

THE ROLE OF INTERNATIONAL PROPERTY INVESTMENTS IN THE GLOBAL ASSET ALLOCATION PROCESS

By Heinrich Hauss, Masters Student in Property, University of South Australia

Abstract

This paper examines the factors, which influence diversification into international property in a globalised asset allocation process. Before the special characteristics of real estate investments like risk considerations, forms of investment, performance measurement, diversification effects or inflation-hedge qualities are discussed, the asset allocation process is reviewed briefly and the consequences of globalisation are illustrated. The results of the discussion are compared critically with the outcome of portfolio performance measurement studies and the effects on modern portfolio theory are specified. The paper concludes that there are serious limitations when the results of diversification into international real estate are measured. These conclusions have been reported on the basis of a four-step asset allocation process. For future empirical research, it is recommended that alternative methodologies should be introduced for more coherent research designs.

1 Introduction

In the asset allocation process, which is defined as the strategic and tactical segmentation of investment capital into different asset classes, currencies etc., extensive research has been undertaken on how to diversify a portfolio to minimize risk and optimise returns. Portfolio research studies primarily focus on the three major classic asset classes: cash, bonds and stocks. This paper will approach the special role of property investments in a global investment environment and the relevance to modern portfolio theory. It will reflect on recent research on the integration of property investments into the asset allocation process and will illustrate optimisation approaches for internationally orientated investors. It has been intended to give an overview of the current research in an international context and conclusions have been drawn where further research seems to be appropriate.

2 The Asset Allocation Process

Although different studies (e.g. Brinson et al. 1986, Brinson et al. 1991, Ibbotson & Kaplan 2000) disagree on how much the asset allocation decision influences the performance of a portfolio, there is little doubt that asset allocation is one of the major factors, which influence overall portfolio performance. This research paper will start with a brief review of the financial theory behind the process and then approach the role of property as an investment class in that process.

2.1 Theoretical Review

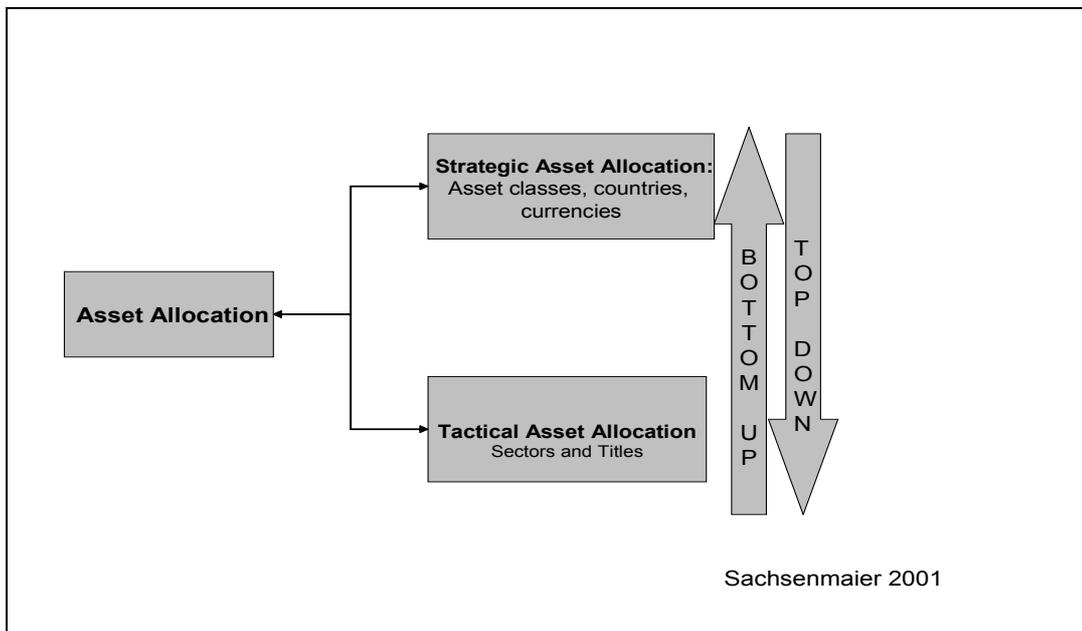
In general, asset allocation is seen as a complex system of interdependent decisions that is divided into two main areas:

Strategic asset allocation, which is explained as the partition of investment capital into fixed percentages for allocation into different asset classes (cash, bonds, stocks, property or other) with the main goals to identify the long-term strategy of an investor in order to reflect them into an initial portfolio.

Tactical asset allocation which is concerned about the short-term gains by over or under-weighting certain asset classes or asset subclasses which offer the opportunity to generate profits because of non parallel cyclical movements (Sachsenmaier 2001).

