Corporate Focus and Stock Performance International Evidence from Listed Property Markets

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Abstract

Does corporate focus translate into superior stock performance? We use 17 years of international data on 275 property companies from the U.S., British, French, Dutch and Swedish listed property share markets to answer this question. After analyzing corporate structures, we document significant differences in corporate focus strategies both between nations and firms and over time. By linking these focus profiles to risk-adjusted performance measures, we show that companies with high levels of geographical focus perform significantly better than the overall market. With regard to industrial focus, our results are mixed but again imply a positive relationship between corporate focus and stock outperformance. At the same time, our results show that the firm-specific risk of a company increases with higher levels of corporate focus. Hence, our results imply that within the real estate sector a focused strategy mildly increases both a firm's return and risk.

Key Words: corporate focus, stock performance, industrial- and geographical concentration

1. Introduction

Over the last few decades, the issue of corporate focus has caused differences of opinion in both corporate boardrooms and academic literature. Analysts have been keen to emphasize the importance of a clear and targeted corporate strategy, in which scale is a key factor. Corporate management, however, often complains about this strategic straightjacket, which limits their entrepreneurial spirit and prohibits them from maneuvering their company towards new attractive opportunities to enhance scope rather than scale. Although most of the recent theoretical and empirical literature stresses the costs and inefficiencies that emerge when companies widen their horizons towards seemingly unrelated activities, multinational conglomerates still exist and corporate empires are still being built today. Apparently, a large number of questions remain unanswered, creating opportunities for contradicting beliefs and academic research.

In this paper, we will examine the issue of corporate focus of property companies in two dimensions, that is, with regard to geographical and sector concentration. We will analyze the variation in corporate focus in international listed property markets, for which corporate focus can be measured remarkably accurately due to the observable company assets, their real estate objects. We will examine the nature of the relationship between corporate focus on the one hand and a firm's stock return and risk on the other. In the next section, we will discuss in depth the theories that have been postulated over time in order to obtain a understanding of the issues at hand. For this study, we use a unique international sample of 275 listed property companies that originate from the U.S., the U.K., France, the Netherlands and Sweden, which we will analyze for the sample period 1984–2002. The collection procedures and specifications for this data will be discussed in the third section. In section four, we discuss our findings on corporate focus in both the industrial and geographical dimensions. These focus profiles exhibit clear patterns and trends both over time and across companies. We detect a distinct trend towards industrial focus for our U.S. sample, whereas European firms tend to focus more on geographical regions. We also document that corporate focus and leverage mildly increase with firm size in most cases. In the subsequent section, we continue our study by analyzing the stock performance using a single-index model that disentangles the stock outperformance and risk components of each individual company. By combining our concentration indices with the corresponding performance parameters in section six, we discover a mildly positive relation between stock outperformance and industrial focus. Furthermore, we document a positive relationship between stock outperformance and geographic focus. With regard to the firm-specific risk component, we find a similar positive relationship to corporate focus, while a firm's systematic risk appears to be unaffected by this strategic choice. The results will be summarized in our final conclusions.

2. Corporate focus theory

The academic dialogue on whether a company should focus or diversify its activities goes back a long way and contains a distinct shift in views. Most of the theoretical arguments regarding corporate focus that stem from the early '70s, a time when corporate empires were being built, tend to emphasize the benefits of corporate diversification. Weston (1970) stresses the gains in resource allocation efficiency through the use of relatively large internal capital markets within diversified firms. This financial synergy argument indicates that diversified companies are able to make more positive net present value investments than their segments would make as stand-alone firms. A second theoretical benefit of diversification is related to the coinsurance of earnings streams. Lewellen (1971) states that by combining businesses with imperfectly correlated earnings streams, companies can decrease their risk of default and thereby increase their debt capacity. According to this rationale, diversified firms are predicted to have higher leverage and might therefore enjoy larger interest tax shields. Amihud and Lev (1981) argue that

managers themselves benefit from the risk reduction associated with corporate diversification because they suffer less employment risk.

After the eighties both the academic and corporate opinion on corporate focus changed. Managers started stating their ambitions to concentrate on one core business and stressing the benefits of specialization that were developed by academics at that time. The financial literature emphasized the potential costs that could arise due to corporate diversification. Stulz (1990) uses Jensen's (1986) free cash flow argument to point out that diversified firms are likely to invest more in negative net present value projects than their segments would if they operated independently. By stressing the drawback of Weston's (1970) internal resource allocation argument, Stulz (1990) and Meyer et al. (1992) predict that by cross-subsidization of weak business segments, conglomerates are likely to contain negative-value operations, which harm the company and its shareholders. Myerson (1982) and Harris et al. (1982) focus on the loss of information symmetry between central management and lower management in diversified firms. These asymmetry costs are higher for diversified conglomerates than for focused firms with a more transparent set of activities. Related to this information asymmetry issue is the cost of agency problems, a matter that has been thoroughly discussed by Denis et al. (1997). Diversification might benefit managers for a wide range of the wrong reasons, including power and prestige, firm size related compensation schemes, or because increasing scope increases their indispensability. These agency problems can incite managers to diversify the company, even though this reduces shareholder wealth. Denis et al. (1997) stress that these agency problems can only be solved if managers are pressed by internal and external monitoring mechanisms. Recently, two alternative explanations for the discount, that associates corporate diversification, have been postulated. Schoar (2002) used plant-event observations from the Longitudinal Research Database to show that firms that diversify experience a net reduction in productivity and that stock prices track firm productivity. Masi and Reeb (2002) argue that the discount at which diversified firms sell, stems from risk-reducing effects of corporate diversification and that diversification is insignificantly related to excess firm value. Although most of these arguments do not relate exclusively to corporate focus with respect to industries, geographical focus seems to be less of an issue. Shukla and van Inwegen (1995) have shown that geographical focus is also relevant, since their outcomes prove that local fund managers outperform foreign competitors. Apparently, the home-base advantage can offer managers access to information and relations allowing them to select the best deals and thereby stimulating firms to focus their business geographically. Denis et al. (2002) have explored a sample of 44,288 firms to examine the matter of global diversification and document evidence that global diversification is associated by valuation discounts of approximately the same magnitude as those for industrial diversification.

