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Research Paper Number 50

What Factors Determine International Real Estate Security Returns?

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Date:
Revised July 2003

This paper has now been published and is no longer available as a part of our Research Paper Series. The published text can be found with the following reference:

Abstract:
We use constrained cross-section regressions to disentangle the effects of various factors on international real estate security returns. Besides a common factor, pure country, property type, size, and value/growth factors are considered. The value/growth measure that is used in this paper provides for each security the relative importance of the value and growth components, rather than a binary classification. The value/growth factor is found to be volatile and to have a substantial effect on returns over the analyzed period February 1990-April 2003. Country factors are the dominant factors, and size is shown to have a negative impact on returns. Statistical factors derived by means of cluster analysis explain about one third of specific returns on international real estate securities. The implication for portfolio managers is that failing to recognize the importance of the various factors leads to the portfolio being exposed to systematic risk.

Executive Summary:
Extensive research has been conducted since the 1970s on the benefits of international diversification for stock portfolios. The general conclusion is that widening the investment spectrum to non-domestic stocks permits an increase in risk-adjusted returns. There is also more recent evidence on the benefits of international diversification both for portfolios of direct and indirect real estate investments. Data on direct international real estate investments are still relatively scarce, and suffer from several limitations. In such a context, the use of data pertaining
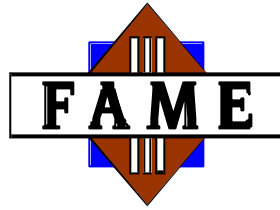
to real estate securities is of particular interest. Moreover, from the perspective of a portfolio manager, indirect real estate investments pr obably constitute the most efficient way of conducting an international portfolio diversification strategy.

When constructing a portfolio of publicly traded real estate stocks, much emphasis is placed on the analysis of the correlation coefficients across countries. We argue that while these correlations are useful, it would be important to disentangle the effects of various factors on real estate stock returns and hence on cross-country correlation coefficients. The aim of this research is to calculate the "pure" effects of various factors on the returns of investment property companies in 10 countries for the period 1990-2003. We consider the following factors: a common factor affecting all securities, a size effect, a value/growth factor, the country of origin of the security, and the main property type in which the company invests. The size variable is measured by means of the market capitalization, while the value/growth measure is the measure developed by Salomon Smith Barney (SSB). This measure is based on various growth (growth in earnings per share, in sales per share, etc.) and value (book value to price, sales to price, etc.) variables, and permits a continuous measurement of the growth and value dimensions of each stock rather than a classification that allocates each stock either to the growth or to the value category.

The intuition is that the considered factors are "pure" in the sense that they are not influenced by any of the other factors. For example, the "pure" U.S. factor represents what is really due to the fact that a real estate stock is U.S. based. If there are more growth or value stocks, more large or small caps in the U.S. than world-wide, or if there is a bias toward a particular property type, then these effects will be captured by the corresponding "pure" factors, and hence the country factors will not be influenced by these dimensions. Cluster analysis is also used in this analysis to ascertain whether an additional factor can be extracted, once the effect of the common and "pure" factors has been eliminated. Such an approach makes it possible to examine if there is evidence that omitted characteristics (such as tax status, and leverage) have an impact on real estate security returns.

Our results show that the "pure" country factor appear to be the most important, but property types are important determinants too. The value/growth factor is also quite substantial. There is clearly a growth/value factor in real estate securities, and that factor should be taken into consideration when building real estate stock portfolios. This result is reinforced when the approach considers continents in lieu of countries. Size is found to have a negative effect on returns, a result that is consistent with those reported in the financial economics literature. The specific component represents a large fraction of total absolute returns, indicating that stock picking remains a very important issue when constructing real estate security portfolios. Cluster analysis of the specific component indicates that additional factors exist. Portfolio

managers should ensure that they have the same exposure to these additional factors as the benchmark portfolio.

The pure factor approach developed in this paper has important implications for portfolio management. The active portfolio manager will have to decide according to which factor(s) he or she wants to make a bet. If countries with positive expected returns are selected for instance, he or she has to make sure that this strategy is neutral with respect to all other factors influencing returns (property type, growth and size). For instance, if it is decided to overweight Japan, it should be recognized that the growth exposure of this country is substantially larger than that of the world, and that the Japan bet also results in a bet being made on growth.