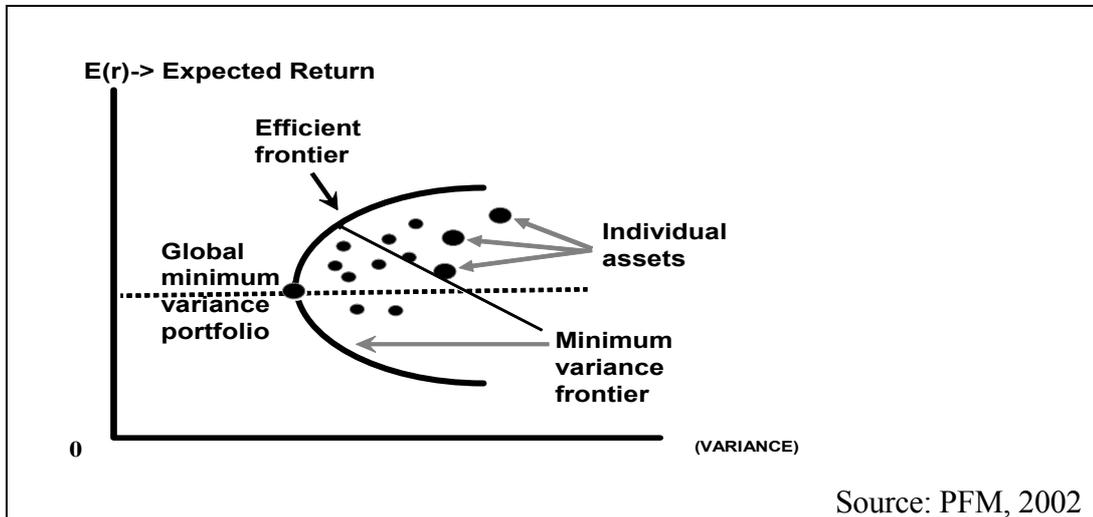
The approaches to the asset allocation decision are defined as a logical process that can be followed in a bottom-up or top-down approach, which depends on the investment style of the decision taker:

Figure 1: Asset Allocation Process



The basis for the asset allocation theory is the assumption that diversification effects exist in modern portfolio theory. A naïve diversification strategy would choose the assets randomly, while the MARKOWITZ diversification aims to include assets with a low covariance between different assets returns in order to build efficient portfolios, which are located on an efficient frontier (Bodie, Kane et al. 2002, pp. 207-256).

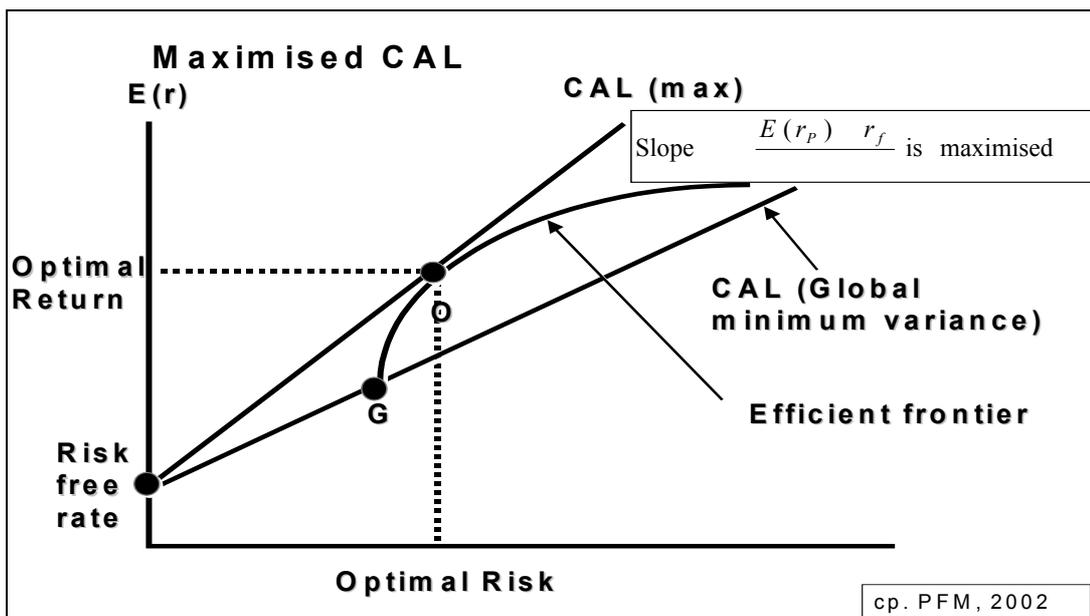
Figure 2: Construction of the Efficient Frontier



All portfolios located on the efficient frontier offer the highest return with a given level of risk or the lowest possible risk at a certain rate of return.

