by capital investment supply and demand in the asset market, based on three major factors:

1. **Opportunity cost of capital:** the interest rates and opportunities for earning returns in other forms of investments determine how much investors are willing to pay for industrial property;
2. **Growth expectations:** investors look at the growth or decline in cash flows industrial property can generate in the future, which mainly depends on the future balance between supply and demand in the space market;
3. **Risk:** investors do not like risk<sup>5</sup>. The less risky investors consider an asset, the more they are willing to pay for it. For example when future cash flows are considered to be stable.

A lower cap rate (and thus a higher price being paid) for industrial property means investors are eager to put their money in warehouses, distribution facilities or showrooms. This is possible when alternative investments cannot earn as much return, for example when interest rates or yields on stocks are declining. A lower cap rate can also occur because investors foresee growth in demand for industrial space. Therefore investing in for example a logistics building is less risky because the chance of vacancy of the property is low (assuming that no oversupply will be created).

The space and asset market are linked in the short-term by the translation of property cash flow into property asset value. In the long-term these two markets are linked by the commercial property development industry, which converts financial capital into physical capital and thereby governs the stock of supply in the space market. When industrial asset values exceed the development costs<sup>6</sup> of new industrial space, development will proceed and physical stock will be added to the supply side of

---

<sup>3</sup> Investors in the asset market can (both on the demand as well as on the supply side) be individuals or institutions: for example private investors or developers, REITs or other institutional investors like pension funds or insurance companies.

<sup>4</sup> The capitalization rate (or cap rate, or current yield) is the property operating earnings divided by the property asset price or value. Thus property values can be represented as rents divided by the cap rate. The cap rate is similar to a current yield: the amount of income the investor receives per dollar of current value of the investment. (Geltner *et al.*, 2007)

<sup>5</sup> However, investors differ in their preferences regarding the trade-off of risk and return. Some may want certain types of assets or properties in order to diversify or balance their overall investment portfolios. (Geltner *et al.*, 2007)

<sup>6</sup> Construction and land costs (or site acquisition costs), including necessary profit for the developer. (Geltner *et al.*, 2007)

the space market. The real estate system model in figure 2.1 is forward-looking. Developers (i.e. the supply side) need to have an idea of the future because of the construction time of real estate, effectively meaning that the supply of real estate is inelastic. Furthermore the demand for industrial space can be very different in the medium to long-term. Investors must be forward-looking as well to estimate future streams of cash flows, which again depend on the relationship between demand and supply in the space market. Finally they have to be forward-looking because they have to forecast capital market and national macroeconomic factors like interest rates and inflation. These affect the opportunity cost of capital, and thus determine supply and demand in the asset market – and therefore the future values – of industrial property (Geltner *et al.*, 2007).

**2.3 Four-Quadrant Model**

A model developed by DiPasquale and Wheaton (1992) gives a graphic representation of the real estate system described above. Figure 2.2 illustrates how the real estate asset and space markets are connected and how they affect each other. The distinction between industrial property as space and industrial property as an asset is most clear when buildings are not occupied by their owners. The needs of tenants and the type and quality of buildings available determine the rent for industrial space in the rental or space market. At the same time, industrial buildings may be bought, sold, or exchanged between investors. These transactions occur in the capital or asset market and determine the asset price of space. The four quadrants in the model complete the linkages between the space and asset markets.

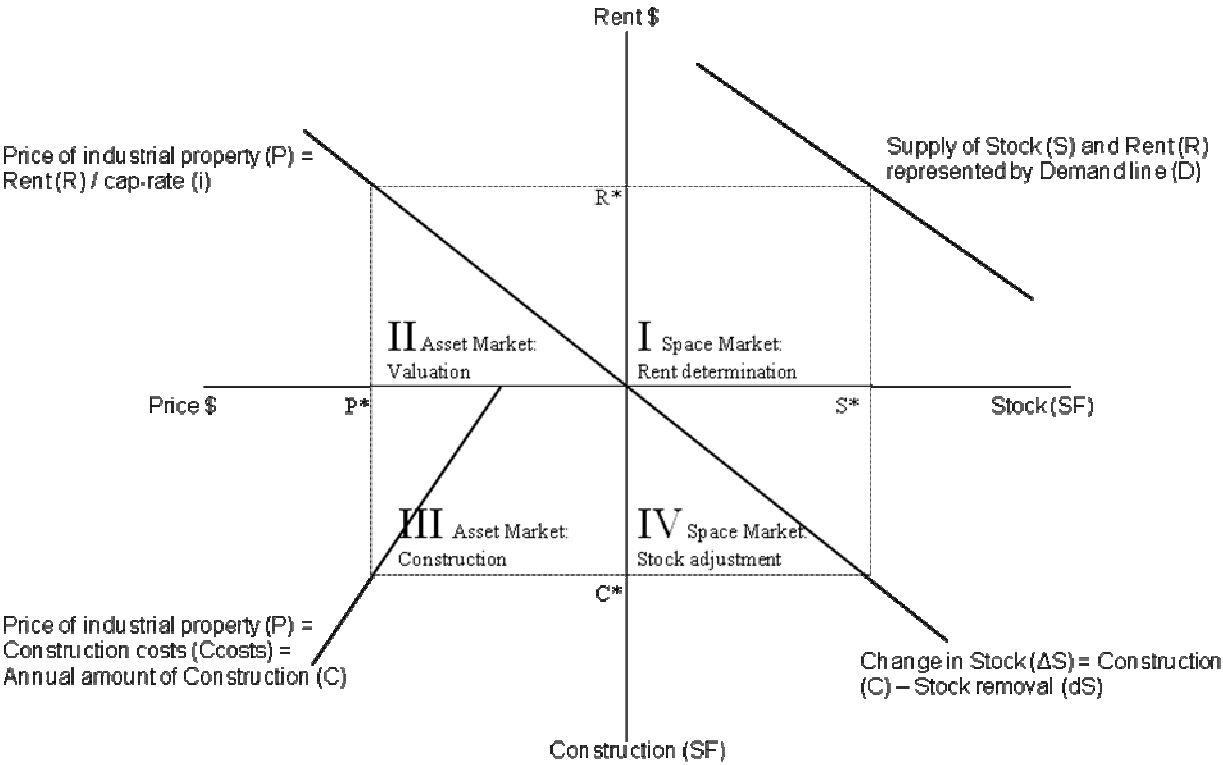


Figure 2.2 Four-Quadrant Model (DiPasquale and Wheaton, 1992)

The four quadrants are connected by the dashed rectangle which represents the long-run equilibrium in the industrial real estate market and links stock and flow. This long-run equilibrium allows the separate markets time for the supply of built space to adjust to the demand. The points where the sides of the rectangle cross the four axes represent the equilibrium stock of built space ( $S^*$ ); rent ( $R^*$ ); asset prices ( $P^*$ ); and rate of new construction in the market ( $C^*$ ). According to the model presented in figure 2.2 the level of rent for industrial property is determined in the space market in the northeastern quadrant. The total stock or supply of industrial space ( $S$ ) is a given factor. The demand ( $D$ ) for industrial space depends on rent ( $R$ ) and exogenous economic factors such as firm production levels as well as other factors further described in paragraph 2.4. Consequently an equilibrium level of rent ( $R^*$ ) will exist upon a certain equilibrium supply of stock of industrial space ( $S^*$ ) (Geltner *et al.*, 2007).

The rent level which is consequently determined is central to the demand for industrial property in the asset market in the northwest quadrant. “After all, in acquiring an asset, the investors are really purchasing a current or future income stream. Thus, changes in rent occurring in the property (or space) market immediately affect the demand for assets in the capital (or asset) market”. The realized equilibrium rent ( $R^*$ ) combined with the required capitalization rate (which is represented by the function line in the northwest quadrant) lead to the price ( $P^*$ ) investors are willing to pay for industrial property. This means the cap rate ( $i$ ) is the ratio of rent to price. A higher cap rate (determined by the three factors described in paragraph 2.2) is represented by a clockwise rotation of the line while a lower cap rate is represented by a counter-clockwise rotation. This way the cap rate influences the way investors value industrial property. The value of, for example, warehouses depends on how many investors wish to own such space and how many warehouses there are available in which to invest. Simple economics teaches us that an increase in demand of these properties will raise prices while a greater supply of space (created by the development industry) will reduce prices (DiPasquale and Wheaton, 1992).

The two northern quadrants describe the short-run relation between the space and asset markets. The two southern quadrants describe the long-run effects of the development industry on the total stock of built space in the market. The southwest quadrant shows the conversion of financial capital into physical capital. The function line represents a given level of property prices ( $P^*$ ) in relation to a given rate of construction per year ( $C^*$ ). “This construction line indicates that higher property prices will stimulate greater amounts of new construction, as higher prices enable more costly sites to be developed at a faster pace due to greater availability of capital”. The construction function line (which is in fact the long-run marginal cost for industrial property development) intersects the price axis at a positive value rather than at the origin, because when property price is below a certain threshold level, no construction will occur (Geltner *et al.*, 2007).

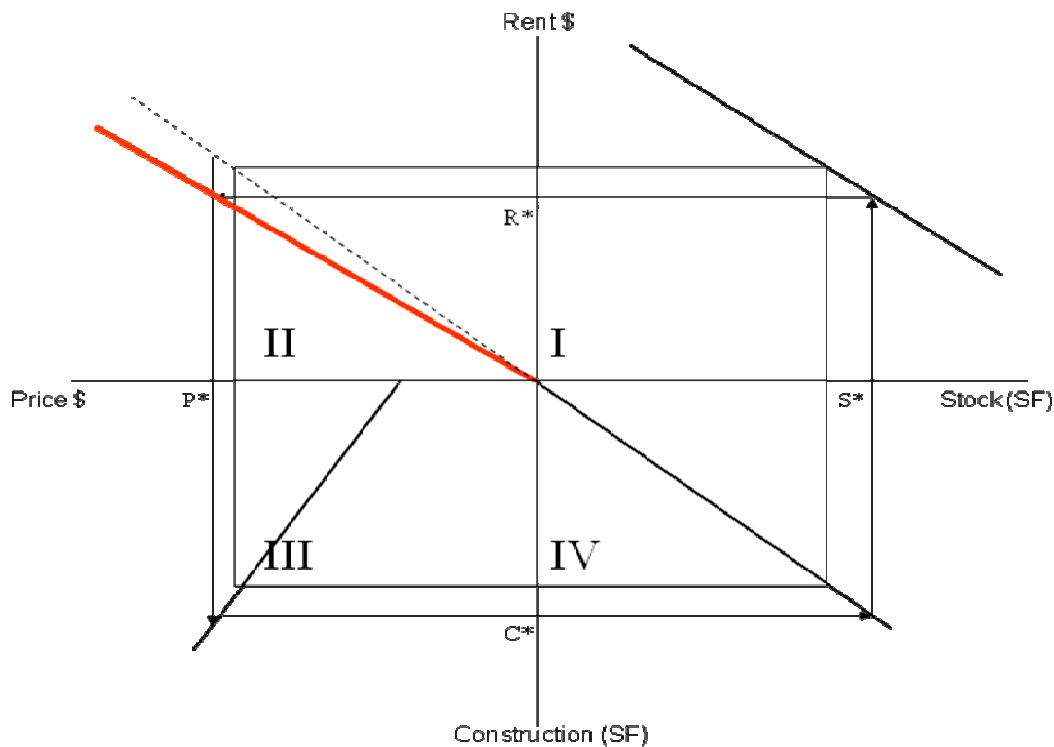
In the final southeast quadrant, the annual flow of new construction ( $C$ ) is converted into a long-run stock of industrial real estate space ( $S$ ). The change in stock ( $\Delta S$ ) is equal to new construction minus losses from the stock measured by the depreciation (removal) rate ( $dS$ ). The idea is that in the long run older space will be removed from the stock and new construction ( $C^*$ ) is added to maintain an equilibrium stock of space available in the market. The function line shows that the greater the total stock, the greater the annual new construction rate necessary to maintain that stock in the long run. Thus, the southeast quadrant completes the long-run integration of the space and asset markets and depicts a long-run equilibrium (DiPasquale and Wheaton, 1992; Geltner *et al.*, 2007).

## 2.4 Real Estate Market Cycles

In reality, real estate markets are constantly evolving and therefore not in equilibrium. The Four-Quadrant Model is a simplification but can illustrate 'boom' and 'bust' periods. Extended periods of rise in industrial building occupancy and rents have been followed by extended periods of falling occupancy and rents related to ups and downs in the space market. According to Geltner *et al.* (2007) these market cycles can take ten to twenty years. Demand for industrial space can rise or fall in the space market (user demand) as well as in the asset market (investor demand) due to several causes more extensively described in the next paragraph. The 4Q model represents a long-run steady state, but it can also be used to show the effects of short-run changes in demand and the effect this has on the long-run equilibrium.

When user demand is growing (holding the asset market constant) the demand curve in the northeast quadrant will shift outwards. For a given level of stock potential tenants will pay more rent, since in the short-run (generally assumed to be two years) it is impossible to add new industrial space to the market (unless developers have anticipated the demand growth in advance). Real estate in general is an inelastic product because supply cannot respond directly to changes in demand. The development process of new real estate takes several years because of financial, legal and organizational issues and, of course, construction time. Vice versa it is unlikely for relatively new buildings to be demolished in the short term because real estate is a capital-intensive and durable product. Finally real estate is an inflexible and heterogeneous good because of its fixation to a location, for which reason it cannot be moved. No two properties are exactly the same because they cannot be situated on exactly the same location. It is for these reasons that the supply of real estate space cannot adjust quickly to demand. In the short to medium-run higher rents in the space market lead to higher asset prices, which in turn lead to higher construction levels and eventually a greater stock of space. These higher rent levels cannot be maintained in the long run because after a couple of years more space is added to the market by developers. Consequently rent levels will drop and a new long-run equilibrium will arise (Mullaney, 1998; Geltner *et al.*, 2007).

If demand to own industrial property shifts, the impact on the combined markets is quite different from when the demand to use industrial property changes. Shifts in demand in the asset market can result from changes in opportunity cost of capital due to changing interest rates. Risk characteristics of industrial property can also shift due to changing (space) market conditions. Furthermore changes in the tax treatment of real estate can cause a change in the income that investors require for real estate assets (DiPasquale and Wheaton, 1992).



**Figure 2.3** 4Q Model: Effect of Demand Growth in Asset Market (DiPasquale and Wheaton, 1992)

Figure 2.3 shows the effect of an increase in investor demand for industrial property. The capitalization rate (dashed line) shows a counter-clockwise rotation that emanates from the origin to the red line (because of lower interest rates, lower perceived risk and/or favorable tax treatment of industrial property). This means the cap rate will drop and investors are willing to pay higher prices ( $P^*$ ) for industrial assets than they previously would have. Because of the inflow of financial capital into the real estate asset market new construction ( $C^*$ ) is being stimulated. The total amount of industrial space ( $S^*$ ) will subsequently increase and thus rent levels ( $R^*$ ) will drop because of greater supply (holding demand in the space market constant). Consequently a new equilibrium will arise and in the long-run property prices may not be much higher than in the short-run. “This new equilibrium involves a substantial increase in the amount of built space, which reflects the effect of a real estate development boom. This is the physical capital result of the flow of financial capital into the real

estate asset market caused by the shift in investor preferences toward real estate assets” (Geltner *et al.*, 2007).

The model illustrates how real estate in general is influenced by macroeconomics and its financial markets. Furthermore it shows how cycles can happen and what the driving factors behind booms and busts are. When applying this model to industrial property in a certain market it can help explain why it is an attractive investment category at a certain period in time, taking into account opportunity cost of capital, risk and growth expectations. One constraint of the model is that medium-run effects and adjustments to the new equilibriums in the asset and space markets are not easy to trace. An important final remark is that “economic growth increases all equilibrium variables in the real estate market, whereas economic contraction leads to decreases in all variables” (DiPasquale and Wheaton, 1992). The next section will describe how economic growth influences demand for industrial property.

## **2.5 Industrial Space Demand Analysis**

### ***2.5.1 Economic Base Theory***

Crucial for the planning of business parks and the development of industrial property is to have an idea of future space demand. When demand can be estimated, risk and growth expectations (and thus the attractiveness as an investment) can be determined to a large extent. However, the demand for industrial buildings is diverse because it is segmented by size, design, location and tenure. Demand for industrial buildings is called derived demand. This means the buildings are not wanted as an end in themselves by the users, but as an input to the production process. The volume of production is therefore a crucial influence on the demand for space. This volume of production depends mainly on economic conditions and trends, but can be very different between two cities or regions (Fothergill *et al.*, 1987; ULI, 2001).

A classic way of determining future local industrial demand is by looking at the economic base of a city or region. Economic base analysis looks at specific local economies and is a tool to identify which cities or regions will grow, what kind of growth will take place and how much growth will occur. The economic base is the source of income that drives a city or region and has three major components:

1. The local production of goods and services both for local needs and for export beyond the local urban area;
2. The investment returns to or of capital owned in the local area;
3. Government transfers, such as social security payments (Geltner *et al.*, 2007).

The economic base determines demand in the local real estate space market to a great degree. Economic activities – like manufacturing and warehousing – have to be accommodated. This in turn

accounts for the employment being generated as well, which expands the need for housing. The economic base thus drives local real estate markets. Fothergill *et al.* (1987) state that national trends in output and productivity have a tremendous impact on local economic bases, and consequently, demand for industrial space. Because the demand for industrial space depends a great deal on the volume of production there is a close link between fluctuations in manufacturing output and fluctuations in vacant floor space. The economic base characteristics of a metropolitan area evolve over time but are fundamental to making rational and informed real estate investment decisions.

### ***2.5.2 Export Base Theory***

The economic base model focuses on regional export activity as the primary source of local-area growth. The local economy is therefore divided into two parts: 1) the *basic sector* referring to goods and services produced within an urban area, but either sold outside the urban area or sold to those whose incomes are not derived locally; 2) the *nonbasic sector* referring to goods and services produced within the urban area itself and consumed locally. The key principle of export base theory is that “economic growth of the city or region is dependent entirely on growth in the export (i.e. basic) sector of the local economy”. Growth in export leads to a *multiplier effect* in the local economy. This effect refers to the amount of increase in jobs, income and spending that is beyond that created by initial investments in the basic sector. The number of jobs in the service (i.e. nonbasic) sector is a function of the change in number of export (i.e. basic) sector jobs. The number of jobs in the service sector (e.g. food, entertainment) generally greatly exceeds the number of jobs in the export sector. In turn the service sector generates more income. The employment multiplier effect thus results in an exponential increase in total local economic activity. In general; the larger the export base, the larger the total employment and the larger the city. Thus, the greater will be the multiplier effect on the service sector. In sum, according to export base theory, forecasting the growth of a metropolitan area and the demand for industrial real estate consists of two steps:

1. Identifying the export base industries in the local region;
2. Forecasting employment growth in those industries.

Classic economic and export base theory state industrial space demand determinants are the volume of production – defined by gross metropolitan or regional product (GMP or GRP) – and employment growth, subdivided by standard industrial classification (SIC) codes (Geltner *et al.*, 2007; Thrall, 2002). According to Wheaton and Torto (1990) other demand determinants for industrial space are capital intensification, technological change, opportunity cost of capital and the depreciation or obsolescence rate. AMB Property Corporation (2002) developed a model which predicts demand for industrial space by measuring manufacturing output, employment productivity and investment in

technology. Moreover trends affecting demand dynamics defined by AMB include globalization, airfreight, information technology, supply chain management and outsourcing.

### ***2.5.3 Limitations of Economic and Export Base Theory***

Some authors (Fujita, Krugman, and Venables, 1999; Lecomte, 2008; ULI, 2001) argue classic economic and export base theory are too limited to be applied to estimate demand for industrial property today. The first limitation of the theories is that the connection between industrial employment and industrial space is not clear-cut. The reason for this is that space allocated per employee greatly varies among the different industrial subtypes. Manufacturing plants require more employees per square foot than warehouses for example. A better determinant to estimate demand for industrial space, especially for a warehouse property, would be inventory flow. In this way warehouse demand originates more from the volume of inventories stored than from the workers used to move the material around (ULI, 2001).

Fujita, Krugman, and Venables (1999) state that the economic base theory is best applied to a region in isolation but basically inapplicable to today's interconnected local, national and global economies. Lecomte (2008) therefore updates classic economic base theory to global economic base theory. He uses global supply chains as the unit of base identification. Size and growth of these new economic bases known as 'transnational economic landscapes' are measured by comparing 'captured value-added' at the regional scale. Later on in this thesis (classic and global) economic and export base theory as concepts are used to clarify the industrial property context in Orange County, California. The relation between theory and practice will then become clear.

## **2.6 Industrial Property Investment Analysis**

### ***2.6.1 The Macro-level: Financial Economic Theory***

The next step in this theoretical framework is to explore how investment decisions are made by the real estate investor. Therefore general investment theory is applied to industrial real estate and basic terms like risk and return are explained. In this section a distinction is made between investment issues at the macro (or external) and the micro-level (or internal level). First, the macro-level is discussed.

