

DUTCH RESIDENTIAL INVESTMENTS

IN EUROPEAN PERSPECTIVE



INITIATED BY



All Rights Reserved
© 2014 Finance Ideas

This information has been obtained from sources believed reliable. We have not verified it and make no guarantee, warranty or representation about it. Any projections, opinions, assumptions or estimates used are for example only and do not represent the current or future performance of the real estate. No part of this work may be reproduced, stored in a retrieval system, or transmitted in any form or by any means, electronic, mechanical, photocopying, microfilming, recording or otherwise, without written permission from the writer.

MANAGEMENT SUMMARY

Commissioned by eight large institutional fund managers of Dutch residential property we analyse the overall performance characteristics of Dutch residential investments in European perspective. Results show that this seems to be the right moment for both national and international institutional investors to take a good look at the Dutch residential property market. This is due to the following aspects:

Residential investments show relatively good performances

There are only six European countries where the weight of residential property in the institutional investors portfolio is of any significance: the Netherlands, Switzerland, France, Germany, Sweden and the United Kingdom. Despite the fact that house prices have declined in most of these countries during the financial crisis, steady income streams have kept total returns for residential investments positive. Dutch residential property investments have on the long term performed reasonably well in comparison to other assets and real estate classes: good return-risk profile, moderate inflation hedge and good portfolio diversification opportunities.

Cross-European investments can offer good portfolio diversification

Although residential investments are primarily domestic, low international correlations between residential property markets

indicate that an international investment strategy would offer good diversification potential, including Dutch residential property. The Netherlands has a long tradition of institutional investments in housing (a 49% weight in the Dutch IPD index, tracked from 1995). Moreover, there are a number of very experienced non-listed funds currently catering mostly Dutch pension funds and insurance companies.

Pricing of residential investments in the Netherlands improved strongly

Since mid 2008 nominal house prices have fallen by approximately 18% in the Netherlands. This was mainly caused by the financial crisis and government reforms in order to restore the balance on the housing market. This price correction suggests that pricing on the Dutch housing market is good at the moment - the balance between house prices and rent levels has nearly reached its long term average. Moreover, Dutch housing supply is very restricted and new construction has fallen dramatically. This could lead to housing shortages over the next decade, and reduces the probability of further price decreases.

Investment opportunities in the Netherlands are growing

The bulk of Dutch rental dwellings is owned by social housing providers and is strictly regulated by the government. These regulated dwellings have high tenant protection

and rent increases based on inflation plus a premium. Only 5% of Dutch households live in non-regulated rental dwellings (335,000 dwellings). This sector is growing and is expected to continue to grow substantially over the next twenty years. This is due to changing policy on the social housing sector and less favourable tax treatment for mortgages.

Institutional investors focus more on the non-regulated market. Currently 55% of their portfolio is non-regulated. This is expected to grow because new residential projects primarily include non-regulated dwellings. Additionally, a growing number of dwellings currently owned by social housing providers will become available to institutional investors. New legislation constrains social housing providers to focus on the regulated rental market and often forces them to sell part of their housing stock to other investors.

OUTLINE

| | |
|--|----------|
| INTRODUCTION | 5 |
| CHAPTER ONE: RESIDENTIAL REAL ESTATE IN THE INVESTORS PORTFOLIO | |
| Good return-risk-ratio and steady income streams | 6 |
| Moderate inflation hedge | 8 |
| Good diversification opportunities | 9 |
| CHAPTER TWO: THE CONDITIONS ON THE DUTCH HOUSING MARKET | |
| Tenant protection and supply regulation | 11 |
| Ownership on the Dutch housing market | 12 |
| Overview of legislation, taxed and subsidies | 13 |
| Residential mortgage debt | 14 |
| The economic situation | 16 |
| CHAPTER THREE: INDICATORS FOR INVESTING IN DUTCH RESIDENTIAL MARKETS ARE POSITIVE | |
| Increasing housing shortage leads to upward pressure on prices | 17 |
| Policy changes restore the balance on the housing market | 18 |
| Balance between house prices and rent levels is restored | 20 |
| The availability of residential investments will grow | 21 |



INTRODUCTION

Eight large institutional fund managers of Dutch residential property have joined forces to inform their existing clients and other investors on the merits of investing in residential properties, both in the Netherlands and in general. Residential property investment is still quite rare, and only six European countries have any tradition in this area: France, Germany, the Netherlands, Sweden, Switzerland, and the United Kingdom. This lack of attention is reflected in the availability of investment research, which focuses predominantly on commercial real estate, and all but neglects residential property investment. This paper aims to fill this gap.

This research paper is the result of a quantitative and qualitative analysis of the performance of residential investments across Europe and an in-depth analysis of the Dutch housing market. Besides that analysis, European institutional investors, experts and academics were interviewed regarding their view on current investment positions, future investment plans, and the role of residential investments in the asset portfolio.

The first chapter of this paper analyzes the performance characteristics of residential investments across Europe. Through analysis of data from the Investment Property Databank (IPD) and the Bank of International Settlements (BIS) the six aforementioned residential investment markets are compared. Also the performance of residential investments in the Netherlands is compared to other assets and to other types of real estate. The paper looks at returns, risk, correlation to inflation and diversification potential, and concludes that residential property investments can play a beneficial role in a portfolio: the return-risk profile is attractive, the diversification potential is substantial, and residential property returns are positively correlated to inflation, especially at longer time horizons.

The second chapter focuses on the current conditions on the Dutch housing market. These conditions need to be taken into account when investments are considered. This includes for example the rental system in the Netherlands, the dominant position of the social

housing providers on the rental market and the economic situation in the Netherlands after the financial crisis. This chapter also provides some perspective on the Dutch mortgage market.

The last chapter shifts the focus towards the investment opportunities that currently exist in the Dutch housing market. New housing construction is very limited, possibly leading to housing shortages in the near future. Due to recently changed legislation the balance on the housing market will be restored. The market has experienced substantial price corrections and continuously increasing rents in recent years. It is also likely that the non-regulated rental market will grow substantially. Because social housing providers are not likely to fulfil this demand, all eyes are on institutional investors.



RESIDENTIAL REAL ESTATE IN THE INVESTOR'S PORTFOLIO

In ALM studies real estate is often seen as one asset class, making no distinction between commercial and residential real estate. The fact that the performances of these types of real estate are different makes this approach questionable. This chapter focuses on the performances of residential real estate in the investor's portfolio with the emphasis on the Dutch market.

Existing research mainly focuses on commercial real estate investments, like the office and retail market. Unfortunately hardly any research is available on the performance of residential real estate investments. One example is the research of Newell and Fischer (2009) on the performances of residential REITs in comparison to other types of real estate and assets in the United States during the period 1994 - 2007. Their results show that residential REITs have a higher return-risk-ratio than other asset types, that it has rather high correlations with other types of real estate, but low correlations with stocks and bonds, suggesting strong mixed-asset diversification potential.

This result is in line with MacKinnon (2008), who finds that housing returns – using the S&P/Case-shiller Composite Index – have negative correlations with returns on other assets, like stocks and bonds. These two papers also show that direct residential investments have outperformed stocks and bonds in terms of risk-adjusted returns. Other research focuses on the inflation-hedging ability of private residential property in the United States, and finds that it is strong (Fama and

Schwert, 1977; Brueggeman et al., 1984).

The lack of research on residential property investments is very much in line with the attention this investment category gets from institutional investors. The national property indices produced by the Investment Property Databank (IPD) are a good indication of this: in most countries, the weight of residential property is either zero or very small. In fact, there are only six European countries with sizeable institutional investments in residential: the Netherlands (IPD index weight 49%), Switzerland (47%), France (12%), Germany (12%), Sweden (12%), and the United Kingdom (4%). This paper therefore focuses on these six European countries.

This chapter aims to investigate the performance and portfolio considerations of residential property investment: capital and income return, return and risk, inflation hedging potential, and diversification (mixed-asset and international). In order to do that we need time series that go back as long as possible for each of the countries we study. It would be optimal to use IPD data consistently for each of them, but most of IPD's data series unfortunately do not go back that far. For example, the Swiss series only go back to 2002. That is why we combine IPD data with house price data from the BIS, which are available from the 1970s. We use the BIS data as a proxy for the capital return for institutional investments in housing. We control whether this approach is justified by calculating the correlation between BIS price changes and the IPD capital

return for the countries for which we have long enough time series. The average correlation is reasonably high and significant: 0.47.

GOOD RETURN-RISK RATIO AND STEADY INCOME STREAMS

Good long-term returns

We first look at the total returns for residential property investments. In comparison to other asset classes we find that residential property investments have reasonably good total returns, accompanied by moderate risks (standard deviation). Dividing the total return by the standard deviation gives us a return-risk ratio which allows us to compare the different asset classes.

Dutch residential property investments in the IPD database have an average annual total return of 8.6%,

FIGURE ONE: COMPARING ASSET CLASSES ●●●●●●●●

| (1977-2012) | Total return | Risk | Return-risk ratio |
|---------------------------------|--------------|-------|-------------------|
| Liquidity ¹ | 5.4% | 2.9% | 1.86 |
| Residential ² | 8.6% | 6.4% | 1.34 |
| Bonds ³ | 8.0% | 7.6% | 1.06 |
| Stocks ⁴ | 11.8% | 21.8% | 0.54 |
| Listed real estate ⁵ | 2.0% | 22.7% | 0.09 |

¹ 3 month Euro deposito

⁴ MSCI Netherlands

² IPD Netherlands

⁵ FTSE EPRA/NAREIT EU (1990-2012)

³ JP Morgan GBI Netherlands 7-10 years

FIGURE TWO: COMPARING REAL ESTATE CLASSES ●●●●●●●●

| | Total return | Risk | Return-risk ratio |
|--------------------------|--------------|------|-------------------|
| Retail ¹ | 9.0% | 5.0% | 1.79 |
| Residential ¹ | 8.6% | 6.4% | 1.34 |
| Office ¹ | 7.0% | 6.4% | 1.10 |

¹ IPD Netherlands (1977-2012)

a standard deviation of 6.4% and a return-risk ratio of 1.34. This means that residential investments outperformed stock, bonds and listed real estate in the Netherlands. Only liquidities show a better return-risk ratio of 1.86.