Performance measurement makes different portfolios comparable. From the efficient portfolios, it is chosen the one, where the tangent (capital allocation line) touching the efficient frontier is the steepest or in other words where the slope (Sharpe-ratio) of the CAL is maximised. This portfolio is called the optimal portfolio.

Figure 3: Finding the Optimal Portfolio



The performance of a portfolio hardly depends on the asset allocation process and the contribution to overall performance can be calculated by the following equation:

Contribution for asset allocation	$(w_{Pi} - w_{Bi}) r_{Bi}$	► Strategic asset allocation
+ Contribution for security selection	$w_{Pi} (r_{Pi} - r_{Bi})$	► Tactical asset allocation
= <u>Total Contribution from asset class</u>	$w_{Pi} r_{Pi} - w_{Bi} r_{Bi}$	

with:
 w_{Pi} = weighting in managed portfolio
 w_{Bi} = weighting in benchmark portfolio (Index)
 r_{Pi} = return of managed portfolio
 r_{Bi} = return of benchmark portfolio (Index)

Source: PFM, 2002

The literature (e.g.; Bodie et al. 2002, Kahn & Roulet 1996) parts the optimal asset allocation process in the following steps:

1. Specification of the asset classes to be included in the portfolio (**strategic**);
2. Specification of capital market expectations (**tactical, technical**);
3. Construction of the efficient frontier (**purely technical**);
4. Selection of the optimal asset mix (**analytical, action**).

2.1.1 Strategic Asset Allocation

An incorporated part of the strategic asset allocation process is the predefined *asset allocation policy* of an investor. It covers the establishment of normal or long-term asset class weights and is a central part of overall investment policy (Brinson & Hood 1986; Brinson, Singer et al. 1991). IBBOTSON and KAPLAN investigated the influence of the asset allocation policy on investment fund performances in 2000 and concluded that 90 per cent of a fund's performance over time and about 40 per

cent of the variation among funds are explained by the asset allocation policy (Ibbotson & Kaplan 2000)¹. This should show the dimension to which extent the strategic asset allocation contributes to performance.

2.1.2 Tactical Asset Allocation

In general, asset allocations are classified as active or passive (parallel to the investment styles). In contradiction to passive allocation (when the managed portfolio is adjusted to the market portfolio) an active asset allocation is characterized as the process of changing the asset mix of the managed portfolio in order to profit from a state of capital markets in deviation from equilibrium (Brinson et al. 1991). Market events causing high amplitudes and shifts in asset subclass returns seem to justify an active asset allocation strategy (Nam & Branch 1994), which is also used because investors have individual views on markets and sectors and therefore are over or underweight in certain asset categories (Zimmermann, Drobetz et al. 2003). The main limiting factors are described as transaction and information costs, rising with the absolute number of changes in the asset mix (Nam & Branch 1994).

Passive or active (dynamic) portfolio management strategies could be distinguished between:

Buy and hold strategies;

Constant mix strategies;

Constant portfolio insurance strategies;

Or option based insurance strategies (Perold & Sharpe 1988).

Confusingly an overall portfolio *strategy* can include strategic and tactical asset allocation decisions. This may be caused by an inflationary usage of the term strategy in contradiction to its military distinct definition, where the strategy is part of the hierarchical chain:

Purpose/Cause Policy Strategy Tactics Training/Doctrine (Whitworth 2000)

But also the viewpoint of the portfolio manager may contribute to a misunderstanding of strategic or tactical asset allocation decisions. Assuming that because of practical reasons portfolio optimisation mostly operates in a top-down approach (Lee & Lizieri 1999), the diversification and shifts in weights within subclasses (e.g. the asset class of real estate) may be a tactical decision for the

¹ From 1988-1998 the monthly returns of 94 US balanced mutual funds were examined and 5 years of quarterly returns of 58 pension funds between 1993-1997.

manager of a multi asset portfolio, while the manager of a single asset portfolio that consists only of e.g. real estate investments will have to make a strategic decision on the weightings of commercial, industrial, retail or residential properties.

Global asset allocation decisions, which will be defined in the next section, can also have a strategic or tactical nature. For example, a diversification into different countries may be a long-term goal with regular adjustments to the strategic investment policy and could have less in common with high frequency trading that may be recommended by tactical asset allocation programs (Campbell & Viceira 2003).