The attractiveness of an industrial property investment is represented by its capitalization rate. This is the ratio between the income or cash flow (i.e. rent) produced by the asset and its capital cost (i.e. the original price to buy the asset) or alternatively its current market value. As mentioned in paragraph 2.2 a cap rate is determined based on three factors: 1) opportunity cost of capital; 2) growth expectations; and 3) risk. With the help of the 4Q model is previously explained that the opportunity cost of capital is assessed by macroeconomic factors like inflation and interest rates and the performance of other investment products in the asset market. The previous section made clear that economic and export



base theory can help identify the economic growth expectations in a specific region, thereby estimating future demand for industrial property in the space market. In this part of the theoretical framework the third factor, risk (and its counterpart return) is defined with the help of economic theory.

According to Geltner *et al.* (2007) “investing is the act of putting money aside that would otherwise be used for current consumption expenditure”. Basic assumptions are that investments vary in risk and investors are risk averse. This means risky investments must offer investors the prospect of a higher return in order to compensate them for taking on risk when they buy this asset. This is what in financial economics is called the ‘risk-return tradeoff’; risk and return are positively correlated. For a higher required return on an asset the investor should be willing to accept a higher risk of not achieving this return. Therefore risk is another word for uncertainty. “Risk is the possibility that future investment performance may vary over time in a manner that is not entirely predictable at the time when the investment is made”. Risk is represented by the standard deviation or volatility, a measure of the dispersion of expected returns. The risk of an industrial property investment is influenced at the macro-level by for example inflation and interest rates (Brealey *et al.*, 2007; Markowitz, 1952; Sharpe, 1964).

Return, on the other hand, is the measure of investment performance at both the micro-level of an individual property as well as at the macro-level of overall investment strategy. Geltner *et al.* (2007) define return on an asset as “what you get, minus with what you started out with, expressed as a percentage of what you started out with”. This return on an investment should at least be higher than the risk-free interest rate, usually long-term government bonds (or T-bills). This risk-free interest rate is a compensation for the fact that someone else (e.g. the government) uses the investor’s money for some period of time. If the return on an industrial property investment is not higher than the risk-free interest rate there is no incentive to invest. The difference between the risk-free interest rate and the expected return on an asset is the expected risk premium. The expected return (or discount rate) needs to be equal to the opportunity cost of capital, the return investors could typically expect to earn in other investments of similar risk. In real estate investment practice there is a difference between income return and capital return. Income return refers to the property cash flows (i.e. rent) and capital return refers to appreciation or depreciation, the price-change component of the property (Brealey *et al.*, 2007; Lintner, 1965; Sharpe, 1964).

### ***2.6.2 The Micro-level: Investment Decisions***

For real estate it is fairly impossible to estimate a risk level for individual properties by using economic models. Unlike homogenous investment products like stocks and bonds, risks vary across property types and geographic regions. Real estate is a heterogeneous good; not one single property is exactly the same. Besides that, location values within cities are different, as are the economic bases of

metropolitan areas. These variables change over time and interact with individual investor preferences in ways that do not produce a stable structure of relative volatility and correlation across property types and locations (Geltner *et al.*, 2007).

However, a rational industrial property investor wants to minimize risks for a number of reasons. A warehouse or a distribution center is a fixed asset. Fixed assets have a number of characteristics: 1) immobility 2) longevity 3) consumption of space and 4) specific function (Lukkes *et al.*, 1987). This means that once a decision is taken to develop or invest, there is no way back. An investor can choose to sell a project, but when it is developed under the wrong conditions the investor might lose money. According to Thrall (2002), real estate decision-makers must therefore integrate the big five components of real estate into their risk management to mitigate risk. Those are location, product, timing, price and contract.

1. **Location** can be subdivided into absolute and relative location. Absolute location (or site) is the property itself. A property has a certain width, depth and shape and is built on a soil of a certain composition. Furthermore a site has zoning regulations. The relative location (or situation) describes how a property is geographically positioned in relation to surrounding uses of land or distance to transit, competitive and complementary activities et cetera. For most of the industrial property types access to transportation infrastructure is very important, as are the land costs, since industrial property usually consumes a lot of space. Proximity to a labor pool could be important as well (Thrall 2002; ULI, 2004).
2. It is difficult to define a **product** separate from the site of the parcel. Zoning is one characteristic of the product. In chapter three the different types of industrial real estate products are described. Mullaney (1998) states that industrial properties should be developed to meet the demands of a specific tenant or group of tenants. These demands can differ with regard to size, shape, height, loading capabilities and amenities (ULI, 2004). Furthermore design, construction quality and condition of the property can be of vital importance.
3. “The geography of site and situation is continually changing”. With this phrase Thrall (2002) points out that there is a right time for the investor to enter the market, and a time beyond which entrance might not be advised. The right **timing** largely depends on the demand and supply outlook (occupancy rates) and the position in the market cycle as is explained in paragraph 2.3.1.
4. An investor wants to pay the right **price** for a property. This depends on the amount of potential for capital appreciation as well as on the amount of cash flow that can be generated from the property. The level of rent (and its growth potential) that is paid by tenants in the market is a crucial indicator for the price to be paid. Furthermore potential costs of

maintenance and (property) tax levels could influence the willingness to pay for a property (Mullaney, 1998; ULI, 2004).

5. Terms must also be included in investment analysis. They include **contract**, payment schedule, risk and payoff. Remaining terms and lease contracts influence the attractiveness of an investment. A real estate investor prefers long-term contracts with its tenants (Thrall, 2004).

These five risk components are influenced by spatial trends, policies and regulations. Businesses' location preferences can change over time. Furthermore, spatial policies can influence and regulate where new business parks will be developed. Investment decisions regarding industrial property are therefore dependent on a lot of different factors like macro-economic indicators (supply and demand, inflation, interest rates) and public policies. Besides this the attractiveness of an investment is determined by specific characteristics of the property or project at the micro-level.

## 2.7 Conceptual Model

The model presented in figure 2.4 describes how the investment and development process concerning industrial property evolves. This specific model supports the theories discussed in this report and will help to answer the research question from a theoretical perspective. Industrial property is the core research element. The boxes are the concepts (or theoretical variables). The lines explain in what way the boxes are connected. The continuously lined arrows show the direct relations between the variables and the dashed arrows show the indirect relations.

The willingness to invest in industrial property is – among others – determined by the perceptions of potential investors regarding the capitalization rate. This cap rate is influenced by three factors. The first one is risk. The level of riskiness of the cash flows that an individual property can generate in the future depends on its location, product, timing, price and contract. These five components are influenced by spatial trends, policies and regulations as well as by supply and demand in the space market. The second factor that influences the attractiveness of an individual industrial property is its growth expectations. Those are mainly determined by future supply and demand for industrial space, which rely on local and national economies, which in turn are related to the capital markets. In the long term, supply in the space market can also be influenced by spatial policies or regulations and demand can be influenced by spatial trends. The third factor is opportunity cost of capital, which is determined by the performances of other investment products in the asset market. These are influenced by macro-economic factors like inflation and interest rates realized on the capital markets.

The conceptual model helps to understand how the attractiveness of an investment can be influenced. The more favorable investors perceive the asset (i.e. industrial property), – depending on the several

variables mentioned before – the more they will pay for it and the lower will be its cap rate. The model will also help to answer the research questions in the next chapters.

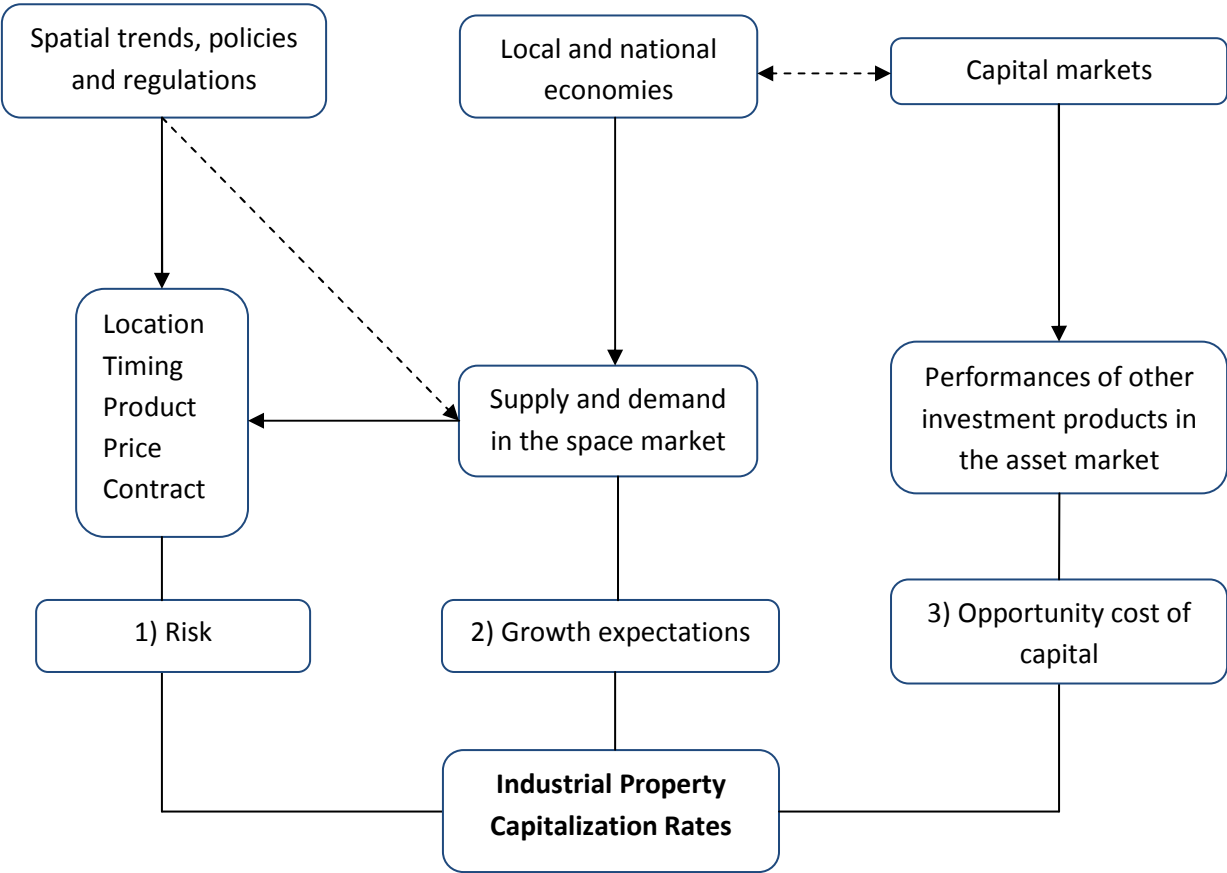


Figure 2.4 Conceptual Model

**2.8 Chapter Summary**

This chapter presented several theories which helped to indicate how and why investment decisions are made and what they are based on. These theories form a fundamental theoretical basis for the rest of this thesis. The underlying processes contribute to a better understanding of the real estate investment context. In the next chapters the research questions will be answered with the help of fieldwork undertaken and the theoretical framework.

## Chapter 3 Research Organization and Setting

### 3.1 Introduction

This chapter discusses the research organization and setting and covers the methodology used for this thesis. Furthermore, the characteristics of the Orange County industrial real estate market are described. Finally industrial property, its locations and its concepts are illustrated.

### 3.2 Methodology

#### *3.2.1 Research Type*

This report is based on literature (theoretical) and field (empirical) research. The methodology that will be applied is the case study, which is an empirical inquiry that investigates a contemporary phenomenon in depth and within its real life context. The essence of a case study is that it tries to illuminate a decision or set of decisions: why they were taken, how they were implemented and with what result (Yin, 2009). Applied to this thesis, the case study is performed to examine why real estate actors develop and invest in certain industrial property within a bounded geographic area like Orange County and how these decisions are made and with what result. The quality of a case study depends on the reliability, validity and generalizability (Swanborn, 1996). This means multiple sources of evidence, theories and models (i.e. triangulation) should be used for several cases, which have to be researched in the same structured way to make general statements. The techniques and sources used for the collection of data on the case study are literature, geographical information systems (GIS) data, property statistics and in-depth interviews with respondents from real estate companies. The data is subsequently analyzed. The thesis results in conclusions and syntheses, with the ultimate goal to build on the existing body of knowledge on investing in industrial real estate.

- **Methodology:** case study (industrial property investment in Orange County, CA);
- **Methods:** literature, GIS data, property statistics, in-depth interviews.

This thesis is thus based on qualitative as well as quantitative data. The research is to a large extent explorative. It is not comparative since the differences between the situation in the Netherlands and Orange County are too great to make an extensive comparison. Therefore it is more useful to discover ‘Successful Practices’ within industrial property development and investment as applied in the USA in general and Orange County, California in particular for the Netherlands.

#### *3.2.2 Research Techniques and Sources*

The literature consulted consists of theories as relevant from a real estate investment, economic geography, urban economics and spatial planning perspective. Furthermore market research and

annual reports of real estate advisors, developers and investors from the USA are used to gain more inside information on industrial property investments. Statistical databases on risks, returns and value (e.g. performances of REITs) are also used to get a better understanding of the context in the USA.

The fieldwork consists of GIS data – which is used to explore three cases in Irvine, Orange County – and in-depth interviews with local real estate actors that provide more general information about the investment situation concerning industrial property in Orange County. The goal of the three cases is to provide a description of the characteristics, locations, development strategies, ownership and risk with the help of GIS data and observations from visits to these locations. By describing and explaining the underlying processes it might be possible to predict and control success factors for the development and the willingness to invest in future industrial property, and use these as examples for the Netherlands. Figure 3.1 shows a zoning map from the City of Irvine. The yellow circle encloses a pink parcel where the *University Research Park* – adjacent to the UCI campus – is located. The red circle covers a part of the area of the *Irvine Business Complex* including John Wayne Airport. The blue circle encloses a section of the *Irvine Spectrum Industrial Complex*, where also a large retail shopping center is situated. The City of Irvine covers a total area of 69.7 square miles (180.5 square km) and has 212.793 inhabitants. The cases are discussed in boxes throughout the following chapters. Spatial analysis of the three cases is executed through the usage of GIS data on locations, zoning, ownership, date of construction, surface areas and the division of land into parcels (City of Irvine, 2009).

Furthermore, the fieldwork data input for this report comes from in-depth interviews with real estate investment actors. These are companies like real estate investment trusts (REITs) that operate in public markets, as well as investors, developers, managers and advisors that operate in private property markets. In the next chapter the actors involved in the development and investment process of industrial property are discussed in more detail. The interviews reveal what the crucial determinants are for investment opportunities in the Orange County industrial property market. The interview method was chosen to obtain in-depth and detailed information on local investor preferences and motivations, and is particularly suitable to gain knowledge, opinions and attitudes towards industrial property. Especially the opportunity to ask open-ended questions is crucial to understand the underlying factors for industrial property analysis. Furthermore, interview data offers the possibility to gain inside information about the subjectivity and the context of the respondent. “One important danger is that the respondent’s answers are interpreted in the wrong way, but when the questions are clear, interviews can have great explanatory power”. By way of performing test interviews with fellow students is attempted to make the questions clear-cut and explicit. First of all, a database is set up with locally active real estate companies. The main criterion for the database is that the actors operate in the Orange County industrial property market. Furthermore they should develop, invest in or advise clients on industrial property. Thirty-three companies were at first contacted by email and subsequently by telephone. Eventually eight in-depth phone interviews were performed between

December 2009 and January 2010. Each interview took about 15-30 minutes, depending on the available time and the willingness to answer questions by the respondent. All of the interviews were useful and most of the separate interviews showed similar responses (Flowerdew & Martin, 2005).

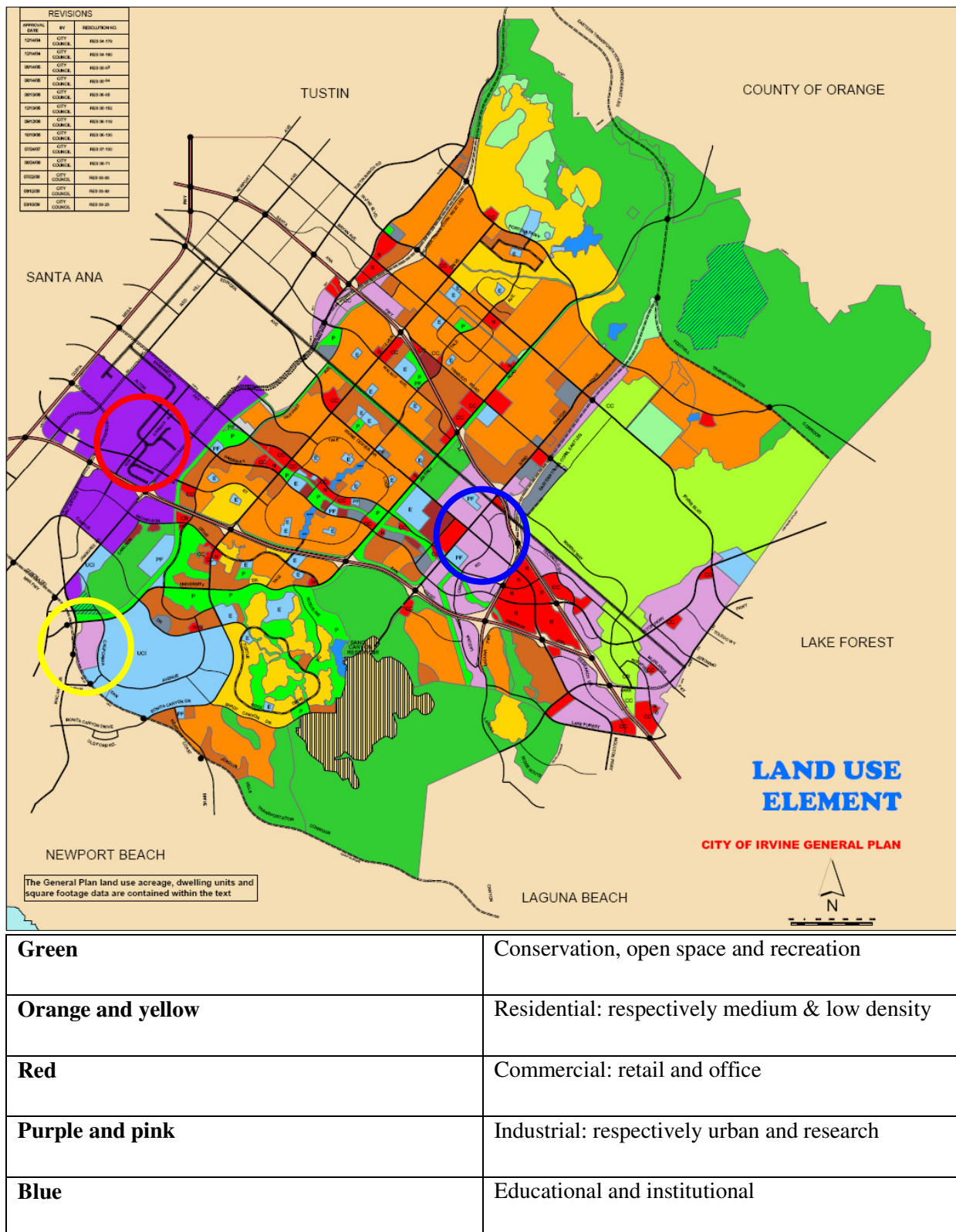


Figure 3.1 Irvine General Plan Zoning Map and Land Use Elements (City of Irvine, 2009)

Out of the theoretical framework outlined in the previous chapter questions were deducted for the in-depth interviews. The list of questions is formulated in a semi-structured way. This means the respondent should understand what is meant by the different topics brought up, and that there is the possibility to ask additional questions as well. Sub-themes that became apparent for industrial property analysis from the research question and which are used in the interviews are:

- **Type:** the specific type of industrial property (e.g. warehouse, distribution, manufacturing, research & development, flex buildings) in which to invest;
- **Characteristics:** the requirements for the industrial product to make it an attractive investment asset;
- **Location:** the conditions for the site and situation where to develop and consequently invest in industrial property;
- **Concepts:** the idea or vision behind the project with regard to functionality, customer needs, services, positioning, theme, management etc.;
- **Strategies:** the way of investing to reach the goals that are set, considering timing, funding, partnerships, management etc.;
- **Ownership:** the form of ownership and partnership structures that exist for property (ventures) with regard to management, liability, tax treatment etc.
- **Risk:** the kind of risks that exist concerning industrial property in the local Orange County market and the way it influences return on investment;

### 3.3 Research Context

#### *3.3.1 Orange County Industrial Real Estate Market*

Orange County is the 16th largest metropolitan area in the United States, with 2.8 million residents. Its booming, diversified economy is driven by a wide range of industries, including construction, household appliances, banking/investment management, software development, medical equipment, international trade, tourism and manufacturing. Orange County is at the heart of Southern California's Tech Coast, which is home to the world's largest concentration of technology companies and employees. Moreover the adjacent port of Long Beach generates flows of goods which are stored or processed in Orange County. The industrial property sector of Los Angeles and Orange County combined is the largest regional industrial market in the U.S. with a total stock of almost 920 million square feet (85 million square meters) of warehouse and distribution space. The Orange County industrial market is a relatively large submarket comprised of 266 million f<sup>2</sup> (25 million m<sup>2</sup>) (see



figure 3.3), representing almost 30% of the total industrial space in the Greater Los Angeles Basin. The market is maturing, with 63% of its space built before 1980. Most of the space (66%) is in small- and medium-sized buildings. The nature of the O.C. industrial property market has shifted in recent decades from heavy to light industrial. Factories have made room for warehouses and flex buildings (Fothergill *et al.*, 1987; Grubb & Ellis, 2010; Prologis, 2009).