Which of these theoretical arguments outweighs the others in practice has been the focus of a wide range of empirical studies that analyze the impact of corporate focus on firm value and stock performance. Montgomery (1994) discusses the existing empirical literature and concludes that, although there is no consensus, most of the outcomes so far reveal a negative relationship between corporate diversification and stock performance.

The aim of this paper is to analyze the relationship between corporate focus and stock performance. De (1992) finds no cross-sectional correlation between the degree of focus and the excess returns for a sample of Fortune 250 companies for the period 1976–1985. Comment and Jarrell (1994) conduct a similar analysis for a sample of around two thousand NYSE- and ASE-listed firms. Their results show that during 1978–1989 increases in focus are associated with significant rises in stock returns.

Most of the corporate finance literature examines the classical conglomerate-type diversification. In our study, we are concentrating on the real estate industry and therefore examine firms, which can only diversify along property types and geography. Hence, we want to show that corporate focus matters even in a single industry. The limitation of our sample size to 275 companies might hamper statistical capacity, but this limitation is compensated for by the unique setting that is offered by the real estate sample. The companies in our sample are relatively homogeneous with respect to growth opportunities and institutional settings, which facilitates fair comparisons. The relatively high transparency regarding the underlying assets, the real estate assets, enables us to make clear distinctions with respect to industries and geographical regions. Capozza and Seguin (1999) examined the issue of corporate focus for the US Real Estate Investment Trust (REIT) market and related the loss of firm value, which is associated with diversification, to informational asymmetries. Lee (2001) stresses the importance of property type and regional factors in real estate returns, which illustrates the importance of corporate focus along these two dimensions for real estate companies. Campbell et al. (2003) investigate a sample of 209 REIT portfolio acquisitions during 1995–2001 and find evidence that excess returns to acquirers are positively related to the geographical focus in the acquistion. Eichholtz et al. (2000) studied the impact of corporate focus on the stock outperformance of 150 U.S. equity REITs for the period 1989–1995, and reported a significantly positive relation between the level of industrial focus and the risk-adjusted stock performance. For the European listed property market the corporate diversification has only been investigated empirically by Cronqvist et al. (2001), who examine 32 Swedish listed real estate companies, document a 20% discount among diversified firms. In this paper, we continue their study by extending the sample internationally, by lengthening their sample period, and by deepening their methodological approach.

3. Listed property markets

In our study, we analyze a unique sample, which contains 17 years of history from five different property share markets; the U.S., the U.K., France, the Netherlands and Sweden. Investing in publicly listed shares of these real estate investment vehicles has recently become increasingly popular. This 'indirect real estate market' enables investors to invest their money in professionally managed real estate portfolios by buying relatively liquid shares that are traded on public stock exchanges at low transaction costs. Property share markets have matured internationally over the years, "see Table 1," and

*Table 1.* International property share market statistics.

	United States	United Kingdom	France	The Netherlands	Sweden
Number of companies in sample	152	53	33	14	23
Sum market cap 1984 (mln US$)	7,129	7,145	2,885	1,566	317
Sum market cap 1990 (mln US$)	7,804	17,639	19,091	5,975	1,039
Sum market cap 1995 (mln US$)	31,677	21,776	19,641	8,528	1,006
Sum market cap 2001 (mln US$)	144,960	39,022	11,728	7,657	4,264
Mean size (mln US$)	992	830	733	696	426
GDP (bln US$)	9,962	1,416	1,289	370	228
Sum market cap2001/GDP	1.46%	2.76%	0.91%	2.07%	1.87%

The market statistics are based on a GPR-General National universe, whereas the size measures relate exclusively to the companies in our sample and to the year-end of 2001.

offer unique laboratory situations for testing established theories accurately. Since the underlying real estate assets are suitable for identification, location and classification, we are able to measure concentration levels in both the industrial and geographical sense. Although all the assets relate to real estate, there remain substantial differences between them, resulting in the classification of industries as: office, retail, residential, industrial, hotels, healthcare, warehousing and 'other.' These industries differ significantly both in risk and return distributions and demand specific expertise from firm management.

The U.S. property share market is the largest property share market in the world. Most property companies are structured as tax exempt REITs, but real estate operating companies that do pay tax also exist. REITs are obliged to distribute income by paying dividends to their shareholders. There is a wide variety of investment profiles among the companies, from highly specialized to diversified, both geographically and in terms of sector.