2.1.3 Global Asset Allocation

In general, global asset allocation can add value when disparities between national economies and markets occur (Ibbotson 2000). The development towards global investments has aimed for diversification effects due to lower correlations between asset classes in international markets. The trend has been explained as a natural consequence of the overall globalisation of economies and financial systems. The numerous reasons include:

Globalisation of the economies and a better understanding of the advantages of international diversification;

Lower importance of currency (exchange) risk in the Western economies, for example the Euro system;

Advanced communication systems and broader networks in information technology systems;

Establishment of global trading systems, and a decline in information and trading costs for international trades;

Institutionalisation of investors like pension funds or mutual funds with a wider investment horizon and an interest for international investments (Zimmermann et al. 2003).

For the integrated practical process of global asset allocation, a three-step process has been suggested. Firstly, the asset class returns have to be forecasted (*'the art of global investing'*); secondly, optimal portfolios have to be built (portfolios are extremely sensitive to changes in forecasts); and thirdly, the performance has to be monitored through out-of sample testing (Kahn & Roulet 1996).

2.2 The Importance of International Property Investments for Asset Allocation

Various research studies have consistently reported on the international diversification benefits and proven that low correlations can increase diversification effects (see for example Grubel 1968; Solnik & Boucrelle 1996; Longin & Solnik 2001). On the other hand, it has been documented in various empirical studies (e.g. Speidell & Sappenfield 1992), that the country by country correlations should substantially increase for world equity markets in an ongoing process of globalisation and that the reported diversification benefits have decreased during the past decades.

The practical implication for a portfolio manager that has emerged from these findings will be the challenge to readjust the asset allocation approach to different sectors or non-traditional asset classes (Zimmermann et al. 2003). In this process, the special role of property investments with its unique investment characteristics and its various investment vehicles will have a significant influence on private and institutional investment policy.

3 Analysis of Property as an Investment Class

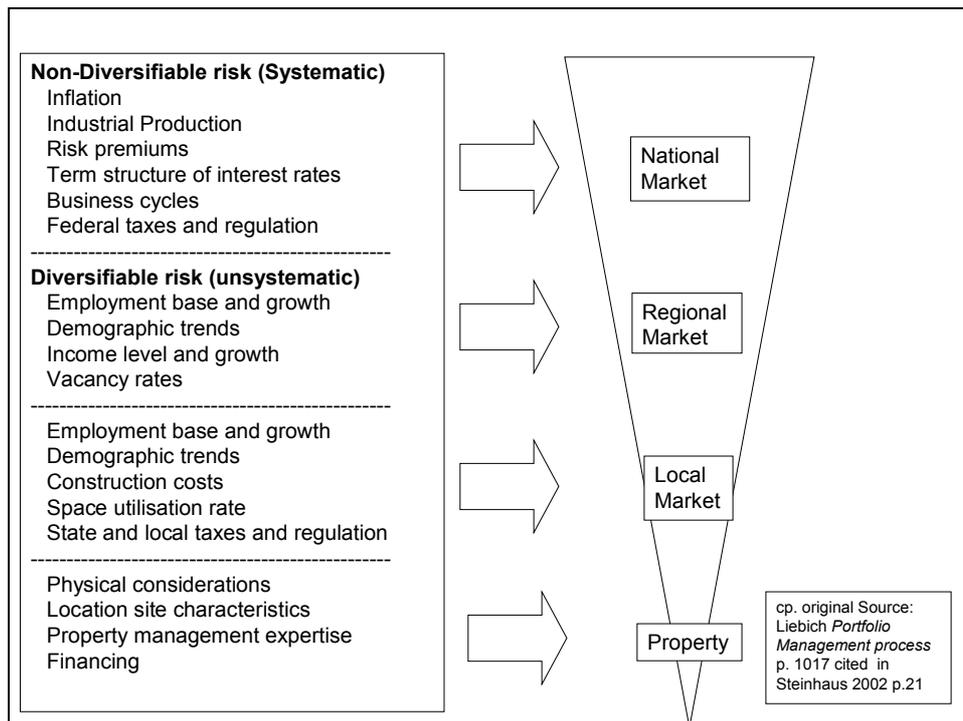
The traditional reasons for integrating real estate assets into a portfolio have been the assumed low correlations between real estate and the existing bond and stock markets (Maurer & Reiner 2002) and other special characteristics of real estate investments such as sectoral and geographical diversification effects, higher returns through international real estate investments with higher income yields and a motivation to align international core business operations with corporate investments (McAllister 1999). International investments (e.g. into real estate markets) can reduce portfolio risk because asset returns in different countries may not be perfectly correlated (Eichholtz 1996).