Orange County’s diversified economic base has led to a large and various stock of industrial space. As pointed out in the previous chapter a region’s economic base has three major components. For the Orange County industrial real estate market the first two are relevant. The first is the local production of goods and services both for local needs and for export beyond the local urban area. The type of economic activity exemplifies to a large extent the demand for and supply of industrial products in a qualitative as well as a quantitative way. The stock of industrial product roughly ranges from warehouses and distribution buildings in North and South Orange County, to corporate headquarters with a manufacturing component and research & development facilities in the central part of Orange County surrounding the John Wayne Airport area (figure 3.2).



**Figure 3.2** Orange County Map (County of Orange Government, Information, and Statistics, 2010)

As stated before the demand for industrial buildings is called derived demand. This means the buildings are not wanted as an end in themselves by the users, but as an input to the production process. Therefore, the O.C. industrial property market is highly dependent on the state of the local and national economies. Because of the recent economic crisis the Orange County industrial submarket sees both availability and vacancy levels increase, as tenants are vacating properties due to

poor business performance. “Tenants are downsizing space in order to combat the effects of the nation’s current economic downturn. Average asking sale and lease rates decrease, which directly correlates to the increase in vacant and available space coming on line”. Consequently, unemployment increased to 9.6% in the last quarter of 2009. By the end of 2009 industrial vacancy rates in the U.S. rose to 10.7% compared to 6.5% in O.C. (figure 3.3) (CBRE, 2009; Grubb & Ellis, 2010).

By Submarket	Total SF	Vacant SF	Total Vacancy %	NET ABSORPTION		Under Construction SF	ASKING RENT	
				Current	YTD		WH/Dist	R&D/Flex
Airport Area	86,753,582	6,296,170	7.3%	(529,108)	(1,514,558)	-	\$0.63	\$1.19
North County	100,774,420	5,575,962	5.5%	(85,499)	(1,027,093)	-	\$0.53	\$0.79
South County	34,874,852	3,053,140	8.8%	(189,606)	(245,263)	-	\$0.80	\$1.08
West County	43,582,816	2,426,845	5.6%	(43,756)	(242,471)	-	\$0.55	\$0.93
<b>Totals</b>	<b>265,985,670</b>	<b>17,352,117</b>	<b>6.5%</b>	<b>(847,969)</b>	<b>(3,029,385)</b>	<b>-</b>	<b>\$0.58</b>	<b>\$1.05</b>

By Class	Total SF	Vacant SF	Total Vacancy %	NET ABSORPTION		Under Construction SF	ASKING RENT	
				Current	YTD		WH/Dist	R&D/Flex
General Industrial	125,130,083	6,683,452	5.3%	43,114	(744,984)	-	\$0.68	
R&D/Flex	80,490,064	5,930,464	7.4%	(433,443)	(921,083)	-	\$1.05	
Warehouse/Distribution	60,365,523	4,738,201	7.9%	(457,640)	(1,363,318)	-	\$0.58	
<b>Totals</b>	<b>265,985,670</b>	<b>17,352,117</b>	<b>6.5%</b>	<b>(847,969)</b>	<b>(3,029,385)</b>	<b>-</b>	<b>\$0.77</b>	

**Figure 3.3** Orange County Industrial Property Facts 4<sup>th</sup> Quarter 2009 (Grubb & Ellis, 2010)

The real estate system theory in figure 2.1 and the four quadrant model in figure 2.2 clarify that when local and national economies are declining, demand in the space market is likely to drop as well. This leads to decreasing occupancy rates and rents. Consequently, cash flows and property market values in the asset market are lowering too. Because of lower growth expectations and/or higher perceived risk by investors, market required cap rates will start to increase, making industrial property a less attractive investment. However, property investors are currently still willing to own industrial buildings in Orange County because they are assets assessed to be relatively safe compared to other types of real estate and because of several inherent characteristics discussed in the next paragraph. This is the second component of a region’s economic base: the investment returns to or of capital owned in the area that contributes to the regionally generated income. As mentioned before, the industrial property sector of L.A. and Orange County is the largest regional space market in the U.S, making it consequently the largest industrial asset market as well. The U.S. industrial real estate market is different from other types of commercial property because a significant part of the market for industrial space is owner-occupied. However, in Orange County the greater part of the industrial space is rental and thus occupied by single or multi-tenants. Another feature of the industrial market is the importance of depreciation, functional obsolescence, and building obsolescence. Research from Wheaton & Torto (1990) suggests that the replacement demand for industrial space has been as high as 1.0-1.5% annually. This is quite significant because, on average, the level of industrial building completions has been only 2.2% of the stock each year.

The Irvine Company, which is the largest landowner in Orange County (and the largest private real estate company in California), issues and operates most of the land and consequently regulates land values. Because of this, Orange County is a very (zoned) land constrained market with only few

development sites available. This is why there is not a large amount of industrial property supply on the market; investors who own industrial property in Orange County do not typically sell, thereby preventing the cap rates to rise explosively during this economic turmoil. Also the long-run marginal cost of supplying additional space to the market in Orange County is currently higher than the rents that can be generated in the space market. This marginal cost is the cost of developing new buildings, including the site acquisition cost as well as the construction cost and necessary profit for developers. The replacement cost level of rent or long-run equilibrium rent (the line in section I of the 4Q model) is currently not high enough to support new construction in the development industry (the line in section III of the 4Q model) (Geltner *et al.*, 2007).

There is a notable difference between the O.C. industrial space and asset market. Whereas demand in the space market has declined (because of a decrease in volume of production and consequently employment of the economic base), demand in the asset market on the other hand has not collapsed. Despite decreasing cash flows, property values and thus returns the industrial product is still considered a desirable asset by investors. Apparently the opportunity cost of capital (the rate of return that investors could earn in financial markets) is lower than the expected returns on industrial property in Orange County. Moreover, the long-term confidence that the market will stabilize is intact.

### ***3.3.2 Industrial Property Characteristics***

As made clear in the first chapter industrial property is one of the four major property categories that can be distinguished from residential, office and retail assets. The Dutch Commercial Property Index foundation (ROZ, 2009) defines industrial property as “objects for the processing and storage of materials and goods, of which the share of industrial functions is larger than fifty percent of the gross market rent and the second use is smaller than twenty-five percent”. According to the National Association of Industrial and Office Properties (NAIOP, 2005) an industrial building is “a facility in which the space is used primarily for research, development, service, production, storage or distribution of goods and which also may include some office space”. Industrial buildings are further divided into three primary classifications: manufacturing, warehouse and flex buildings (figure 3.3). Specialized industrial facilities, such as refineries and heavy manufacturing plants, are not considered to be industrial buildings for investment purposes. Moreover industrial property is zoned and used for industrial purposes in conformity with zoning regulations.

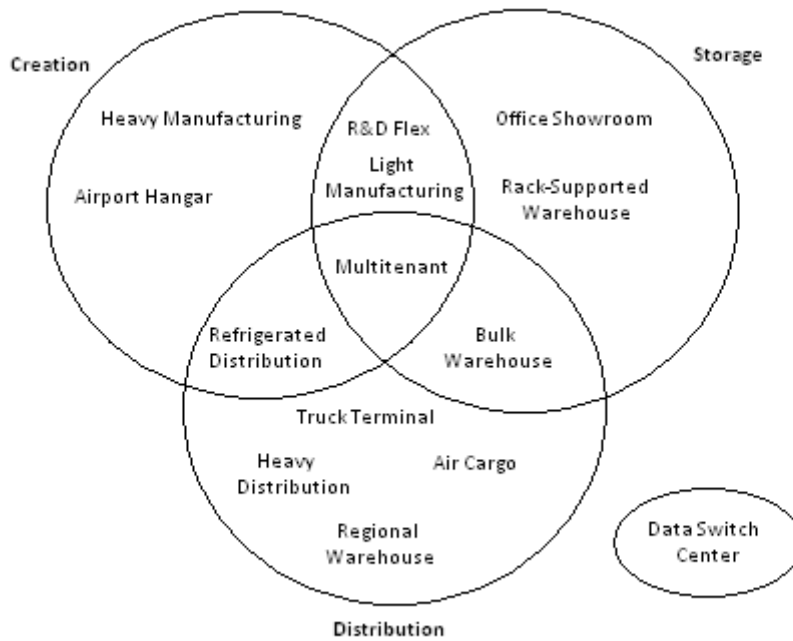
Ambrose (1991) expands the NAIOP definition of industrial property by including its (relative) location: “industrial property is defined as light manufacturing and warehouse space containing varying amounts of office space. These properties are usually concentrated along major transportation routes and confined to light industrial/commercial complexes”. The categories of industrial real estate all have a different role in the supply chain process. From the initial manufacturing process through to storage and distribution, a variety of building types serve its specific functions and needs (figure 3.4).

Changes in the supply chain over the past decade have led to implications for industrial real estate demand, design, and location requirements. “These changes have been driven by new distribution and purchasing patterns and practices such as zero- to minimal-inventory storage, speed-to-market for high-value goods and fashion-cyclical merchandise, vendor-managed inventories, and just-in-time product deliveries that bypass the warehouse and go straight to the selling floor” (ULI, 2004).

	<b>Building Type</b>					
Primary Type	<b>Manufacturing</b>	<b>Warehouse</b>			<b>Flex</b>	
			<b>Distribution</b>			
Sub-type/ Special Purpose	General Purpose	General Purpose Warehouse	General Purpose Distribution	Truck Terminal	General Purpose Flex	Service Center/ Showroom
Size (sf)	Any	50k+	50k+	20k+	20k+	<150k
Clear Height (ft)	10+	16+	16+	12-16	10-18	15-25
Loading Docks	Yes	Yes	Yes	Cross-dock	Yes	Yes
Door-to-Square-Foot Ratio	Varies	1:5k-15k	1:3k-10k	1:500-5k	1:5k-15k+	1:10k
Office Percentage	<20%	<15%	<20%	<10%	25-100%	30-40%
Divisibility (Smallest suite – sf)	Varies	15k+	50k+	10k+	5k+	2k+
Curb Appeal	Low	Low	Low	Low	High	High
Automobile Parking Ratio	Varies	Low	Low	Varies	High	High
Primary Use	Manufacturing	Storage, Distribution	Distribution	Truck Trans- shipment	R&D, Storage, Office, Lab, Retail, Light Manufacturing	Showroom, Storage, Light Manufacturing
Sub-Sets	Heavy, Light Manufacturing	Bulk Warehouse, Cold/Refrigerator Storage, Freezer Storage, High- Cube, Self Storage, Bonded	Overnight Delivery Services, Air Cargo		Garden Office, Incubator, Tech	Shallow-Bay

**Figure 3.4** Typical Industrial Building Characteristics (NAIOP, 2005)

Industrial property has several characteristics that are relevant from an investment perspective. Industrial products in the U.S. are rarely built on speculation (i.e. without a committed tenant/lessee). Rather, they fall under the category of build-to-suit leases. This means facilities are built to fit a known tenant’s requirements thereby offering the least risky form of property investment. However, these leases are not without risk. Industrial properties are typically illiquid; this means the search for another tenant might end up without any economically viable options. Furthermore, not all industrial properties are easily marketable, especially the ones that are built-to-suit. Investors should therefore assess the credit standing of potential tenants and evaluate the suitability of the property for other potential leases or nonindustrial uses (Haight & Singer, 2005).



**Figure 3.5** Property Categories in the Supply Chain (ULI, 2004)

Because of the lack of speculative building, occupancy levels for industrial properties in the United States have generally been higher than those for other types of commercial property. This has meant more stable and predictable cash flows for owners. Industrial property vacancy levels have averaged about 5 percent and have – even in recessionary periods – rarely exceeded 10 percent. Investment yields (i.e. capitalization rates) have usually averaged 8 to 10 percent and annual total returns generally a few points higher. The main reason for this is the positive demand and supply picture for the industrial sector. Moreover they can offer flexibility. Industrial properties have benefits for tenants that do not have the capital to provide separate facilities for their administrative, sales, research and development, production, and distribution operations as most industrial products can contain office space and provide the users the flexibility they are seeking. Other considerations that stimulate industrial property investment are high tenant retention and long-term lease arrangements. A lot of industrial properties are occupied by a single tenant that invests capital in site improvements; therefore relocation tends to be costly. Besides that, most industrial space leases are written for terms of three to five years and provide for periodic rental increases that are either fixed or based on changes in the Consumer Price Index. “The leases are also generally triple net leases. Requiring the tenants to pay directly, or reimburse the landlord, for virtually all costs of occupancy, including property taxes, utilities, insurance, and maintenance” (Block, 2006; Mullaney, 1998).

Another advantage for the industrial product is that most of these buildings are shells without much internal building improvements; they tend to require little maintenance and few capital improvement

expenditures. Therefore, there is less physical depreciation and lower capital expenditures than on other types of commercial real estate. This is supported by the fact that most industrial properties are located in outlying areas where land costs are usually less than for office buildings or retail facilities that are more urban-situated. Most buyers seek properties that have multiple purposes and can be re-leased to a new tenant without the major capital renovations that are usually required in converting highly specialized facilities. As is mentioned in the conceptual model – concerning the micro-level – investors should therefore always take into account location, timing, product, price and contract when assessing the stability and predictability of future cash flows and the potential for capital appreciation (Mullaney, 1998; ULI, 2004).

The interviews with local Orange County developers and investors reveal that industrial property is a very stable product compared to office and retail property (Appendix B). It offers a predictable cash flow and does not have the high tenant improvement dollars that office property has. When tenants vacate the costs to refurbish a property are low. In addition, tenants invest money into their space so they are less likely to move. Contrarily, “office tenants simply unplug a copier and a fax machine and move to the next best rental deal”. Another characteristic of the industrial product in Orange County is that the market is very land-constrained with only few zoned development sites available. In other words, the coverage (i.e. building-to-land area ratio) is low. This raises the land values for industrial property. Because of the relatively high land prices, new developments do not justify a high return (i.e. the replacement cost level of rent – which is realized in the space market – is currently not high enough to outweigh the marginal cost of developing new buildings). Therefore there is not a large amount of industrial product on the market, “if you own it, you don’t typically sell it”. This is coming apparent today as the ‘scarcity premium’. Normally, the difference between the risk-free interest rate and the expected return on an asset is the expected risk premium. This risk premium for industrial property in Orange County is raised by the scarcity premium. This means investors are willing to pay relatively more for an industrial property than they would have before.

Historically, the industrial sector has had less peaks and troughs in the real estate cycle compared to other real estate categories. The main reason for this is the functionality of the industrial product. While some aspects of the buildings have changed because of evolving manufacturing and distribution technology, property characteristics have adapted; an obsolete distribution building still has a use as a manufacturing facility. This is different for retail where sales models change every 5 to 10 years, thereby changing the real estate platform completely. “Industrial properties are like cornflakes; they aren’t glamorous, but they always taste the same”. Generally, industrial properties have lower turnover costs per square foot; fewer costs to maintain; lower tenant improvements costs than office properties; and are not as volatile as retail (Appendix B).

The O.C.'s diverse economic base has led to a wide array of industrial building categories. The three primary types manufacturing, warehouse and flex buildings are all present. Orange County consists of mostly 1970s and 1980s vintage buildings. The newer buildings are located in South Orange County. Orange County is not considered a 'big box' market. In the so-called Inland Empire (a metropolitan region centered around the cities of Riverside and San Bernardino in Southern California) there are more freestanding warehouse/distribution facilities ranging from 20,000 to 150,000 square feet (1,800 to 14,000 square meters) in size. Small warehouse/distribution space with dock loading (5,000 to 15,000 f<sup>2</sup> or 450 to 1,400 m<sup>2</sup> tenant sizes) is a more common investment asset in Orange County. Specifically, multi-tenant industrial (tenant sizes 1,000 to 5,000 f<sup>2</sup> or 90 to 450 m<sup>2</sup>) objects are considered desirable. The reason for this is that the small business economy is the heart of Orange County. These businesses desire flexible industrial products for activities like R&D, storage, office, labs, light manufacturing and even retail. These incubator industrial units offer flexibility to the tenant as well as to the owner. Multi-tenant industrial properties have less risk of vacancy loss than a single-tenant property. "Also with the scarcity of land in Orange County, the price per foot required (i.e. rent) to develop work better at the price per foot sales price of the smaller product". In other words, multi-tenant flex units generate higher rents per square foot (and consequently value) than for example large warehouses (Appendix B).

### ***3.3.3 Industrial Property Locations***

On a higher geographical scale, industrial property is usually located in business or industrial parks. They are also known as industrial estates, districts or clusters. The World Bank (1998) defines industrial estates as "specific areas zoned for industrial activity in which infrastructure such as roads, power, and other utility services is provided to facilitate the growth of industries and to minimize impacts on the environment". However, this definition is limited because it merely focuses on heavy industry and manufacturing. Therefore the term business park is used widely as well as a description for the seemingly organized and controlled location of clusters of industrial property. According to the U.S. Urban Land Institute (2001), "a business park is a multibuilding development planned to accommodate a range of uses, from light industrial to office space, in an integrated parklike setting with supporting uses for the people who work there. Business parks serve a range of activities and product types, each with specific requirements: warehouse/distribution, manufacturing and assembly, flex/high-tech businesses, offices, showrooms, incubator space, telco hotels, service businesses including hotels and conference centers and convenience retail stores". Business parks have gone through an evolutionary process, starting as manufacturing oriented estates beginning in the 1800s. In the 1950s and 1960s business parks shifted away from railroad oriented urban sites to suburban areas with freeway and airport access. Proximity to housing, shopping, cultural amenities, and educational facilities also became more important. Eventually business parks have evolved to flexible and dynamic workplaces with a mix of activities nowadays. The Urban Land Institute (ULI, 2001) therefore

distinguishes several specialized types of business parks: industrial parks, warehouse/distribution parks, logistics parks, research parks, technology parks, incubator parks and corporate parks. In this segmentation the product types and their users overlap considerably though:

- A modern *industrial park* contains large-scale manufacturing and warehouse facilities and a limited amount of office space<sup>7</sup>. (e.g. Irvine Spectrum Industrial Complex, see box 2)
- *Warehouse and distribution parks* contain large, often low-rise storage facilities with provisions for truck loading and parking. A small proportion of office space may be included.
- *Logistics parks* focus on the value-added services of logistics and processing rather than warehousing and storage. As centers for wholesale activity, they may also provide showrooms and demonstration areas to highlight products assembled or distributed here.
- *Research parks* (or research and development or science parks) are designed to take advantage of a relationship with a university to foster innovation and the transfer of technology. Facilities are typical multifunctional, with a combination of dry labs, offices, and sometimes light manufacturing and storage space. (e.g. Irvine University Research Park, see box 1)
- *Technology parks* cater to high-tech companies that require a setting conducive to innovation. They rely on proximity to similar or related companies, rather than a university, to create a synergistic atmosphere for business development. (e.g. Silicon Valley)
- *Incubator parks* are designed for small, startup businesses. Often supported by local communities providing flexibly configured and economically priced space, as well as opportunities for shared services and business counseling.
- *Corporate parks* are located on high-profile sites and look like office parks, but often the activities and uses housed there go beyond traditional office space to include laboratories and light manufacturing. Supporting uses such as service-oriented shopping centers, recreational facilities, hotels and conference centers are provided. (e.g. Irvine Business Complex, see box 3)

Industrial real estate is a generic term for all kinds of property that are located on the several types of business parks mentioned above. However, according to the strict definition from the Dutch Commercial Property Index foundation ROZ (2009), the use within these properties would not include more than twenty-five percent of office space or other non-industrial functions.

