

**EUROPEAN REAL ESTATE
IN ASSET ALLOCATION:
A NEW MODEL
FOR A NEW WORLD**

JUNE 2022

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EXECUTIVE SUMMARY



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During the decade from 2012 to 2021, relative international geopolitical stability and quantitative easing policies generated abundant, low-cost liquidity, which was advantageous for real estate. However, the emergence of a paradigm shift, most notably in inflation or policy rates, cannot be ignored when defining a high-performance allocation strategy in the future, given current uncertainties.

There are generally considered to be **five major asset classes**: real estate, equities, bonds, commodities and currencies. The disparities between determinants of returns from each of these main classes pledge for the creation of a diversified portfolio to manage risk and generate performance. The underlying principle linking risk and return is as follows: in general, the higher the return, the greater the risk. From a financial point of view, risk can be considered as the probability of a loss at a given moment, which is the amplitude of the price variation between two transactions.

The profitability of an investment has two components. The first relates to the flow of income paid over the period for which the asset is held, whilst the second is the capital gain, equal to the difference between the purchase price and the disposal price.

These components are essential in understanding the risk that should be accepted by an investor. It is on the basis of this evaluation that one can assess the creation of an optimal portfolio.

When creating a real estate portfolio, diversification choices are strategic in seeking to have a positive impact on the profitability and/or risk of the portfolio. We have sought to analyse the **optimal allocation between countries and asset classes with respect to the desired strategy** and existing mechanisms. Faced with the multitude of possible options and investment strategies it may be useful to:

- identify the variables that are likely to determine the performance of a real estate investment;
- understand the role of risk in the optimal portfolio structure;
- use our SMARRT® model to define an optimal portfolio allocation as a function of the risk/return relationship.



REAL ESTATE IN
THE INVESTMENT
UNIVERSE

THE DIVERSIFICATION IMPERATIVE

Diversification across all asset classes reduces risk. Strategic management ensures a dynamic performance from the overall portfolio.

By concentrating on the decade from 2012 to 2021, which corresponds to the investment period for real estate assets, and looking at all asset classes, we can conclude that equities offer the highest returns. However the volatility of this asset class is significantly higher than those of bonds, direct real estate investment, or the currency market (market for short-term financing offering low returns). The same conclusion is reached when we look at a longer period.

Each asset class faces **multiple risk factors** which affect its volatility and performance. These factors

change over time in response to economic crises and external shocks (pandemics, economic and financial crises, geopolitical events and so on). For example, sovereign bonds issued by advanced economies are an asset class considered to offer a risk-free return. However, the solvency of issuers can deteriorate, affecting the value of bonds and potentially leading international ratings agencies – such as S&P, Moody’s, Fitch or Dagong – to downgrade their ratings.

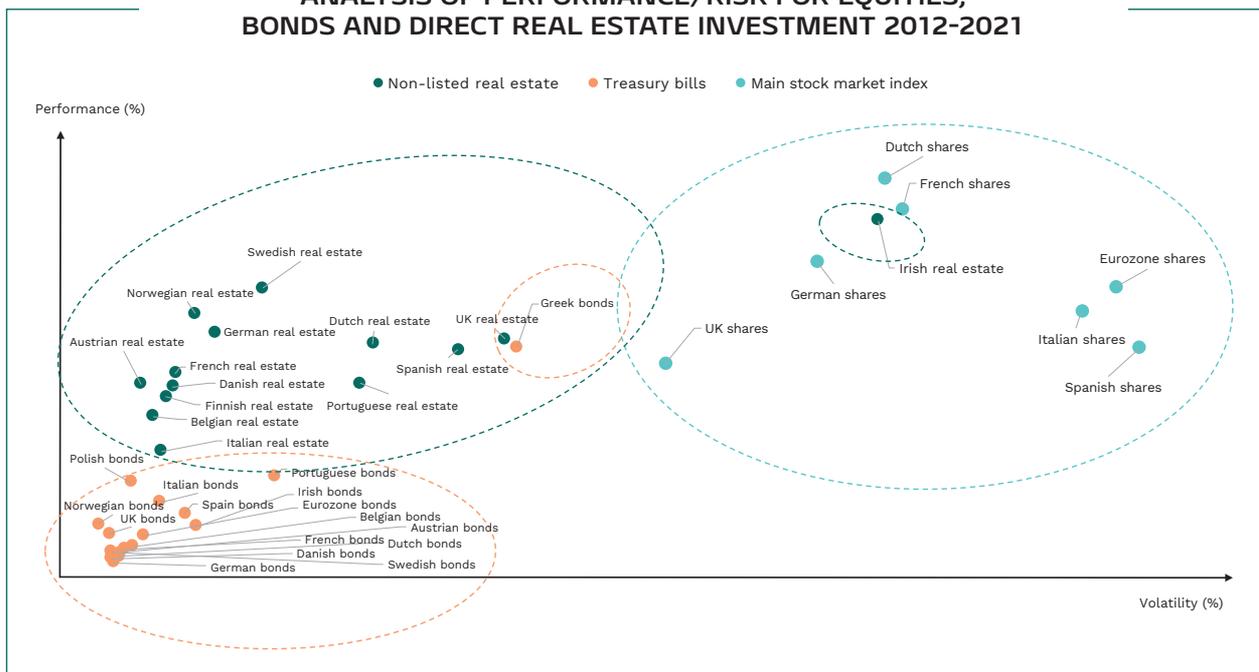
This is why, in an attempt to reduce exposure to these risk factors, investment managers diversify allocations within an asset class, whilst also adjusting the allocation between asset classes as necessary.

MEASURING RETURNS BY ASSET CLASS

	Direct real estate	Bonds	Equities
Income flows	Income return	Coupons (interest)	Dividends
Capital growth	Disposal price of the asset	Disposal price of the bond or redemption on maturity	Disposal price of the share

Source(s): Primonial REIM Research & Strategy.

ANALYSIS OF PERFORMANCE/RISK FOR EQUITIES, BONDS AND DIRECT REAL ESTATE INVESTMENT 2012-2021



Source(s): Primonial REIM Research & Strategy according to national statistical services, Oxford Economics, MSCI.

THE DECORRELATION IMPERATIVE

In order to maximise real estate investment opportunities, it is important to understand the **interactions between the major asset classes**. To achieve this we have conducted an in-depth analysis of correlation in order to **measure and understand whether asset classes outperform or underperform simultaneously or in opposition**.

Thus, using the three big asset families (bonds, equities and direct real estate) within a portfolio helps smooth performance over time, by using their different characteristics. Optimising this combination allows the reduction of overall portfolio risk for a given level of return.

ANALYSIS OF CORRELATION BETWEEN REAL ESTATE AND EUROPEAN EQUITY PERFORMANCES 2012-2021

Real estate/ Equities	French equities	German equities	Italian equities	Dutch equities	Spanish equities
French real estate	0,2	0,0	0,1	0,0	0,1
German real estate	0,2	-0,1	0,2	0,2	0,0
Italian real estate	0,3	0,0	0,3	0,2	0,1
Dutch real estate	0,1	-0,2	0,1	0,0	-0,1
Spanish real estate	0,2	0,0	0,2	0,1	0,2

Source(s): Primonial REIM Research & Strategy according to national statistical services, Oxford Economics, MSCI.



THE RISK PREMIUM APPROACH

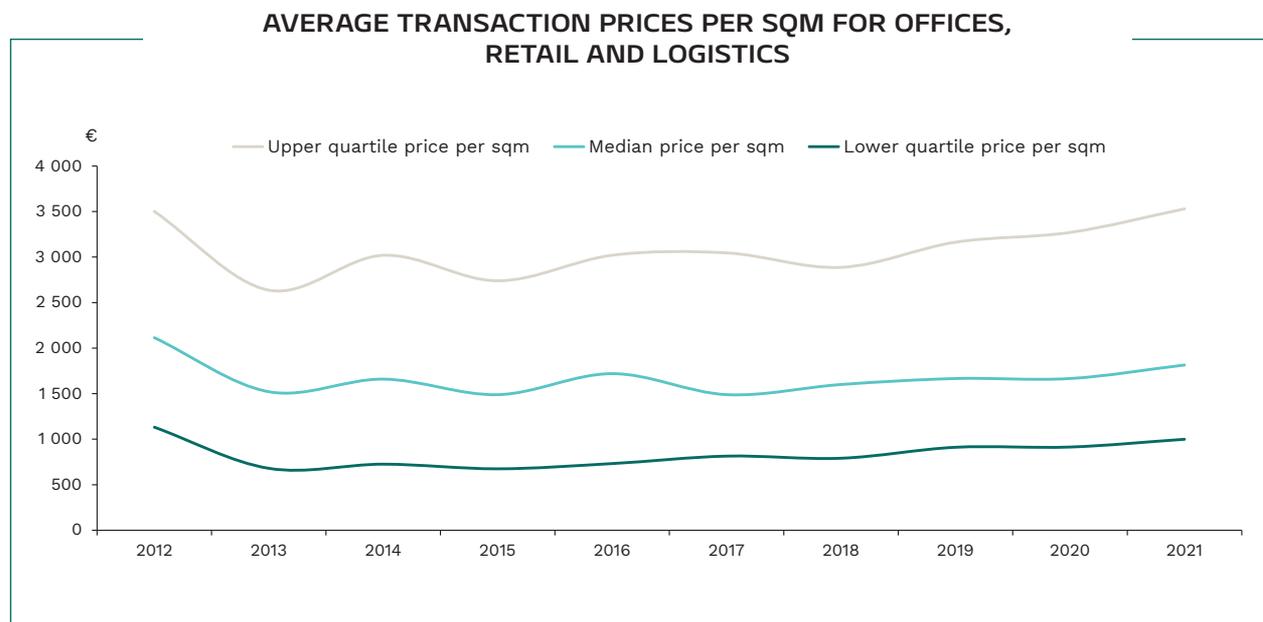
In making an investment, we cannot solely consider an expected return and a given level of risk. We also need to consider whether the surplus return, relative to a risk-free asset, warrants the exposure. As we discussed above, sovereign bonds are generally the investment with lowest risk, and by convention serve as the benchmark to measure the risk premium of other asset classes, including real estate.