The British property share market is by far the largest in Europe, both in numbers and in size (some 43 billion U.S. dollars by the end of 2003). Most companies have existed for several decades and often directors own a significant amount of shares in their company. A large proportion of the property companies focuses on the London area and all property companies are subject to corporate taxation at a rate of around 30%.[1] Measured by size, France is the second largest European property share market, with a total market capitalization of almost 18 billion U.S. dollars by the end of 2003. Activities in the French property share market are divided into two parts: the property investment market and the property leasing market (crédit-bail). In the past, a large number of property companies were active in crédit-bail (SICOMIs), because of the specific tax advantages. Since 1989, these advantages no longer exist and, consequently, the market for crédit-bail is ever decreasing. Property companies are now mostly Foncières, which are quoted real estate companies paying corporate tax at a rate of 33.33%. The Dutch property share market has the third largest market capitalization in Europe at about 13 billion U.S. dollars. The Dutch property share market is unique in the sense that most companies have an international property portfolio, whereas in the majority of countries investments are chiefly domestic. In most cases, Dutch property investment companies are structured
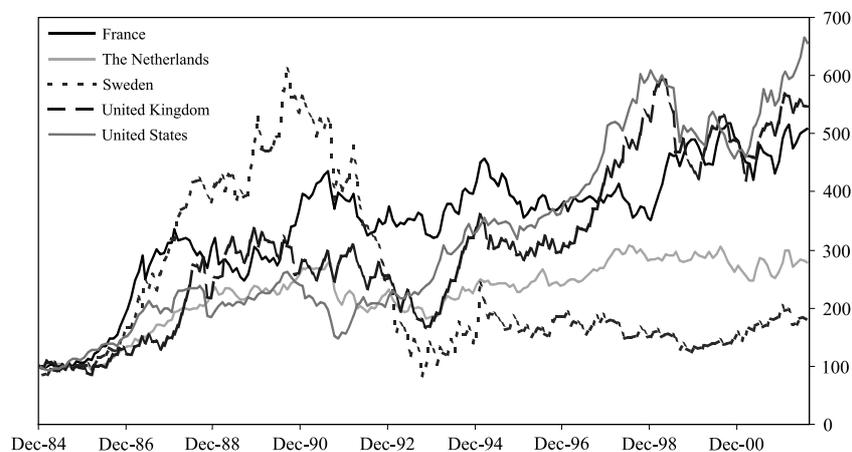
Figure 1. GPR-National total return indices (in local currencies).

as tax transparent investment companies and are in that respect quite similar to U.S. REITs. From the statistics in Table 1, it can be seen that, relative to its economy,[2] Sweden has the largest property share market. Most Swedish property companies focus on the Stockholm region and are subject to corporate taxation at a tax rate of 28%. Figure 1 and Table 1 present the historic stock performance and summary statistics of the listed property share markets that lie within the scope of our study.

4. Trends and patterns in corporate focus

The first step of our study consists of the quantification and examination of the focus profiles of the companies in our sample over a ten-year period. Using detailed financial information, we construct accurate value-based Herfindahl indices, which measure the concentration level of each firm with respect to both the geographical regions and real estate industries. For the U.S., we collect this information by combining the National Association of Real Estate Investment Trusts (NAREIT) sourcebooks with 10-Ks, available at the SEC's online archive, and the annual reports that are stored at the Global Property Research (GPR) archive in Amsterdam. For the companies in our European samples, we retrieve the portfolio information using the annual reports that were available in the GPR archive. For the U.S., we base our geographical distribution classification on the standard real estate regions:[3] North Pacific, South Pacific, The Great Plains, South–West, Midwest, South–East, Mid-Atlantic and New England. For Europe we use geographical classifications based on national boundaries and for the UK, France, the Netherlands and Sweden we add a London, Paris, Randstad[4] and Stockholm

region, respectively. For the industry distribution, we use the standard property type classification: office, retail, residential, industrial, hotels, healthcare, warehousing and 'other.' With the asset book values as inputs we derive the following Herfindahl indices:

$$H_{geographical,i,t} = \sum_{r \in R} S_{r,i,t}^2 \qquad (1)$$

Table 2. Corporate focus measures.