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<sup>7</sup> “The term *industrial park* connotes a setting for heavy industry and manufacturing, but it is still sometimes used interchangeably with *business park*”. (ULI, 2001)



## Box 1

### Case: University Research Park

The University Research Park in Irvine, California is a 185-acre (74-ha) business park adjacent to the University of California, Irvine (UCI) and the 73 Freeway (see figure 3.1). This business park concept focuses on emerging growth technologies (incubators) such as biotechnology, medical devices, electronics and communications. The proximity to the university offers opportunities for technology and research collaboration (i.e. joint research projects, executive education, student recruitment and internships). The campus-like setting has facilities for research and development, light manufacturing, and corporate business headquarters. The park offers flexible building design, build-to-suit units, and leasing opportunities including multiple tenant buildings with suites from 2,000 square feet. All buildings have a rectangular shape and can be easily configured into smaller units. Currently, there are 40 buildings and 35 tenant corporations – among them Broadcom, Intel Corporation and Cisco Systems – in addition to faculty start-up companies and UCI-affiliated offices (City of Irvine, 2010).



Outdoor public areas are an important component of this business park. High-quality landscaping and design increase the attractiveness of the work environment. This is reflected by the rental rates of available space, varying from 19 to 33 dollar per square foot per year (triple net lease or NNN) which is high-end for the industrial segment in this market. Furthermore, there are on-site amenities like a *Starbucks Coffee* (see picture on the right) and over 50 off-site amenities that are close by ranging from restaurants to tailoring and barbers. The business park (land and built properties) is developed in 1999 and owned and operated by the Irvine Company, which is the largest landowner in Orange County and the largest private real estate company in California. The Irvine Company leases the commercial spaces to several users (Irvine Company, 2010).

Industrial activities such as manufacturing and warehousing are thus typically integral parts of many business parks today. However, the proportion of office space and new uses such as call centers and hotels is growing. Heavy industry, once a significant element of early planned industrial districts, is seldom included in modern business parks for several reasons. According to the Urban Land Institute (2001) economies have shifted away from heavy manufacturing, and communities concerned about

potential environmental impacts prefer lighter, higher-tech businesses as employment generators. “Zoning regulations applied to business parks also may restrict their presence. Large manufacturing companies also generally choose to locate at standalone sites farther outside the city where land is cheaper”. Large scale distribution and fulfillment centers have size and access requirements that are pushing them to the edges of metropolitan areas and beyond. This had led to the revitalization or transformation of some formerly declining urban industrial districts and to the establishment of ‘clean’ manufacturing operations throughout suburbia. Suburban locations offer larger sites and cheaper land than sites closer to the city or in proximity to transportation hubs. The blurring of the distinction between industrial and office activities (e.g. on research parks) has led to the so-called corporate parks with mixed-uses that originated in recent years. These new-style corporate communities place considerable emphasis on their environment. “Not only are they typically more integrated with surrounding neighborhoods than earlier business and office parks: they also provide a sense of place for the community and for employees working there” (ULI, 2001). Future locations will vary depending on the demand for a specific type of industrial real estate. In the past warehouses and other types of industrial space were concentrated near manufacturing centers. Today, deciding where to locate distribution centers depends largely on access to suppliers and consumers as a more holistic view of the supply chain is adopted. “Astute investors must be aware of the entire range of opportunities and be prepared to adapt to market niches” (ULI, 2004).

There are several reasons why industrial activities are located where they are. Thrall (p. 155-163, 2002) distinguishes seven basic categories from the perspective of potential users in the space market. A crucial condition is that the local market corresponds with the needs of the industrial firm.

1. **Agglomeration Economies:** the benefits associated from being geographically situated near other manufacturing, including labor, public infrastructure, private support services etc.;
2. **Variation in Manufacturing Costs:** industrial location decisions are made with the objective of minimizing costs of manufacturing; labor, capital, land, heating and air-conditioning, energy, waste disposal and taxes;
3. **Resources:** the closeness to raw material, commodities, labor, suppliers or consumers;
4. **Transportation:** the availability of transportation facilities like freeways, rail lines or an international deep-water port depending on the type of product;
5. **Government:** tariff and tax regimes as push or pull factors;
6. **Amenities:** public transportation, affordable housing, access to good retail, attractive architecture and landscaping, parks and recreation, low crime, education;

7. **Technology, Scope, and Scale:** local scope of employment opportunities for dual-income households, culture of the locality, the innovativeness of the local population, willingness of the population to adopt new ideas and understand new technologies.

The Urban Land Institute (2001) mentions several location factors that must be considered from the perspective of potential investors in the asset market. A variety of critical factors must be considered when evaluating alternative locations. These site criteria depend on the type of industrial project and the developer's or investor's goals. A high-tech R&D facility needs a prime, highly visible site near a university, while a warehouse requires easy freeway access and sufficient space for truck loading and parking. Certain criteria that should be considered in site and situation selection are:

1. **Site Configuration and Size:** size, dimension and shape of a land parcel and the availability to subdivide the site into smaller land parcels have important implications for the type and scale of a project;
2. **Land Topography and Soils:** assess if there is no contamination and whether the site is flat and adequately drained or not;
3. **Transportation Access:** access to a regional freeway system, to public transport, to major transportation and freight-handling centers (including airports and deep-water ports);
4. **Utilities:** the availability and capacity of sewage, water supply, gas, electricity and telecommunication services;
5. **Future Expansion Capacity:** when feasible, sites should provide excess land to accommodate future building expansion or increased parking or truck storage;
6. **Public Policy:**<sup>8</sup> planning and zoning regulations applying to the site should be considered to determine the development capacity of the site. Necessary changes for a development require extra time and costs that must be factored into the feasibility analysis. Before land is acquired, possible development entitlements, allowable contiguous uses, and site density and height restrictions should be reviewed;
7. **Development Impact Fees:** fees intended to cover the costs of infrastructure improvements and other public services resulting from industrial development are increasingly common in cities and suburbs throughout the United States. Potential fees should therefore be reviewed;

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<sup>8</sup> Planning regulations and zoning ordinances in the United States are supplemented by covenants, conditions, and restrictions (CC&Rs). They take the form of a legally enforceable instrument and apply to virtually every aspect of business park development, including site coverage, architectural design, building materials, storage requirements, building use, parking requirements, signage, and landscaping. (ULI, 2001)

8. **Adjacent Uses:** areas surrounding the site should be considered for their compatibility with the proposed industrial activity. Tensions often arise between industrial developments and their neighbors;
9. **Amenities/Services:** a business park's competitive advantage is enhanced by the availability of nearby restaurants, shopping facilities, hotels, daycare facilities, fitness centers etc.;
10. **Links with Other Industries:** certain activities tend to cluster together as a result from the interdependency of firms in a particular industry. Locating near suppliers or other companies related to the production process can reduce production costs.

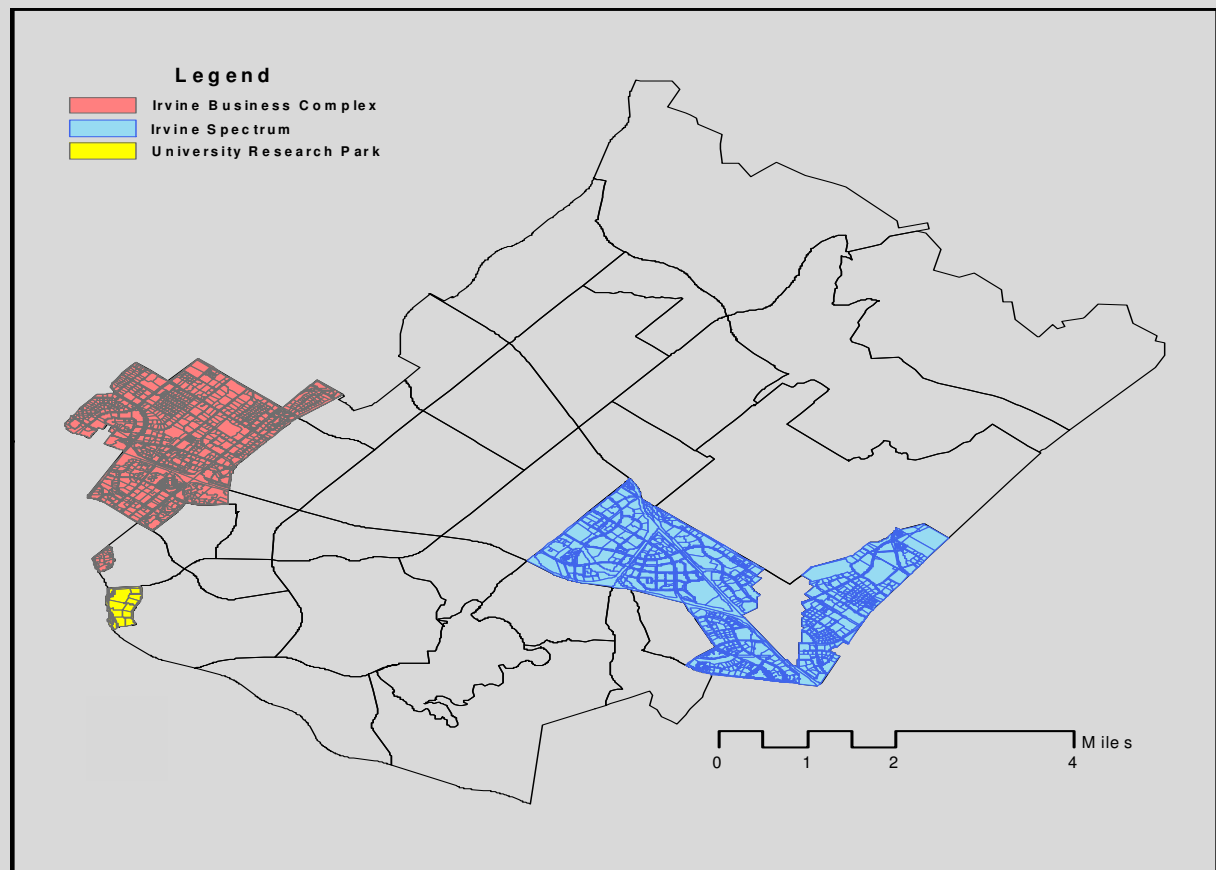
Besides these factors, investors must also perform market analysis. A review of economic conditions and trends is crucial for future space demand, which is in turn the groundwork for future space supply. This market analysis consists of examining rental rates and lease terms, competitive projects, identifying target users and so on. Defining the appropriate geographical (sub)market and property type is hereby essential.

The fieldwork made clear that property investors in Orange County agree that access to transportation and especially to the abundance of freeway systems in the local area is vital to a successful site (Appendix C). Moreover, proximity to the L.A./Long Beach ports – especially for warehouse/distribution – is important as well. Visibility of a property is not surprisingly always a plus. Other location factors that are considered are the distance to both the operative and executive labor pool. Investors track the high-end executive housing mostly along the O.C. coast. The decision-makers will more likely choose a location near their homes than the least expensive location. Therefore local investors look for industrial zoned locations not far from the coast. Especially multi-tenant incubator projects do well in high demographic areas where entrepreneurs live. They form businesses and they want to have a business close to where they live. These multi-tenant incubator projects require locations that allow the investor/developer to create divisible buildings, mainly when the buildings are in excess of 50,000 square feet (or 4,500 square meters). Other investors desire properties that are in close distance to their own offices. They state that if a property is far away, they will not spend enough time actively managing them. Some investors have higher standards than others and want the best properties on the best locations in Orange County. Their vision is that tenants recognize the good value in a well-located and well-maintained property and that they are usually willing to pay more for it. Other investors say that all of the industrial property in Orange County is well-located. If you look at a higher geographical scale Orange County has good cities to do business in compared to other counties in California. Irvine for example, “is a safe area with good school districts and housing. Moreover, there are good retail amenities” (appendix C).

## Box 2

### Case: Irvine Spectrum Industrial Complex

The Irvine Spectrum area in Orange County, California is a large mixed-use development accommodating a range of different properties such as a shopping mall with almost 140 retail establishments, leisure activities like a cinema and a fitness center, a hotel, apartments, high-rise offices and campus office and industrial environments. In the northwestern part of the business park (see blue area on the map down below) the Industrial Complex is situated. Located between the 5 and 405 Freeways and State Route 133, the area offers good access and visibility. The nearby Irvine Transportation Center makes commuting by public transit possible. The Spectrum Industrial Complex offers spaces for small, startup companies as well as warehouse spaces for larger – e.g. logistic – companies. Most warehouse properties are ‘high bay’ units with approximately 22 feet clearance and can be combined up to a total of 26.000 square feet. The rental rates of available industrial space are varying from 7 to 22 dollar per square foot per year (triple net lease or NNN). Most of the land in the Irvine Spectrum area is owned by the Irvine Company but the built properties are mainly owned and operated by local developers or property managers. The Irvine Company is currently selling land to interested parties in the Spectrum area.



On the map above is made clear how the business parks are relatively located within the city of Irvine. The blue Spectrum area is the largest business park in Irvine but has a lower building density than the Irvine Business Complex (which will we described in box 3). According to the GIS data the Irvine Spectrum Industrial Complex is zoned as *medical and science*, however the uses are far more diverse. The first buildings date back to 1974.

### ***3.3.4 Industrial Property Concepts***

Real estate concepts are very common in the retail, residential and office segment of the real estate market. In the industrial market real estate concepts have been relatively unknown so far. Science and technology parks are relatively new examples of business park concepts. On the individual property level concepts deal with a large amount of elements such as: function, location, dimension, customer orientation, services, positioning, theme, management, branding, marketing strategies et cetera (Drenth, 2006; Van Dinteren, 2009).

The interviews with local investors and developers made clear that ‘success and fail factors’ with regard to industrial property concepts in Orange County could hardly be identified. In general industrial buildings have to be functional, efficient en clean. Moreover projects that have good visibility, freeway access and have wide driveways and adequate parking get higher occupancies, higher rents and higher values. Furthermore attractive design, standard sizes of units and low maintenance standards add value to properties. However, there is not a lot of landscaping involved in the Orange County industrial market. Most aesthetic characteristics are mandated by the municipalities. Some investors say their objective is “to not be caught up in the latest design gimmicks like stonework or trendy colors”. They attempt to design and build timeless buildings for multiple uses that only have to be painted once in a while. Projects that followed trendy design sculptures and aesthetics and in time look dated have a greater chance to fail. In the interviews was mentioned several times that being close to the customer base and understanding your tenants and their businesses is crucial to keep occupancy in the portfolios. One example of a marketing concept is that owners provide tenants the possibility to pay out their rents with their credit cards (Appendix C).

O.C. industrial investors mainly look at building and location characteristics; they are less interested in new property concepts because uncertainty and thus risks are higher. Functional real estate, close to traffic nodes and executive housing has a great chance to be successful. Projects with well-designed and clean property, with large traffic flows and the right amount of parking are likely to succeed.

### **3.4 Chapter Summary**

This chapter described the research organization and setting. It clarified the characteristics of industrial property and its locations in general and in Orange County in particular. What has become clear is that there is an imbalance between the O.C. space and asset market for the industrial product. While demand for industrial space by potential tenants decreased, industrial property as an asset is still in demand by investors. In Orange County the three main industrial subtypes – manufacturing, warehouse, and flex – are present. Especially multi-tenant flex products are desirable in this area.

## Chapter 4 Actors, Ownership & the Investment Process in Orange County

### 4.1 Introduction

The realization of an industrial project requires the effort of a variety of actors. This chapter focuses mainly on the actors that are involved in the financial aspects of the development process. Less attention is given to the legal and creative participants in the process. First, all the relevant actors in the development process are identified. Then, common forms of industrial property ventures and ownership in the United States are explained in more detail. Finally the situation in Orange County concerning the type of ventures and their role in the investment process is described.

### 4.2 The Development Team

Miles *et al.* (2000) devised the eight-stage model of real estate development. This model can be applied to industrial real estate development in the U.S. This process is rarely linear, and at almost all stages, the developer must have an exit strategy:

1. **Inception of an Idea:** not feasible or feasible;
2. **Refinement of an Idea:** not feasible or feasible;
3. **Feasibility:** not feasible or feasible;
4. **Contract Negotiation:** cannot reach binding contracts or can reach binding contracts;
5. **Formal Commitment;**
6. **Construction;**
7. **Completion, Marketing and Formal Opening;**
8. **Property, Asset and Portfolio Management.**

The complexity of developing industrial projects justifies the engagement of experts in various disciplines into the process. The developer has to manage the team and ensure communication among its members. *Land planners* are responsible for translating the developer's concept for the project into a site plan that is marketable, efficient, and feasible. Planners work closely together with other consultants like market analysts and engineers. *Market analysts* collect data about the size and preferences of a geographically demarcated market area. The collected market information can be used in later phases as a marketing tool to attract potential investors and obtain financing. Furthermore, a variety of *engineers* are required for site planning as well as building construction. Structural, mechanical and electrical engineers specializing in industrial building types are there to ensure that buildings are efficiently designed and structurally sound. Engineers often work as subcontractors for

the project architect, who is responsible for managing their work. *Architects* are key players in the development process and are ultimately responsible for a project's image. Services provided by the architects include the range of design drawings from schematic to the final design development phase. They also prepare construction contract documents, and assist developers in the bidding or negotiation process. Sometimes, landscape architects are hired to produce master plans for landscaping and the designation of open spaces and hard surfaces. *Environment specialists* perform a variety of services, starting with environmental reviews to determine whether or not to proceed with a project based on site conditions. This is an important factor that can increase the risk of a project significantly. Moreover, they can help developers identify the regulatory approvals or permits (e.g. CC&Rs) required for a proposed project and prepare environmental impact assessments. Business parks potentially generate truck and automobile traffic. *Transportation consultants* are often needed during early planning stages. These consultants can provide expertise needed to assess the capacity of existing streets serving a site and how new levels of traffic will impact them. *Construction contractors* are licensed professionals who construct a project in accordance with plans and specifications. General contractors assemble and organize materials and labor, supervise construction in the field, and hire and manage subcontractors. They are responsible for quality control, managing construction schedules, and controlling construction costs. *Attorneys* provide legal advice throughout the development process. During site selection, they might assist in purchasing an option on a piece of land. Moreover, they work with leasing agents to negotiate the terms of a lease or sales contract. *Leasing agents* have to market the project and successfully negotiate to lease or sell space to tenants or buyers. They are either employed as part of a developer's staff or under contract to an outside agency. Furthermore, *marketing and public relations consultants* have to promote the project by differentiating the development from competitors. This is done through the use of brochures, advertising and media coverage. *Finance specialist* present the proposed project to potential investors and financing institutions. They try to arrange the optimal financing package (e.g. leverage<sup>9</sup>) for the developer. Finally, *property managers* oversee the day-to-day operations of an industrial building or business park. This includes maintenance and tenant services. In relation with asset managers, they help create greater value for a project or large portfolio of properties through more efficient operations of new revenue opportunities (Miles *et al.*, 2000; ULI, 2001).

### **4.3 The Capital Market for Industrial Property**

Industrial property is – in relation to other investment products like stocks or bonds – a capital-intensive product. Significant capital is needed to develop or invest in a certain project. Funds from outside actors are usually necessary. Sometimes however, developers and investors can generate the

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<sup>9</sup> Leverage is the use of debt to finance an equity investment. This use of debt creates what is called 'leverage' in the equity investment, because it allows equity investors to magnify the amount of underlying physical capital they control (which may also magnify the risk and return performance of the equity). (Geltner *et al.*, 2007)



### Box 3

#### Case: Irvine Business Complex

The Irvine Business Complex (IBC) is a mixed-use development that has characteristics of a corporate business park. The 2,800-acre (1,134-ha) area is located within the western part of the city of Irvine in south/central Orange County. More specifically, the IBC is bounded by the former Tustin Marine Corps Air Station, John Wayne Airport and the 55 Freeway. The IBC is a mix of office, industrial and retail businesses and forms the recognized hub of commerce for the County. The area is one of the most desirable places in Southern California to have major corporate and professional firms. Because of this there is a high pressure on land. As mentioned in box 2 the Irvine Business Complex has a relatively high building density for a suburban location. However, this currently does not lead to extremely high rents for the industrial product. Rental rates of available industrial space are varying from 6 to 15 dollar per square foot per year (triple net lease or NNN). One reason for this is that most of the industrial buildings are rather old. The first industrial developments in the IBC area date back to 1959. The Irvine Company started with the raw land, which it owned, developed a master plan for the business complex in terms of architectural style, density and character and built the roads, sewers and other internal infrastructures. Small local developers or investors then purchased parcels within the area and adhered to a strict set of guidelines in building their project. The Irvine Company then continued to serve as an umbrella marketing agent for the entire area and the builder products within. (Irvine Company, 2010)



The IBC is not developed according to a particular concept. It is rather a catchy name for a sprawling area undistinguished by boundaries (in contrary to the University Research Park or the Spectrum area). Nevertheless, the IBC offers various industrial product types. There are corporate offices with manufacturing components, warehouse and public storage buildings, and flex properties with showrooms, labs and retail. The IBC established a consortium of developers for the marketing of the area, which enables them to draw tenants to the entire area and not just to one development. Local authorities established a Development Impact Fee Program to fund area-wide circulation improvements within the IBC area. Fees are assessed when there is new construction or when there is an increase in square footage within an existing building or the conversion of existing square footage to a more intensive use (City of Irvine 2010).

required funding internally or are connected with an insurance company, pension fund or real estate investment trust. There are two primary forms of funds to invest in industrial buildings: debt and equity. This is where the relation between industrial property in the space market and asset market becomes clear. Debt and equity funds for real estate are raised in a variety of capital markets where conditions and requirements (e.g. cap rates) are always in flux. The Urban Land Institute (2001) states that: “historically, the capital market for the development of business parks and buildings has depended on local financial institutions and investors”. Developers who did not possess much equity had to solicit wealthy individuals in the community to invest in its ownership (i.e. equity investment). After a sufficiently large portion of the total cost was accumulated (mostly 20-30 percent), they had to approach a local bank for a construction loan. At the same time developers would secure long-term, fixed-rate financing from an insurance company, which would be funded after the building was completed and fully leased. Nowadays, the real estate capital markets offer a greater variety of funding sources. Many of these sources involve securitization. That is, dividing a loan into small pieces of homogeneous securities (like stocks, or units) by the lenders (e.g. banks). They are sold in the public securities market in the larger capital market. Holders of these securities receive shares of the cash flows received by the pool of underlying loans (e.g. mortgages on industrial assets). In fact this is an efficient source of debt capital that has helped improve the liquidity and transparency of commercial real estate investment. The most common form of securitized commercial real estate debt is commercial mortgage-backed securities (CMBSs), which are put together by banks or insurance companies. Securitization in the form of REITs has also broadened the sources of equity capital for industrial as well as other types of properties (Geltner *et al.*, 2007; ULI, 2001).