Considering sovereign bonds between 2012 and 2021, we can observe a compression in 10-year yields to a greater or lesser extent (between 150bp and 660bp, excluding Greece). Moreover, this decade saw two major crises: the sovereign debt crisis and the Covid-19 pandemic. The systems set up by the European Central Bank (ECB) to address these economic shocks have consisted of a reduction in its policy rates, thus allowing real estate to rebuild a comfortable risk premium, of between 200bp and 500bp for the majority of 'prime' assets in Europe at the end of 2021.

Russia's invasion of Ukraine at the beginning of 2022 is a turning point for Europe. The ECB indicated that it would protect liquidity and that

the Governing Council would take all necessary measures to fulfil the bank's mandate of ensuring price stability and protecting financial stability. The ECB has also decided to maintain its policy rates at their lowest level. The ECB thus wants to retain maximum flexibility given the economic uncertainties arising from the war in Ukraine. Any change in policy rates will come only at some point after the ending of its net asset purchases, which it has indicated is likely to come in the third quarter of 2022. Any adjustment in policy rates is likely to be gradual.

As a result, at the point when interest rates are raised, **the issue of the interest rate sensitivity of real estate investments will return to the fore. As we have seen, the positive aspect for real estate comes from the fact that risk premiums have been rebuilt compared to those that pertained at the beginning of the analysis period. This situation therefore offers some protection against an increase in interest rates.** In addition, an analysis of real estate prices of offices, retail and logistics over the last decade suggests that price levels for business real estate are consistent.

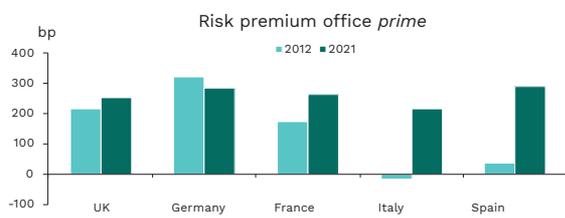


Source(s): Primonial REIM Research & Strategy according to RCA.



RISK PREMIUM ON PRIME REAL ESTATE IN THE MAIN EUROPEAN ECONOMIES (BP)

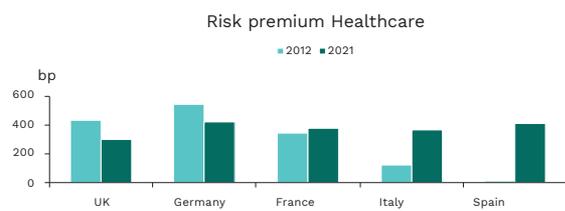
OFFICES



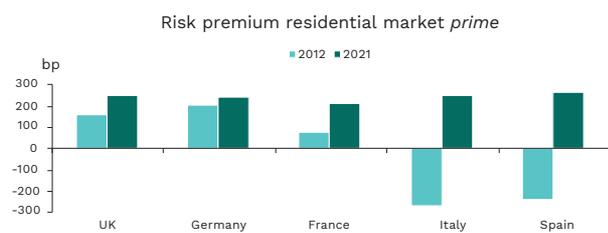
RETAIL



HEALTHCARE



RESIDENTIAL



Source(s): Primonial REIM Research & Strategy according to CBRE, Oxford Economics, Brokers, national statistical service.

REAL ESTATE INVESTMENT STRATEGIES

When allocating capital, an investor must also select a real estate investment strategy, which is a central element with significant consequences for the portfolio’s income profile.

The selection of investments in real estate assets held or acquired can be distributed according to their profile between the returns they generate and the risk the investor takes on. There are three main categories: Core/Core+, Value Added and Opportunistic. A Core asset is a well-located, well-built real estate asset, with a first grade tenant on a long lease. The stable returns of this asset type come mainly as a result of income return. The capital gain might offer an additional return on disposal, but this fluctuates over time.

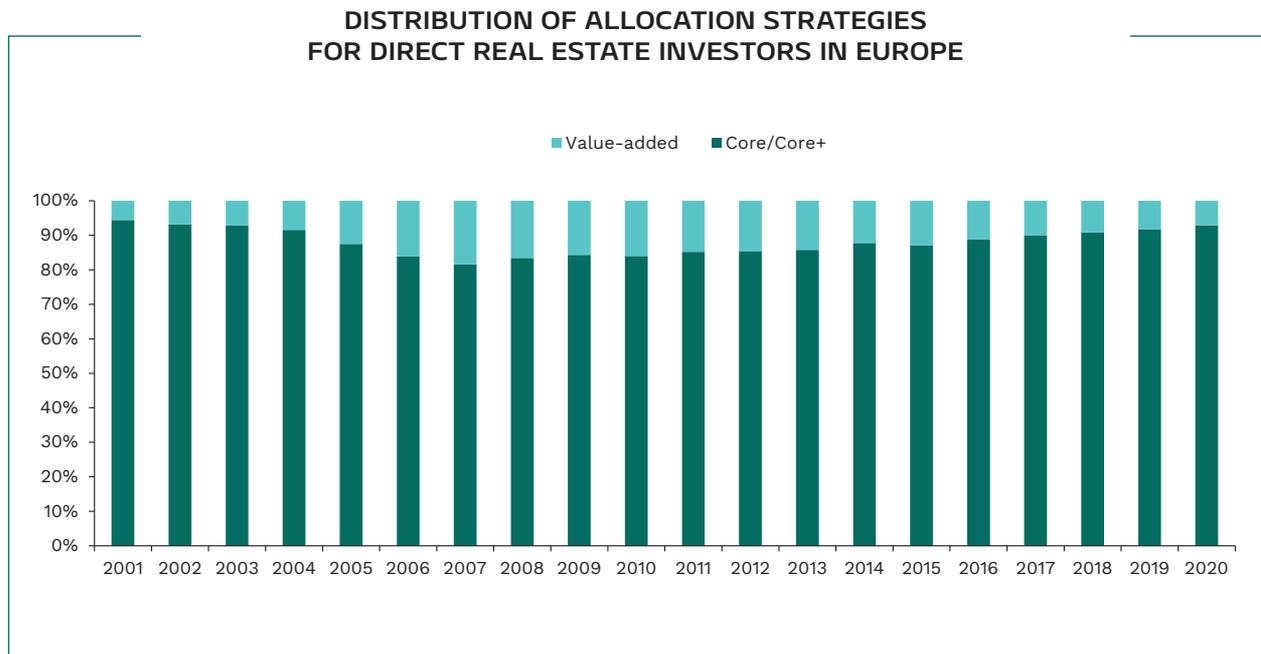
Assets placed in the Core+ category are of slightly lower quality than Core assets. Thus, if we take the example of an office asset in a central business district (CBD) but with a lease that is due to expire

soon, the asset would be considered as Core+ as an investor would have to accept greater risk due to the shorter remaining lease.

The Value Added approach puts the capital gain at the heart of the strategy, which is usually generated through a thorough renovation followed by re-letting. Another solution is to optimise the real estate cycle through potential for market gains.

Lastly, an investor looking for the highest returns but with a high level of risk compared to the other strategies could select an ‘Opportunistic’ approach.

In general terms, we recommend applying Core or Core+ strategies to the majority of an allocation. Part of the portfolio could use the Value Added strategy depending on the market cycle, with the potential appreciation of rents and value over the investment period offering higher returns.



Source(s): Primonial REIM Research & Strategy according to INREV Fund Index.

THE LEVERAGE EFFECT

With the European Central Bank having adopted a policy of abundant, relatively cheap, liquidity as it tackled the various crises of the past decade, interest rates have fallen significantly, offering investors the ability to take advantage of leverage to improve their returns.