		1989	1991	1993	1995	1997	1999
Geographical Focus							
US	Mean Herf	0.56	0.56	0.58	0.57	0.52	0.51
	Median Herf	0.52	0.51	0.55	0.51	0.48	0.44
	Stdev Herf	0.29	0.29	0.29	0.29	0.28	0.28
	Mean # Regions	*3.61*	*3.66*	*3.57*	*3.71*	*4.45*	*4.47*
Europe	Mean Herf	0.59	0.60	0.59	0.60	0.64	0.66
	Median Herf	0.57	0.56	0.55	0.56	0.60	0.61
	Stdev Herf	0.20	0.21	0.20	0.20	0.21	0.21
	Mean # Regions	*3.06*	*2.81*	*2.82*	*2.82*	*2.80*	*2.46*
UK	Mean Herf	0.67	0.64	0.63	0.66	0.70	0.71
	Mean # Regions	*2.54*	*2.47*	*2.41*	*2.24*	*2.24*	*2.10*
France	Mean Herf	0.61	0.65	0.62	0.61	0.65	0.71
	Mean # Regions	*2.11*	*2.13*	*2.26*	*2.22*	*2.30*	*2.29*
Netherlands	Mean Herf	0.34	0.35	0.32	0.37	0.39	0.43
	Mean # Regions	*6.40*	*5.33*	*6.14*	*5.56*	*5.89*	*4.17*
Sweden	Mean Herf	0.51	0.48	0.59	0.53	0.56	0.59
	Mean # Regions	*3.50*	*3.33*	*2.80*	*3.50*	*3.53*	*2.42*
Industrial Focus							
US	Mean Herf	0.67	0.65	0.79	0.83	0.85	0.86
	Median Herf	0.67	0.60	0.94	0.96	1.00	1.00
	Stdev Herf	0.27	0.27	0.24	0.23	0.23	0.22
	Mean # Property Types	*2.96*	*3.04*	*2.11*	*1.94*	*1.93*	*1.91*
Europe	Mean Herf	0.51	0.52	0.49	0.49	0.51	0.57
	Median Herf	0.49	0.49	0.46	0.44	0.45	0.51
	Stdev Herf	0.18	0.20	0.19	0.20	0.22	0.25
	Mean # Property Types	*3.25*	*3.53*	*3.57*	*3.67*	*3.50*	*3.14*
UK	Mean Herf	0.52	0.53	0.51	0.50	0.56	0.59
	Mean # Property Types	*3.20*	*3.17*	*3.20*	*3.50*	*3.16*	*2.94*
France	Mean Herf	0.49	0.51	0.50	0.49	0.49	0.56
	Mean # Property Types	*3.73*	*3.65*	*3.73*	*3.80*	*3.66*	*3.35*
Netherlands	Mean Herf	0.58	0.57	0.49	0.57	0.53	0.56
	Mean # Property Types	*3.25*	*3.17*	*3.43*	*3.11*	*3.20*	*2.75*
Sweden	Mean Herf	0.43	0.40	0.31	0.35	0.37	0.51
	Mean # Property Types	*5.50*	*5.33*	*5.20*	*4.90*	*4.60*	*3.68*

The Herfindahl indices are constructed using formula (1) and (2), using the proportions of industries and regions in the property portfolio as inputs. The resulting indices vary between zero and one, where one indicates complete specialization, while an index close to zero indicates a high level of corporate diversification.

Where, $H_{region,i,t}$ is the Herfindahl index based on geographical regions for fund i at time t, R represents the set of geographical regions, $S_{r,i,t}$ is the proportion of firm i's assets invested in geographical region r at time t.

$$H_{industrial,i,t} = \sum_{\tilde{t} \in \tilde{T}} S_{\tilde{t},i,t}^2 \tag{2}$$

Where, $H_{type,i,t}$ is the Herfindahl index based on real estate industries for fund i at time t, $\tilde{T}$ represents the set of real estate industries, $S_{\tilde{t},i,t}$ is the proportion of firm i's assets invested industry $\tilde{t}$ at time t.

These geographical and industrial Herfs can vary between $1/n^5$ and one, where one represents a company that is specialized in a single region or industry, whereas a Herf close to zero indicates a high degree of corporate diversification. We accumulated the individual observations for each national sample as shown in Table 2 and Figure 2.

A first notable result presented in both Table 2 and Figure 2 is the distinct continental difference. Our concentration indices report relatively high levels of industrial focus for the U.S. sample, whereas the European figures result in relatively high levels of geographical specialization. For instance, at the end of 1999, a U.S. REIT invested on average in only 1.91 different industries and in 4.47 different real estate regions. At the same time, a European property investment company was managing a portfolio containing a variety of 3.14 industries in only 2.46 different real estate regions. This result clearly illustrates the difference in management styles that is prevailing in both continents.

Besides these differences in levels of concentration indices, our results also reveal significant differences in the change of these levels over time. For the U.S., we find a strong trend towards industrial specialization that began in the early '90s and continued until the end of our sample period. This trend followed a slump period in which the U.S.
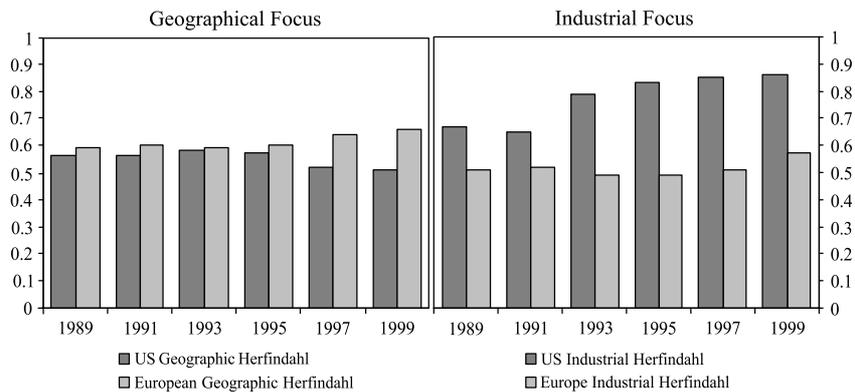

Figure 2. Concentration levels over time. The Herfindahl indices are constructed using formula (1) and (2), using the proportions of industries and regions in the property portfolio as inputs. The resulting indices vary between zero and one, where one indicates complete specialization, while an index close to zero indicates a high level of corporate diversification.

real estate industry suffered from high vacancy rates and low rents. The market downturn of the late eighties urged REIT managers to structure their portfolios more professionally and to transform into sector-specialists rather than property collectors. With regard to geographical focus, the U.S. sample contains less variation over time, exhibiting a mild increase in the early '90s and a decline in regional focus during the mid '90s which might be due to the rise in REIT capitalization. As REITs grew in average market size they were forced to cross regional boundaries in order obtain new and attractive investment opportunities.