3.1 Property Characteristics

3.1.1 Property Risk Considerations

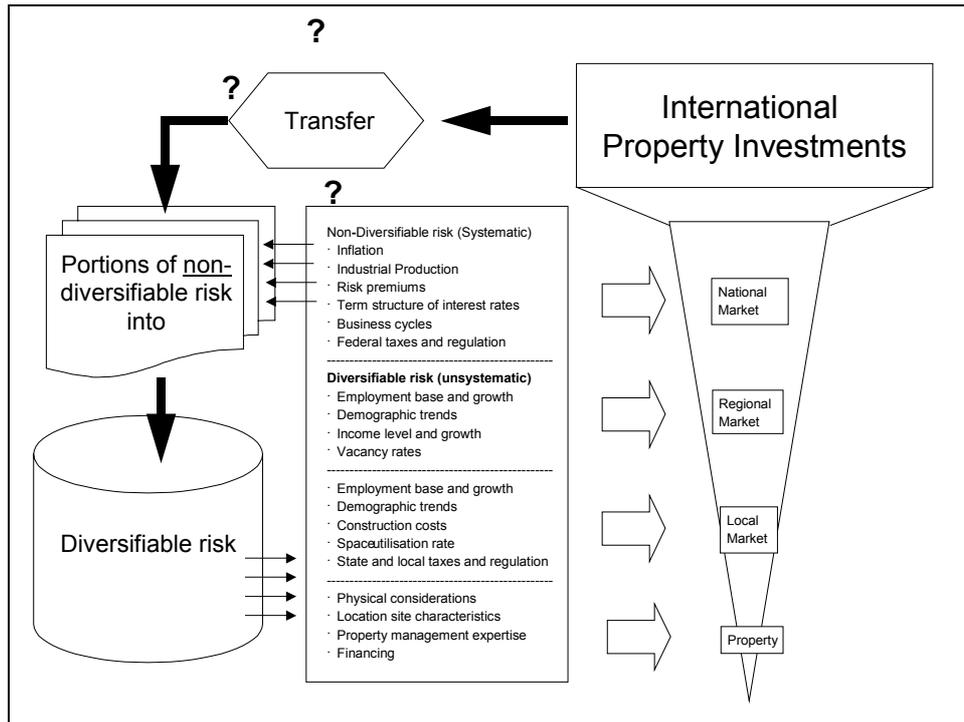
It must always be kept in mind that diversification effects may be different for single or multi- asset portfolios (the problem of viewpoint). Real estate investments are normally significant because of low standard deviations in return series (Sachsenmaier 2001), and the addition to stock and bond portfolios could decrease volatility while maintaining average returns. At the beginning of this paper the MARKOWITZ process has been reviewed briefly. For diversification effects it has to be remembered that overall risk is added up from systematic and unsystematic risk. Only unsystematic risk can be decreased by diversification. For real estate these diversification effects can take place on different levels:

Figure 4: Property Risk Levels



In general, because of the special local attributes of real estate, it has been assumed that diversification effects would be higher for real estate because of a lower proportion of systematic risk. In other words, the effect would be more significant, because real estate contains more risk than shares and bonds that can be diversified away. Supporting this assumption a study conducted by COLE et al. (cited in Sachsenmaier) proved that for different diversification among real estate types or geographic diversification, the systematic risk is lower than 20 per cent of the overall risk. A limitation for the risk model building is seen as the assumption that real estate pricing mechanisms include residual risk (the systematic component) and also non-risk factors such as taxes, marketability costs and information costs (Ibbotson & Siegel 1984). The question to be asked is if the overall risk of a portfolio could be decreased by opening another source of diversifiable risk through the integration of international property investments into the global asset allocation process.

Figure 5: Risk Transfer



3.1.2 Investment Vehicles

The effects of property integration have then been investigated with concentration on the various investment vehicles by which property can be transferred to an investor. Here the literature differentiates in general between direct property investments, indirect property investments and syndicates (Ryder 2003) and for different countries various investment products are traded. From the perspective of an investor, property investment vehicles can be classified to a range of factors such as:

- Intended investment period;
- Availability of capital employed;
- Minimum lot size of capital;
- Risk assessment;
- Degree of liability;
- Ability to monitor the economic activity of the investment;
- Availability of public information;
- or the degree of influence the investor has on the management of the investment (Berry, McGreal et al. 1999).

It has been concluded that the specific markets for indirect property investments are more transparent, information costs are lower and liquidity is higher (McAllister 2000).

A survey by NEWELL and WORZALA in 1995 studied the investment strategies of 65 institutional investors in Australasia. It showed that for overseas investment, institutional investors show preferences for different property investment vehicles, which were ranked as follows (Newell & Worzala 1995):

1. Joint venture with overseas property company;
2. 100 per cent wholly-owned equity investment;
3. Publicly traded shares in domestic property trust/REIT which target overseas property;
4. Joint venture with another local institutional investor (equity);
5. Publicly traded shares in property companies.