Borrowing to optimise investment capacity increases the profitability of a project, boosting future cash flows. This can be illustrated by a simplified calculation.

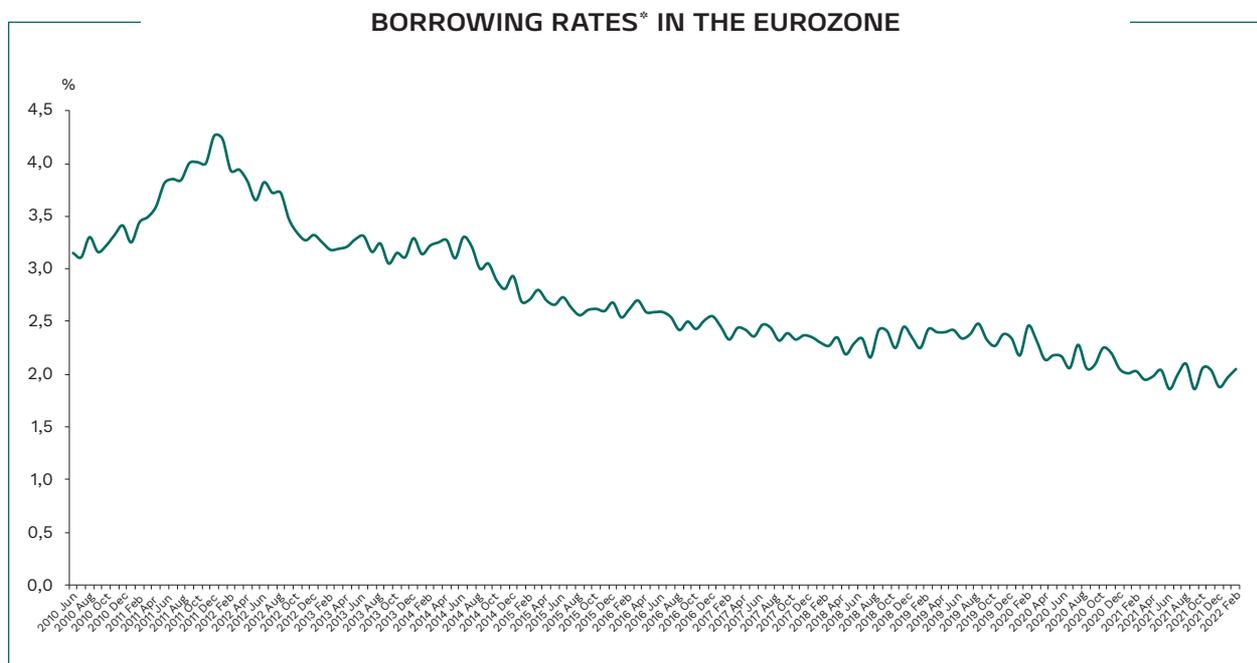
Let us assume that an investor has €50 million. They identify two buildings, each worth €50 million and generating €2 million in income return per year.

- If the investor purchases one building with their own capital, the return will be 4%, generating just €2 million per year.
- If however, the same investor chooses to purchase both buildings, borrowing €50 million, at a rate of 2% per year, these two buildings will generate €4 million per year, from which we must subtract €1 million in loan interest. The cash flow from these transactions will thus be €3 million per year.

Thus with an initial sum of €50 million, the investor now generates €3 million rather than €2 million. The bigger the difference between the borrowing rate and the return on the investment, the greater the leverage effect.

However, using borrowing can significantly increase the risks associated with the investment. For example, a financial crisis could weaken the structure of the investment (non-repayments of interest and/or principal).

In conclusion for this first section: we have seen that traditional asset allocation approaches apply relatively well to real estate. Its power of diversification relative to financial assets and the weak or negative correlation between them over a long period argue for its inclusion in portfolios subject to liquidity constraints and the management of borrowing-related risks. A risk premium approach, as traditionally used on the bond market, lends itself extremely well to real estate where risks are identified (rental, illiquidity, obsolescence, etc.) and show in the capitalisation rate of income return.



Source(s): Primonial REIM Research & Strategy according to ECB.

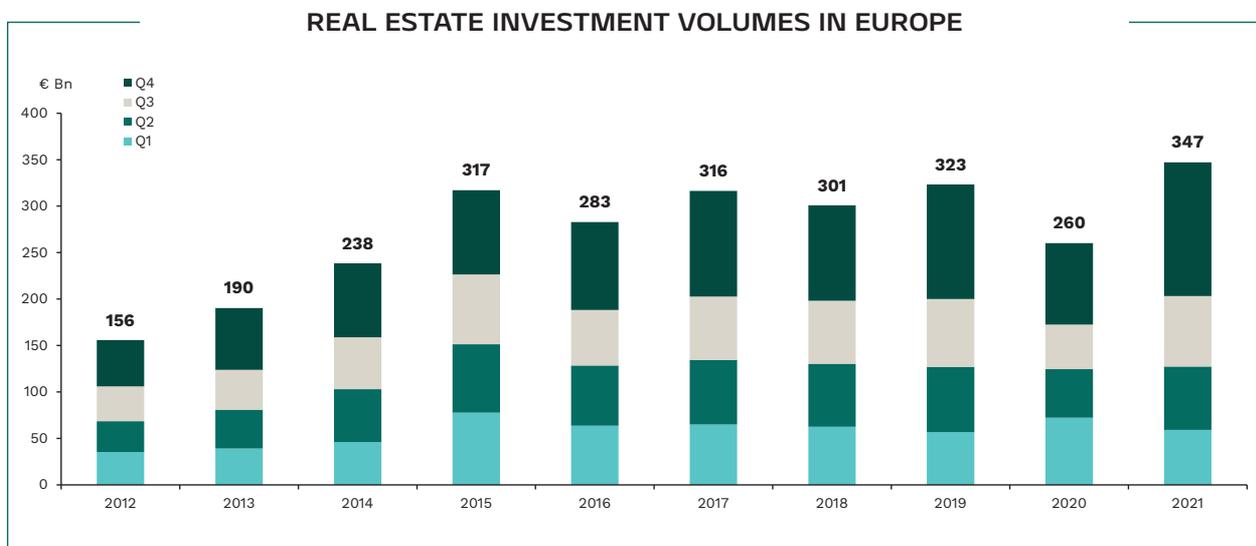
* Mortgage loans to consumers with a term of or over ten years – Eurozone.



2012-2021,
A DECADE OF
REAL ESTATE
PERFORMANCE
IN REVIEW

OVER TEN YEARS, INVESTORS HAVE ADJUSTED THEIR ALLOCATION STRATEGY IN EUROPE

Real estate assets have been much sought after by investors as part of asset allocation strategies. Thus, over the past ten years, the annual volume invested in real estate assets (office, retail, logistics, residential, healthcare and hotels) rose from €156 billion in 2012 to €347 billion in 2021.



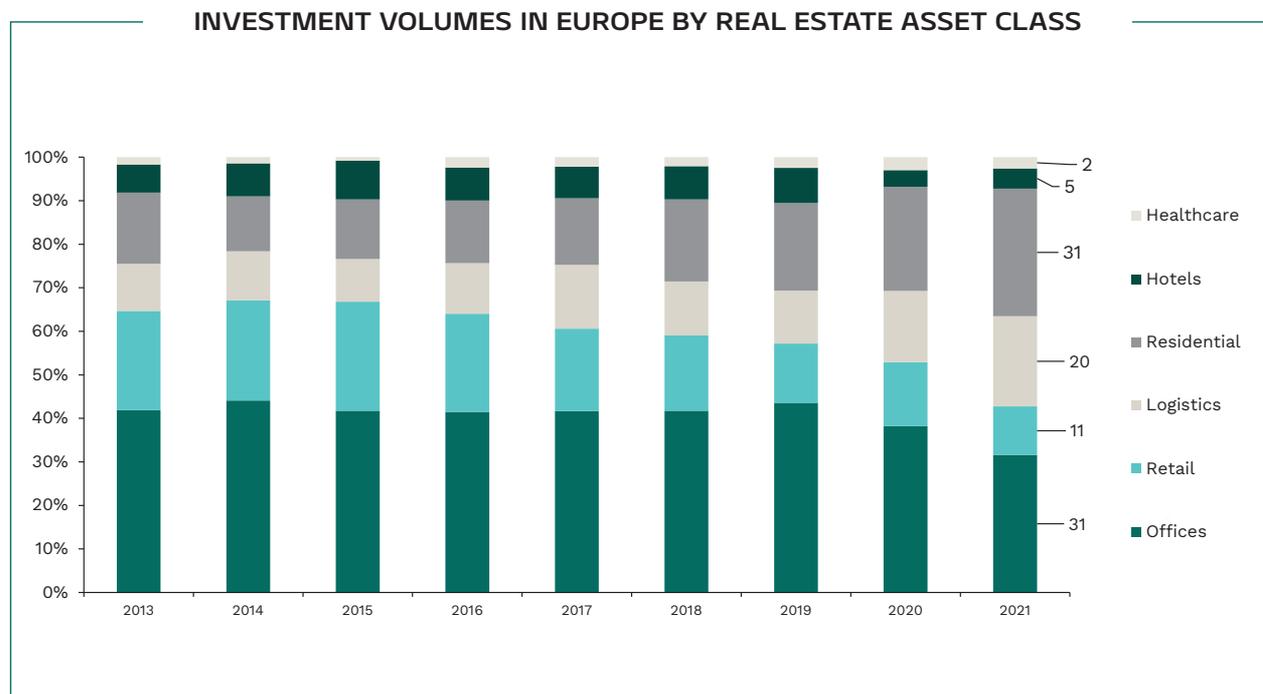
Source(s): Primonial REIM Research & Strategy according to RCA.