Although our European samples contain some cross-national variation we have been able to distinguish two transeuropean drifts. For the geographical dimension we find a modest trend towards a further increase in specialization, which evolved consistently over the sample period for each national sample. This outcome might come as a surprise when compared to our US figures, where an opposite trend was observed. This difference might be due to the relatively late rise in European securitization, which occurred over the late nineties. In the period 1994–2000 the European property share market witnessed 64 initial public offerings (IPOs), which increased the number of listed property companies dramatically. Most of these incumbents originated as relatively small domestic funds that have a strong domestically focus due to their limited market capitalization. Given their large number these domestic oriented IPOs have a strong influence on the overall market average when it comes to focus profiles. The Dutch property companies are still associated with remarkably high levels of international diversification, a phenomenon that is very likely the result of the small underlying home market, which forces Dutch property companies to invest their funds beyond their national borders. With respect to industrial specialization, the European figures are mixed for the early '90s, but disclose a modest increase in focus towards the end of our sample period thereby following the U.S. example.

The aggregated national sample data in Table 2 discloses trends in corporate focus at an aggregated market level. Since our sample size expands over the sample period, we are aware of the potential selection bias that may underlie these aggregated market results. In order to check for the distorting influence of new entrants, which may contain deviating portfolio structures, we repeat the same analysis using common sample data. These efforts result in marginal differences indicating that the trends mentioned above are present among both existing and incubating property investment companies. In order to isolate the strategic shifts of the individual companies over the sample period, we compute transition probabilities, which we derive from the Herfindahl results, which underlie Table 2. First, we define three states according to the level of the underlying Herfindahl index. State 1 includes all observations of Herfs in the range of 0 to 0.50 representing the most diversified group. State 2 comprises all Herfs ranging from 0.50 to 0.75, whereas the third and last state includes the most specialized observations with Herfs in the range of 0.75 to 1.00. By applying standard statistics, we are able to derive the probability of companies switching states during a two-year period, indicating a strategic shift. The results of these computations are reported in the transition matrices, included in Table 3. The elements in this matrix denote the likelihood of a firm to shift from one state into the other in a two year time period. The probabilities are derived from the actual shifts between states that have been observed for both continents during the sample period. For

Table 3. Transition probabilities for the sample period 1989–1999.

From\To	1	2	3		
A: Geographical Focus					
United States					
1	0.923	0.067	0.010	Sum increasing triangle	0.220
2	0.190	0.667	0.143	Sum constant diagonal	2.447
3	0.016	0.127	0.857	Sum decreasing triangle	0.333
Europe					
1	0.785	0.200	0.015	Sum increasing triangle	0.295
2	0.056	0.864	0.080	Sum constant diagonal	2.526
3	0.000	0.123	0.877	Sum decreasing triangle	0.179
B: Industrial Focus					
United States					
1	0.816	0.171	0.013	Sum increasing triangle	0.431
2	0.094	0.659	0.247	Sum constant diagonal	2.429
3	0.007	0.039	0.954	Sum decreasing triangle	0.140
Europe					
1	0.877	0.118	0.005	Sum increasing triangle	0.223
2	0.211	0.689	0.100	Sum constant diagonal	2.450
3	0.022	0.044	0.934	Sum decreasing triangle	0.277

The matrix intervals are defined in the following manner. Interval 1 represents Herfindahl indices in the range of 0–0.50, interval 2 includes index values of 0.50–0.75, whereas interval 3 includes all Herfs ranging from 0.75–1.00. Each matrix element represents the likelihood of a transition between intervals over a two-year period. The 'sum increasing triangle' equals the sum total of the probabilities of an increase in interval, the 'sum decreasing triangle' indicates the likelihood of a decrease in focus interval, while 'sum constant diagonal' illustrates the probability that a firm remains in the same focus interval over a period of two years. The probabilities are based upon the time variance in bi-annual Herfindahl index observations.

example, in Section A we see that a U.S. REIT which is currently in state one, meaning Herfindahl index below 0.50, has a 92.3% probability of remaining in this state, while the chances of switching to state two and three are 6.7% and 1.0%, respectively. These matrices exhibit the same trends and continental differences that we observed in Table 2. For instance, regarding type specialization, the U.S. transition matrix of Panel B shows a higher likelihood of companies increasing their specialization level by switching to a higher state than of the opposite decreasing shifts. This result, which is also shown by the relative difference between the sums of the increasing and decreasing triangles, confirms the observed trend towards industrial specialization in the U.S., as previously noted in Table 2, indicating that the results are reliable.

As a last step in our study of trends and patterns in corporate focus profiles, we turn our attention to variables that might be correlated with these focus levels. We gathered and compared information on both firm size and leverage and examined the relationship between these parameters and both Herfs in order to detect potential cross-sectional patterns. The results as presented in Table 4 show that there is a significantly negative correlation between firm size and leverage, indicating that large companies are associated with lower debt ratios. With respect to the focus indicators, we find that debt ratios exhibit

Table 4. Correlation patterns.