The sources of debt and equity funds have changed dramatically over the past decades. The role of local banks as the primary source of loans for industrial property development has been largely taken over by well-capitalized banks with a regional, national or even international scope. Local partnerships that once were a significant source of equity investment for industrial property are now overshadowed by REITs and pension funds operating nationally and globally. Because of the recession and capital shortage on private markets in the U.S. in the late 1980s, developers started going to the public markets to raise capital. In turn, public markets supplying real estate debt and equity have expanded their role in the 1990s. Especially with the emergence of the CMBS market (public debt); more possibilities arose to finance commercial real estate. But also public equity funds have grown significantly since the late 1980s. REITs – the principal public source of equity funds – have multiplied several times in size since the beginning of the 1990s. Institutional investors such as life insurance companies, mutual funds, and public pension funds are attracted to the liquidity and diversification benefits of holding commercial real estate in a REIT (Geltner *et al.*, 2007; ULI, 2001).

The scheme in figure 4.1 shows the types of real estate in which investors operate. Direct real estate investments are investments in real property (i.e. bricks and mortar). Those investments are made by

different actors, such as private investors, institutional investors, listed and non-listed funds (these actors partly overlap). Indirect real estate investments, on the other hand, are securitized assets which are offered and managed by real estate funds. These can be listed (at a stock exchange) or non-listed (i.e. public or private). REITs are an example of indirect real estate funds. REITs own, manage, buy and sell income-producing properties and mortgages and offer them to other investors in the form of real estate stocks or bonds. REITs operate in private as well as public markets, which will be discussed in the next paragraph (Mullaney, 1998).

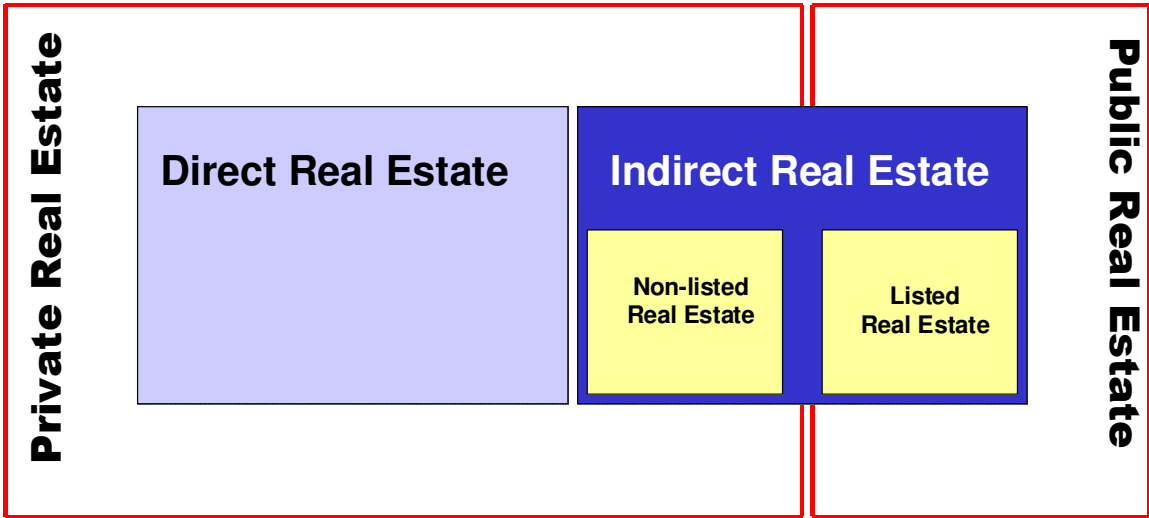


Figure 4.1 Real Estate Investment Scheme (Brouwer, 2009)

**4.4 Ownership Structures for Industrial Property Ventures**

Real estate ventures can be owned by various personal (e.g. an individual) or group (e.g. a firm) structures. Each form of ownership has its own legal and tax consequences. The most appropriate form of ownership for a venture depends on several factors, such as the investor’s objectives, market conditions, type of industrial property investments, and sources of debt and equity capital. Industrial developers and investors commonly raise capital by entering a joint venture with an institution, such as a pension fund or a wealthy individual or family. Such a joint venture is not a form of ownership, and it may take any legal form the participants desire. These joint business ventures are undertaken by two or more parties in a specific business enterprise, such as a real estate development or the acquisition of an investment. In the past, joint ventures were usually organized as limited partnerships. The institutional investor provided most of the capital, while the developer contributed development and management expertise. In recent years, limited liability corporations (LLCs) have become the preferred form of ownership structure. The terms determine that the participants share in the properties’ operating cash flow, appreciation and investment risk. Some institutional partners do not want to share ownership benefits with a developer. They prefer to hire the developer for a fee and retain 100 percent ownership of a project. The most common ownership forms are (ULI, 2001):

- **Individual Direct Ownership:** is the simplest form of real estate ownership by an individual person or firm through sole ownership. There are no partners or associates to deal with. However, there is no protection of a separate tax entity; the direct owner of a property is liable for all the debts and liabilities associated with the property. Moreover, a direct owner can encounter difficulties in obtaining debt financing for a property, since the entity's viability relies on one person;
  
- **Partnerships:** are unincorporated associations of two or more persons or entities. A partnership is often referred to as a joint venture when multiple limited partners are involved. A partnership is not a taxable entity. Therefore, all income and appreciation flow through to the investors. Partners include their share of these items on their individual tax returns. In a *general partnership* all the partners share the risks and returns of the venture. All partners are therefore responsible for all the debts and liabilities of the business. For this reason, wealthy individuals do not typically enter into general partnerships for real estate ventures, because they prefer the protection of limited liability provided by limited partnerships or limited liability companies. *Limited partnerships* include at least one general partner and one limited partner. General partners are fully liable, while limited partners bear no liability beyond its contributed capital. Moreover, it is possible to allocate income or losses to the limited partners without conferring liability on those partners. Participation in the management by the limited partners is not allowed. For industrial property projects, the most common type of limited partnership involves a corporate entity established by the developer, which acts as the general partner and manager, and investors who are limited partners;
  
- **Limited Liability Companies:** combine the advantages of a nontaxable entity, limited liability for investors, and no restrictions on investor's participation in the management of the enterprise. A LLC member's liability is limited to the amount of capital contributed, regardless of the degree to which they participate in the management of the business;
  
- **Corporations:** are organizations separate and apart from its owners. Corporations pay income tax on their earnings before distributing dividends to equity investors. Corporations operate under the authority of a board of directors elected by shareholders. For industrial property, corporations have some tax disadvantages. Corporate earnings that are distributed to the shareholders in the form of dividend are taxed twice; once as corporate earnings and again as shareholder's income. Furthermore there is a distinction between *C corporations* and *S corporations*. *C corporations* that have losses in early years do not receive immediate tax benefit. *S corporations*, on the other hand, are pass-through entities, which means that income or loss is passed through to the investors without the entity being taxed. *S corporations* have other restrictions; there can be no more than 75 shareholders, no corporate and no foreign shareholders.

- **Real Estate Investment Trusts:** are a mutual fund form of ownership that was created in the U.S. in 1960 to encourage widespread investing in real estate. A REIT is an entity that combines the capital of many investors to acquire or provide financing for all forms of real estate. In fact, they are companies that own and most often actively manage income-producing real estate. A corporation or business trust that qualifies as a REIT generally does not pay corporate income tax to the Internal Revenue Service<sup>10</sup>. If a REIT meets certain technical requirements, it can pass realized profits through to shareholders and take tax deductions for the distributions, thus avoiding a double tax. For a corporation or trust to qualify as a REIT, it must comply with the following requirements of the Internal Revenue Code. Otherwise, they are taxable as corporations. It must:

- *be a corporation, business trust, or similar association;*
- *be managed by a board of directors or trustees;*
- *have shares that are fully transferable;*
- *have a minimum of 100 shareholders;*
- *have no more than 50 percent of the shares held by five or fewer individuals;*
- *invest at least 75 percent of the total assets in real estate assets;*
- *derive at least 75 percent of gross income from (mortgages on) real property;*
- *pay dividends of at least 90 percent of the REIT's taxable income.*

There are different types of REITs varying in risk and growth potential (and thus in cap rates<sup>11</sup>), depending on property type and geographical focus. REITs can be either public or private enterprises. Publicly traded REITs are open to the general public and are listed on one of the major securities exchanges. Private REITs are generally restricted to parties that REIT management wants as co-owners (such as business associates or wealthy families) or to institutional investors. Moreover, there is a distinction between debt and equity investment. Debt REITs engage in financing real estate by investing in mortgages; loans on existing properties, as well as construction and development loans. Equity REITs, on the other hand, invest in real property, thereby purchasing ownership interests (Imperiale, 2006; Mullaney, 1998; NAREIT, 2009a; NAREIT, 2009b).

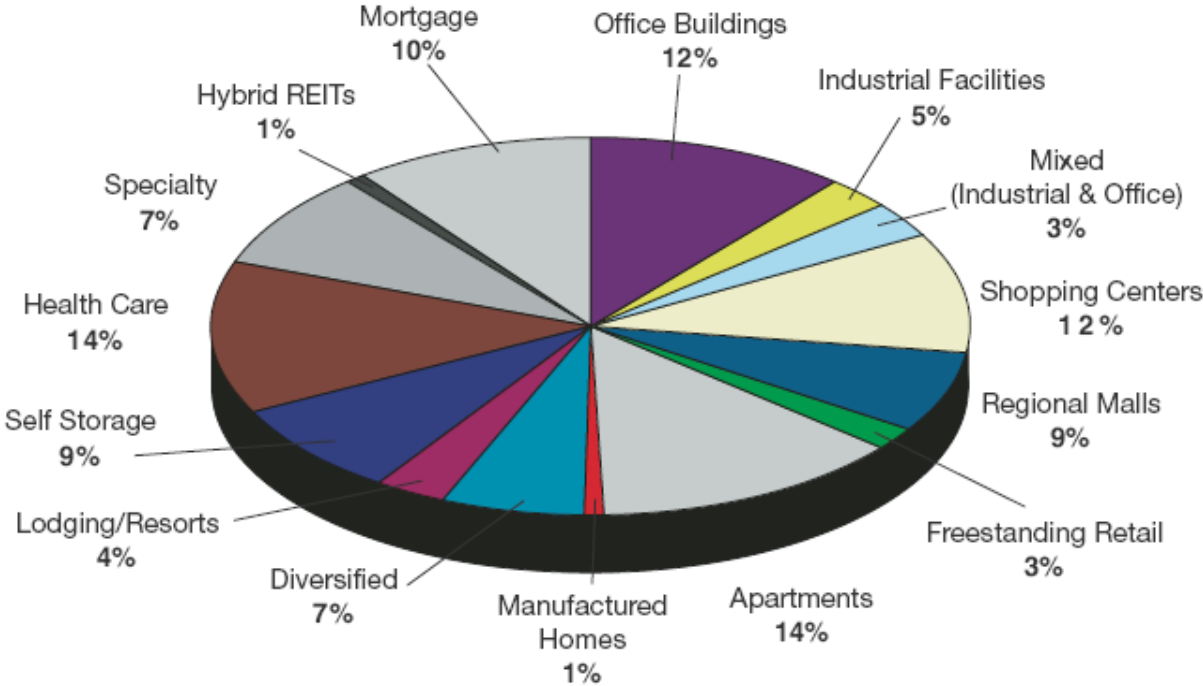
REITs provide small investors the opportunity to invest in managed real estate, to spread risk through diversified holdings, and offer something that is normally not associated with real estate: liquidity. The shares of most large REITs are publicly traded. REIT stocks provide dividend income (derived from property rents) along with the potential for long-term capital appreciation (and thus gains through share price appreciation). Investors can purchase or sell shares in REITs on all of the major stock

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<sup>10</sup> The IRS is the US government agency responsible for tax collection and tax law enforcement. (IRS, 2010)

<sup>11</sup> Although the valuation of a REIT is done by using metrics like *funds from operations* (FFO yields). (Geltner *et al.*, 2007)

exchanges in the U.S., including the New York Stock Exchange (NYSE), Nasdaq and American Stock Exchange (AMEX). As is shown in figure 4.2 REITs invest in all property types. As of December 31<sup>st</sup> 2008 about 17 percent of REIT capitalization was in industrial property. This takes into account *Industrial Facilities, Mixed, and Self Storage. Mortgage, Hybrid, and Diversified* are not included in this percentage. According to the Investment Property Databank (2009) the share of industrial property in the total capital value invested by the largest REITs in the U.S. is 20,4%. This more or less corresponds with the data from the National Association of Real Estate Investment Trusts (Mullaney, 1998; NAREIT, 2009a; NAREIT 2009b).



**Figure 4.2** REIT Investments by Property Type (NAREIT, 2009a)

Some REITs develop properties; some just buy existing real estate. REITs can buy properties directly or through joint ventures (i.e. partnerships) with other investors. According to Block (2006) “REITs that specialize in industrial sector properties can be very good investments, particularly if their managements have longstanding relationships with major industrial space users, and if they concentrate on strong geographical areas”. Industrial REITs are a function of the economy; if exports are accelerating demand for industrial space will be stimulated. Export base theory endorses that growth in export leads to a *multiplier effect* in the local economy. The amount of jobs, income and spending will consequently increase. The level and growth of industrial rents are largely determined by the economic fundamentals of supply and demand in real estate space and asset markets. These fundamentals include demographic factors such as population size, population growth, employment growth, construction and the level of overall economic activity. While differing from region to region,

all of these factors typically have a direct impact on rents and occupancy rates, which affect earnings and property values and therefore the performances of REITs. This is expressed by the value of REIT shares (Block, 2006; Mullaney, 1998; ULI, 2001).

#### **4.5 Actors in Industrial Property Investment in Orange County**

##### ***4.5.1 Industrial Property Ventures and Ownership in Orange County***

As is mentioned in paragraph 4.2 many different actors are involved in the development and investment process of industrial real estate. Relevant for this report is which actors invest in the industrial segment in Orange County, how they set up their ventures and in what manner their properties are owned. An important distinction has to be made between the ownership of real estate ventures and ownership structures of single industrial properties hold by these ventures.

Real estate development and investment in the U.S. are often closely connected. Many companies develop projects for their own portfolios. After developing an industrial building, they often manage it themselves. Not seldom they finance large parts of their own projects by bringing in significant equity. These so called full service real estate companies operate throughout Orange County and offer among other things; asset and property management, development, construction management, rehabilitation, entitlement, sales, leasing and finance. Moreover, there are many institutional actors present in Orange County which have the legal form of a corporation or trust. For example, publicly traded REITs specializing in leasing commercial space often form joint ventures with local operating partners. These local partners develop or acquire industrial real estate projects with the help of significant equity from the institutional partner. Some local operating real estate developers are even affiliated to larger institutional actors. Other local ventures are formed as vehicles for institutional partners to take advantage of their local real estate experience. These joint ventures may take any legal form the participants desire. In Orange County most ventures are set up either as limited partnerships or as limited liability companies (LLCs). In limited partnerships (shared liability) the institutional investor provides most of the capital while the developer contributes local real estate and management expertise. In LLCs the parties determine terms and conditions (e.g. liability) in an ownership agreement. Some institutional partners do not want to share ownership benefits with the developer, preferring instead to hire the developer for a fee and retain 100 percent ownership of the concerning properties. According to the in-depth interviews held with local actors there is need for a new form of joint ventures today (Appendix C). Small developers do not always want to co-invest because their capital is limited. They also want to avoid loan repayment guarantees with lenders. Because of this, they expect that new industrial property development will be limited to small deals. The larger deals are done by REITs or wealthy individuals that place money for others. New joint ventures will probably take the form of a private developer working for a larger capital source (e.g. a REIT or pension fund) without partnership interest. Small developers have to be content to work for fees.

The large amount of institutional ownership throughout Orange County leads to the fact that joint ventures are common in the industrial segment in Orange County. Consequently, there is a lot of shared ownership of properties. The legal form of ownership depends on the project specifically because every one is different due to the partners involved. LLCs are used as the primary ownership structure for projects because they provide protections to the individual members from liability and allow flexibility for different tax structures on the exit for the individual members. Limited partnerships are a common structure as well, the most common type involves a corporate entity established by a developer, which acts as the general partner and manager, and investors (e.g. REITs or wealthy families) who are limited partners. The partners set up their entities as single properties, thus avoiding that financial risks flow off to the corporation (Appendix C).

#### ***4.5.2 Industrial Property Investment Strategies in Orange County***

Investment strategies are ways of investing to reach the goals that are set, considering among other things; timing, funding, partnerships and management. Local actors have different ways of pursuing their goals but agree that the main purpose for investors is to acquire well-located industrial products with good transportation access basically anywhere in Orange County. Many companies focus on flex properties that can easily be configured to suit a variety of uses and are located in high population growth markets near decision-maker housing. This property type supports a wide variety of uses and customers, and thus tenant mix. Leased product with credit and term is very important to investors because cash flow is guaranteed. Moreover good relationships with brokers and lenders are crucial to locate and acquire properties; “the main strategy involves building relationships with brokers who will bring us the best deals and not just any deal” (Appendix C). To others, it is important to have a property management component to manage the projects they own and develop in order to maintain the projects an advertisement to sellers and municipalities. Considering timing investors simply buy low and hold their properties. For some, investment strategies right now are to target potential competitors that need to rework and recapitalize their portfolios. Talking directly with competitors and lenders of specific assets could deliver information whether there is going to be potentially a property that they have to let go or not. “Really staying close to each of your markets that you really like and track ownership structures of those properties is important right now”. Because of the current high cost of capital<sup>12</sup> a lot of parties have to be creative in the way they structure their deals. However, some low-levered companies are currently able to put themselves in a preferred position by making up competitor’s refinancing gaps providing preferred equity<sup>13</sup>. Especially REITs that are structured

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<sup>12</sup> From a company’s point of view, cost of capital represents the cost of financing (both debt and equity) expressed in the form of an interest rate. From an investor’s point of view it is the expected return on a portfolio of all the company’s existing securities. (Geltner *et al.*, 2007)

<sup>13</sup> Preferred equity is a form of debt that precedes common (or residual) equity in priority of claims. Preferred equity obtains its returns usually purely in the form of a preferred dividend (no appreciation of capital paid in). (Geltner *et al.*, 2007)



conservatively and have a low property-level debt on their balance sheet are able to make good deals at the moment. These companies also look for industrial properties that have been undermanaged, that have deferred maintenance and that can be added value to through remodeling, landscaping, better leasing and management.

Appraisers use different methods to estimate the value of industrial real estate to make a decent investment decision. Especially the *income approach* is used to estimate the market value of income producing properties. Other methods are the *sales comparison approach* and the *cost approach*. The income approach uses net operating income and sales price to calculate a capitalization rate for a specific property in a given area or marketplace. As described in the conceptual model, the attractiveness of an investment is represented by its cap rate (determined by risk, growth expectations and opportunity cost of capital). Currently industrial property cap rates are slightly on the rise, because of lower growth expectations in the space market and consequently higher perceived risk by investors. Rising cap rates mean lower industrial property market values as is mentioned in paragraph 2.4 on real estate market cycles. These higher perceived risks associated with industrial property then lead to higher required returns (i.e. total return or internal rate of return (IRR) by equity partners like REITs. The higher required returns than in recent years make it difficult for small developers or operators to get good deals. “In the good times the developer could put in 5-10% of the equity (say 30% total equity required and 70% third party debt), the equity partner would be in 90-95% of the equity, each partner would earn a 9-12% preferred return on their equity and each partner would split profits 50/50 after repayment of third party debt, repayment of preferred returns and repayment of equity. Those deals are hard to find today”. The interviews reveal that local actors agree that being close to your customer base and understanding tenants and their business is important in the next quarters and years to keep occupancy in the portfolios. Responsiveness to the tenants and providing excellent customer service is vital for the tenant base to understand that landlords are there for the long-haul. Therefore, “it is crucial to stay close to your customers and understand what is driving their businesses” (Appendix C; Geltner *et al.*, 2007).