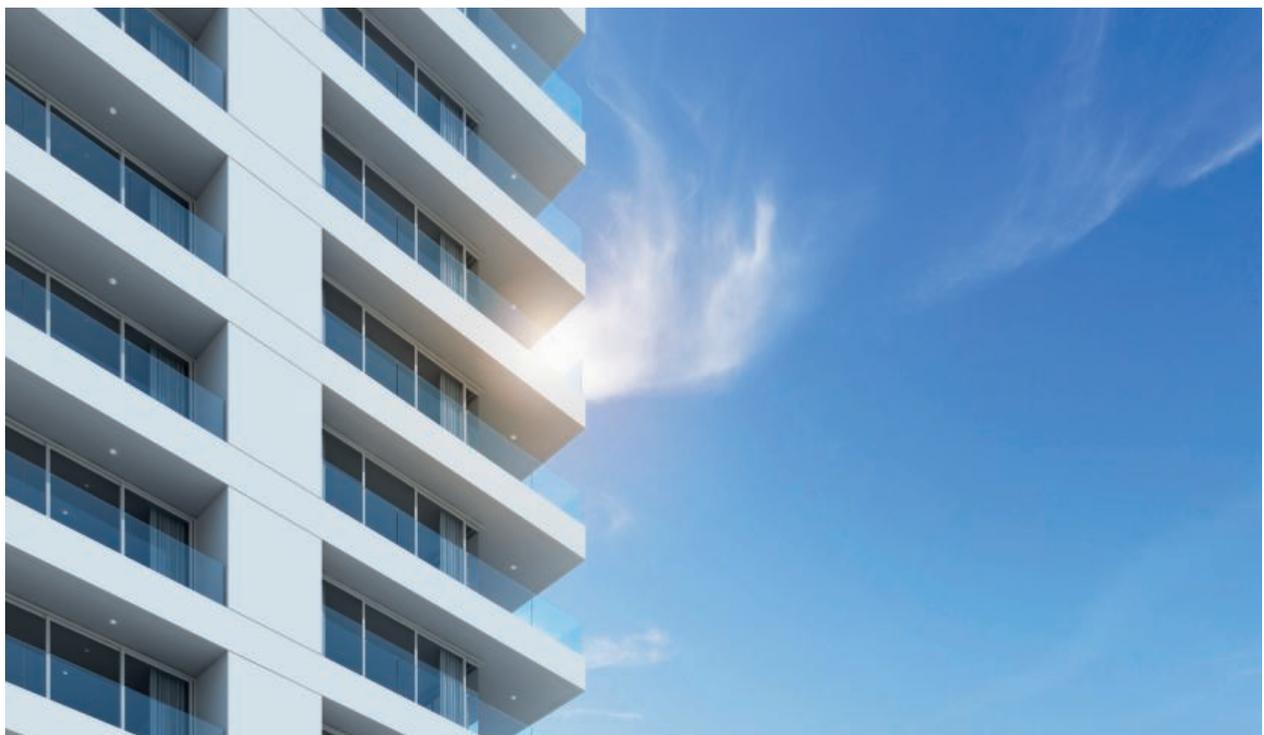
In 2021, capital focused on office and residential real estate (about 31% of the total each). In the same year, investors allocated more than 70% of their capital to six European markets: Germany, the UK, France, the Netherlands, Spain and Italy.

Despite the “home bias” that leads to investors prioritising their home real estate markets, we

have observed a real increase in cross-border investment in Europe over several years. The share of cross-border investments averages between 20% and 35% of the total each year. As a result, cross-border investments in Europe represented nearly €160 billion.



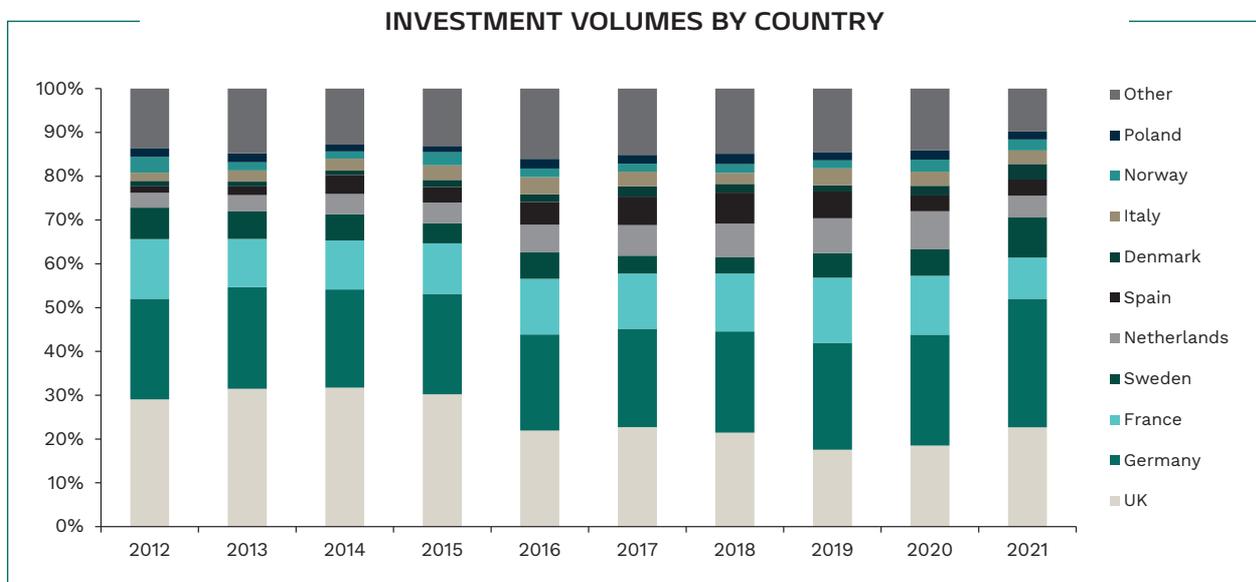
Source(s): Primonial REIM Research & Strategy according to RCA.



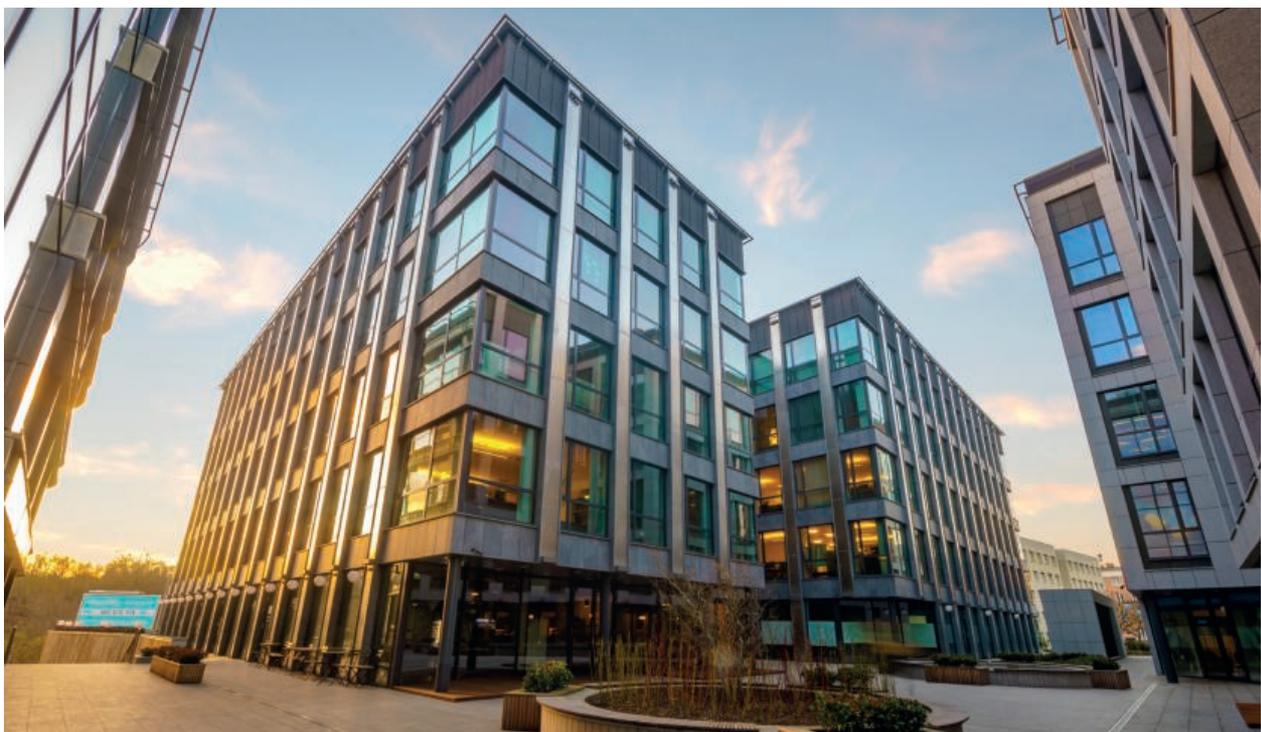
In addition to the diversification by asset class and country, one should also add a market classification according to the economic sector in which users are active. By way of example, one can draw a distinction in the office market between occupancy by companies in commodities, financial services, new technologies or government services, whilst the hotel market splits between leisure tourism and business tourism, and the retail market between food stores, homewares, clothing and leather goods, or gardening supplies.