In comparison to other Dutch real estate classes, the return-risk ratio of non-listed residential investments are moderate, outperforming office investments. Retail investments show a higher return-risk ratio.

We also compare total returns and standard deviations of residential property in the six European countries. Although yearly returns for all countries have been good over the past ten years, major differences exist. Total returns for residential investments in France, Sweden and the United Kingdom stand out with an average of just under 10%. Total returns for Dutch, German and Swiss residential investments are lower (between 5% and 6%), but are still reasonably good.

We look at the risk of these assets by calculating the standard deviation of the quarterly house prices indices reported by the Bank for International Settlements (BIS). Figure three shows that the high returns in the United Kingdom, France and Sweden are accompanied by relatively high levels of volatility. Especially the return-risk ratios for Swiss and German residential investments stand out with 3.85 and 3.48, respectively, over the past ten years. For the Netherlands the return-risk ratio (1.04) was lowest of all comparable countries. This is mainly due to a substantial price

correction over the past years. In response to the effects of the financial crisis the Dutch government has introduced some major policy changes which will help to restore the balance on the housing market. Chapter three elaborates further on the different policy changes and the price correction on the Dutch housing market.

To gauge the risk on any investment, one has to look further than just the standard deviation of returns. An

alternative risk measure is the occurrence of negative returns. Figure four shows that nominal total returns on residential investments in France, Germany and Switzerland have not been negative for any year during the past ten years. For Sweden, the United Kingdom and the Netherlands negative annual return occurred only once during the period 2003-2012. This illustrates that returns for residential investments are relatively stable and that risks are limited.

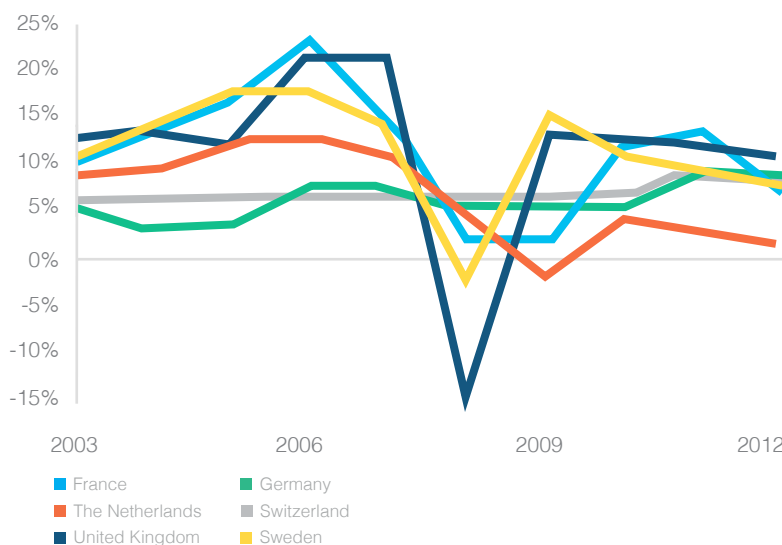
FIGURE THREE: COMPARING EUROPEAN RESIDENTIAL MARKETS

| | Total return ¹ | Risk ² | Return-risk ratio |
|-----------------|---------------------------|-------------------|-------------------|
| Switzerland | 5.8% | 1.5% | 3.85 |
| Germany | 5.1% | 1.5% | 3.48 |
| Sweden | 9.8% | 5.5% | 1.78 |
| United Kingdom | 9.6% | 6.4% | 1.50 |
| France | 9.7% | 7.5% | 1.29 |
| The Netherlands | 5.1% | 4.9% | 1.04 |

¹ IPD (2003-2012)

² BIS (1970-2012)

FIGURE FOUR: ANNUAL TOTAL RETURNS



Source: IPD (2003-2012)

Steady income streams

Figure five shows that residential property investment delivers steady income returns. In the six European countries these returns vary, between 3.0% in the United Kingdom and 4.7% in Switzerland, with the Netherlands almost in the middle at 4.0%. The low standard deviation in all countries shows that these income streams are very consistent.

Fluctuating capital returns

Except for Germany and Switzerland, the capital return is higher than the income return. However, capital returns are quite a bit more volatile than income returns. In fact, the fluctuations in the total returns can almost fully be attributed to the volatility in capital growth. Because IPD data is limited for some countries, we use data from the BIS as a basis to calculate the volatility of the capital growth in the six European countries. Figure five shows that volatilities on capital growth are especially high for the United Kingdom, the Netherlands and Germany. Capital growth in France, Sweden and Switzerland shows substantially lower volatility.

In the period 2008-2012 capital returns tended to be negative for all six countries

in the sample. That also held for the Netherlands. At the same time income streams were stable, resulting in a 20% higher income return in 2012 compared to 2008: an investor can now buy a rental cash flow at a much more attractive price than five years ago.

MODERATE INFLATION HEDGE

Institutional investors in real estate often name the inflation hedge characteristics as one of their key investment drivers. Especially for pension funds, who have liabilities in real terms due to their indexed pension contracts, assets with a positive correlation with inflation are an essential part of their investment portfolio. So the question is how residential real estate investments performs in this regard.

Over the past fifty years numerous studies of the inflation-hedging ability of real estate are conducted with mixed results. Fama and Schwert (1977) show that private residential real estate is the only asset to completely hedge expected and unexpected inflation. This contrasts sharply with stocks, for which they find a negative relation to inflation.

Research by Brueggeman, Chen and Thibodeau (1984) also indicates that real estate returns are positively and significantly correlated to actual and expected inflation. They did not find this relationship with unexpected inflation. The fact that residential property investments show better possibilities for inflation hedging than other assets is confirmed in this research. Compared to other asset classes residential property investments show the best correlation to inflation. We use data for the Netherlands, and look at inflation correlations over investment horizons of one, two, and three years. We also look at lagged inflation, since real estate rents are often adjusted for the inflation of the previous year. The correlations are reported in figure six, and show that residential real estate has the highest inflation correlation of all assets studied: the one-year inflation correlation is 0.3, and that correlation goes up as the investment horizon lengthens. The correlation is also statistically significant. Only short term government paper (liquidity) comes close in terms of inflation hedge potential. Bonds, stocks and listed real estate do much worse in this regard. Lagging the inflation with a year does not seem to affect the results much.

This also applies for residential real estate compared to other types of real estate, see figure seven. Here, we use Dutch data from IPD going back to 1977, and we look again at horizons for one, two and three years, as well as a one-year lag. For residential property, the result is comparable to what we saw before when using BIS data:

FIGURE FIVE: RETURN EUROPEAN RESIDENTIAL MARKETS ●●●●●●●●●●

| | Income returns ¹ | | Capital growth ² | |
|-----------------|-----------------------------|------|-----------------------------|-------|
| | Return | Risk | Return | Risk |
| France | 3.7% | 0.5% | 6.9% | 6.7% |
| Germany | 4.1% | 0.4% | 3.2% | 9.4% |
| Sweden | 3.7% | 0.5% | 6.6% | 6.6% |
| Switzerland | 4.7% | 0.2% | 3.3% | 6.6% |
| The Netherlands | 4.0% | 0.3% | 5.5% | 9.5% |
| United Kingdom | 3.0% | 0.3% | 9.4% | 10.3% |

¹ IPD (2003-2012)

² BIS (1970-2012)

the correlation of residential returns with inflation is positive and significant. This contrasts strongly with the results for office and retail investments: office returns are positively related with inflation, but that correlation is never statistically different from zero, and retail returns even move against inflation, indicating that retail investments do not hedge against inflation at all. So here also, residential seems to do well.

In order to compare inflation hedging for the European residential property markets, this study looks at the correlation of capital returns on housing investments (using BIS data) with local inflation. The results in figure eight show that correlation with (local) inflation is highest in France, Germany and the Netherlands. For all countries, the table shows higher and more significant correlation with inflation for longer investment horizons.