	US	*Europe*
A: Debt Ratio		
Correlation Debt Ratio with Firm Size	−0.24**	−0.16*
Correlation Debt Ratio with Industrial Herf	−0.06	−0.19*
Correlation Debt Ratio with Geographical Herf	0.14	−0.19*
Average Debt Ratio	*0.36*	*0.43*
B: Firm Size		
Correlation Size with Debt-Ratio	−0.24**	−0.16*
Correlation Size with Industrial Herf	0.11	−0.10
Correlation Size with Geographical Herf	0.03	0.08
Average Firm Size	*2,692*	*1,789*

The correlation coefficients quantify the relationship between two entities for each continental sample. The coefficients are based on pooled observations on each variable relating to the year 2000. Correlation coefficients marked with * are statistically significant on a 5% level, while coefficient marked with ** are significant at a 1% level.

a negative relationship to the Herfindahl indices in our European sample, while the results for the U.S. are less compelling. From this we may conclude that debt ratios are lowest among the most specialized companies, which coincides with the hypothesis proposed previously by Lewellen (1971). The coinsurance of earnings streams may lower the risk of default for diversified companies, which are therefore expected to be associated with higher debt levels; a rationale which is supported by our European results in Table 4. Regarding firm size Table 4 reports opposite relationships, which tend to be weakly positive, in that corporate focus tends to be highest among the largest companies in our sample. However, given the limited sample sizes, these results are offered with caution.

5. Property share performance

Having identified the corporate focus profiles of each individual company, we will continue our study with the analysis of the corresponding stock performances. For this exercise, we will use the Jensen alpha as a measure of the risk-adjusted historic outperformance, which results from our single-index model (3), a derivation from the Capital Asset Pricing Model (CAPM). In this model, the realized total return of a firm's stock is corrected for its exposure to the market. High exposure to the market will result in high systematic risks, which is represented by beta in the following formula:

$$\left(R_{it} - R_{ft}\right)_{-60m} = \alpha_{it} + \beta_{it}\left(R_{mt} - R_{ft}\right)_{-60m} + \varepsilon_{it} \tag{3}$$

Where, $(R_{it} - R_{ft})_{-60m}$ is the moving or expanding window[6] containing the differences between R_{it} and R_{ft}, being the total return of firm i and the national risk free rate of return for period t. α_{it} and β_{it} represent the structural historic outperformance and the systematic risk of firm i for period t. The window $(R_{mt} - R_{ft})_{-60m}$ contains the difference between

the total return of the national index and the national risk free rate of return. Whereas, ε_{it} represents the disturbance vector containing the abnormal returns, resulting from unexpected movements in firm i's total return.

The Real Estate Securities Database of Global Property Research offered us access to the necessary monthly total returns series for the companies in our samples. We used several market indices in order to optimize the fit of the single-index model. In order to illustrate the importance of index selection, we use the common share market MSCI-National indices, the GPR-General National property share indices and market weighted synthetic indices in (3) as market indicators. The market weighted synthetic indices are constructed using the stock performance of the property companies in our national sample and by deriving a market-weighted index, which closely tracks their performance. The use of such index will enhance the explanatory power of the single-index models and provide us with more detailed insights in the historic real estate risk component of the companies

Table 5. Performance analysis.

	MSCI	*GPR-General*	*Synthetic Index*
United States			
Alpha[a]	0.003	0.002	0.001
Beta	0.351	0.828	0.770
Sigma[b]	0.071	0.076	0.066
R^2	0.068	0.121	0.214
United Kingdom			
Alpha	0.002	0.003	0.002
Beta	0.846	0.891	0.872
Sigma	0.098	0.090	0.091
R^2	0.197	0.331	0.324
France			
Alpha	0.002	0.005	0.002
Beta	0.373	0.885	0.879
Sigma	0.068	0.063	0.063
R^2	0.121	0.240	0.252
Sweden			
Alpha	0.012	0.022	0.017
Beta	0.965	0.910	1.246
Sigma	0.225	0.201	0.189
R^2	0.148	0.273	0.337
The Netherlands			
Alpha	−0.001	0.001	0.001
Beta	0.260	0.491	0.511
Sigma	0.043	0.037	0.037
R^2	0.110	0.330	0.330

The coefficients are estimated for the full sample period.
[a]We also analyzed the significance levels for the individual alphas for each market indicator. In 96.82% of all cases the alpha did not differ significantly form zero at 5% level.
[b]Sigma represents the firm-specific risk component of a companies' stock returns, which is computed as the standard deviation of the residuals from this regression.

in our sample. To correct the total return series for movements in the risk-free rates, we use returns series of national 1-month deposit rates, which we obtained from Datastream. Assuming the market is informationally efficient, stocks adjusted for risk are not expected to outperform the market structurally and, therefore, α_{it}, is expected to equal zero. In our study, we will focus on this Jensen alpha for our return analysis and investigate both β_{it} and ε_{it} in order to identify differences in risk within our samples.

For each individual company we ran multiple OLS regressions in order to obtain estimates for the coefficients, using a moving window of 60 preceding total monthly returns. Since the selection of the most suitable market index is of great importance for the fit of the model specification, we adopted three different market indices and state the model output for each of the indices in Table 5.

The results clearly show the impact of the index specification on the performance of the single-index model. The overall stock market indicator, the MSCI-National, results in the weakest explanatory power and the highest percentage of significant alphas, indicating a low fit of the model. By replacing the MSCI-National with the Global Property Research-General National index, which tracks the stock performance of the most liquid listed property companies in the national markets, we enhance the fit of the model for each national sample. The resulting betas now indicate a firm's real estate market risk exposure, instead of the sensitivity to fluctuations in the overall stock market. Finally, we constructed a market-weighted synthetic index for each national sample that is based on the stock performance of the companies that are included in our samples. The output in the fourth column of Table 5 shows that the use of this synthetic index results in a superior fit of the model.