This analysis by sector helps identify the most resilient segments of each real estate market, avoid potentially problematic areas and ensure diversification across sectors.

In general terms, a global view allows differences to be identified and then applied in the development of the appropriate investment strategy.



Source(s): Primonial REIM Research & Strategy according to RCA.



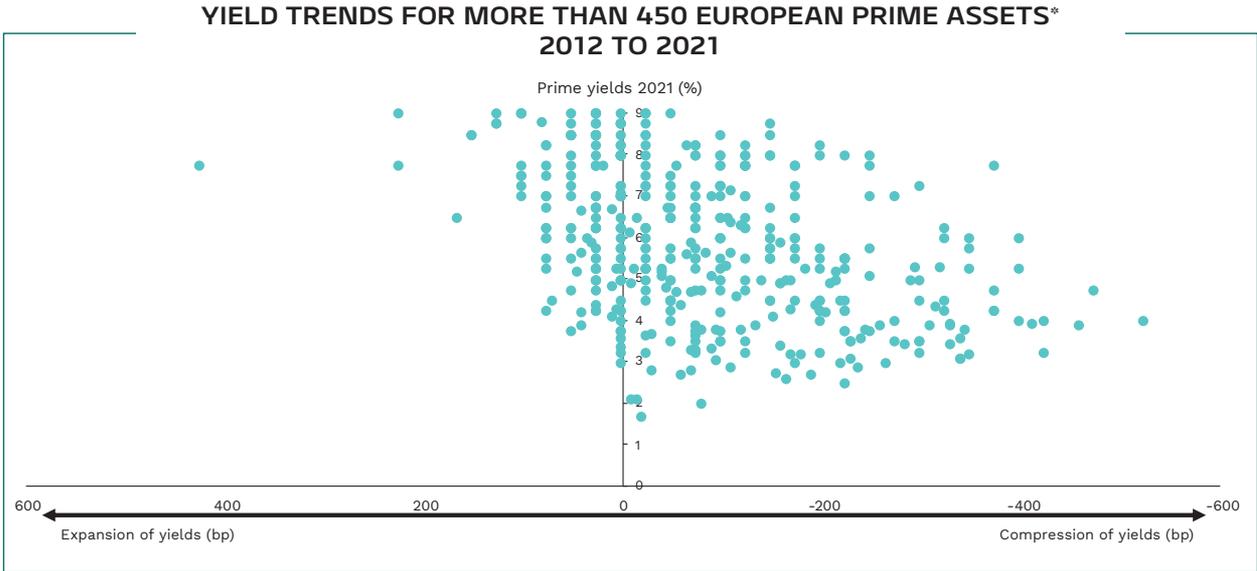
ANALYSIS OF PRIME YIELDS ON REAL ESTATE ASSETS SUITABLE FOR DIVERSIFICATION

Given investment volumes, we have analysed yield trends in more than 450 markets across Europe for the period 2012 to 2021, including non-EU countries such as the UK, Norway and Switzerland.

Of this sample, 65% of markets saw a compression of yields, slightly less than 7% have remained stable and around 28% have seen yields increase, with retail and hotel assets heavily represented

in this last group, due to the after-effects of the Covid crisis on these asset classes.

This observation alone highlights the fact that different asset classes in Europe have different cycles and that it is therefore necessary to ensure diversification by geography, asset type and sector in order to optimise the risk/return profile of a portfolio.



Source(s): Primonial REIM Research & Strategy according to data from CBRE, BNP PRE, C&W, RCA, Colliers, Catella and various brokers.

* Offices, retail, logistics, healthcare, hotel, residential.

** Or latest available data.

DIRECT REAL ESTATE: AN ASSET CLASS WITH THE ABILITY TO GENERATE RECURRENT RETURNS

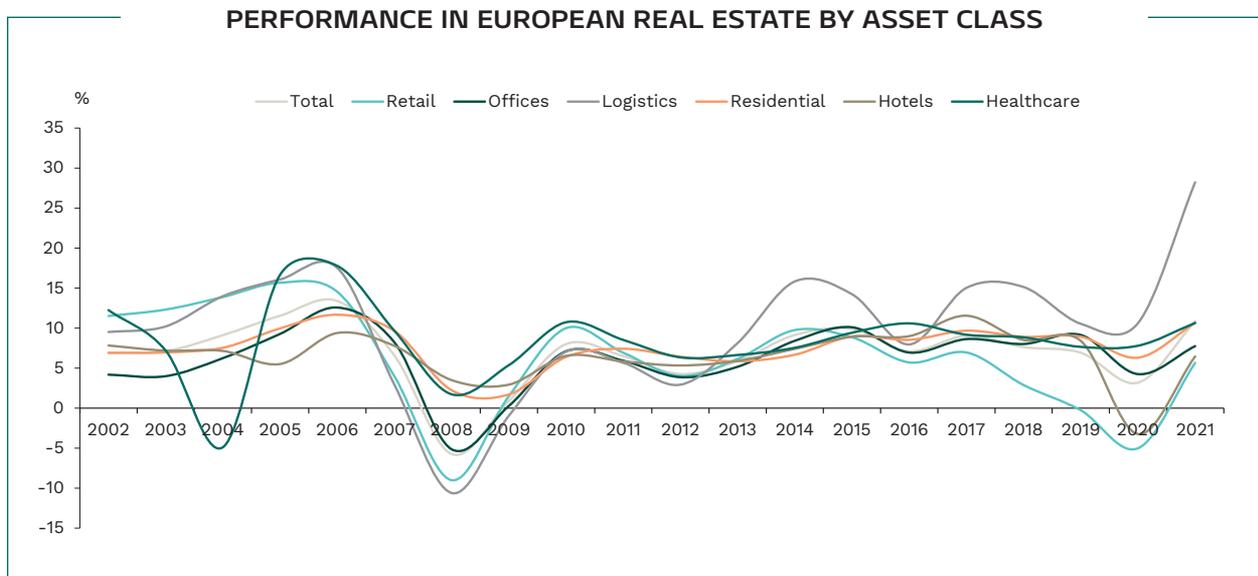
The overall performance of real estate in Europe, based on MSCI indices, consists of income return and capital growth. This indicator shows that real estate assets delivered an overall average total return of more than 7% between 2012 and 2021.

In addition, we can observe that over this period asset values did not vary in the same way, or to the same extent, at the same time.

For instance, although we observed a reduction in overall performance during the Covid crisis not all asset classes reacted in the same way. Although logistics and residential assets generated

a very strong performance, retail and hotels saw a substantial downgrade in their capital value, which had a considerable impact on their overall annual performance.

Trends in the two components of total return – income return and capital growth – are not the same. Capital growth tends to fluctuate as a function of the cycle, whilst rental yields from European real estate assets have remained within a range from 1% to 3% on average over the review period, thus creating a stable element of total return.



Source(s): Primonial REIM Research & Strategy according to MSCI.