MCALLISTER has investigated the specific distinguishing characteristics between direct and indirect property investments in 1999 and proved generalising assumptions for international property investments. It has been concluded that for most international investors, indirect investments in specialist property investment companies would allow the most suitable access to international property markets (McAllister 1999). Non-domestic investors' opportunities are also limited by higher costs of information and management.

Over the last decade, new vehicles of international real estate investment have developed to an emerging alternative. Securisation of real estate may result in either venture capital in the riskier form or in an industry sector in its developed form. Furthermore, a transfer of real estate investment into venture capital or private equity has become popular (Baum 1999).

3.1.3 Performance Measurement Systems for Property

For performance measurement, it has to be distinguished between performance and price indices for different asset classes (Sachsenmeier 2001, p. 648). For real estate indices, there are several approaches practiced in various countries, which can be classified into three different classes:

3.1.3.1 Appraisal based Indices:

Appraisal based returns series tend to smooth or underestimate the standard deviation of real estate returns. Appraisals are normally based on valuations with comparable sales, replacement costs or discounted cash flows (Ibbotson & Siegel 1984). The valuation error influences therefore the performance measurement of all property assets, and the error is based on the structure of property markets and techniques of the valuation process. It has been argued that property investment performance measures contain inaccuracies and therefore should be treated critically (Bowles, McAllister et al. 2001)

GELTNER has investigated the use of appraisals and it has been forecasted that this technique will be more and more replaced with regression-based techniques (Geltner 1997).

In contradiction to appraisal based indices, the possibility of transaction-based price indices for real estate has been reviewed and even with a complete disclosure of all market data (which would not be possible in various countries), the number of transactions required to adjust for property differences would exceed the number of transactions significantly in most markets (Miles, Hartzell et al. 1991).

3.1.3.2 Indices based on price development of property funds traded on public market exchanges:

The investment style of property funds managers has a significant influence on the distribution of performance data. Therefore, funds managers' investment styles should be reported and integrated into index benchmarks (Lee 1999).

3.1.3.3 Indices that reflect share prices of corporations with real estate as a core business:

The interrelationships between property indices have been investigated with correlation analysis and the conclusion has been drawn that EREIT (Equity Real Estate Investment Trusts) return series are weak proxies for real estate returns (Moss & Schneider 1996).

The reliability of property performance indices based on property market data has been criticised for serial correlation. It has been found that the use of valuation data is not the origin of the serial correlation and that autocorrelation effects can be proven not only for property rates of return but also other economic time series data such as rental and yield series (Dunse, Jones et al. 1998).

Overall, it has been concluded that there are significant restrictions for property performance measurement caused by the very special characteristics of real estate and that ongoing development will be necessary.

“The challenge for the next few years is to ensure that techniques imported from other markets are applied appropriately in a property context. Simply using the methods developed in other markets is not enough; where necessary, they must be adapted for use in a property context, taking full account of the inherent characteristics of property” (Morrell 1995).

3.1.4 Sub Class Level Findings for Diversification

A variety of studies (e.g. from Eichholtz & Hoesli, Gallo et al., Fisher & Liang) investigated the interrelations between the two main strategies for portfolio diversification named as

Diversification by region;

Diversification within a type of property (e.g. residential property).

It was found that it has to be differentiated between functional regions rather than administrative regions (Eichholtz & Hoesli 1995). Additionally the findings from former studies (that diversification by property type is more efficient in general) have been redefined and it has been stated that for different property types, diversification across regions has dissimilar effects, e.g. for the investigated countries (UK and US) there are no general rules for property type diversification (Eichholtz & Hoesli p.55). For the US it was proven later, that superior performance of real estate mutual funds was dependant on property type over-or under weighting between 1991-1997 (Gallo, Lockwood et al. 2000). The view of certain uncertainty has been emphasised by the limitations of data sets caused by statistical measurement problems on the local level and significant inconsistencies between existing performance indices (Dunse et al. 1998, p.471).

In addition, it has to be noted that when property performances for sectors are measured with indices as a benchmark, these pure sector portfolios are already diversified by region (like the benchmark). The concept of property type or regional diversification is therefore more applicable for a portfolio of direct property investment (Fisher & Liang 2000).