GOOD DIVERSIFICATION OPPORTUNITIES

In order to reduce non-systematic risk, investors look to diversify their investment portfolio by combining assets whose returns correlate less than perfectly. The attained diversification benefit depends on the correlation between these assets. A perfectly positive correlation (1.0) implies no diversification and a perfectly negative correlation (-1.0) implies full diversification, and a complete avoidance of risk. However, such low levels of correlations do not exist among real assets, and are only found when using derivatives. There are only few studies

FIGURE SIX: CORRELATIONS TO INFLATION

| | 1 year period | 2 year period | 3 year period | 1 year lagged |
|---------------------------------|---------------|---------------|---------------|---------------|
| Residential (BIS) ¹ | 0.30* | 0.35** | 0.40** | 0.35** |
| Stocks ¹ | -0.09 | -0.09 | -0.11 | 0.04 |
| Bonds ² | 0.10 | 0.10 | 0.09 | 0.14 |
| Liquidity ¹ | 0.29* | 0.33** | 0.34** | 0.35** |
| Listed real estate ³ | -0.14** | -0.40* | -0.31* | 0.22 |

* Significant at a 90% level

** Significant at a 95% level

¹ 1971-2012

³ 1990-2012

² 1975-2011

FIGURE SEVEN: CORRELATIONS TO INFLATION

| | 1 year period | 2 year period | 3 year period | 1 year lagged |
|--------------------------|---------------|---------------|---------------|---------------|
| Residential ¹ | 0.24* | 0.25* | 0.25* | 0.09 |
| Office ¹ | 0.20 | 0.12 | 0.11 | -0.21 |
| Retail ¹ | -0.20 | -0.34** | -0.36** | -0.49** |

* Significant at a 90% level

** Significant at a 95% level

¹ IPD (1977-2012)

FIGURE EIGHT: CORRELATIONS TO LOCAL INFLATION

| | 1 year period | 2 year period | 3 year period | 1 year lagged |
|------------------------------|---------------|---------------|---------------|---------------|
| France ¹ | 0.51** | 0.55** | 0.58** | 0.36 |
| Germany ¹ | 0.39** | 0.42** | 0.49** | 0.19 |
| Sweden ¹ | 0.09 | 0.13 | 0.15 | -0.02 |
| Switzerland ¹ | 0.17 | 0.22* | 0.25* | -0.06* |
| The Netherlands ¹ | 0.30* | 0.35** | 0.40** | 0.35** |
| United Kingdom ¹ | 0.10 | 0.16 | 0.25* | 0.10* |

* Significant at a 90% level

** Significant at a 95% level

¹ IPD (1977-2012)

that tell us something about the cross-asset correlation for both residential REITs and direct residential property investments. For the period 1994-2007, Newell and Fischer (2009) conclude that the correlations of residential REITs with stocks and bonds are 0.31 and -0.09, respectively. MacKinnon (2008) finds results of the same order of magnitude in his research on cross-asset correlations for residential property investments. So, the existing literature suggests that listed residential real estate is

a good diversifier, but the very small number of existing studies shows that more information is needed. This section looks into the diversification opportunities by studying cross-asset correlations, correlations across different types of real estate, and international correlations between national residential property markets.

Low correlations with other asset classes

We first look at diversification at the mixed-asset level, comparing residential real estate with stocks, bonds, liquidity and listed property

shares. Figure nine shows that the correlation between Dutch residential investments and other asset classes is quite low, suggesting good diversification potential. Listed real estate shows a more mixed picture, with very good risk diversification potential vis-à-vis bonds and liquidity, but weaker diversification with stocks.

We also look at the diversification potential of residential real estate relative to other types of real estate investments. Again, this has not yet been investigated much before. Newell and Fischer (2009) find return correlations of 0.68 between residential REITs and retail REITs and 0.81 between residential REITs and office REITs, suggesting relatively weak diversification potential. We find similar results for non-listed real estate investments: cross correlations for different types of real estate are around 0.60 and significant.

Low correlation across European residential markets

Another way to reduce the risk of an investment portfolio is to broaden it across national borders. Returns on different national asset markets seem to fluctuate in different ways. This has been shown for stocks and bonds, and also for real estate (Eichholtz, 1996), but not for residential real estate. This study therefore looks at cross correlations for residential investments in the six European countries, using BIS data for the capital returns.

The results in figure ten show low correlations between the housing markets in the different countries, which implies that large diversification opportunities are present. Investing across different

FIGURE NINE: CROSS-CORRELATIONS ASSET CLASSES ●●●●●●●●●●

| | Residential IPD | Stocks | Bonds | Liquidity |
|--------------------|--------------------|--------------------|--------------------|----------------------|
| Stocks | 0.15 ¹ | | | |
| Bonds | -0.10 ¹ | -0.09 ¹ | | |
| Liquidity | 0.03 ¹ | 0.20 ¹ | 0.23 ^{3*} | |
| Listed real estate | 0.13 ² | 0.58 ^{2*} | -0.35 ⁴ | -0.38 ^{2**} |

* Significant at a 90% level

** Significant at a 95% level

¹ 1977-2012

² 1990-2012

³ 1977-2011

⁴ 1990-2011

European countries will enhance the diversification of the investor's portfolio by reducing systematic risk. For example, the correlation between the Swiss and the Dutch markets is -0.28, so combining residential real estate from these countries in one portfolio is very good from a diversification point of view. The same holds for Germany and Sweden. With an average correlation of only 0.08 with the other five markets, the Dutch residential market offers the best international diversification potential of all the countries studied in this paper.

Despite this important finding, international investments in residential real estate is still rare. During this research institutional investors from a number of countries were interviewed on their current investment position. These interviews confirm that residential investments are almost exclusively domestic. Due to

the low correlation between the different European markets, it is useful for investors to look more into the international investment opportunities in residential real estate.

Concluding, there has been very little research on the performance of residential investments in the institutional investor's portfolio. This study shows that overall performance has been relatively good across the European residential markets. Steady income returns provide a stable cash flow for the investor, and the positive correlation to inflation gives the investor a moderate inflation hedge, which is better than what other assets and real estate types offer. Mixed-asset diversification potential is high, and that also holds for diversification across European residential markets. So from a portfolio point of view, residential property investment seems attractive.

FIGURE TEN: CROSS-CORRELATIONS EUROPEAN RESIDENTIAL MARKETS ●●●●●●●●●●

| | The Netherlands | France | Germany | Sweden | Switzerland |
|----------------|--------------------|--------------------|--------------------|--------------------|--------------------|
| France | 0.13 | | | | |
| Germany | 0.09 | 0.21 ^{**} | | | |
| Sweden | 0.38 ^{**} | 0.43 ^{**} | -0.07 | | |
| Switzerland | -0.28 [*] | 0.27 [*] | 0.59 ^{**} | 0.17 | |
| United Kingdom | 0.09 | 0.45 ^{**} | 0.40 | 0.46 ^{**} | 0.70 ^{**} |

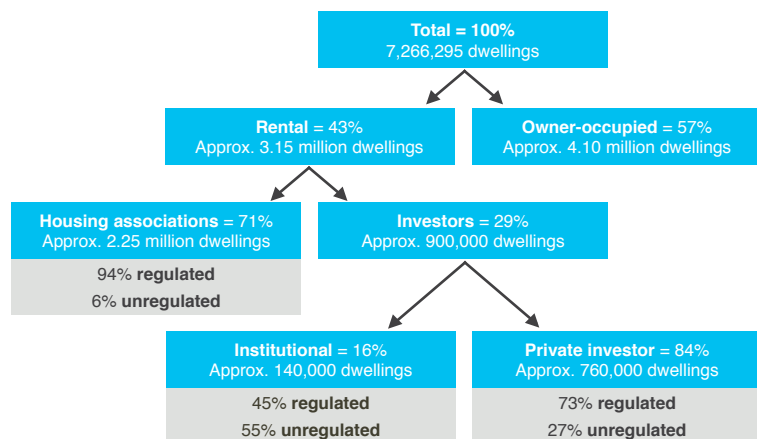
* Significant at a 90% level

** Significant at a 95% level

Source BIS (1977-2012)

THE CONDITIONS ON THE DUTCH HOUSING MARKET

FIGURE ELEVEN: STRUCTURE OF THE DUTCH HOUSING MARKET ●●●●●●



Source: CBS (2013h), IPD (2013)

Residential investments are currently mainly domestic. But the diversification potential for cross-European investments shows that an international investment strategy is worth considering. For that, one needs to understand the local market to see which risks are involved. Every market is unique, and that holds true especially for the housing markets, for which market institutions and regulation may be even more important than for other asset. This chapter elaborates on the conditions that apply on the Dutch housing market.

The chapter discusses the different types of government intervention, such as supply regulation and the protection of tenants, for example in the form of maximized rent levels and fixed yearly rent increases. Taxes, subsidies and legislation on the housing market affects the performance of residential property investment as well. Furthermore, the current position of social housing providers and the owner-occupied market are highlighted, as well as the situation and reforms on the mortgage market and the economic situation.

TENANT PROTECTION AND SUPPLY REGULATION

The Dutch rental system

The Dutch rental system has a dual nature: the regulated sector and the unregulated sector. Dwellings with an actual rent level of less than € 699 per month (as of January 1st 2014) are regulated by the government. Dwellings with a rent level above € 699 per month are non-regulated. In total there are 2.7 million regulated rental dwellings, which make up 88% of the rental market. On the other hand there are approximately 0.4 million non-regulated rental dwellings.

The regulated rental market

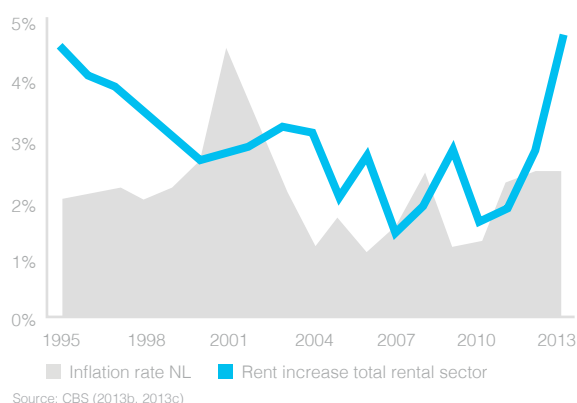
Rents in the regulated sector are based on a point system, the Woning Waarderings Stelsel (WWS), which determines the maximum rent level for each regulated rental dwelling. This system reflects the quality of a dwelling. Points are for example scored on square meters, typology, energy label and age. At this moment the point system is under review by the government in order to incorporate market circumstances.

Furthermore, the yearly rent increases are restricted to a percentage based on inflation plus a premium. This inflation-linked rent increase limits the possibilities of landlords to increase rents, but also provides security of income to landlords. Figure twelve shows that the resulting rent pattern is almost in lockstep with inflation, which reduces inflation risk considerably.