#### **4.6 Chapter Summary**

Industrial property investors work together with a variety of other real estate professionals. Because industrial real estate is a capital-intensive product equity as well as debt is necessary to develop or invest in a certain project. Those investments can be in direct or indirect real estate, in public and in private markets and in listed or non-listed property ventures. These ventures and their properties are owned and managed through different kind of structures and partnerships. Especially REITs play an important role in the Orange County industrial asset market. These REITs are often well-capitalized and form joint ventures with local operating partners. Because of the current high cost of capital and the lower growth expectations in the space market fewer new developments are done.

## **Chapter 5 Industrial Property Risk and Return in Orange County**

### **5.1 Introduction**

The following chapter deals with risk and return of industrial property in Orange County. Described is what determines risk and return on this type of asset as seen by local property investors. This is grounded with comparative statistical data from industrial and other property types in the past.

### **5.2 Determinants of Risk and Return for Industrial Property in Orange County**

Risk and its counterpart return are concepts that are positively correlated. As described in the theoretical framework the risk-return tradeoff means that for a higher return on an asset the investor should be willing to accept a higher risk. Therefore risk is another word for uncertainty, and return is the compensation for this uncertainty. Risk and return of industrial property are constantly in flux, consequently influencing capitalization rates and thus the attractiveness as an investment opportunity. Risk and return characteristics can shift due to changing space market (e.g. absorption rates) as well as capital market conditions (e.g. interest rates). Moreover risk and return vary across industrial property types and between – as well as within – geographic regions. Market and economical risks are external or macro-factors that the investor cannot control. On the other hand, there are internal or micro-factors related to industrial property that influence risk and return which can be assessed by the investor. In the conceptual model is made clear that there are five components that real estate investors should integrate in their risk management of industrial property analysis and appraisal. They are location, product, timing, price and contract. These cannot be fully controlled because they are in turn influenced by spatial trends, policies and regulations. Despite this, the investor has to pay attention to tenant preferences regarding location and product design, timing to enter the market, price to pay with amount of leverage, and terms and contract negotiated with the tenant.

Moreover there are some principal risks in the industrial property sector in the U.S. The most important are declining economic and business conditions. As is explained with the help of economic base theory the industrial property sector is directly influenced by the state of the economy. One advantage of industrial property that diminishes this risk is that, since it does not take long to construct and lease industrial units, there is a faster reaction time than in most other sectors. Consequently, there generally has not been excessive overbuilding. New space is built in response to demand from new or existing users (i.e. build-to-suit activity instead of speculative building). Other risks for investors are the dependence on the tenant's financial health, obsolescence and in special cases overbuilding. "While the \$2 to \$10 million cost of developing an industrial property is not insignificant, it is low enough that merchant developers are able to build specific buildings that may, in time, create an excess of available space". A key advantage of the industrial property sector that lowers risk in relation to office, apartment or retail sectors is that it requires only modest ongoing capital

expenditures to keep the buildings in good repair. Space demand has not been terribly volatile, and lease renewal rates have been high during most economic periods (Block, 2006).

There are inherent risks associated with any product type in real estate. However, the in-depth interviews reveal that most local investors agree that owning industrial products in Orange County is one of the safest places to be compared to office or retail products. This is also a reason why there is not a large amount of industrial product on the market: “if you own it, you don’t typically sell it”. Nevertheless, specific risks associated with industrial property in Orange County are that there are many older buildings which need to be retrofitted and might result in difficulties to re-lease. Moreover, there is some non-functional industrial product; for example regarding height, loading capabilities. Finally, too many industrial properties provide office space (Appendix C).

A more general risk regarding the industrial market in O.C. is the current state of the economy. Economic conditions form a big risk at this time, as the small businesses depend very heavily on a strong market. Most of the businesses are service related, – such as small contractors – some are small manufacturers, and some are distributors. All of them need a market for their goods or services. Consequently, in the O.C. industrial market there is increasing vacancy and a downward trend in rents. Therefore, the main risk today is tenant default and loan maturity. “Lots of tenants have either asked for rent reductions or have simply moved out of their space, income has decreased accordingly”. Because of that the lender wants the borrower to put in more equity because the loan-to-value percentage is often 80% or greater and this creates a debt problem. No one wants to put additional equity into a project in the face of declining fundamentals like employment and volume of production. “We need job growth to get the market in the right direction. Our immediate threats are declining rents and declining occupancy. If you add in declining cap rates you have a ‘perfect storm’ for downward valuations” (Appendix C).

Other risks regarding industrial property investment in O.C. are the relative high costs of living. The types of business looking for industrial products might look for cheaper alternatives like the Inland Empire or San Diego. “The risk is that you are pricing out certain types of businesses and you might have a higher and better use for the property than industrial”. Another risk in Orange County is that a lot of employment existed on the home improvement side of the demand curve, directly influencing industrial productivity. That is certainly not a driver today. “What is really going to drive the vacancy in O.C. is if manufacturing is going to come back or not, if the cost of living is what it is”. Bigger businesses are looking for cheaper alternatives that affect their bottom line. Orange County is best suited to invest in R&D and flex properties that cater to smaller and growing businesses. That is the demand driver in O.C. where a lot of entrepreneurial individuals are situated (Appendix C).

Determinants of return are likely to be the counterpart of determinants of risk. Moreover expected returns are based on growth expectations in the space market and opportunity cost of capital in the

asset market. Economic prosperity expands employment and production levels in a local economic base, hence stimulating property occupancy and rental rates and finally increasing returns. However, this is not the current situation. Specific factors that influence industrial property returns in a positive way deal with location, product, timing, price and contract. A few of the interviews revealed additional information on determinants of property returns. Local investors state that it is critical to have an idea of what the tenant desires. The most important requirements are related to the functionality of the product. Rectangular buildings that can be “sliced and diced” perform well because they increase flexibility for the customers. The availability of loading dock doors and trailer storage, sufficient clearance height (i.e. 24 feet) and truck court radius (i.e. 150 feet), yard area and curb appeal can raise total returns on the industrial product. Especially functional freestanding properties built in 1985 or after with attention for overall design (e.g. glass line) and site plan generate good returns. These characteristics are applicable to all industrial subtypes ranging from single tenant to multitenant manufacturing, warehouse/distribution and flex. However, the truck court radius is more important for total return on a distribution facility than for total return on a flex property with R&D components. Desirable manufacturing and warehouse/distribution properties in Orange County have a surface of 30,000 f<sup>2</sup> (2,750 m<sup>2</sup>) or below. Flex properties are ideally 8,000 f<sup>2</sup> (750 m<sup>2</sup>) or less. Those flex properties should be dividable into small units. Ideally they have about 10 percent of office space. Some developers or investors add amenities like kitchen appliances and higher end finishes to attract those customers that spend more time at work than at home. “Really with any industrial product you must look at how the end-user will use the building and design from there. It is not always a function of coverage and return. The best-designed product will move first and last, while poorly conceived projects sit” (Appendix C).

The investment size depends on the type and quality of the industrial property but generally ranges from \$1-20 million. Multi-tenant parks are preferred by investors because the risks of tenant default are spread. Moreover, properties that generate attractive returns are located on convenient sites near freeways or major streets. These sites need to provide sufficient parking, depending on the type of activity and amount of employment. Furthermore, they have to be located within a short drive of residential developments. “Most small business owners want to be within 5 miles of their home”. Finally sale-leaseback transactions – at market rents and with long-term leases – have been successful investments because they guarantee future cash flows.

### **5.3 Property Returns in Orange County and the USA**

The period-by-period total return can be broken down into two components, known as *income return* and *capital return* (or appreciation return). These are relevant for the two major types of investment objectives: income and growth. The income return, which is also referred to as the current yield or cap

rate<sup>14</sup>, equals the cash flow paid out to the asset owner during period  $t$ , as a fraction of the value of the asset at the beginning of the period. The capital return is the change in the asset's market value during period  $t$ , as a fraction of the value of the asset's market value at the beginning of the period. The income and capital return sum to the total return<sup>15</sup>. In general, for industrial property income return contributes to a greater degree to total return than does capital return. Although industrial property encounters less physical depreciation than other types of commercial real estate, obsolescence occurs (Geltner *et al.*, 2007).

	Low	High	Effective Avg.	Vacancy	Investment Yield
<b>Suburban Office</b>					
New Construction (AAA)	\$ 23.15	\$ 45.40	\$ 37.48	11.7%	N/A
Class A (Prime)	\$ 9.00	\$ 60.00	\$ 28.94	21.2%	N/A
Class B (Secondary)	\$ 8.52	\$ 48.40	\$ 24.39	17.5%	6.4%
<b>Industrial</b>					
Bulk Warehouse	\$ 3.00	\$ 22.80	\$ 7.92	8.6%	9.2%
Manufacturing	\$ 2.40	\$ 21.00	\$ 7.33	11.0%	6.4%
High Tech / R&D	\$ 3.00	\$ 22.80	\$ 7.63	10.1%	N/A
<b>Retail</b>					
Downtown Neighborhood Service Centers	N/A	N/A	N/A	N/A	N/A
Community Power Center	\$ 10.20	\$ 60.00	\$ 24.93	6.0%	6.9%
Regional Malls	\$ 12.00	\$ 72.00	\$ 25.15	5.0%	6.5%
	\$ 18.61	\$ 51.00	\$ 26.11	3.6%	N/A

**Table 5.1** Orange County Commercial Real Estate Rent/F<sup>2</sup>/Year, Vacancy and Investment Yield 2009 (NAI Capital, 2010)

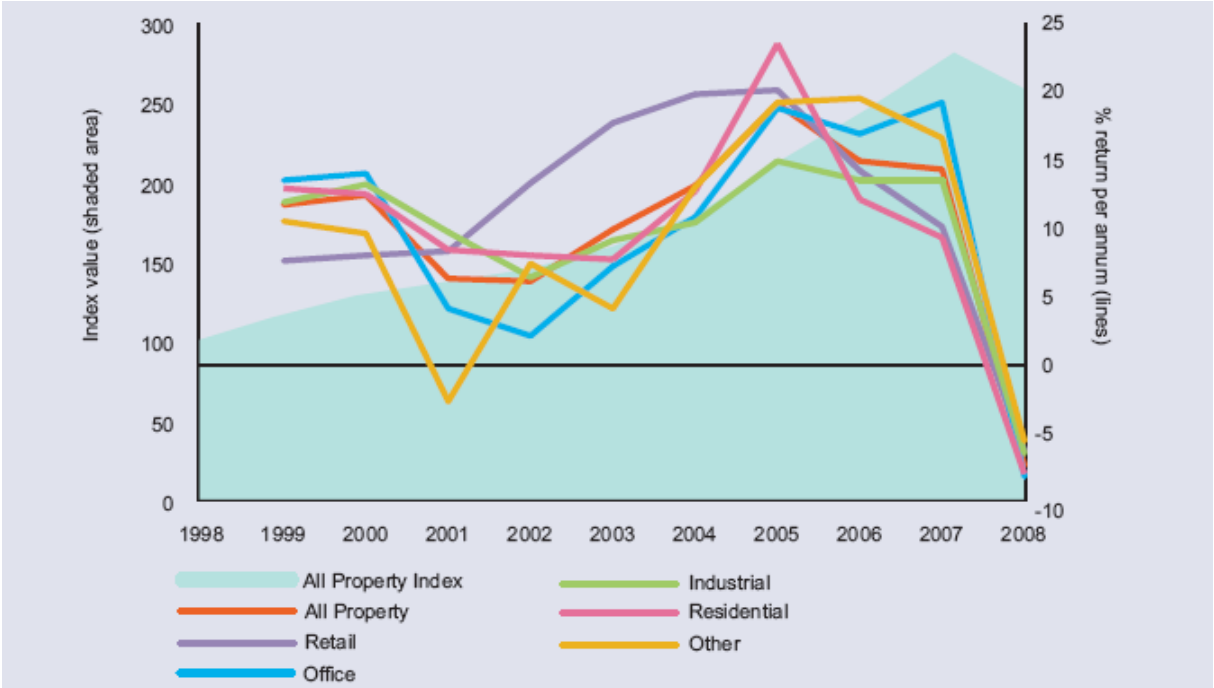
Total return data on industrial property in Orange County could not be requested. Investment yields (or capitalization rates) were available and represent the income returns generated on several asset categories in 2009. As table 5.1 shows there is a significant distinction between *Bulk Warehouse* and *Manufacturing* cap rates. The category warehouse generates higher income returns than manufacturing. On the other hand, this implies warehouse investments in Orange County are appraised as riskier than investments in manufacturing properties. Investment yields for office and retail properties have not been higher than for the industrial product. This implies that the risk-return tradeoff is not very different among the several property categories. However, table 5.1 shows that

<sup>14</sup> To be more comparable with stock market definitions, the income return is often defined as *net operating income* (NOI) generated by the property. The NOI is the cash flows minus capital improvement expenditures divided by the asset's market value. (Geltner *et al.*, 2007)

<sup>15</sup> Total return is also used to refer to the *internal rate of return* (IRR), which is a multiperiod measure of the total return. The IRR takes into account effects of cash inflows and outflows. In total return timing of cash flows is irrelevant because returns are re-evaluated when there are cash inflows or outflows. (Geltner *et al.*, 2007)

vacancy rates for office properties are higher and vacancy rates for retail are lower than industrial, consequently influencing the risk-return tradeoff as well. Furthermore there is less vacancy for warehouse than for manufacturing properties. Finally industrial rents in Orange County are generally lower than office and retail rents. Industrial vacancy rates are in between the retail and office segment (NAI Capital, 2010).

Figure 5.1 shows the historical performance of U.S. property distinguished by industrial, residential, retail, office and other. The data from the Investment Property Databank (IPD) consists of almost 3,000 properties spread among 40 different funds. The annual total returns are calculated by taking into account income and appreciation. These are unleveraged total returns to directly held property investments from one open market to the next. The most recent data from 2008 show a total return to all property of -7.4%. Industrial property performed slightly less worse with a total return of -6.5%. It is mainly the capital return that leads to these negative total returns. In 2008 the income returns on all property categories were positive (ranging from approximately 5-8%) and the capital returns were all negative (ranging from 11.5-12.5%) (IPD, 2009).



**Figure 5.1** Historical Performances of Major Property Categories in the USA (IPD, 2009)

The curves in figure 5.1 show different performances among property types in the U.S. in the last ten years. Midway the first decade of the twenty-first century the retail segment outperformed the other property categories, later on there were peaks in the residential and office segment. Industrial real estate has had less peaks and troughs in the past decade. Annualized total returns over the last ten

years show that returns on industrial property have been 9.4%. Office (9.5%), residential (9.7%) and retail (11.0%) performed slightly better in the U.S. from 1998 until 2008 (IPD, 2009).

Table 5.2 breaks down the major asset classes into several property subcategories. The data is coming from U.S. equity REITs and shows the annual change in total returns. The data displays a diverse picture of real estate performances in the U.S. from 1994 until now. Surprisingly *industrial* has not been the most stable property segment since 1994. Diversified portfolios together with *health care* and the *residential* category show the least erratic samples of return. Moreover, *self storage* (which is in fact an industrial subcategory) seems to generate more stable returns than the industrial segment as a whole (NAREIT, 2010).

Equity REIT Index	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
Industrial/Office	16,59	25,81	44,42	27,49	-14,44	3,35	33,38	7,09	0,87	33,26	25,24	12,85	39,39	-14,86	-50,28	29,17
Office	2,86	38,80	51,80	29,01	-17,35	4,25	35,46	6,65	-6,82	34,01	23,28	13,11	45,22	-18,96	-41,07	35,55
Industrial	18,67	16,21	37,22	19,02	-11,74	3,90	28,62	7,42	17,32	33,14	34,09	15,42	28,92	0,38	-67,47	12,17
Mixed	NA	NA	40,79	27,90	-8,85	-0,72	31,96	8,15	8,56	31,30	19,59	7,40	26,27	-33,09	-33,99	34,90
Retail	2,98	5,10	34,60	16,95	-4,94	-11,77	17,97	30,42	21,07	46,77	40,23	11,80	29,01	-15,77	-48,36	27,17
Shopping Centers	1,33	7,40	33,49	21,44	-6,99	-10,71	15,10	29,89	17,72	43,12	36,25	9,27	34,87	-17,68	-38,84	-1,66
Regional Malls	8,77	3,00	45,27	13,69	-2,62	-14,58	23,50	31,88	24,56	52,24	45,01	16,54	23,83	-15,85	-60,60	62,99
Free Standing	-5,46	31,57	30,94	17,70	-6,25	-4,89	8,95	23,95	21,76	35,91	32,87	-0,49	30,74	-0,43	-15,09	25,93
Residential	2,31	12,00	29,46	16,32	-8,12	9,48	34,30	9,04	-5,99	25,90	32,71	13,69	38,93	-25,21	-24,89	30,82
Apartments	2,19	12,26	28,93	16,04	-8,77	10,73	35,53	8,66	-6,15	25,49	34,71	14,65	39,95	-25,43	-25,13	30,40
Manufactured Homes	3,31	10,67	34,93	18,65	-0,87	-2,80	20,94	13,72	-4,06	29,99	6,40	-2,58	15,34	-19,34	-20,18	40,92
Diversified	-6,04	21,15	33,97	21,67	-22,11	-14,41	24,11	12,51	4,24	40,25	32,42	9,87	38,03	-22,29	-28,25	17,02
Lodging/Resorts	-8,89	30,79	49,19	30,09	-52,83	-16,15	45,77	-8,63	-1,49	31,69	32,70	9,76	28,17	-22,37	-59,67	67,19
Health Care	4,12	24,87	20,39	15,77	-17,45	-24,83	25,84	51,85	4,82	53,59	20,96	1,79	44,55	2,13	-11,98	24,62
Self Storage	8,90	34,40	42,84	3,41	-7,20	-8,04	14,69	43,24	0,56	38,14	29,70	26,55	40,95	-24,82	5,05	8,37
Specialty	-5,22	27,64	46,12	27,33	-24,33	-25,70	-31,60	7,60	-5,35	38,55	26,85	10,44	23,56	14,56	-25,70	31,46

**Table 5.2** Annual Change in Total Returns by Property Sector and Subsector in the USA in % (NAREIT, 2010)

## 5.4 Chapter Summary

Risk and return are each others counterparts, moreover they are positively correlated. Risk and return in the Orange County industrial property market can be differentiated to the space market and the asset market. Risk and return depend on characteristics of supply and demand for industrial space and factors as location, product, timing, price and contract of properties in the rental (or space) market. Furthermore risk and return depend on the cost of capital in the asset market and the general state of the economy. Finally statistical evidence shows industrial returns in Orange County and the rest of the U.S. are constantly in motion, depending on the factors mentioned. Industrial returns are therefore subordinated to economic as well as spatial elements.

# Chapter 6 Conditions for Successful Industrial Property Investment

## 6.1 Introduction

The previous chapters have mainly been descriptive. This chapter tries to recapitulate the findings in a scheme of positive and negative conditions for industrial property investments in Orange County, California. These conditions are subdivided into property characteristics, locations, concepts, investment strategies, ownership and risk. Finally these conditions are projected on the investment situation in The Netherlands and form a first step to conclusions and recommendations.

## 6.2 Conditions for Industrial Property Investment in Orange County

What has become clear from the previous chapters – based on literature and the performed interviews with O.C. investors and developers – is that there is a certain consensus among the various actors about the conditions for successful industrial property investment in Orange County. Those conditions are mainly determined by six themes, namely: property characteristics, location, concepts, development and investment strategies, ownership and risk. Possible considerations for the investor to acquire or dispose an industrial property deal among other things with: size of the building and the land area (building-to-land area or floor area ratio (FAR), number of units within the property and unit sizes, amount of office space, age of the property, absorption in the market, parking facilities, possible conversions, available amenities, buyer financing et cetera. From the investor’s point of view there are certain advantages and disadvantages to invest in industrial real estate products in general and to invest in the O.C. industrial market particularly (ULI, 2001).