INCOME RETURN: PARTIAL PROTECTION AGAINST INFLATION

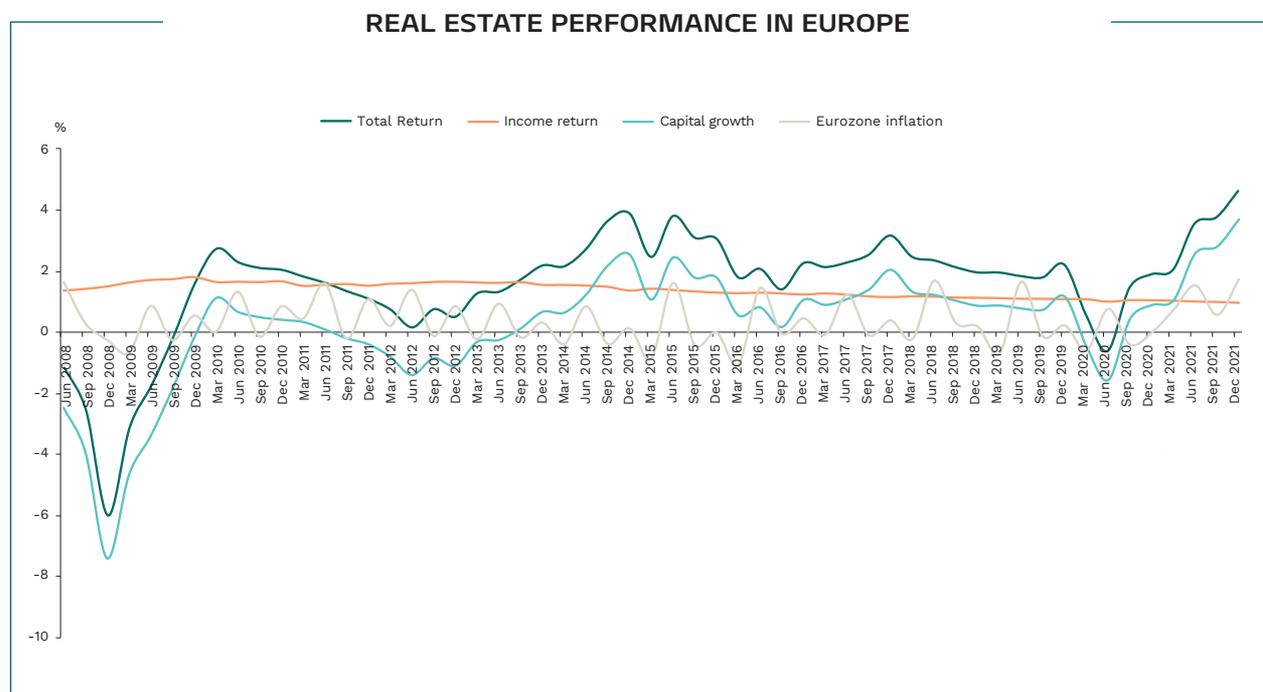
Real estate is amongst the asset classes offering investors partial protection against rising inflation.

Income returns represent a relatively stable component of real estate returns due to the steady flow of income return. As leases are generally

indexed to inflation, income returns tend to move in parallel with increases in general prices. Typically, leases on real estate assets are in part linked to the consumer price index. This index-linking can vary from one country to the next.

CAPITAL GROWTH: ADDITIONAL VALUE

The total return is the sum of income and the capital growth, which results from changes in the value of assets. Coming on top of fixed income, the latter gives real estate the potential for additional returns which can have a positive (but also potentially negative) effect on the total return when the asset is sold.



Source(s): Primonial REIM Research & Strategy according to MSCI, ECB.



**A NEW MODEL
OF REAL ESTATE
ASSET ALLOCATION**

DIVERSIFICATION: AN ESSENTIAL CONDITION FOR REDUCING RISK

To understand the mechanisms that underpin diversification in a real estate portfolio, we have focused on two asset classes – offices and retail – for the sake of simplicity.

It is generally accepted that the potential to reduce risk through diversification depends on the degree of correlation between different markets. Thus we can see, in our example below, that there has been a low level of correlation between the retail market in Amsterdam and the office market in Milan, and even a negative correlation between offices in Berlin and retail real estate in Paris.

However, analysis of correlation alone is not sufficient and may even skew our conclusions in certain cases. It needs to be backed by an understanding of changes in market behaviour over time.

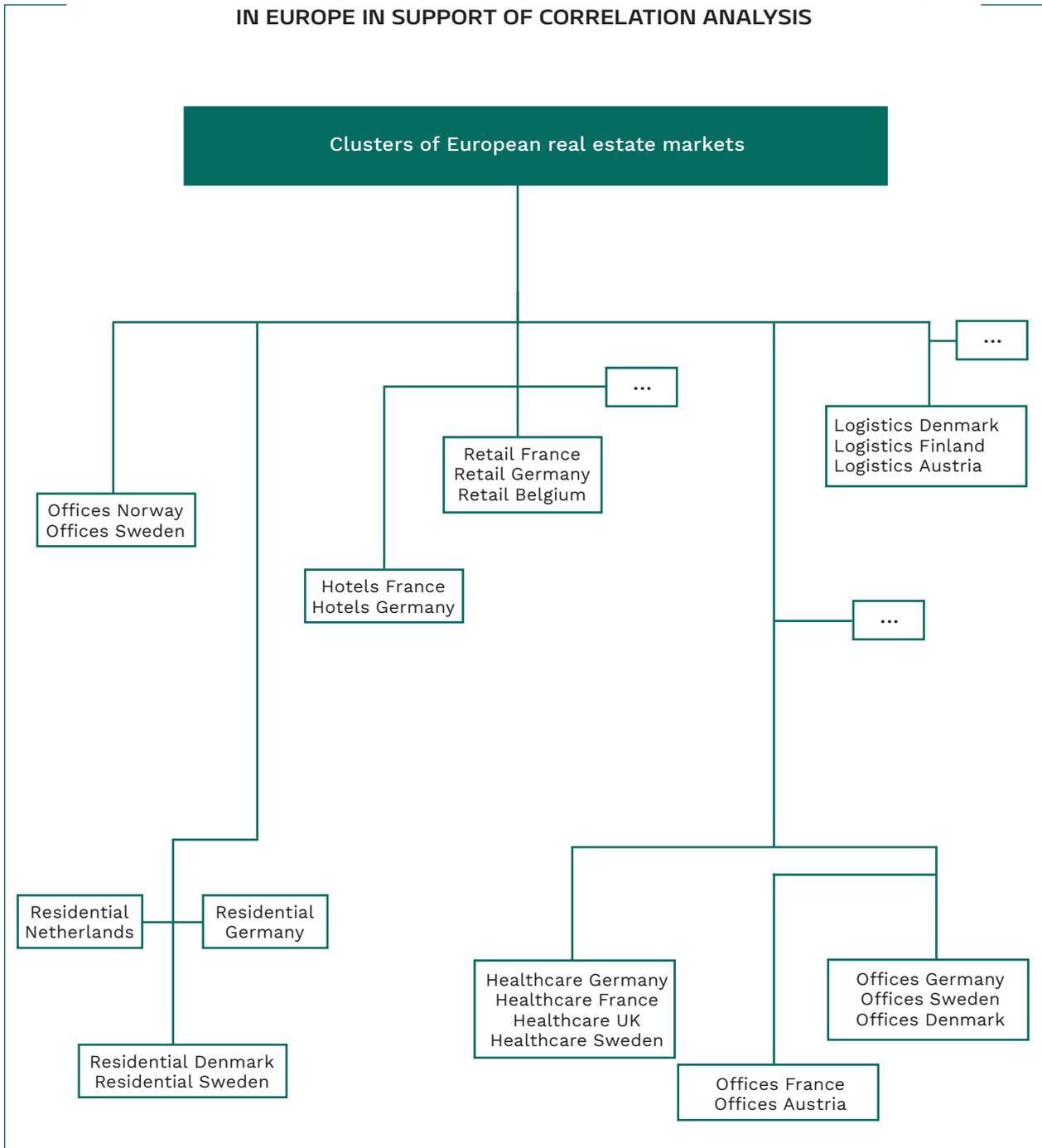
To achieve this, we have grouped European real estate markets using clustering methods. This method, based on data science, allows us to define homogenous groupings with strong similarities in their behaviour. For example, we can see that the healthcare markets in France, Germany, the UK and Sweden behave in a similar way.

**EXAMPLES OF COEFFICIENTS OF CORRELATION
IN QUARTERLY TOTAL RETURNS BETWEEN OFFICE AND RETAIL REAL ESTATE
IN THE MAIN EUROPEAN MARKETS 2012 TO 2021**

	Paris CBD	Berlin Offices	Dublin Offices	Milan Offices	Amsterdam Offices	Madrid Offices	London City Offices
Paris Retail	0,0	-0,1	0,6	0,0	0,2	0,2	0,4
Berlin Retail	0,0	0,0	0,5	0,1	0,2	0,3	0,2
Dublin Retail	0,1	0,1	0,5	0,3	0,2	0,4	0,4
Milan Retail	0,1	0,3	0,5	0,4	0,3	0,5	0,2
Amsterdam Retail	0,1	0,4	0,3	0,3	0,3	0,3	0,1
Madrid Retail	0,1	0,5	0,5	0,3	0,4	0,4	0,2
London City Retail	0,0	0,2	0,6	0,1	0,3	0,3	0,2

Source(s): Primonial REIM Research & Strategy according to CBRE.

**EXAMPLE OF A CLUSTERING TREE FOR THE MAIN REAL ESTATE MARKETS
IN EUROPE IN SUPPORT OF CORRELATION ANALYSIS**



Source(s): Primonial REIM Research & Strategy.