3.1.5 Inflation Hedging with Property Investments

Several studies have argued that property investments provide an effective protection against inflation, which is caused by a high correlation between inflation and nominal returns of real estate (e.g. Ibbotson & Siegel 1984). RUBENS et al. describe former studies that found residential and commercial real estate act as complete hedges against inflation in the United States. They attempted to extend the argument of inflation hedging to rural real estate and concluded that farmland and residential real estate provided complete inflation hedges while commercial real estate and treasury bills are indeterminate inflation hedges (Rubens, Bond et al. 1989). Indirect property investments have been examined in various countries (with given securities design differences) to find out whether real estate investment trusts are a more perverse inflation hedge than common stock. In fact, international evidence has been found that this is true for some countries (Liu & Hartzell 1997) but different studies have been consistently criticized because the performance measures used do not take into account the inconsistencies of

Data bases (appraisal based indices, REIT indices);

Economic scenarios (growth, recession) and

Lengths of investigated timeframes (Sachsenmaier 2001).

Because of these inconsistencies it has been concluded that findings of the analysed studies cannot be generalized.

Furthermore, the findings from BUETOW & JOHNSON about monetary policy should be recognised, because interest rate decisions and inflation are closely related. They discovered in 2001 that the optimal asset allocation in the US national market hardly depends on the monetary policy of the Federal Reserve Bank. In an environment of restrictive monetary policy, the investor should hold a lower proportion of real estate and a higher proportion of Treasury Bills (vice versa in an expansive environment) (Buetow & Johnson 2001). JENSEN and MERCER found supporting new evidence for the theory that the monetary cycle has a greater influence on asset class return structures (like real estate) than the business cycle (Jensen & Mercer 2003)². It is therefore suggested to investigate if the described sub-optimal regroupings of investments because of changes in monetary policy can be overcome or smoothed by an asset allocation that diversifies real estate investments globally.

3.1.6 Portfolio Performance Studies

Research studies designed to find out which investment strategy would be superior are almost uncountable. It has therefore been decided to leave out general guidelines for investors and to concentrate on performance studies with actual findings related to the field of an integration of international real estate to investors' portfolios. Although performance studies comparing return series of investment classes and subclasses (e.g. Atchison Consultants 2003) might be useful to review market developments and investment opportunities of the past, the influence on portfolios would be less measurable because of a reduction to risk/return characteristics (but no covariance series).

Various empirical studies have been taken out to confirm the general supporting evidence of the portfolio risk reduction potential of international real estate as well as a positive contribution to optimal portfolios (for example Eichholtz 1996; De Wit 1997; Liu & Jianping 1998; Chua 1999; Stevenson 2000). Even after using various corrections, the analyses conclude that international real estate has to play a profitable role in global investment portfolios.

A long-term study conducted by GRAUER and HANKANSSON included data from 1955 until 1988. It compared portfolios consisting of the classic asset classes bonds, cash, shares and added US real estate investments out of the rural, commercial and

² Nine asset classes (large company stocks, small company stocks, U.S. T-Bills, long term government bonds, intermediate government bonds, long-term corporate bonds, real estate, precious metals and foreign stock) have been compared to the monetary and business cycles between 1972-1999.

residential sector. The findings confirmed that for risk-averse investors, the gains from adding real estate to either domestic (US) portfolios or international portfolios are statistically significant only under an active strategy (Grauer & Hakansson 1995). These findings differ from the former studies described because the methodology that the asset classes stocks and corporate bonds were diversified globally, while the real estate portfolio remained domestic, was unique. The advantage of this methodology would be that higher information and transaction costs for global real estate are avoided by holding a domestic real estate portfolio while diversifying into global stock and bond markets. The disadvantage can be seen as the assumed growing correlation of the international markets in an environment of globalisation that could offset the diversification advantages. The findings from CONOVER et al. 2002 seem to strengthen these assumptions. Correlations between US and foreign stock were found to be significantly higher than between US and foreign real estate. In addition, foreign real estate had a significantly and sometimes major weight in international optimal portfolios (Conover, Friday et al. 2002).

Using mean variance optimisation, there seems to be little doubt about the efficiency of the addition of international real estate to investment portfolios. Again, the major constraints have been the costs of information and the methodology itself, which will be analysed from now on.

3.2 Effects on Modern Portfolio Theory

In the review at the beginning of this paper the classic MARKOWITZ diversification was looked at and in the analytical part, the implications for property investments in the asset allocation process were shown. The part of performance studies focussed on the generally supportive nature of international real estate investments and on the conclusions that these investments can provide incremental diversification benefits. All of the existing studies have relied on the standard mean-variance analysis with little regard to the problems with this classical tangency approach (Stevenson 2001). It has been argued that for real estate markets, with the existing inefficiencies of information, there is no conflict with the MARKOWITZ diversification, because efficient markets have not been assumed (Sachsenmaier 2001). EICHHOLTZ disputed the general application of MARKOWITZ in 1996 and stated that using MARKOWITZ models (when obtaining portfolio weights for portfolios including foreign real estate investments) would require estimates of international covariance structures of property returns. The stability of these covariances would play a key role in the construction of international property portfolios because:

If covariances of realised returns were not stable over time, this would cause sub-optimal portfolio compositions.