<b>Industrial property in Orange County, CA</b>	<b>Positive +</b>	<b>Neutral 0</b>	<b>Negative -</b>
<i>Property Characteristics</i>	<ul style="list-style-type: none"> <li>▪ Functional products</li> <li>▪ Flexibility for different operations</li> <li>▪ Little maintenance</li> <li>▪ Few capital improvement expenditures</li> <li>▪ Low physical depreciation</li> <li>▪ Long-term leases</li> <li>▪ Triple net leases (NNN) are common</li> <li>▪ Relatively high occupancy levels</li> </ul>	<ul style="list-style-type: none"> <li>▪ Relatively high single-tenant percentage (compared to office and retail)</li> <li>▪ Build-to-suit leases</li> <li>▪ Not easily marketable products</li> <li>▪ Replacement cost level of rent currently not high enough to support new developments</li> <li>▪ Little amount of industrial product on the market</li> </ul>	<ul style="list-style-type: none"> <li>▪ Typical illiquid properties</li> <li>▪ Many older buildings (63% &lt; 1980)</li> <li>▪ Too many industrial properties with office space</li> <li>▪ Relatively low rents per square foot (compared to office and retail)</li> </ul>



	<ul style="list-style-type: none"> <li>▪ High tenant retention</li> <li>▪ Stable cash flows</li> <li>▪ Low volatility</li> <li>▪ Demand for multi-tenant units (O.C. = small business econ.)</li> </ul>		
<i>Location</i>	<ul style="list-style-type: none"> <li>▪ Diverse economic base in O.C.</li> <li>▪ Large segmentation of business parks</li> <li>▪ Access to the O.C. freeway systems (and thus visibility)</li> <li>▪ Proximity to the L.A. / Long Beach port</li> <li>▪ O.C has safe cities and good amenities</li> </ul>	<ul style="list-style-type: none"> <li>▪ Very (zoned) land-constrained market</li> <li>▪ Distance to operative and executive labor varies</li> </ul>	<ul style="list-style-type: none"> <li>▪ Few development sites available (low coverage)</li> <li>▪ High land prices for a suburban location</li> <li>▪ High cost of living</li> </ul>
<i>Concepts</i>	<ul style="list-style-type: none"> <li>▪ Wide array of high quality industrial building (categories) and parks in O.C.</li> <li>▪ Especially multi-tenant 'incubator' units are successful</li> <li>▪ Attention for tenants, customer service and marketing</li> </ul>	<ul style="list-style-type: none"> <li>▪ Focus on building characteristics instead of on concepts</li> </ul>	<ul style="list-style-type: none"> <li>▪ Little attention for landscaping in the industrial segment</li> <li>▪ Aesthetic aspects are mandated by municipalities</li> </ul>
<i>Development &amp; Investment Strategies</i>	<ul style="list-style-type: none"> <li>▪ Investors try to acquire well-located industrial products &amp; transportation access</li> <li>▪ Investors focus on flex properties with tenant mix and multiple uses</li> <li>▪ Leased product with credit and term is vital for cash flows</li> <li>▪ Good relationships with local brokers and lenders are crucial to locate and acquire properties</li> <li>▪ Having a property management service</li> </ul>	<ul style="list-style-type: none"> <li>▪ Timing: to buy low and hold is hard in the O.C. market</li> <li>▪ Companies (REITs) that are structured conservatively (low debt) are able to put themselves in a preferred position by making up refinancing gaps for competitors</li> </ul>	<ul style="list-style-type: none"> <li>▪ Current high cost of capital makes it difficult for high-levered companies to develop or invest</li> </ul>

	to maintain quality		
<i>Ownership</i>	<ul style="list-style-type: none"> <li>▪ Full service real estate companies developing for their own portfolios</li> <li>▪ REIT structure as mutual fund form of ownership simplifies widespread investing in industrial property</li> <li>▪ REIT investments increase liquidity of industrial property</li> <li>▪ Large amount of institutional capital in the form of trusts/corporations in O.C.</li> <li>▪ Joint ventures as vehicles for local developers and institutional partners taking the legal form of LLCs and limited partnerships</li> </ul>	<ul style="list-style-type: none"> <li>▪ Listed REITs are influenced by capital market performances</li> <li>▪ Industrial REIT returns are a function of the economy (e.g. export)</li> <li>▪ Institutional actors that want to retain full ownership hire developers for fees</li> </ul>	<ul style="list-style-type: none"> <li>▪ Small developers cannot co-invest because their current capital is limited, a new form of joint venture is needed</li> <li>▪ Significant equity is presently needed to develop or invest in industrial property because of the high cost of capital</li> </ul>
<i>Risk</i>	<ul style="list-style-type: none"> <li>▪ While demand in the O.C. industrial space market has decreased, demand in the asset market has not declined</li> <li>▪ Higher perceived risks compensated by scarcity premium local investors are willing to pay</li> <li>▪ No excessive overbuilding because of faster reaction time than in other property segments</li> <li>▪ Lease renewal rates have been high during most recent economic periods</li> </ul>	<ul style="list-style-type: none"> <li>▪ Space demand has not been terribly volatile in the past</li> <li>▪ Dependence on a strong market and a strong economy</li> <li>▪ Build-to-suit activity i.s.o. speculation</li> </ul>	<ul style="list-style-type: none"> <li>▪ Declining economic and business conditions in recent years lead to tenant default and loan maturity problems</li> <li>▪ Increasing vacancy and a downward trend in rents in recent years</li> <li>▪ Industrial cap rates are slightly on the rise because of lower growth expectations</li> <li>▪ Dependence on tenants financial health</li> <li>▪ Relatively old real estate stock with some non-functional and obsolescent industrial products</li> </ul>

### 6.3 Successful Practices from Orange County for The Netherlands

Now that it is has become clear what the reasons are that industrial real estate is an attractive investment category in the USA in general and in Orange County specifically, and now that has been described what the positive and negative conditions for industrial property investment are, it is time to take the next step to project the outcomes from Orange County on The Netherlands and assess whether or not these outcomes can be applied to a different market with a different investment context. By having the results tested by an expert panel of three Dutch industrial real estate and investment experts from the University of Groningen, it can be assessed in what ways Dutch industrial investors and developers can benefit from elements of the situation in Orange County. Hereafter, six statements that are derived from the previous chapters are discussed. The statements try to describe conditions that will increase the attractiveness of industrial buildings as investment assets in The Netherlands.

Statement	Agree +	Neutral 0	Disagree -
<p>1. Industrial buildings or units have to be standardized rather than built-to-suit. In this case industrial products are more functional, suited for multiple uses and consequently better marketable. Moreover industrial units have to be suitable for multiple tenants simultaneously, thus lowering vacancy risk. Manufacturing and warehouse/distribution facilities are ideally 3,000 m<sup>2</sup> or below and flex properties are ideally 750 m<sup>2</sup> or less.</p>			
	X		
<p>Expert motivation: <i>Industrial real estate has to be standardized to stimulate transformation and reuse of existing properties. However, a significant part of the industrial stock in The Netherlands is unmarketable because of very specific tenant requirements. Eventually, it is demand in the (space) market that determines what types of buildings are developed. It is true that standard building sizes expand the possibilities for multiple uses. In this changing economy products become smaller, distribution systems improve and this leads to more possibilities for uniform buildings. Although Dutch investors have traditionally avoided the warehouse and distribution segment, they have performed well showing attractive returns. Risks were assessed to high, because of that investors have been able to acquire properties for high yields. Eventually annualized total returns in The Netherlands over the last ten years were 10.4%.</i></p>			
<p>2. For industrial property investment more attention is required for landscaping and design because tenants and their employees should enjoy the environments they work in. Moreover developers and investors should meet the tenants' needs. Business parks need to offer several retail amenities, have to be visible and need access to freeway systems and/or (air)ports.</p>			
	X	X	
<p>Expert motivation: <i>It depends on the property type in which is invested. Attention for the working</i></p>			

*environment is relevant, but only for specific concepts. It applies to companies that want to attract highly educated employees who might prefer to work in an attractive environment. In the past, there has been too little attention for public space. To avoid vacancy and obsolescence landscaping and design can be important, if this is sustainably maintained. However, some industrial uses (e.g. warehousing) require only few employees, although they do need a lot of space. Those uses simply do not have the basis for attractive building designs or retail amenities, because there are simply not enough people to support them.*

3. Local and regional authorities – in combination with developers – should provide a regional business park segmentation. Tenants with various backgrounds specialized in different activities can then be maintained for a defined market. For example logistic parks, research parks, technology parks and corporate parks should all be available for potential tenants.

		X	
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*Expert motivation: A regional business park segmentation in The Netherlands might be a good initiative. However, what is more important is that there is a certain business park quality level. Once that has been achieved a park can be branded and classified, for example as a logistics and distribution park or as a science park. With this, regional adjustment is crucial. Instead of segmentation ‘dynamic zoning’ might be more adequate. Zoning cannot be rigid because uses and functions can fade. Rigid business park segmentations can lead to vacancy of space on one specific location and to scarcity of space on the other. Moreover, the concept of a business park as a high-quality location has not been successful in The Netherlands in the past. For industrial uses those locations were generally too expensive. Besides that there were so many other opportunities for businesses that the added value of the business park concept did not come out. Segmentations and themes might work as marketing strategies, yet there is so much supply of land and competition in The Netherlands that it is very hard for developers to distinguish their projects and be successful.*

4. Local and regional authorities should create (zoned industrial) land scarcity, after which land prices will rise to a certain level. Property values will consequently rise as well. Tenants are less likely to vacate – since this is costly – and will invest money in their current space. This higher tenant retention leads to more stable and more predictable returns for the investor.

	X		
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*Expert motivation: Land scarcity is a vital condition for the industrial product to become an attractive investment category in The Netherlands. It will lead to a reduction in the amount of tenant migrations and finally to higher residual values of industrial properties. It is questionable if tenants will invest money in the spaces they lease, since – in The Netherlands – this is a task of the owner. Currently there are too many business locations in The Netherlands. This oversupply is created by excessive competition between municipalities that try to attract businesses by offering cheap (zoned) land. Those municipalities should be controlled by regional authorities and land scarcity should be implemented at*

<i>the regional scale.</i>			
5. Rental leases (triple net leases, NNN) for industrial property should be introduced for a term of at least five years. When future cash flows are predictable and guaranteed investors can improve customer service and property management. Leasing industrial space will then become more attractive for users than owning industrial space (since this is not their core business).			
	X		
Expert motivation: <i>It is already common in the industrial segment in The Netherlands that leases are made for a period of five years plus an option for another five years. Yet, triple net leases are unusual in The Netherlands. (International) tenants will probably move to other European countries when they suddenly have to pay the investor fees for maintenance, taxes and insurance. Because of this, market rents are incomparable. in The Netherlands industrial rents are relatively low and maintenance is already included. In the United Kingdom industrial leases can be traded between investors. By applying this, there is flexibility for the tenant and long-term stability for the investor.</i>			
6. REIT structures for industrial developers and investors have to be stimulated by the central government. REITs will attract more institutional capital inflow into the industrial property market because of its transparency and liquidity. REITs can subsequently operate in joint ventures with small developers and investors – with local market knowledge – that operate in defined local markets.			
		X	
Expert motivation: <i>The industrial asset market in The Netherlands is – in contrary to the space market – too small. For the most part the industrial property stock is owner-occupied. Only when the attractiveness for end-users to rent property increases, REITs (or FBIs in The Netherlands) will enter this market. Currently, the industrial product is not a solid investment opportunity. First property characteristics and market conditions have to change. The entry of REITs in this segment can lead to more transparency and liquidity of the market, however, stimulation by the central government will probably not be effective since REITs will only invest in industrial properties if the level of risk lowers.</i>			

#### **6.4 Chapter Summary**

The findings in this chapter have built on the previous chapters and have made clear what the positive and negative conditions are for industrial property investments in Orange County, California. What has become evident is that the ‘successful practices’ of investing in the industrial segment in Orange County cannot bluntly be applied to The Netherlands. In the next chapter the conclusions of this thesis are written down and the recommendations for The Netherlands using the expert panel motivation are formulated.

## Chapter 7 Conclusions and Recommendations

### 7.1 Introduction

This final chapter sums up the findings of this report and consequently reflects on the results. In this way the following research question will be answered.

*What are the reasons that, contrary to the Netherlands, industrial property is an attractive investment category in the USA? What are the success factors and what can Dutch real estate investors and developers learn from the situation in Orange County, California?*

First the conclusions why industrial property is an attractive investment category in the USA and Orange County are formulated, then recommendations about the success factors of industrial property investment in Orange County applied to investors and developers in The Netherlands are defined. Finally, a synthesis of the methodology, research, analysis and results is covered.

### 7.2 Conclusions

The industrial real estate segment can be subdivided into activities like production, storage, distribution and research & development which are accommodated in three main building types: *manufacturing, warehouse and flex*. The industrial property sector of Los Angeles and Orange County is the largest regional market in the United States with a total stock of almost 920 million square feet (85 million square meters) of industrial space. Industrial real estate does not only have a function as a factor of production, but also as an investment opportunity which can generate income (i.e. rent).

Orange County has a clearly distinct space (or rental) and asset (or property) market for industrial real estate which is a criterion for the existence of an investment market. On the one hand there is the market for the usage of industrial property. Space is demanded by users or occupiers of industrial buildings (i.e. companies) and space is supplied by landlords (i.e. investors or developers). On the other hand there is the market for ownership of industrial property. Industrial assets make claims to future cash flows (i.e. rents) and are demanded as well as supplied by investors or developers. The attractiveness and thus the market value of an industrial real estate asset differ in time depending on the capitalization rate investors require. This capitalization rate is the property earnings divided by the property asset value and is determined by capital investment supply and demand in the asset market based on three factors:

- *Opportunity cost of capital; growth expectations and risk.*

In the Orange County industrial property market average asking lease rates are currently decreasing, which directly correlates to the increase in vacant and available space coming on line. When local and national economies are declining, demand in the industrial space market is likely to drop as well.

Consequently, industrial property 'cap rates' are slightly on the rise because of the lower growth expectations in the space market and thus higher perceived risk by investors. Rising cap rates lead to lower industrial property market values. The higher perceived risks associated with industrial property then lead to higher required returns by (equity) investors like REITs, because risk and return are positively correlated. The higher required returns than in recent years make it difficult for local developers to get good deals and projects. Lower growth expectations and higher perceived risk by investors make industrial property a less attractive investment. However, industrial buildings in Orange County are still desired because they are assets assessed to be relatively safe. Orange County is a (zoned industrial) land-constrained market with few development sites available. This is why there is not a large amount of industrial property supply on the market; investors who own industrial property in Orange County do not typically sell, thereby preventing the cap rates to rise explosively during the recent economic turmoil. Also the long-run marginal cost of supplying additional space to the market in Orange County is currently higher than the rents that can be generated in the space market. The replacement cost level of rent or long-run equilibrium rent is currently not high enough to support new construction in the development industry. There is a notable difference between the O.C. industrial space and asset market. Whereas demand in the space market has declined (because of a decrease in volume of production and consequently employment of the local economic base), demand in the asset market on the other hand has not collapsed. Despite decreasing cash flows, property values and thus total returns, the industrial product is still considered a desirable asset by investors. Apparently the opportunity cost of capital (the rate of return that investors could earn in other capital markets) is lower than the expected returns on industrial property in Orange County. Moreover, the long-term confidence that the market will stabilize is intact.

*Property characteristics* form the main reason why industrial buildings are popular assets throughout Orange County. In general, industrial products are functional and provide flexibility for different operations. Most of these buildings are shells without much internal building improvements; they tend to require little maintenance and few capital improvement expenditures. Therefore, there is less physical depreciation and lower capital expenditures than on other types of commercial real estate. Because of the lack of speculative building – and consequently overbuilding – occupancy levels for industrial properties in the United States have generally been higher than those for other types of commercial property. This has meant more stable and predictable cash flows for owners and thus lower volatility. Other considerations that stimulate industrial property investment are high tenant retention and long-term lease arrangements (usually 3-5 year triple net leases, NNN). Orange County is not considered a 'big box' market, small warehouse/distribution space with dock loading (5,000 to 15,000 f<sup>2</sup> or 450 to 1,400 m<sup>2</sup> tenant sizes) is a more common investment asset in Orange County. Specifically, multi-tenant industrial (tenant sizes 1,000 to 5,000 f<sup>2</sup> or 90 to 450 m<sup>2</sup>) flex units are considered to be in demand. The reason for this is that the small business economy is the heart of

Orange County's economic and export base. These businesses desire flexible industrial products for activities like R&D, storage, office, labs, light manufacturing and even retail. Maximum sizes in Orange County are 30,000 f<sup>2</sup> (2,750 m<sup>2</sup>) for manufacturing and warehouse objects and 8,000 f<sup>2</sup> (750 m<sup>2</sup>) for flex properties. Disadvantages of the industrial product are that they are often built-to-suit, consequently not easily marketable and finally illiquid. This applies more to manufacturing facilities than to flex properties. Other negative considerations are that too many of the industrial properties in Orange County are equipped with office space; however these buildings generate relatively low rents per square foot compared to pure office properties. Finally the relatively high single-tenant percentage in the industrial market increases vacancy risks for the investor.

*Location* is another reason why industrial real estate is an attractive investment category in Orange County. The Los Angeles/Long Beach ports are situated adjacent to the L.A./O.C. border and generate flows of goods which are stored or processed in Orange County. Moreover, Orange County has a very diverse economic base driven by a wide range of industries that require industrial buildings to accommodate their businesses. The market offers a large segmentation of business parks – for different uses and different tenants – with access to the abundance of freeway systems. Finally Orange County has safe cities with a wide array of amenities (i.e. retail, educational, cultural and recreational facilities) which is important for potential tenants. Disadvantages are the relatively high cost of living. Furthermore, there are only few development sites available leading to relatively high industrial land prices for a suburban location.

*Concepts* are not decisive for most industrial investment decisions. O.C. industrial property investors tend to focus on building characteristics rather than on spatial building or business park concepts. Although a segmentation ranging from warehouse and distribution parks to research, technology, incubator and corporate parks is offered in Orange County, investors mainly look at individual building design and functionality, visibility, freeway access and adequate parking. Less attention is given to innovation in the field of landscaping, themes, branding, positioning and marketing.

*Development and investment strategies* in Orange County are to focus on flex properties with good transportation access, tenant mix and multiple uses. This type of industrial product is in demand and offers the possibility to spread risk. Moreover, actors try to develop or invest in projects that are leased and have credit and term. Other strategies are to build good relationships with local brokers and lenders to locate and acquire properties. Relationships with major industrial space users are enforced by sale-leaseback transactions and providing customer services such as property management. The current high cost of capital makes it difficult for small developers and investors with limited capital to compete with larger companies such as REITs that are able to put themselves in a preferred position.

*Ownership* structures of industrial property (ventures) are diverse in Orange County. There is a lot of institutional ownership by pension funds and insurance companies investing through real estate



investment trusts (REITs) having the legal form of a corporation or business trust. These REITs are a mutual fund form of ownership that offer shares in industrial properties, therefore increasing liquidity and transparency of investing. Some of these REITs operate as full service real estate companies that develop properties for their own portfolios. Other REITs operate in joint ventures with local developers, by which capital is brought in by the REIT and market knowledge by the local developer. These joint ventures take the legal form of limited partnerships or limited liability companies (LLCs). Listed REITs are influenced by capital market performances (e.g. volatility of interest rates or the stock exchange) which can be positive or negative. Small developers have difficulties to bring in significant equity, moreover the current cost of capital are high. Therefore a new form of joint venture is needed in which developers work for fees paid by the investor.

*Risk* in the industrial property market is determined by supply and demand in the space market as well as by spatial trends, policies and regulations. These factors influence location, timing, product, price and contract of (investing in) an individual industrial building. Although local actors assess industrial products in Orange County to be relatively safe investments, there are specific risks. With regard to location and price these are the high cost of living and land prices that are relatively high for a suburban location like Orange County. One of the reasons for this is the role of the Irvine Company as the largest landowner in Orange County, that controls and issues land parcels. Taking into account timing and term of investment, there is currently increasing vacancy and a downward trend in rents. Therefore the main risk today is tenant default and loan maturity. Regarding product, risks are the relatively old real estate stock with some non-functional and obsolescent industrial products. Non-functional means that the properties are either too big (> 30.000 f<sup>2</sup>) or too small (< 1.000 f<sup>2</sup>), do not have loading dock doors, trailer storage, sufficient clearance height (i.e 24 feet) or truck court radius (i.e. 150 feet).

### **7.3 Recommendations**

#### *Property Characteristics*

For industrial real estate to become an attractive investment asset category in The Netherlands the Dutch market and the product have to undergo changes. Industrial buildings and units have to be standardized rather than built-to-suit. Although a significant part of the industrial stock in The Netherlands is unmarketable because of specific tenant requirements, standardized products are more functional and suitable for different operations for multiple tenants simultaneously. This is enhanced by the fact that in the changing modern economy products become smaller and distribution systems improve which leads to more possibilities for uniform buildings. Even though demand determines what types of buildings are developed, when the bulk of the stock is standardized more investors will enter the industrial segment. This way, a distinct industrial space and asset market are created and

leasing will become more attractive for users than owning industrial buildings. Manufacturing and warehouse properties are ideally 3,000 m<sup>2</sup> or less, flex facilities are ideally 750 m<sup>2</sup> or less and can be subdivided into smaller units.