The maximum rent level based on the point system does not necessarily reflect the actual rent level at that time. Actual rents are often lower because market circumstances do not allow for higher rent levels. In addition, the actual rent is also lower than the market rent because yearly rent increases of regulated rental dwellings are limited. This also holds for the regulated rental dwellings owned by institutional investors, which means that these dwellings often have possibilities to enhance the rent.

Tenants of regulated dwellings are protected through security of tenure, which means that the landlord cannot end the rental contract without a valid reason. A special rent arbitration committee can settle disputes between tenant and landlord.

FIGURE TWELVE: RENT INCREASE LINKED TO INFLATION



Additionally, more than one million tenants of regulated rental dwellings are eligible for a subsidy on the rental costs. When the income of a tenant is not sufficient (below € 21,600 for single-person and € 29,400 for multi-person households), (s)he receives a subsidy. This subsidy secures landlords of regulated rental dwelling that tenants are able to pay their rent at all times.

The non-regulated rental market

The protection of tenants of non-regulated dwellings is limited to the security of tenure. Rent levels can be set freely and are only bound by market circumstances. Rents can only be changed once a year. A tenant of a non-regulated rental dwelling is not able to fight disputes through the rent committee and will have to file a lawsuit in case of disputes.

Restricted land policy protects landlords against oversupply

Land policy in the Netherlands is very restrictive, and has been so since the 1950s. Municipalities influence supply through their own land positions and through the zoning plans they create. These instruments have generally been used to create scarcity in the housing market. This directly affects the development of new houses.

Even before the crisis, the supply of new dwellings generally fell behind the growth in the number of households, which was a key concern for policy makers. This is probably the reason why both house prices and house rents have increased so much in the last five decades. The limited supply

of new houses is not caused by local government policy alone. Strict risk management by housing developers plays a very important role as well. Dutch housing developers generally start building when at least 70% of the dwellings in a project is pre-sold. This was the case before the crisis, and still is. So the crisis was not caused by oversupply of houses due to speculative construction: on the contrary, supply was low to begin with and the reduction in demand has translated into a strong fall in the supply of new dwellings, putting a floor under prices. This has probably reduced the fall in house prices during the recent crisis.

OWNERSHIP ON THE DUTCH HOUSING MARKET

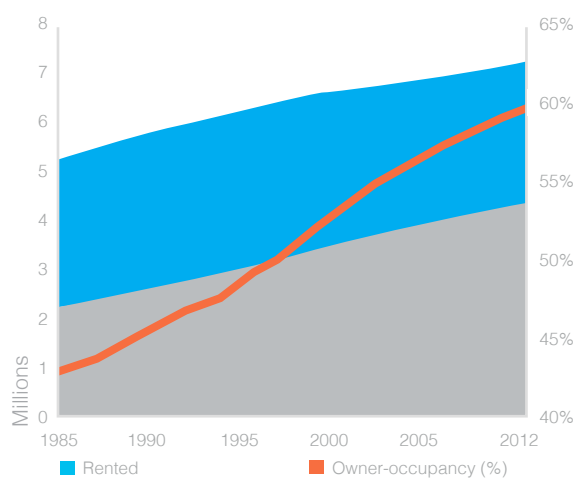
Increase in home ownership

Home ownership has been highly stimulated in the Netherlands over the past decades. Through tax rebates on mortgage interest payments, Dutch home owners have substantial financial benefits over tenants. Partly as a result of that, the number of home owners has increased from around 2.3 million in 1985 to 4.1 million in 2012.

Social housing providers have a dominant position in the Netherlands

In order to provide for affordable housing to lower income groups Dutch social housing providers have traditionally been subsidized through state guarantees on their loans and lower land prices. In this way they were able to build dwellings at lower prices and set lower rent levels for their tenants. The main target group of social housing

FIGURE THIRTEEN: OWNERSHIP DUTCH HOUSING STOCK



Source: ABF Research (2013c)

providers are households with a yearly income of less than € 34,678 (January 2014).

Currently social housing providers own as many as 2.25 million dwellings, which is approximately 31% of the total housing stock in the Netherlands (CBS, 2013h). The majority of their dwellings are regulated by the government (94%) and are situated in the rural areas outside the main cities.

Institutional investments in residential property

Institutional investors own 136,000 dwellings in the Netherlands, which amounts to 2% of all dwellings (based on data from IPD, which represents 77% of all institutional dwellings, 2012). Whereas other landlords mainly focus on the rural areas, institutional investors predominantly own dwellings in the urban areas in the Netherlands. Their housing stock is divided between 45% regulated and 55% non-regulated (Ministry of the Interior and Kingdom Relations, 2012). The fact that institutional investors focus more and

more on the non-regulated rental sector is expressed in the fact that new projects nearly exclusively include non-regulated rental dwellings. Also, most of their currently regulated dwellings have the potential to be non-regulated, based on the maximum rent, so when new tenants come in, they can increase the rents on these dwellings.

In the Netherlands it is very common that a landlord at one point starts selling off individual dwellings, either to the existing tenant or to another household. This provides landlords in the Netherlands the possibility to capitalize the indirect return and furthermore allows them to renew their

housing stock by reinvesting their proceeds from these sales. This possibility enhances the liquidity of residential property investments and provides substantial benefits over commercial investments.

The fact that institutional investors continuously renew their housing stock is reflected in the average age of their dwellings. The average age of dwellings owned by institutional investors is 24 years, whereas the average age of the total housing stock in the Netherlands is 44 years (CBS, 2013g and IVBN, 2013).



OVERVIEW OF LEGISLATION, TAXES AND SUBSIDIES

Land use regulation

- Land supply is restricted at all levels of Dutch government: national, provincial, and municipal. The government has strong control over housing supply and oversupply is unlikely.

Taxes and subsidies: owner-occupied market

- The Dutch tax system provides home owners with the possibility to subtract the interest paid on their mortgage from their gross income and thereby to reduce the amount of income tax they need to pay. These subsidies to home-owners have recently been limited.
- In the Netherlands, owner-occupation is considered as income out of house. Therefore home owners have to pay income tax on approximately 0.6% of the assessed value of their dwelling.

- Dutch property (or land value) tax is claimed annually by municipalities. The level of property tax depends on the municipality and ranges from 0.04% to 0.21% of the assessed value.
- To support owner-occupancy in the Netherlands, the government gives a guarantee on low-level mortgages to reduce the risks for the financier and lower the interest rate for the lender: the NHG (Nationale Hypotheek Garantie). This guarantee will be limited in the coming years.
- Transfer tax is paid when an existing dwelling is bought and value added tax is paid for the construction of new dwellings and renovations. Transfer tax has recently been permanently lowered from 6% to 2%.

Taxes and subsidies: rental market

- As of January 1st 2013 landlords of regulated rental dwellings (rent level < € 699 per month) pay a tax based on the assessed value of the dwelling (approximately 0.38% in 2014, growing to 0.54% in 2017).
- Housing allowance is a government subsidy to low-income households with relatively high rental costs. The allowance is only available for regulated rental dwellings (rent level < € 699).

RESIDENTIAL MORTGAGE DEBT

Increasing mortgage debt

Since 2000 the total mortgage-debt-to-GDP ratio has increased rapidly in the Netherlands. This is caused by four factors: an increasing number of home-owners (52% in 2000 to 57% in 2012), an increase in housing prices and subsequently higher mortgages, the willingness of home buyers to take out a higher mortgage compared to the underlying value of their dwelling, and by the growing popularity of mortgages that do not (directly) amortize. As a result, the total mortgage debt in the Netherlands has grown from € 298 billion in 2000 to € 651 billion in 2012 (Vereniging Eigen Huis and De Argumentenfabriek, 2012).

Unique Dutch mortgage structure

Because tax deduction on mortgage interest was until recently allowed for all types of mortgages, many households chose an interest-only mortgage, a savings mortgage or an investment mortgage. For the savings and investment mortgages the borrower deposits a monthly (pre-specified) amount of money into a savings or investment account which is exclusively affixed to the mortgage. At the end of the duration of the mortgage the deposit is used to pay off the loan. These three mortgage structures allow the borrower to deduct the maximum interest from their taxable income.

In international comparisons the deposits on savings and investment mortgages are often not taken into account, thus overstating the value of the outstanding Dutch

mortgage debt. For a more realistic comparison these deposits should be deducted from the total mortgage debt. Unfortunately, data on the deposits affixed to mortgages are not available. However, this information is included in the data on the total balance sheet of households presented yearly by the Statistics Netherlands (CBS).

Figure fourteen shows that the balance sheet of the average household in the Netherlands is very positive, despite the high mortgage debt. The outstanding mortgage debt is just over half of the combined value of all owner-occupied houses. If one combines that with other assets and liabilities, the net combined capital of Dutch households is € 1,167 billion.