6. The corporate focus and stock performance relation

6.1. Focus and returns

Using the alpha estimates from the synthetic index, we turned to a cluster analysis in which we compare the stock performance of the top specialists for both dimensions with the corresponding performance of their least specialized competitors. Using the Herfindahl index as concentration measure, we constructed portfolios of the top and bottom deciles for both the geographic and industrial concentration levels and derived the average alpha for each of these portfolios. The results stated in Table 6 show some mild variation in the historic stock outperformance existing in both continental samples. We consistently find higher performances for the most specialized companies in each sample. This spread in Jensen alpha is most distinct between the geographical clusters, where the difference in means is both economically and statistically significant for our European sample. The level of geographical focus might be more important in a European setting, due to the existence of institutional setting across countries. Maintaining a pan-European strategy means the firm needs to deal with a wide variation in legal systems, regional economics and languages. For the United States this variation is primarily driven by the regional economics and might therefore be less important.

Table 6. Concentration cluster—outperformance analysis.

Alpha		Geographical Focus	Industrial Focus
Stock Outperformance			
United States	Top Specialists	0.0033	0.0022
	Sample Average	0.0019	0.0018
	Top Diversifiers	0.0006	0.0011
	T-statistics[a]	*(1.12)*	*(0.31)*
Europe	Top Specialists	0.0071	0.0023
	Sample Average	0.0018	0.0019
	Top Diversifiers	−0.0018	0.0011
	T-statistics	*(3.42)***	*(0.28)*

This analysis employs our single model estimates based on the full sample period. We divided the continental samples into separate clusters, based on the underlying concentration levels. For each year we ranked all companies regarding their level of corporate focus and selected the top and bottom deciles. After pooling these top and bottom clusters we computed the average Jensen alpha for both the specialized and diversified clusters and compared these cluster averages to the mean observation.

[a]We test whether the mean for the top specialists is significantly different from the mean for the top diversifiers. T-stats marked with * are statistically significant at a 5% confidence level, significance on a 1%-level is marked with **.

Having identified the static cross-sectional variation in stock performance due to different corporate focus levels at different moments in our sample period, we turn to the dynamic impact of a change in this strategic focus profile on the corresponding stock performance. By studying the changes in the performance estimates over time, we determine whether strategic shifts in corporate focus are associated with changes in stock performance. We do this by comparing the sign of the change in the Herfindahl index with the sign of the change

Table 7. Sign test.

		Corresponding Increase of Alpha (%)	Corresponding Decrease of Alpha (%)
Geographical distribution			
Increasing Herfindahl Index:	Europe	60	40
	US	62*	38*
Decreasing Herfindahl Index	Europe	52	48
	US	48	52
Property type distribution			
Increasing Herfindahl Index:	Europe	57	43
	US	71*	29*
Decreasing Herfindahl Index	Europe	48	52
	US	53	47

The sign-test quantifies the relative likelihood of a change in Jensen alpha following a change in the Herfindahl index.

*We used a standard Chi-Squared test in order to quantify the significance of the difference between each Herfindahl pair (increase versus decrease of alpha). The pairs marked with *differ significantly from each other on a 5%—significance level.

in the subsequent Jensen alpha for the period 1997–1999. By counting the different combinations, we gain understanding of the effect of strategic decisions related to concentration levels on the risk adjusted stock performance of a listed property company.

The results of these computations are presented in Table 7 and show that an increase in geographical focus is associated with an increase of the Jensen alpha in 60% of all cases in our European sample and 62% of the U.S. firms. An increase in industrial focus profile was associated with an increase in the Jensen alpha in 57% of all cases in Europe and as much as 71% in the U.S. These results support the findings of Comment and Jarrell (1994), who documented a similar increase in stock returns after a strategic shift towards corporate specialization.

6.2. Focus and risk

With respect to our risk measures, Table 8 reveals robust patterns regarding the firm-specific risk component, which is always highest for the most specialized cluster of

Table 8. Concentration cluster—risk analysis.

		Geographical Focus	Industrial Focus
Beta			
Systematic Risk			
United States	Top Specialists	0.6485	0.5173
	Sample Average	0.6252	0.6304
	Top Diversifiers	0.6450	0.5187
	T-statistics[a]	*(0.10)*	*(0.03)*
Europe	Top Specialists	0.8974	0.9095
	Sample Average	0.8792	0.8885
	Top Diversifiers	0.8440	0.8083
	T-statistics	*(0.07)*	*(0.26)*
Sigma			
Firm Specific Risk			
United States	Top Specialists	0.0747	0.0886
	Sample Average	0.0737	0.0739
	Top Diversifiers	0.0717	0.0667
	T-statistics	*(0.71)*	*(1.73)**
Europe	Top Specialists	0.0969	0.1064
	Sample Average	0.0699	0.0742
	Top Diversifiers	0.0429	0.0660
	T-statistics	*(4.33)***	*(3.43)***

We divided the continental samples into separate clusters, based on the underlying concentration levels. For each year we ranked all companies regarding their level of corporate focus and selected the top and bottom decile. After pooling these top and bottom clusters we computed the average beta and sigma for both the specialized and diversified cluster and compared these cluster averages to the mean observation.

[a]The t-statistics are the result of an equality test of the means that are stated for the specialist- and diversifiers clusters. T-stats marked with * are statistically significant at a 5% confidence level, significance on a 1%-level is marked with **.

companies. In accordance with corporate focus theory, we find that corporate specialization increases the firm-specific risk. This pattern, however, does not exist for the systematic risk component in our samples. The mixed results regarding the company beta indicate that corporate focus has no consistent impact on the real estate market sensitivity of a property company. Overall, Table 7 shows us that corporate specialists are associated with higher firm-specific risks, while the systematic market risk of a firm does not seem to be affected by the degree of focus.