CONSTRUCTION OF AN ALLOCATION MODEL SMARRT[®] BY PRIMONIAL REIM RESEARCH & STRATEGY

Asset allocation models are very widely used in the financial markets and are therefore of strategic importance for real estate asset managers. However, in practice the development of strictly quantitative methods generally runs into its limits and often results in solutions with only marginal advantages.

Having observed this, we have created **SMARRT[®], or Smart Modelling by Analyzing Risk-Return Trajectory**, our real estate allocation model. By basing our approach on the past and projected future performance of real estate in Europe (**across all asset classes and countries**), we have created a programme capable of generating a multitude of efficient portfolios.

To do so we taught our programme to become intelligent:

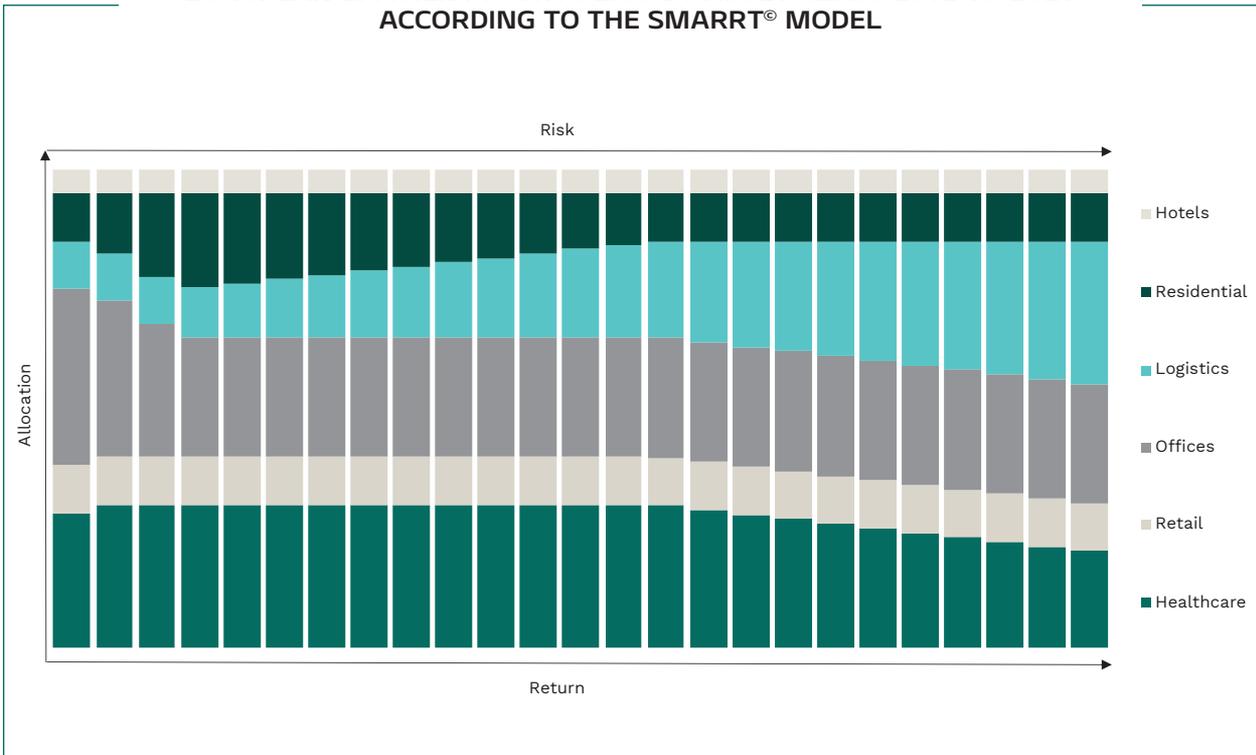
- it can suggest the best portfolios for given levels of desired risk and return, by learning what constitutes a risk and what constitutes a return;
- it can adjust its allocation for liquidity and market depth to remain in line with market realities;
- it can learn to adapt to new market conditions by taking past experience into account in order to identify the best potential future performance at any given moment.

Thus, using historical data and projections our programme analyses the risk-return profile to create theoretical efficient portfolios, guaranteeing a minimum level of risk for a given return.

Employing a statistical formula that is widely used in finance, our programme measures risk and can estimate average losses in worst case scenarios. As a result, it can create portfolios that offer both performance and resilience. Moreover, our model has confirmed that choosing to invest across all European markets rather than restricting oneself to domestic assets allows the capture of positive trends beyond national borders whilst improving portfolios' risk-return profile.

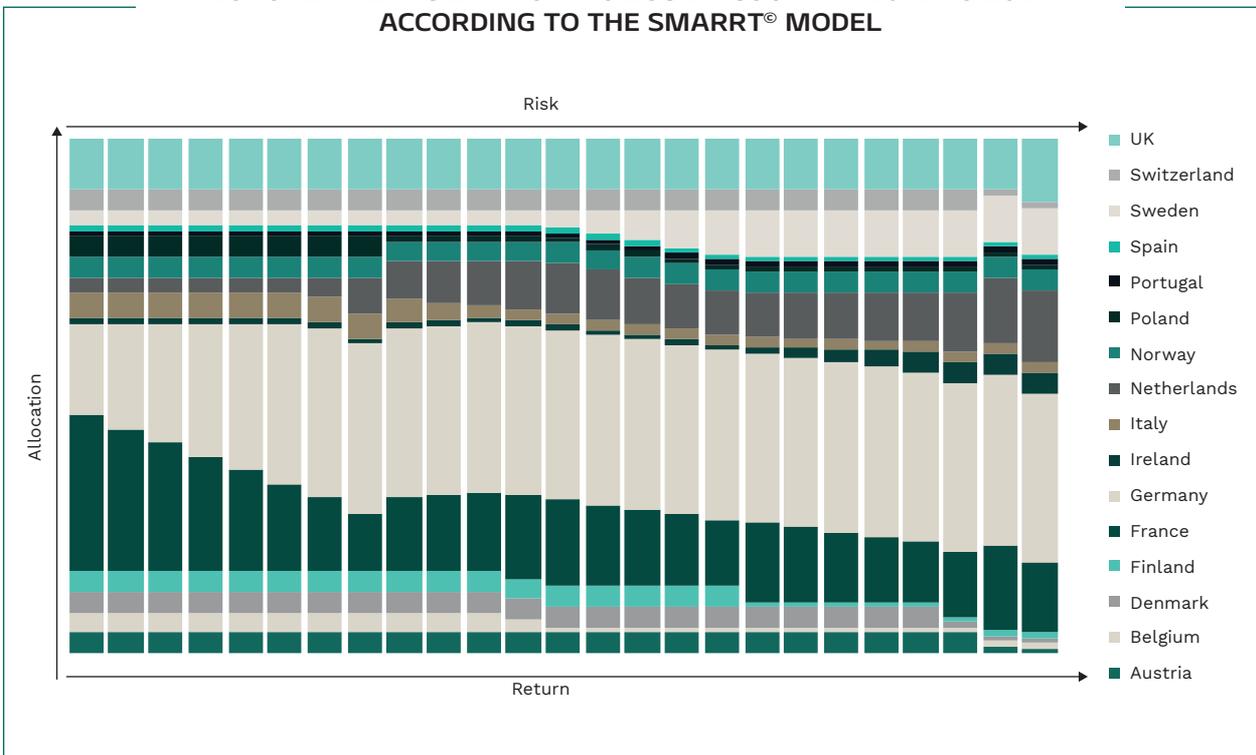
The economic context of the decade from 2012 to 2021 was one of relatively weak economic growth (annual average of 1%) **due to two major crises, modest inflation (2%) and low interest rates on sovereign bonds (1%). Against this background, our model favoured efficient portfolios with a total return of between 5% and 10%.** It concentrated on two asset classes: offices and healthcare (between 20% and 40%). The model recommends considering the residential market (between 10% and 20%) for its defensive properties, and looks to the logistics market to increase returns, albeit with an increase in overall portfolio risk. Retail and hotels (between 5% and 10%) were also an element to be included over the past decade, but the model limits future exposure to these due to the significant impact that the Covid crisis had on these two asset classes. Geographically, the model favours a European allocation concentrating on France and Germany (between 15% and 35%), with limited exposure to the UK (between 10% and 15%) from a defensive viewpoint, given the greater volatility in returns on real estate assets resulting mainly from the Brexit period.

**EUROPEAN EFFICIENT PORTFOLIOS BY ASSET CLASS 2012 TO 2021
ACCORDING TO THE SMARTT® MODEL**



Source(s): Primonial REIM Research & Strategy.

**EUROPEAN EFFICIENT PORTFOLIOS BY COUNTRY 2012 TO 2021
ACCORDING TO THE SMARTT® MODEL**



Source(s): Primonial REIM Research & Strategy.

PROJECTION OF A FUTURE REAL ESTATE PORTFOLIO BY SMARRT[©]

On the basis of modern portfolio theory and using a projection based on econometric models, we can describe an expected return, risk and correlation for all real estate assets in Europe.