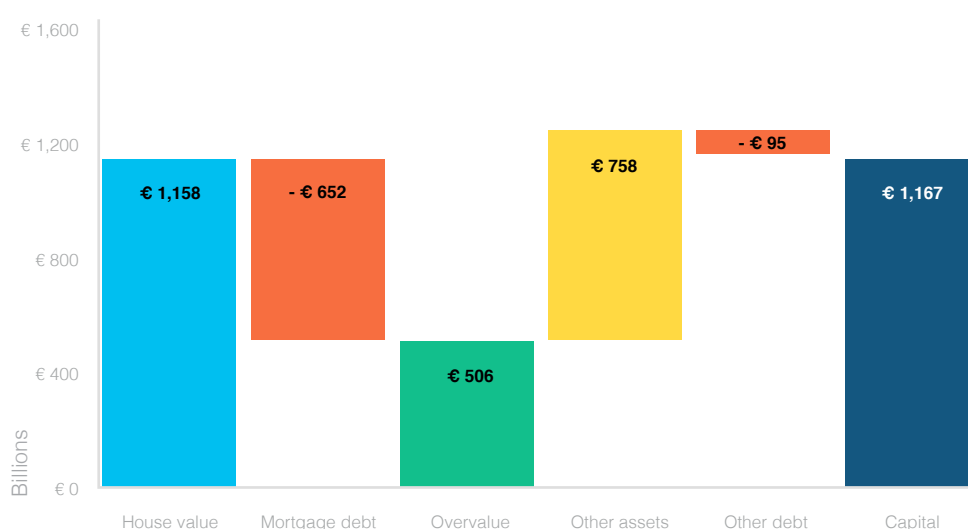
Moreover, the large mortgage debt is put into perspective by the extensive pension scheme in the Netherlands, which is not included in the balance sheet. Due to high collective pension schemes and individual savings the Dutch households do not have the same need to save as much as in other countries for life after retirement.

Overvalue and 'underwater' mortgages

The balance sheet also shows that the difference between the value of dwellings and mortgage debt is more than € 500 billion in total. Divided by the total number of home owners that is on average € 125,000 of overvalue.

Although the total net equity on houses is highly positive, there is also a large group of

FIGURE FOURTEEN: TOTAL ASSETS AND LIABILITIES DUTCH HOUSEHOLDS (2011) ●●●●●●●●



Source: CBS (2012)

households with a mortgage debt that is higher than the value of the house. At the end of 2012, around 1.3 million households had such an 'underwater' mortgage. The total negative equity of these households was € 65 billion (DNB, 2013). This group constitutes mostly of young households that bought their house in the last ten years and did not amortize or save significantly.

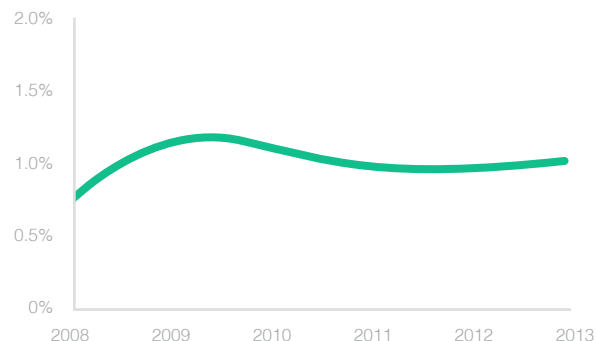
Monthly payments remain good

Payment behaviour by Dutch households is traditionally very good, both in the owner-occupied market and in the rental market. To start with the former: one effect of the financial crisis has been that the number of home owners with arrears on their mortgage payment has increased. It was just over 30,000 in 2008, and

slightly over 90,000 in 2013. In this statistic, home owners are counted as having an arrear on their mortgage payment if they failed to pay for over 120 days. Although this increase seems dramatic, this means that only 2% of all home owners have difficulties with their mortgage payments. Strategic default, in which households walk away from their house if its value falls below the value of the mortgage, is very rare, due to the fact that Dutch mortgage debts are full recourse. That makes the option to default unattractive.

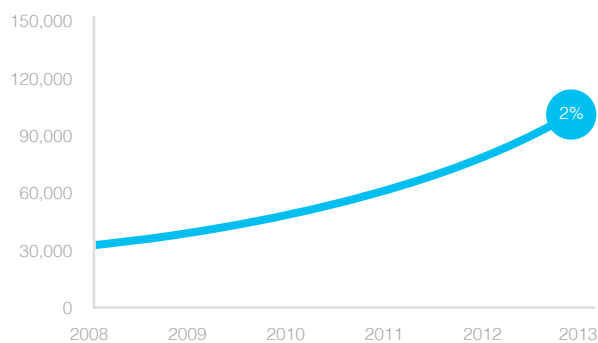
On the rental market, payments are even better. Approximately 1% of all tenants of institutional investors have an arrear on their monthly rental payments of 30 days or more. This means income streams are stable and management costs can be restricted.

FIGURE FIFTEEN: ARREARS ON RENTAL PAYMENTS ●●●●



Source: Data provided by the initiating institutional fund managers

FIGURE SIXTEEN: ARREARS ON MORTGAGE PAYMENTS ●●



Source: BKR (2013)



THE ECONOMIC SITUATION

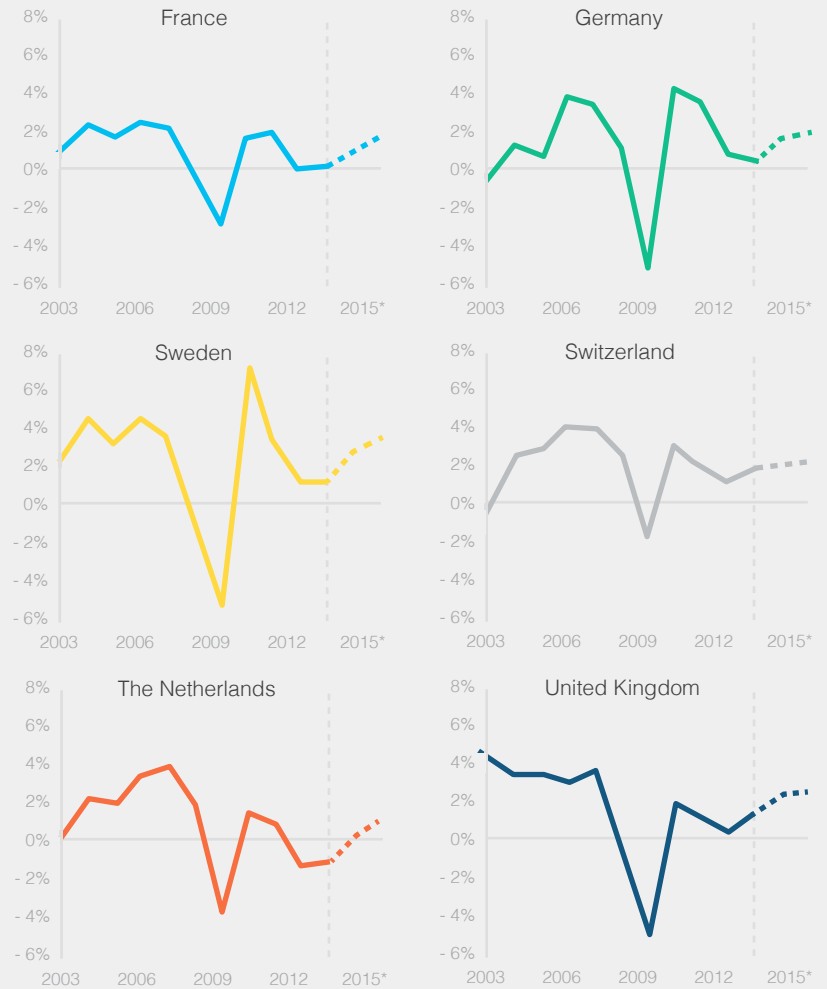
GDP Growth

The financial crisis affected the development of GDP for all European economies. GDP growth dropped and was even negative for all comparable countries in 2009. After 2009 most countries showed some recovery. In the Netherlands the recovery seems to have taken longer than in the other countries, which shows in the most recent data for the real GDP growth rates in the Netherlands - negative for both 2012 (-1.2%) and 2013 (-1.1%). However, forecasts are slowly brightening up, predicting a small growth for 2014 (0.5%) and 2015 (0.9%), just like in the other five countries.

Unemployment, inflation and government finances

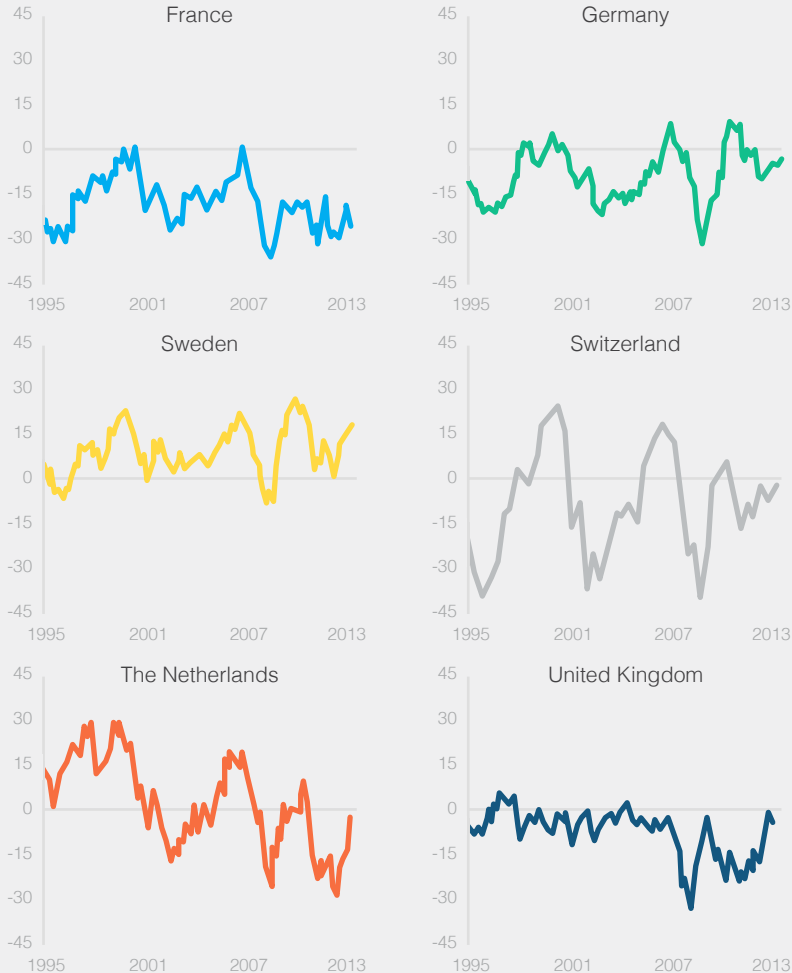
During the financial crisis an increasing number of people lost their job in the Netherlands - the unemployment rate increased from 3.8% in 2008 to 8.2% in November 2013 (CBS, 2013f). However, compared to other European countries the unemployment rate is still moderate (OECD, 2014). Forecasts for the unemployment level in the Netherlands are still slightly negative for 2014. In 2015 the unemployment rate is expected to improve.