### *Location*

Industrial property locations need to represent value to become attractive investment objects. Depending on the type of property (i.e. manufacturing, warehouse or flex) transportation access, visibility and adequate parking will raise property values. However, land values are even more important because they directly influence the amount of tenant migrations. When land values are low, it is often more profitable for tenants and owner-users to move to another location than to invest in their current properties. Therefore, land scarcity has to be created for zoned industrial locations. Land prices will then rise to a certain level and property values will consequently rise as well. Tenants and owner-users will be less likely to vacate since this is costly. This higher tenant retention leads to more stable and more predictable returns for the investor. Oversupply created by municipalities has to be controlled by regional authorities and land scarcity – leading to higher residual property values – should be implemented at the regional scale. No more new business park locations should be added.

### *Concepts*

Depending on the type of industrial activity, attention for the working environment (e.g. landscaping and design) positively influences the attractiveness of industrial properties as investments. Especially users that want to attract highly educated employees (e.g. in the field of research & development) might prefer to lease space in an attractive environment with several amenities like retail, educational, cultural and recreational facilities that meet the employees' and thus the tenants' needs. For other uses that require only few employees (e.g. storage) landscaping, design and providing amenities is less relevant. Those uses do not have the basis for attractive building design and retail functions because there are simply not enough people to support them. Storage and distribution activities just need functional buildings with good transportation access and require customer services such as property management.

### *Development and Investment Strategies*

It might be important for developers to offer a business park segmentation in The Netherlands. Tenants with various backgrounds specialized in different activities can then be maintained for the Dutch industrial real estate market. Investors can then spread their risks among a mix of tenants and multiple uses. However, more important is that there is a certain business park quality level provided. Once this is achieved parks and locations can be branded and classified, for example as a logistics and distribution park or as a science park. For developers and investors adjustment by regional authorities is crucial to prevent oversupply of a certain type of park. Segmentations and themes might work as

marketing strategies, yet there is too much supply of industrial locations in The Netherlands. Instead of segmentation 'dynamic zoning' might be more adequate. Zoning should not be rigid because uses and functions can fade. Rigid business park segmentations can lead to vacancy of space on one specific location and to scarcity of space on the other.

### *Ownership*

The industrial asset market in The Netherlands is – in contrary to the space market – too small. For the most part the industrial property stock is owner-occupied. Only when the attractiveness for end-users to rent property increases, REITs (or FBIs in The Netherlands) will enter this market. Currently, the industrial product is not a solid investment opportunity. First property characteristics and market conditions have to change. The entry of REITs in this segment leads to more transparency and liquidity of the market; moreover REITs can work in joint ventures (i.e. partnerships) with and provide the capital for developers for the transformation and reuse of existing properties, since no new business park locations should be added to the industrial market.

### *Risk*

The assessment of risk with regard to industrial property influences the required return on investment in the asset market. Risks have been estimated too high in The Netherlands in recent years. Consequently, investors that dared to enter the market were able to get attractive returns because the cash flows were relatively high and stable in relation to the price paid for industrial properties. More investors will enter the industrial segment in The Netherlands if the risk level lowers even more. Long-term leases of at least ten years should then become common practice. When future cash flows are predictable and guaranteed investors can improve customer service and property management. Leasing industrial space will then become more attractive for users than owning industrial space (since this is not their core business). In the United Kingdom industrial leases can be traded between investors. By applying this in The Netherlands, there will be more flexibility for the tenant and long-term stability for the investor.

## **7.4 Synthesis**

With this thesis is strived for new insights in the field of industrial property investment by performing a case study on the Orange County market. There has been attempted to describe and explain the success factors of investing in industrial property by assuming an investor's perspective. By doing so underlying processes are analyzed, and is tried to predict and control those factors that determine the success of the development and the willingness to invest in future industrial property. In the previous paragraphs the research question has been answered. Industrial real estate is an attractive investment category in the USA mainly because of its specific property characteristics, in Orange County this is enhanced by favorable location factors. The successful practices of investing in industrial property in

Orange County are analyzed and described; recommendations for Dutch real estate investors and developers are displayed and distinguished by property characteristics, location, concepts, development and investment strategies, ownership and risk. The objective to draw conclusions about the characteristics for industrial property to become an attractive investment category in The Netherlands is accomplished. The scientific relevance of this thesis lies in gaining knowledge of how future value and therefore sustainability, and thus attractiveness as an investment, of industrial property can be influenced.

This explorative research is implemented with the help of literature reviews, GIS analysis, fieldwork in the form of in-depth interviews, and outcomes tested by a Dutch expert panel. The research has principally been qualitative, but is grounded with quantitative data. A critical remark is that eight performed interviews is a small number to make powerful statements. However, there were evident correlations in the investor behavior with regard to industrial real estate in Orange County. A comment on the outcomes is that O.C. investors focus too much on property characteristics and location. There should be more attention for innovative concepts and strategies for the industrial product to evolve. Currently developers and investors perform a 'trick' that has been successful in previous decades. They tend to focus on tenant demand in the space market and avoid risks as much as possible. This seems to be rational, but it could be useful to have a more forward-looking view and focus for example on sustainable building concepts to distinguish themselves from competitors instead of copying each others behavior. Although investors have a long-term vision on individual properties they are directed by short-term events in the rental and capital markets. Capitalization rates determined by fundamentals like supply and demand, production levels and job growth, policies and regulations, and inflation and interest rates are the main investment drivers. Unfortunately these fundamentals are constantly in flux, which is eventually the key element of investing: managing uncertainty.

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## **Appendix A Interview Questions**

### **In-depth interview**

*This interview is being conducted to gain information about industrial real estate investments in Orange County. The results will only be used for a master thesis in Real estate Studies at the University of Groningen, the Netherlands. Your privacy will be assured.*

### **Research question**

*What are the reasons that industrial real estate can be an attractive investment category and what are the success factors considered by real estate investors and developers from Orange County?*

### **Interview questions**

1. What makes industrial property for you and your company attractive to develop or invest in, compared to other real estate categories?
2. What are the specific types of industrial property (f.e. warehouse, distribution, manufacturing, R&D, flex) you develop or invest in and why?
3. What are specific requirements for industrial buildings from your point of view?
4. What kinds of risks exist concerning industrial property in Orange County?
5. What are the characteristics of successful sites or locations for industrial property youyou're your company develop or invest in?
6. What are successful industrial real estate concepts (f.e. concerning property type/characteristics, function, landscaping and design, marketing strategies, theme) in Orange County and why?
7. Are there any specific strategies (f.e. considering timing, actors/joint ventures, property management) used by your company in the process of realizing or acquiring industrial property?
8. Are there any specific ownership structures (f.e. partnerships) for your property and why?



## Appendix B List of Interviewed and Consulted Persons

<u>Name and Function</u>	<u>Company Name</u>	<u>Location</u>
1. Paul Jones, Senior Associate	CB Richard Ellis Investment Properties	Newport Beach
2. John O'Brien, President	Guthrie Development Co.	Irvine
3. Bryan Bentrott, Executive Vice President	Master Development Corporation	Newport Beach
4. T. Patrick Maloney, First Vice President	Prologis	Los Angeles
5. Ross Parkin, Assistant Vice President	PS Business Parks, Inc.	Glendale
6. Jim Biram, General Partner and Manager	Resco Self Storage LLC.	Newport Beach
7. Dave Bueche, Senior Vice President	Sperry Van Ness Commercial RE Advisors	Irvine
8. Todd P. Miller, Vice President	Western States Technologies, Inc.	Irvine

### Expert Panel

1. Dr. Henk Brouwer, Real Estate Investment	University of Groningen	The Netherlands
2. Prof. dr. Jacques van Dinteren, Planning, Development and Management of Business and Industrial Locations	University of Groningen	The Netherlands
3. Prof. dr. ir. Arno van der Vlist, Real Estate Development	University of Groningen	The Netherlands

## **Appendix C Interview Summaries**

The respondents' interview summaries are written down in a random order to guarantee confidentiality. There is no connection with the order in 'Appendix A List of Interviewed Persons'.

### **Interview A**

“Industrial Properties, specifically multi-tenant industrial units (1,200 to 4,500 f<sup>2</sup>) are the very heart of the small business economy in Southern California, and specifically in Orange County where our properties are located. “These are like Corn Flakes: they aren’t glamorous, but they always taste the same”. Generally multi-tenant properties have less risk of vacancy loss and the cost of improvements when a tenant vacates or a lease rolls over are minimal. There are more costs associated with turnover of space when a tenant vacates than with Self Storage, but it is much less than for office. Good, convenient locations to major freeways and good local roads, within a short drive of residential developments are crucial. Most small business owners want to be within five miles of their home. The general state of the economy is the biggest risk at this time, as the small businesses depend very heavily on a strong market. Most of the businesses are either service related, such as small contractors, some are small manufacturers, and some are distributors. All of them need a market for their goods or services. We desire properties that are within thirty miles of our offices. Our philosophy is that if it is farther away than that, we will not spend enough time actively managing them and dealing with the occasional problems. We also maintain our properties at a higher standard than many owners, with the idea that “the most beautiful girl at the dance” is asked for dances more often. Tenants usually recognize the good value in a well maintained property and usually are willing to pay more for it. Projects that have good visibility, road access and have wide driveways and adequate parking get higher rents, higher occupancies, and higher values. We tend to look for properties that have been undermanaged, that have deferred maintenance that we can add value to through remodeling, landscaping, better leasing and management. Our properties are owned in limited partnerships or LLC’s. This provides legal protections to the investors or owners”.

### **Interview B**

“The most important reasons to invest in industrial property are the relatively low construction costs per square foot, less costs to maintain than other property segments, lower tenant improvements costs than office, and finally industrial product are not as volatile as retail. Especially incubator industrial units (flex) in multi-tenant parks perform well in Orange County for much the same reasons as mentioned before. Important requirements are clear height, power capacity and a good location. The main risks for industrial real estate are the current market conditions. In this local market there is increasing vacancy and a downward trend in rents. However, there is still demand for these types of buildings because all of the industrial property in Orange County is well located, that is the main

success factor. Regarding concepts attractive design, standard sizes of units and low maintenance standards are decisive. There are no particular investment strategies, not really any one specific requirement other than tenant mix (flex/multi-tenant) and cap rate (income approach). Concerning ownership LLC's predominate because of legal protections and mitigating financial risks".

### Interview C

"The Orange County industrial market is driven by the Los Angeles/Long Beach Ports. Industrial Real Estate is a very stable product type compared to office and retail. Many investors that own industrial products tend to not sell it because it offers a predictable cash flow and does not have the high tenant improvement dollars that office has. This is coming more and more apparent today with what we call the 'scarcity premium'. The Orange County industrial market consists of warehouse/distribution, manufacturing, and R&D (flex). Orange County is not considered a big box market like the Inland Empire. The majority of the larger warehouse/distribution buildings are located in North Orange County and South Orange County. The Airport Area is mostly manufacturing and R&D. Orange County consists of mostly 1970s and 1980s vintage buildings. The newer buildings are located in South Orange County. Some of the important requirements would be clear height, truck court radius, and trailer storage. There are inherent risks associated with any product type in real estate. Most investors would agree that owning industrial product in Orange County is one of the safest places to be (not office or retail). This is why there is not a large amount of industrial product on the market – "if you own it, you don't typically sell it". Orange County is a very land constrained market and there are very few development sites available. If there is land for development it is because it is a re-development of a past site/project. Proximity to the ports, as well as access to the abundance of freeway systems is very important to a successful site. Investors want to acquire well located industrial product basically anywhere in Orange County. Leased product with credit and term is very important to investors (= cash flow). There is a lot of institutional ownership (Pension Funds, REITS, Life Companies) throughout Orange County. These institutional ownerships sometimes have joint venture structures with a local operating partner. There are also a lot of private owners (wealthy families) of multi-tenant business parks. Lastly, there are a lot of owner/users in Orange County".

### Interview D

"Historically, the industrial sector has had less peaks and valleys in the cycle mainly due to the functionality of the industrial product. While some aspects of the buildings have adapted and changed with manufacturing and distribution technology and characteristics have changed, an obsolete distribution building still has use as a manufacturing building. As opposed to say retail, where the model of the retail sales changes every five to ten years thus changing the real estate platform completely. We develop and invest in mostly small industrial flex product because most of the small businesses that make up the majority of the businesses in Southern California. Also with the scarcity

of land in California, the price per foot required to develop work better at the price per foot sales price of the smaller product. For our typical product, the small unit, we look for excess parking for additional office improvements. Also we add amenities like kitchen appliances and higher end finishes attracting those that spend more time at work than home. Really with any industrial product you must look at how the end-user will use the building and design from there. It is not always a function of coverage and return. The best-designed product will move first and last, while poorly conceived projects sit. Today the risks are simply return on investment. The income approach has not worked in Southern California in decades for development and sales have been what was necessary to develop properties at today's land prices. I think that is changing and will make for a healthier market in the future, but it will hit land values very hard in the near-term. For our product type we track the high-end executive housing mostly along the coast. The decision-maker will more likely choose a location near his home verse the least expensive location. Visibility is always a plus and access to transportation is something we always consider. Most aesthetic characteristics are mandated by the Municipalities, i.e. landscaping, setback, etc., but our objective is to not be caught up in the latest design gimmicks like stonework or trendy colors. We attempt to design and build timeless buildings that merely be updating paint color, the project then remains current. Our concept is to design sculptures that people work in. I think we can date most projects that followed trendy design aesthetics and in time look dated. We develop relationships with brokers and lenders to locate and acquire properties. We do have a property management component to manage the projects we own and develop in order to maintain the projects an advertisement to sellers and Municipalities as to our resume. Ownership structures depend on the project specifically because everyone is a little different due to the partners involved. We have used the Limited Liability Company (LLC) as our primary structure. This provides some additional protections to the individual members from liability and allows some flexibility for different tax structure on the exit for the individual members”.

### Interview E

“For us, industrial property is an attractive asset class for two reasons: the low cost to re-tenant and the good consistent demand for quality buildings. We focus on the warehouse/distribution segment because this has the lowest cost of capital and good demand. The main requirements for these properties are available dock doors, yard area, clearance height and a good location. Important risks in the Orange County market are that there are too many industrial properties with office space, buildings with non-functional loading facilities and in general a lot of older buildings. All this can result in difficulties to re-lease and high costs to retrofit. Successful sites have a good location near major freeways, this together with the building characteristics mentioned before is the most important. Orange County tends to be more of a high quality location with higher percentages of office and more tech and manufacturing space. For this reason Orange County is not my preferred investment location. I think that true distribution space is a better investment and fares well in Orange County if priced and

valued correctly. Often times Orange County is too expensive to make distribution work. We do try to buy low and hold the properties”.

### Interview F

“The U.S. economy is a service based consumer economy, so there is a need for places to warehouse goods, embedded in demand for industrial real estate. This asset class is attractive compared to other product types because it is less capital intensive to run the real estate. There are not a whole lot of tenant improvement dollars, leasing commissions, and in general not a whole lot of capital improvement dollars to the property. It is a box that can be unplugged and there is demand for that type of space. We also like the flex type of space in addition to warehouses. We like that type of real estate because it caters to small businesses. That is why we capture that kind of demand. We like multi-tenant industrial and spaces that break down 25,000 f<sup>2</sup> and below. They are a cross-segment of warehouse/distribution and manufacturing. You do not know exactly what tenant demand eventually is going to end up in the space, but we do invest in all three segments. Specific requirements for the warehouse/distribution/manufacturing segment are: 30,000 f<sup>2</sup> surface and below, 24 feet clear height, fire sprinkler systems, it needs to have maneuverability and truck court radius of 150 feet. Talking about R&D flex component, we want spaces that brake down to 8,000 f<sup>2</sup> and less. We like rectangular buildings that you can slice and dice and be flexible with what tenants are coming into our projects. Generally: 30.000 f<sup>2</sup> or less, 10 percent office and dock loading. In O.C. the higher costs of lifestyle and living form a great risk. The types of business looking for industrial will look for cheaper alternatives: the Inland Empire, down in San Diego, or up in Altadena or wherever. The risk is that you are pricing out certain types of businesses and you might have a higher and better use for the property than industrial. For O.C. you are best suited to invest in R&D and flex that cater to smaller and growing businesses. That is the demand driver in O.C. where a lot of entrepreneurial types of individuals live. There is still plenty of land in O.C. and it is controlled by The Irvine Company, but there is available land for development out there. Industrial segment in general needs good truck maneuverability, and consequently, ability to get to transportation hubs and nodes; whether it is freeways or ports. The driver is how goods are moved through the area. You want locations that capture that demand. For R&D flex successful locations are those close to executive or decision-making housing and that the spaces are generic and functional. For R&D flex the focus is on tenants that have their own business and want to drive five or ten minutes down the street. There is not a whole lot of landscaping involved in industrial. It just has to look good. What is going to make people successful is being close to your customer base and understanding your tenants and their business. Services are responsiveness to your tenants and providing excellent customer service. Everybody knows that you need to keep their buildings clean, paint them every once in a while and make sure the parking lots look good. But the key component is to stay close to your customers and understand what is driving their businesses. One recent feature is that tenants can pay their rents out with their credit

cards, that is a marketing concept. Investment strategies right now are to target potential competitors that need to rework and recapitalize their portfolios. Talking directly with your competitors and lenders of specific assets if there is going to be a property that they have to let go. So really staying close to each of your markets that you really like and track ownership structures of those properties. Ownership structures, recapitalization, provide preferred equity to make up a refinancing gap, put yourself in a preferred position, you need to be creative in the way you structure your deals because of the current capital shortage. As a REIT our capital structure is perpetual preferred equity. A form of debt but it is not treated as debt and we are the only one that can call it back in. So we only have 2 percent property level debt, 30 percent of this perpetual preferred equity, and the rest is made up with equity. Obviously we set up our entities as single properties so that it does not flow off to the corporation or the limited partners of the company”.

### Interview G

“I like to invest in the industrial segment because of the lower lease turnover costs associated with industrial property, specifically the lower tenant improvement allowances compared to office or retail. In many cases, I only have to paint building interiors and install new carpet. We invest in all industrial classifications varying from 2 percent office to 90 percent office. Blended portfolio wide I average 25 percent office and 75 percent warehouse. I make sure I have enough parking to support the level of office build-out. I like functional properties built in 1985 or newer. Functionality is vital related to parking, clear height, loading, overall design, site plan and glass line. The greatest risk in Orange County is the amount of non-functional product in the market. Moreover, the high loan-to-value percentages are currently a problem. A lot of projects are developed with too much debt. Reasons to invest in Orange County are the good cities to do business in. Many of my properties are in Irvine for example. Irvine is a safe area with good school districts and good housing near good retail amenities. My main investment strategy is to acquire the best properties from my point of view. If I am competing with 15 vacant buildings in my size range, I want my building to be the best located and most functional of any of my competitors. Good relationships with brokers are important because 99% of my acquisitions come from the brokerage community. The most common ownership structure I use is Limited Partnerships”.

### Interview H

“We like industrial because it is hard to replicate, land values plus construction costs do not justify a high return (i.e. 9-10% on an unleveraged basis). The only industrial which has been built in recent years has been for-sale industrial condos or buildings on land which has been owned at a low basis. The condos started out strong but have fallen hard in 2008 and 2009. Industrial projects are nice to own because when tenants vacate the costs to refurbish the space are low. In addition, industrial tenants invest dollars into their space so they are less likely to move around. Office tenants simply

unplug a copier and a fax machine and move to the next best rental deal. We like small space warehouse/distribution space with dock loading (5,000 to 15,000 f<sup>2</sup> tenant sizes) but this type of building is nearly impossible to build in Orange County because the coverage (building area to land area) is low and the rents cannot justify new construction. That leaves incubator multi-tenant (tenant sizes 1,000 to 5,000 f<sup>2</sup>) with grade level loading as our next best product for Orange County. Good industrial buildings are functional (good loading, good clearance, yard area and curb appeal). Location near freeways or major streets is crucial. The main risk today is tenant default and loan maturity. Lots of tenants have either asked for rent reductions or have simply moved out of their space. Our income has decreased accordingly. Not the lender wants the borrower to put in more equity because the loan to value is 80% or greater and this creates a problem. No one wants to put additional equity into a project in the face of declining fundamentals. Our immediate threats are declining rents and declining occupancy. If you add in declining cap rates you have a 'perfect storm' for downward valuations. We like sites that offer good freeway access, and allow us to create a divisible building if we are building in excess of 50,000 f<sup>2</sup> Multi-tenant incubator projects do well in high demographic areas where entrepreneurs live. They form businesses and they want to have a business close to where they live. Our main strategy involves building relationships with brokers who will bring us the best deals and not just any deal. As to our financing structures, we have formed institutional joint ventures with different partners. Today there will need to be a new form of joint venture invented because guys like us do not want to co-invest because our capital is limited. We also want to avoid loan repayment guarantees with lenders. New development will be limited to very small deals or larger deals being done by REITs or major deep pocketed developers and investors who are simply placing money for others and taking no promoted profits. Developers like us will be working for the larger groups once the markets start to recover".