The following charts show the overall allocation recommended by our model, depending on returns and taking account of historical market behaviour and the future performance over the period 2022-2031 that we expect given the current economic context.

The environment in which we are now operating and which we have assumed for the next decade is one of high inflation in Europe (annual average of 4%), rising government 10-year bond yields (2%) and growing economic uncertainties (+1%). We have assumed weaker overall real estate performances than in the past decade. Under these circumstances, our model has identified various efficient portfolios with a total return of between 3% and 7% and recommends adjusting allocations relative to the period 2012-2021. On the other hand, it continues to favour geographical diversification both across Europe and across asset classes.

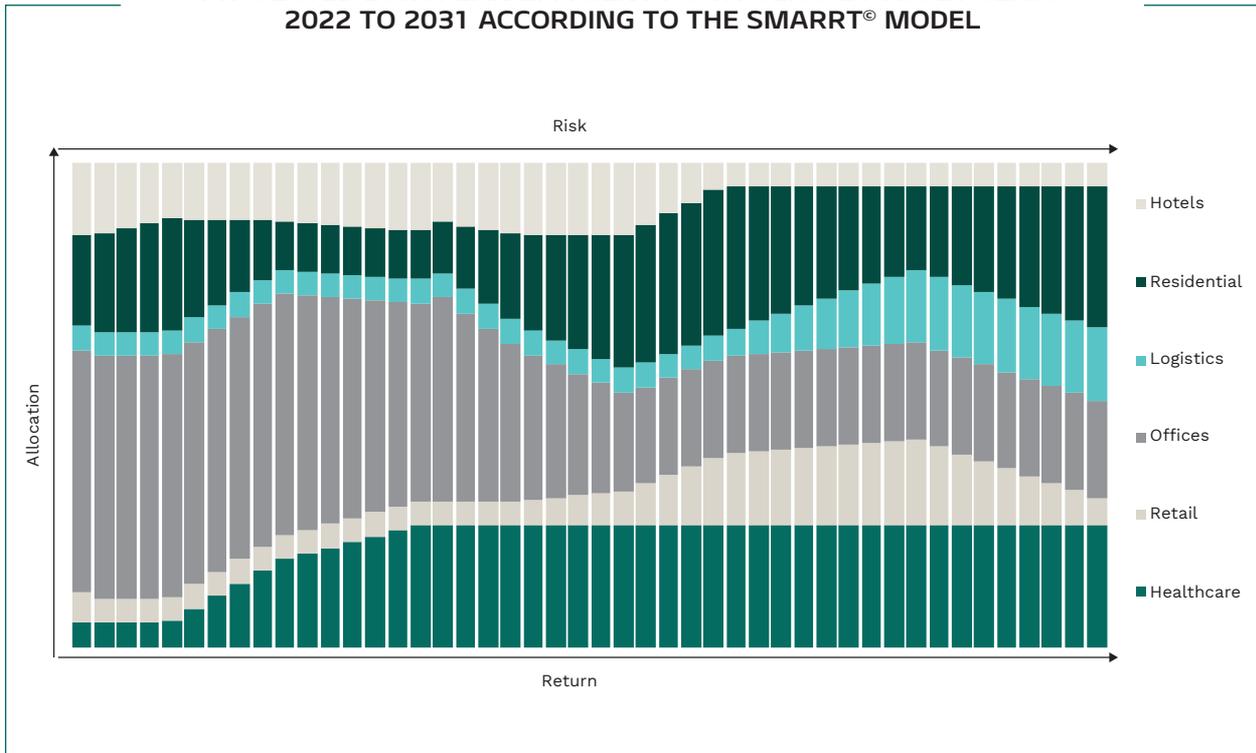
When one analyses future results by projecting real estate returns over the next 10 years, the model favours offices (20% to 50%), residential and healthcare (10% to 30%) for their defensive attributes, and overweighs logistics (5% to 15%) to increase performance, albeit in exchange for an increase in risk. It is interesting to note that

on a defensive approach the model recommends virtually equal holdings of logistics and retail, two asset classes that are linked to consumption and can be substituted for each other depending on consumer behaviour.

As far as geographical allocation is concerned, the model confirms the attraction of France and Germany (10% to 35%) from a defensive point of view and recommends increasing the share allocated to Spain (5% to 15%). It also recommends increasing the share allocated to the Netherlands (5% to 15%) to increase returns with more modest risk, and to increase significantly the share invested in the UK (10% to 30%) at the expense of Spain and Italy to boost performance, but again at the cost of an increase in risk.

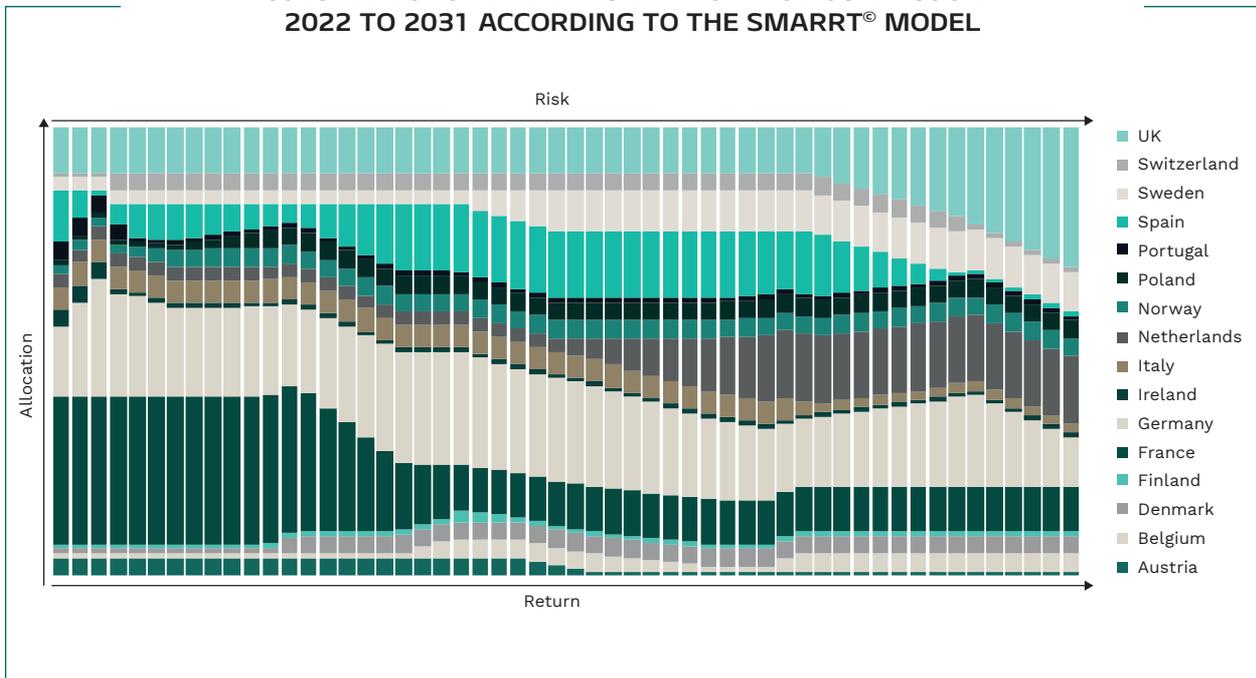
These findings are those of a specific moment and must not be viewed as fixed over time. The model will need to be adapted to each new situation, adjusting the allocation to ensure that the desired risk-return profile is maintained at all times and thus allowing strong performance over time. We have identified various types of risk that could result in a significant market correction: an escalation of the war between Russia and Ukraine, a financial crisis, rapid increases in interest rates, persistent high inflation and the issue of European recovery and debt – not to mention the regulatory unknowns that affect national markets to differing degrees, or excessive price growth in the real estate market, which could be decorrelated from economic realities.

**PROJECTED EUROPEAN EFFICIENT PORTFOLIOS BY ASSET CLASS
2022 TO 2031 ACCORDING TO THE SMARRT® MODEL**



Source(s): Primonial REIM Research & Strategy.

**PROJECTED EUROPEAN EFFICIENT PORTFOLIOS BY COUNTRY
2022 TO 2031 ACCORDING TO THE SMARRT® MODEL**



Source(s): Primonial REIM Research & Strategy.





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The Research & Strategy Department's role is to formalize Primonial REIM's real estate investment strategies, based on continuous monitoring of the French and European markets. Although collective real estate accounts for a growing share of institutional portfolios and household savings, it is at the crossroads of financial (hierarchy of rates), economic (tenants' business models), demographic (the metropolization phenomenon) and societal (changes in usage) factors. This is why a cross-cutting analysis is needed, which is also long term and therefore in keeping with the horizon of most real estate investors. Real Estate Convictions Europe offers Primonial REIM's quarterly view of its markets of choice, i.e. offices, retail outlets and healthcare and residential real estate, in the Europe.