FIGURE SEVENTEEN: REAL GDP GROWTH RATE FOR EUROPEAN COUNTRIES



Source: ECB (2013)

FIGURE EIGHTEEN: CONSUMER CONFIDENCE



Sources: European Commission (2014), Swiss National Bank (2014)

Inflation in the Netherlands has been moderate in recent years (2.5%) and is expected to decline in 2014 and 2015 to approximately 1.0% (DNB, 2013). This is positive for the purchasing power of Dutch households, which has slightly decreased over the past few years.

At the start of the financial crisis in 2008, the government debt of the Netherlands was significantly below the EU directives of 60% of GDP. However, in the following five years it increased from 45% to over 70%. Also, the government budget changed from a surplus in 2008 to a deficit in the following years. Currently the budget deficit is still above the EU maximum of 3%. That is why the Dutch government is forced to implement continuing budgetary cuts over the next years.

Consumer confidence

One of the main indicators for the economic outlook of a country is consumer confidence. In the Netherlands the consumer confidence was very low over the past years. But it has recently started to improve, gaining 27 points over the last ten months alone. This may be a sign for a period in which the Dutch economy will strengthen. The other countries largely show a comparable growth in consumer confidence, with the only exception being France, where consumers stay gloomy.

INDICATORS FOR INVESTING IN DUTCH RESIDENTIAL MARKETS ARE POSITIVE

After some years of economic difficulty and distress on the Dutch housing market, the most recent signs are positive. During the difficult years all Dutch real estate investments have shown low or even negative returns. The residential market is no exception: prices have fallen. But while these difficult times have been tough for existing investors, they offer good opportunities for new investments.

This chapter will elaborate on the strong fundamentals for residential property investments in the Netherlands at this moment. For one, the limited supply development assures an upward pressure on the already restored pricing on the Dutch housing market. Also, changed government policies will restore the balance between the different housing sectors, aiming to offer households an even choice between home ownership and renting, either on the regulated or the non-regulated rental market.

In effect it is likely that this will lead to an increased non-regulated rental sector, which will provide a solution for the middle and higher income households who are not eligible for social housing and are not able to access the owner-occupied market due to stricter rules for mortgages.

Because social housing providers are forced to focus on the regulated rental dwellings, investment opportunities on the non-regulated rental market may arise. The long tradition in the IPD database for Dutch residential property proves that the institutional

investment climate is present. All fundamentals for future investments are present.

INCREASING HOUSING SHORTAGE LEADS TO UPWARD PRESSURE ON PRICES

Steady increase in the number of households

The Dutch population has shown a steady growth rate over the past decades at an average of 0.83% per year. Due to the decreasing average family size the growth in the number of households has been even stronger. In 2012 housing demand in the Netherlands increased by 69,000 households. But the growth rates are slowly declining. Nevertheless, over the next ten years housing demand is expected to increase by a total of 540,000 households.

Current expectations are that the number of households will continue to grow until around 2040, after which the number of households will reach a steady state. Interestingly, the future growth in household numbers is almost fully attributed to an increase in the number of elderly single person households. The number of multiple person households is expected to remain the same. This may well affect the qualitative demand for dwelling.

Less construction of new dwellings leads to housing shortage

By the end of 2012 the Netherlands had approximately 7,510,000 households and 7,270,000 dwellings. This discrepancy is absorbed by the existing Dutch housing supply.

Due to the financial crisis the construction of new dwellings has declined. After a peak of around 80,000 dwellings per year in 2008 and 2009, construction has dropped to under 60,000 in 2010 and 2011.

One of the main indicators for new construction is the number of building permits that have been granted. Usually it takes approximately 18 months to finish a dwelling after a permit has been granted. In 2012 only 37,370 permits have been granted. Figure twenty shows a further drop of another 30% for the first half of 2013. The sharp decline in the number of building permits in 2012 and 2013 means that housing construction will fall even

FIGURE NINETEEN: TOTAL NUMBER OF HOUSEHOLDS

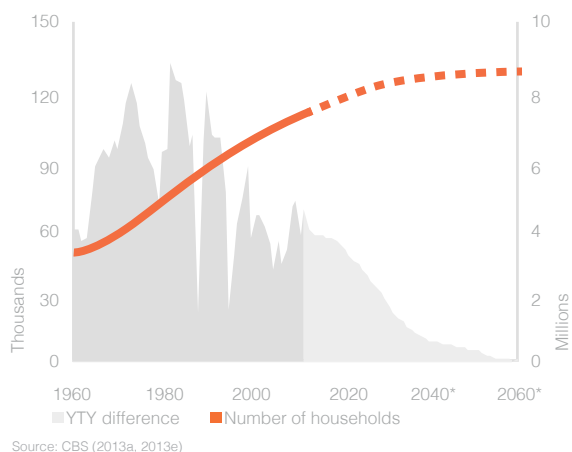


FIGURE TWENTY: NEW CONSTRUCTION

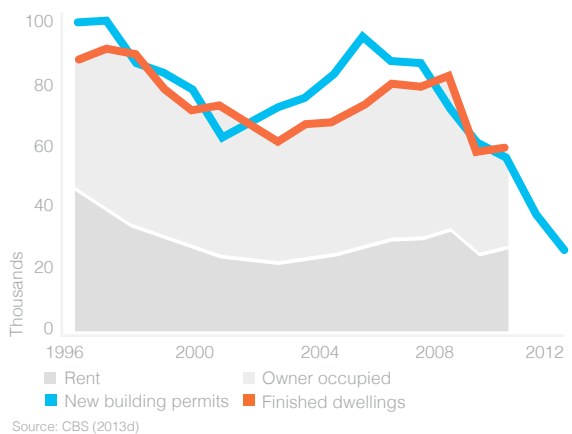
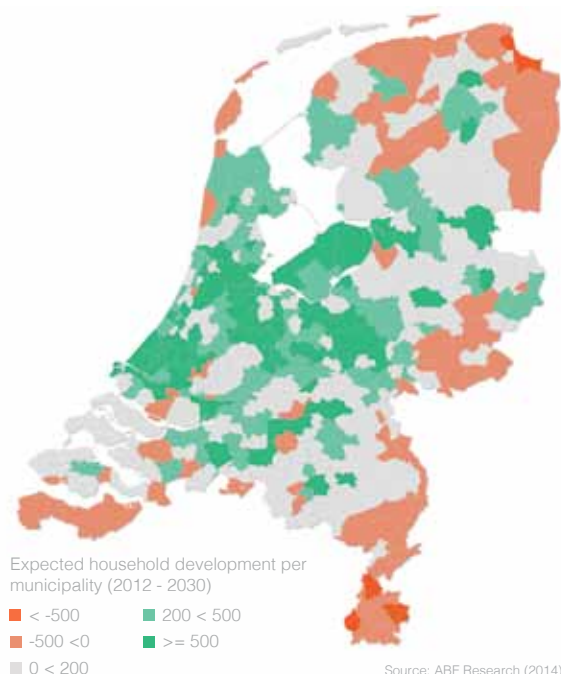


FIGURE TWENTY-ONE: EXPECTED REGIONAL HOUSEHOLD DEVELOPMENT 2012 - 2030



The most recent simulation on future housing demand suggests that household development will focus on the urban areas in the Netherlands (ABF Research, 2014). These urban areas include the larger cities in the 'Randstad' area like Amsterdam, Utrecht and The Hague, as well as smaller cities in the province North Brabant, like 's-Hertogenbosch, Breda and Eindhoven. In fact, most urban areas in the Netherlands are expected to face a growing number of households over the next couple of decades. Outside the urban areas the outlook is very different. Many rural areas in the northern and southern part of the Netherlands are expected to face a decline in housing demand.

The demand development on the housing market differs from the demand development on the commercial real estate market, which tends to focus even more on some prime locations in the Netherlands, mainly in and around the larger cities in the 'Randstad'.

further in the coming years. This implies that new supply will be lower than the growth in demand, which will put upward pressure on prices.

POLICY CHANGES RESTORE THE BALANCE ON THE HOUSING MARKET

Distortion on the housing market targeted by recent housing reform

Over the past decades the housing market in the Netherlands has been distorted by government legislation. This is reflected in two ways. First, owner-occupancy has been stimulated by the Dutch government by means of tax rebates on mortgage interest payments and by allowing high loan-to-value and high loan-to-income mortgages. Second, yearly rent increases of regulated rental dwellings are linked to inflation (tenant protection) which does not

reflect market circumstances. Over the years the market rent increased faster than the rent linked to inflation. This led to a situation where households who started renting a long time ago, now pay far less than the market rent. In spite of the fact that income levels may allow households to move, they are not willing to move because it results in a penalty (difference between low current rent and market rent). This results in low mobility on the housing market and limits the availability of affordable dwellings for low income households. The lower mobility is reflected in the actual movements, which declined by 19% over the past three years (Ministry of the Interior and Kingdom Relations, 2012).