A constantly changing covariance structure would affect a passive strategy in that way, that a constant (active) change of portfolio weights would be necessary in order to keep the portfolio efficient (Eichholtz 1996).

Instability of covariances was observed when the covariances of national real estate share indices from eight different countries³ were measured between 1973 and 1993. It was therefore concluded that the use of standard portfolio models (like MARKOWITZ) is limited when determining the allocation of international real estate investments.

The limiting effects on MARKOWITZ have been reinforced by the empirical results from STEVENSON in 2001⁴. This study concentrated on the estimation error of mean variance techniques and it showed that alternative techniques (such as the minimum variance technique 'MVP' and the Bayes-Stein shrinkage approach) could significantly improve the performances of real estate portfolios. The MVP portfolio outperformed the classical tangency portfolio and a naïve equally-weighted allocation strategy even when transaction costs were incorporated into the analysis (Stevenson 2001).

The Capital Asset Pricing Model (CAPM) of SHARPE and LINTNER prices assets according to their Beta-value or their economy risk in comparison to the market portfolio. The arbitrage pricing theory by ROSS includes multiple risk factors and provides a framework for identifying these risks. For the valuation of common stocks both models have been considered as highly useful while for real estate markets the conditioning assumptions would be violated. CAPM and APT assume not necessarily a perfectly efficient market but at least perfect arbitrage conditions under which any mispricing will be immediately arbitrated away (Ibbotson & Siegel 1984). Property markets do not fulfil these requirements because (as shown in section 3.2) the real estate pricing process can involve factors other than market risk. The characteristics of real estate markets are too special for reaching significant results with these models (Steinhaus 2002).

Therefore, CAPM and APT do not support the decision-making process in real estate markets for speculative investment or active trading strategies when an investor is looking for property investment opportunities.

4 Summary and Conclusions

In order to structure the overall conclusions of this research paper, the single findings of the research will be reflected on the steps of global asset allocation process, which were defined in the theoretical review. This aims to connect the process directly to the identified definitions, structures, results, limitations, problems and empirical findings.

For the strategic part of the global asset allocation process, the *specification of asset classes to be included into the portfolio*, real estate investments have been investigated for the special characteristics that influence international portfolio

³ Belgium, France, Italy, UK, Australia, Japan, Singapore, US.

⁴ The study analysed indirect real estate security data from eleven countries (Australia, Belgium, Canada, France, Hong Kong, Italy, Japan, Netherlands, Singapore, UK, US) over the period 1976-1998.

construction. The unsystematic and therefore diversifiable risk component for real estate investments is higher in general, and this risk component could be increased by international diversification. It has been concluded that because of the numerous differentiating factors, real estate has to be treated as a distinct asset class in the asset allocation process. Within this asset class, distinguishing characteristics for investment vehicles have been systemised and linked to investment policies.

For the second step, the *specification of capital market expectations*, it has been uncovered that for real estate investments, forecasting components and monetary policy play a decisive role when considering asset allocation into international property. Inflation as a component of systematic risk in a national market, or better in a market with a single currency (like Europe), could be turned into a diversifiable risk factor by international investment. The predefined nature of real estate investments to be practical for inflation hedging could be strengthened by a global asset allocation.

The third step, the *construction of an efficient frontier* and the identification of optimal portfolios, has led to technical problem fields. Firstly, performance measurement methodologies have been related to the different investment vehicles and problems caused by the special character of real estate (such as serial correlation) have been stated. The return series used for the construction of optimal portfolios have significant limitations. Furthermore, the methodology of mean-variance analysis including real estate is criticised for appropriateness and it has been illustrated with current research studies that alternative methodologies have to be taken into account when building successful portfolios. Overall, it is concluded that this field is still the largest limitation when measuring the effects of global real estate investment.

The fourth step was defined as the *selection of the optimal asset mix*. The examination of the different empirical research studies concludes that there is little doubt about the diversification potential of international real estate. The problem here is that various determinants such as timeframes, country combinations, investment vehicles' profiles, inaccuracy in performance measurement, or political change would make a comparison matrix very complex. The findings for country-by-country combinations are not consistent and generalisations have to be treated with great care.

For further research it has to be realised that current research focuses more on the constraining determinants, which measure the success of property investment in the global asset allocation process. There is little evidence about a constantly growing importance of international real estate investment to decrease risk caused by globalisation effects (like increasing covariances between share markets).

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