New housing policy seeks to restore the balance on the housing market. The goal of these reforms is that households are offered a balanced choice between renting, either on the regulated

or non-regulated rental market, and owner-occupancy. The following changes should restore balance on the market.

Reducing tax rebate on mortgage interest

Until recently the Netherlands was one of the few countries with a (full) tax rebate on mortgage interest payments, which created an incentive to increase household leverage and thus increased macro-financial risk. To reduce this risk, and as a measure for budgetary cuts, the Dutch government has recently changed the legislation regarding the tax rebate on mortgage interest payments. Starting in 2014 the maximum tax rebate for current mortgages will decrease by 0.5% annually, from 52% to 38% in 2041.

Since the start of 2013 the tax rebate is only allowed for new annuity mortgages, for which home owners are obliged to pay off their whole mortgage within

30 years. This is not the case for existing mortgages. Due to the obligatory amortization, monthly housing costs for new home owners will increase.

Stricter rules for new mortgages

Government reforms on the owner-occupancy market also focus on the total mortgage debt. In the Netherlands the maximum mortgage a household can borrow is based on the value of the underlying asset (loan-to-value ratio) as well as their income and the monthly mortgage costs (loan-to-income ratio).

In 2011 the maximum loan-to-value ratio for new mortgages was restricted to 110%. Since 2014 the maximum loan-to-value ratio is further lowered to 104% and will fall to 100% in 2018. The additional percentage was used by households to finance the transaction costs. Because this will no longer be (fully) possible, households will be required to save a substantial amount of money before they can purchase a dwelling. Subsequently starters are more likely to rent a dwelling at first, before buying one.

Because the purchasing power of Dutch households has declined in the years after the financial crisis, the National

Institute for Family Finance Information (NIBUD) lowered the maximum loan-to-income ratio for new mortgages. Figure twenty-two shows that the loan capacity of households with various incomes declined by at least 11% over the last five years. This has been an important driver for the declining house prices in recent years.

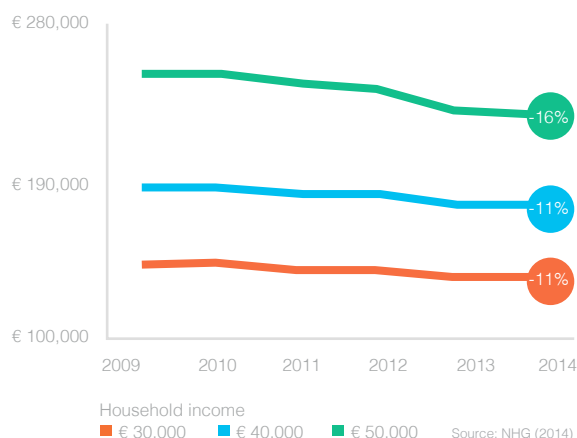
Income based rent increase

To restore the balance on the rental market the Dutch government allows landlords to increase regulated rent levels with last year's inflation plus an income based premium. Because landlords may increase regulated rents faster, these rent levels will approximate the market rent in the near future. The rent increase restores the balance between the regulated and non-regulated rental market and ensures that tenants of regulated rental dwellings are more likely to move to a non-regulated rental dwelling, because the gap between the rent levels is reduced.

Shift towards the non-regulated rental sector

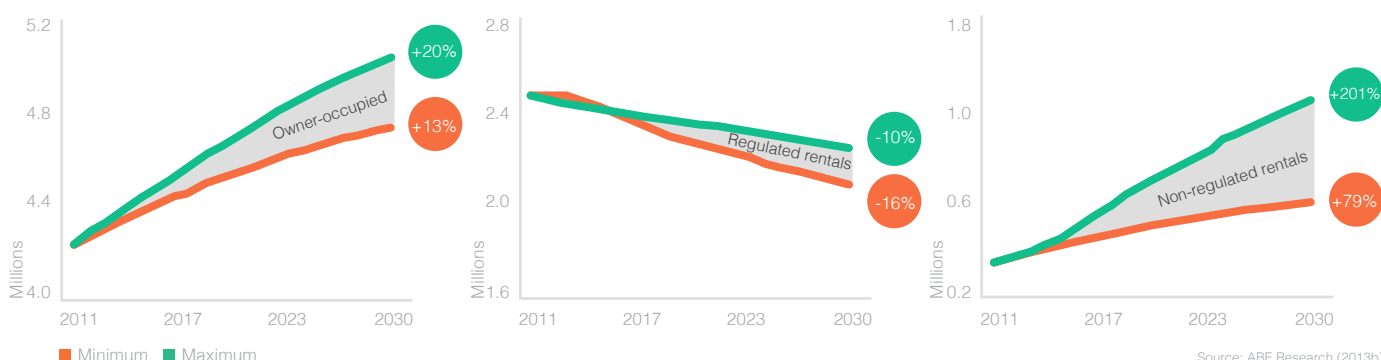
Simulations suggests that housing reforms will result in a more balanced choice between renting and owner-occupancy

FIGURE TWENTY-TWO: LOAN CAPACITY



on the Dutch housing market (ABF research, 2013b). As a result, the future demand for non-regulated rental dwellings will grow substantially. The increase would be somewhere between 286,000 (80%) dwellings and 695,000 (200%) dwellings over the next twenty years. For the owner-occupied market, demand is predicted to increase with percentages between 13% and 20%. The regulated rental market is the only market which is likely to face a decline in demand: -10% to -16%.

FIGURE TWENTY-THREE: EXPECTED HOUSING DEMAND BY ABF RESEARCH (SOCRATES)



BALANCE BETWEEN HOUSE PRICES AND RENT LEVELS IS RESTORED

Correction in house prices

Before the financial crisis, and especially since 1995, house prices in the Netherlands have steadily grown. During this period the development of average house prices was in no year negative, not even in real terms. Real house prices increased by 5.5% annually. The large increase in house prices was mainly caused by the improved mortgage capacities for (new) home owners.

Since the start of the financial crisis a substantial price correction has taken place on the Dutch housing market. Mainly due to government interventions on the mortgage market, house prices have declined for five years in a row. The price of an average dwelling has dropped from € 260,000 in 2008 to € 213,000 at the end of 2013 – real house prices dropped by 5.5% per year. This means that real house prices are now back at their level of 2000.

Higher rent levels

Most of the rental market is regulated by the Dutch government. This means that the annual rent increase for tenants is restricted. Before 2000 rental prices increased by inflation plus a mark-up of, on average, 2% per year. Between 2001 and 2004 the yearly rent increase for regulated dwellings was determined by the average inflation rate of the preceding five years. Rental increases over 2005 and 2006 were based on last year's inflation plus a mark-up

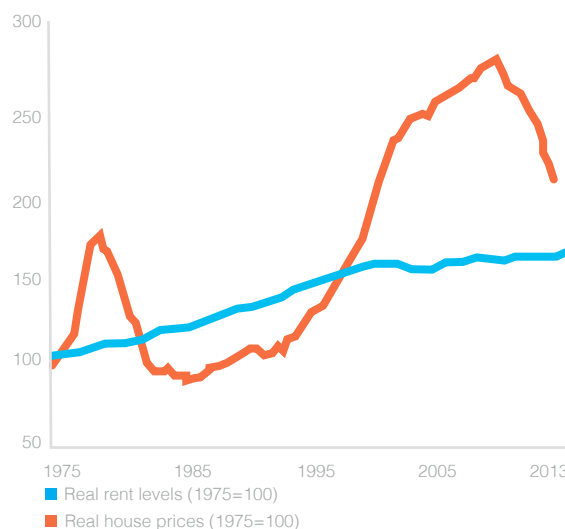
of 1.5%. Between 2007 and 2012 the maximum annual rent increase for regulated dwellings was equal to last year's inflation only. Since 2013, the annual rent increase for regulated dwellings is determined by last year's inflation, plus a premium based on the household income of the tenants (between 1.5% and 4.0%). The rent increase is expected to continue in the coming years until rent levels are more in line with market rents.

Restored pricing on the Dutch housing market

The house price-to-rent ratio is a good yardstick of the pricing of residential investments. It is the price an investor has to pay for the annual cash flows that are generated. If the ratio is (much) higher than its historic average, the market is expensive, and vice versa. It is the housing market equivalent of the well-known price-earnings ratio that is commonly used to determine whether stocks are over- or underpriced.

Figure twenty-five shows the long-term average for the past 38 years (1999 = 100). The graph suggests that Dutch house prices were not in balance with rent levels around 1990: the market was underpriced. But since then, the Dutch market has shown a steep incline that lasted until 2008. House prices have grown more than twice as fast as rents during this period. By 2008 house prices were again quite far out of balance, but now on the expensive side. Since 2008 the market has tended back to its equilibrium: declining house prices and higher rent levels mean that market balance is now as good as restored.

FIGURE TWENTY-FOUR: REAL RENTS AND HOUSE PRICES



Sources: The Economist (2013), CBS (2013c)

Comparing the Dutch experience to the other five countries, we can see the housing market in the United Kingdom resembles the Dutch developments. But this is not the case for the other countries. In Sweden and France house prices have seen a comparable increase until 2008, but these markets have not (yet) seen a correction and prices are still quite far above the long term average. Germany and Switzerland are very different from the other four markets: both countries did not see a market boom before 2008, nor do they see a price decline now. On the contrary, house prices have been going up in both countries in the last five years. The differences in the development of the price-to-rent ratio underscores the non-synchronous behaviour of housing markets, and shows that international diversification in housing reduces an investor's exposure to the market cycle.

THE AVAILABILITY OF RESIDENTIAL INVESTMENTS WILL GROW

Level playing field on the non-regulated rental market

Social housing providers mainly focus on the regulated rental sector. However, in recent years, they have also provided housing to middle- and higher income groups in the non-regulated rental sector. The financial benefits social housing providers received, led to unfair competition with the non-regulated rental sector. Following EU regulation, the Dutch government is now forcing social housing providers to refocus their attention on their core task - state aid is limited to regulated rental dwellings with a monthly

rent level under € 699. This will enhance the level playing field on the non-regulated rental sector with other landlords like institutional investors. The involvement of the EU ascertains that the new rules are here to stay.

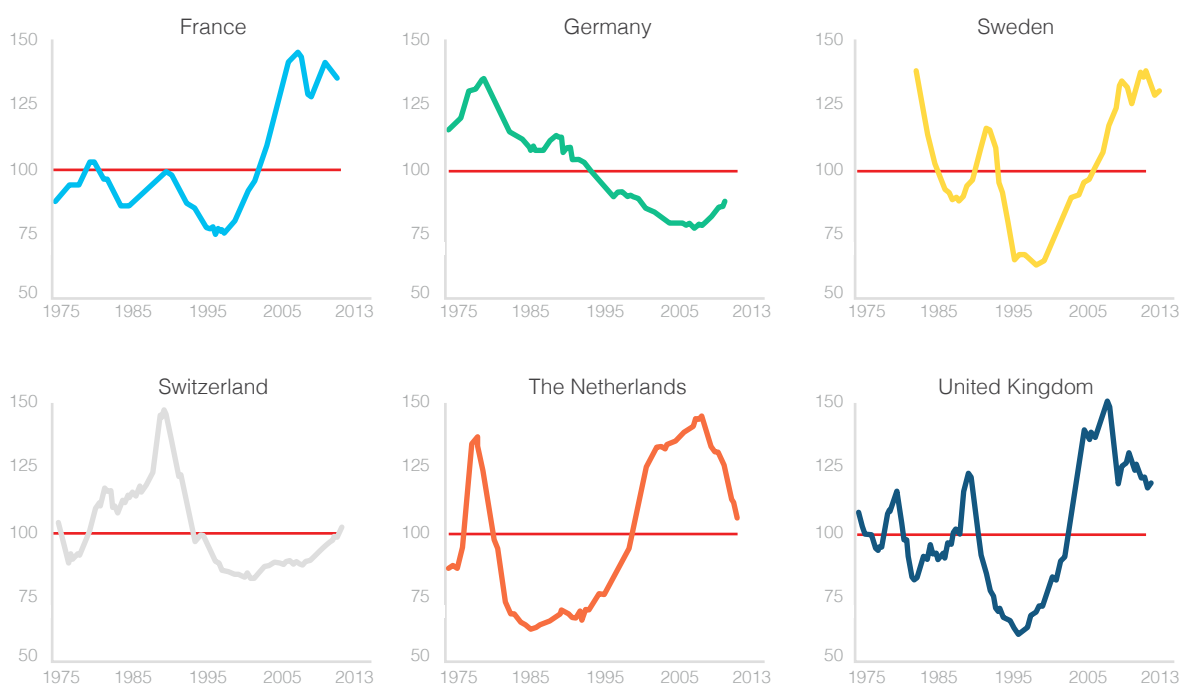
Investment opportunities on the non-regulated rental market

The government has indicated that at least one million regulated houses have the potential to be non-regulated, based on their quality characteristics. Due to the fact that a level playing field is being created on the non-regulated rental sector and because social housing providers are pressurized to focus on the regulated rental market, the investment opportunities for institutional

investors on the non-regulated rental sector are expected to grow.

The fundamentals for Dutch residential property investments have definitely improved in recent years. Changed housing policy is restoring the balance on the housing market and will lead to an balanced choice for households between home ownership and renting, either on the regulated or the non-regulated rental market. And while the prices are restoring, the increasing housing shortage ensures upward pressure on house prices. It is likely that investment opportunities on the Dutch residential market will grow in the years to come.

FIGURE TWENTY-FIVE: HOUSE PRICE / RENT RATIO (100 = LONG-TERM AVERAGE)



Source: The Economist (2013)

Literature

- Brueggeman, W.B., A.H. Chen, and T.G. Thibodeau, 'Real Estate Investment Funds: Performance and Portfolio Considerations', *Journal of the American Real Estate and Urban Economics Association*, 1984, 12:3, 333-354.
- Eichholtz, P.M.A., 'Does International Diversification Work Better for Real Estate than for Stocks and Bonds?', *Financial Analysts Journal*, January/February 1996.
- Fama, E.F. and G.W. Schwert, 'Asset Returns and Inflation', *Journal of Financial Economics*, 1977, 5:2, 115-46.
- Lee, S and S. Stevenson, 'Testing the statistical significance of sector and regional diversification', *Journal of Property Investment and Finance*, 2005, 23:5, 394-411.
- MacKinnon, G., 'Housing in a Strategic Asset Allocation: Should Institutional Investors Be Interested in Housing Futures?', *Journal of Real Estate Portfolio Management*, 2008, 14:3, 211-221.
- Newell, G. and F. Fischer, 'The role of residential REITs in REIT portfolios', *Journal of Real Estate Portfolio Management*, 2009, 15:2, 129-139.

Sources

- ABF Research (2013a), Analyse scheefwonen
- ABF Research (2013b), Socrates, doorrekening 2013
- ABF Research (2013c), Systeem woningvoorraad Syswov
- ABF Research (2014), Primos prognose
- BKR (2013), Hypotheekbarometer
- CBS Statline (2013a), Bevolking, huishoudens en bevolkingsontwikkeling vanaf 1899
- CBS Statline (2013b), Consumentenprijzen; huurverhoging woningen vanaf 1959
- CBS Statline (2013c), Consumentenprijzen; inflatie vanaf 1963
- CBS Statline (2013d), Nieuwbouwwoningen; bouwvergunningen, gereedgekomen 1995-2013
- CBS Statline (2013e), Prognose huishoudens naar type; leeftijd, burgerlijke staat, 2013-2060
- CBS Statline (2013f) Werkloze en werkzame beroepsbevolking per maand
- CBS Statline (2013g), Woningen; hoofdbewoner/huishouden
- CBS Statline (2013h), Woningvoorraad naar eigendom
- CBS Statline (2012), Samenstelling vermogen particuliere huishoudens naar kenmerken
- DNB (2013), Economische Ontwikkelingen en vooruitzichten
- ECB (2013), Real GDP Growth rate - volume
- European Commission (2014), Time series: consumer confidence EU Member States
- IPD (2013) Netherlands, personal contact
- IVBN (2013), gegevens woningen leden IVBN
- Ministry of the Interior and Kingdom Relations (2012), Wonen in ongewone tijden
- NHG (2014), Voorwaarden & Normen, 2009-2014
- OECD (2014), Key Short-Term Economic Indicators: Harmonised Unemployment Rate
- Swiss National Bank (2014), Quarterly report
- The Economist (2013), Global house prices - Location, location, location
- Vereniging Eigen Huis and De Argumentenfabriek (2012), Financiering van de Nederlandse koopwoningmarkt



List of interviewees
Investors

| | | |
|----------------------------|---|--|
| ir. D.J.Hoekstra CFA | Senior Investment Manager | ABN Amro Pension Bureau |
| G.J.C. Verhoef MSc, MRE | Head of Private Real Estate | PGGM Investments |
| K. Åkerbäck MSc | Senior Portfolio Manager Real Estate | AP3 (Third Swedish National Pension Fund) |
| H. Aukamp | CIO and Director of Real Estate Investments | Nordheinische Ärztersorgung |
| R. Matthews | Head of International Real Estate | Scottish Widows Investment Partnership Limited |
| ing. F.H.J. Herberighs MSc | CEO | Mercurius Beleggingsmaatschappij B.V. |

Residential experts

| | | |
|---------------------------|---|--|
| S. Kalyan FRICS | Global Chief Economist, Managing Director | CBRE Global Investors |
| P. Hobbs Ph.D, MRICS | Managing Director, Research | Investment Property Databank Ltd. (IPD) |
| H. Vrensen MSc, CFA | Global Head of Research | DTZ Holdings plc |
| D. Veldman RBA, FRM | Senior Investment Consultant | Towers Watson Netherlands B.V. |
| Prof. dr. M. Thomas MRICS | Chief Executive Officer | European Association for Investors in Non-Listed Real Estate Vehicles (INREV) |

Academics

| | | |
|-----------------------------------|--|---|
| Prof. dr. P. Thalmann | Professor of Economics | Swiss Federal Institute of Technology, Lausanne. |
| Prof. dr. P. Englund | Professor Department of Finance | University of Amsterdam/Stockholm School of Economics |
| Prof. C. Lizieri PhD, FRICS, FRGS | Grosvenor Professor of Real Estate Finance | University of Cambridge |
| Prof. dr. S. Sebastian | Professor of Real Estate Finance | IRE BS International Real Estate Business School and director at the Center for Finance University of Regensburg, Germany. |

This research paper is produced by *Finance Ideas*.

Authors

prof. dr. P.M.A. Eichholtz
T.R. Heijndael MSc
J. Likkel MSc
D.C.L. van Everdingen MSc

DUTCH RESIDENTIAL INVESTMENTS

IN EUROPEAN PERSPECTIVE

INITIATED BY



Weg der Verenigde Naties 1
3527 KT Utrecht
The Netherlands
+31 (0)30 232 04 80
info@finance-ideas.nl