The final step of our analysis is designed to filter for the relations between the corporate focus profiles and company size and leverage. We achieve this by running OLS regressions in which we isolate the impact of both the geographical and industrial Herfs on both the risk components of each company while controlling for differences in firm size, leverage and tax rate. In these models, we run individual betas and sigmas on their corresponding concentration measures, geographic (H_{geo}) and industrial Herfs (H_{ind}), the debt-to-equity ratio (DTE), $\log_{10}$ of the company size in US dollars ($SIZE$) and a tax-rate dummy (TAX), which captures national differences in effective corporate tax rate. This results in the following model specifications:

$$\beta_{i\,(t+7,t+18)} = \gamma_{0,t} + \gamma_{ind,t}H_{ind,i,t} + \gamma_{geo,f}H_{geo,i,f} + \gamma_{DTE,t}DTE_{i,t}$$
$$+ \gamma_{SIZE,t}\log_{10}SIZE_{i,t} + \gamma_{TAX,t}TAX_{i,t} + \eta_{it} \qquad (4)$$

$$\sigma_{i,(t+7,t+18)} = \gamma_{0,t} + \gamma_{ind,t}H_{ind,i,t} + \gamma_{geo,t}H_{geo,i,t} + \gamma_{DTE,t}DTE_{i,t}$$
$$+ \gamma_{SIZE,t}\log_{10}SIZE_{i,t} + \gamma_{TAX,t}TAX_{i,t} + \eta_{it} \qquad (5)$$

The coefficient estimates that are stated in Table 9 coincide with previous results from Comment and Jarrell (1994), who claimed that a firm's idiosyncratic risk tends to rise with the level of corporate specialization. In line with their results we find that sigma, the

Table 9. Risk—concentration relationship regression.

	Beta		Sigma	
	Systematic Risk 1999	Systematic Risk 1989–1999	Firm-Specific Risk 1999	Firm-Specific Risk 1989–1999
Constant	0.176	0.384**	0.080**	0.121**
Geographical Specialization	−0.215	0.004	0.015	0.009
Industrial Specialization	−0.261*	−0.023**	0.025*	0.007
Debt to Equity Ratio	0.323	0.421**	0.016	0.019*
Size	0.346**	0.222**	−0.020**	−0.030*
Tax	−0.369*	−0.492**	−0.009	−0.021*
R²	0.281	0.089	0.203	0.201
N	172	635	172	635

The coefficient estimates are based on 1999 figures. We repeated the exercise for various time periods, which resulted in robust estimate signs, but varying significance results that are due to restrictions in sample size.
The coefficients that are statistically significant on a 5%-level are marked with *, significance on a 1%-level is marked with **.

firm-specific risk component, increases with corporate specialization with regard to both the geographical and especially the industrial dimension. Regarding the systematic risk our results reveal an opposite relationship, high levels of corporate focus are associated by lower betas, especially regarding industrial focus. Focusing a property portfolio on only property type enhances the firm-specific risk while the overall market exposure is reduced. The performance of the portfolio is driven more by industry-specific factors, like for instance office employment, than by the overall state of the market. With regard to the control variables, our results coincide with the theoretical belief that leverage increases both the systematic and firm-specific risk and that beta rises with firm size, while the firm-specific risk is highest among the smallest companies.

7. Conclusions

This paper aims serves two purposes. First, we analyzed and described the development of the corporate focus profile of both the European and U.S. listed property share markets. By constructing asset-based Herfindahl indices, we were able to quantify the degree of corporate concentration with regard to both the geographical and the property type composition of the underlying property portfolios. Our results show distinct differences between the two continental samples for these factors, since the U.S. equity REITs in our sample tend to focus primarily on property types, while their European counterparts are primarily focused in a geographical sense. Besides these continental differences in the dominating focus strategies, we also detected significant differences in the continental developments of these focus profiles. In our U.S. sample, we find a very strong trend towards sector specialization that started in the early nineties, when the average equity REIT portfolio still contained more than three different property types on average, and appears to continue until today, when this number has already fallen below two. For our European sample, the trends we observed were less apparent, but we still detected a gradual but steady drift towards geographical focus, except for our Dutch sub-sample, in which the relatively small home market is still forcing property companies to adopt a pan-European strategy.

In the second part of our paper, we analyzed the stock performance of the companies in our sample using single-index specifications. By linking the risk and return measures to the concentration indices, we analyzed the relationship between corporate focus and stock performance. We began with a cluster analysis, in which we compared the average performance of top specialists with the performance of their most diversified competitors. This exercise already reveals a pattern in the risk-adjusted stock outperformances, which is stronger for the most specialized clusters of companies in each sample. Besides analyzing the cross-sectional variation in performance and corporate focus we also analyzed the effect of changes in corporate focus on the corresponding risk-adjusted performance of listed property companies, which shows that in most cases a shift towards corporate specialization is accompanied by an increase in the risk-adjusted stock outperformance.

Next, we examined the relationship between corporate focus and a firm's risk exposure. Our cluster analysis reveals that especially regarding the firm-specific risk component a

positive relationship between focus and sigma exists internationally. In order to isolate the impact of corporate focus on risk we ran multivariate regressions, which control for differences in company size and leverage. The regression output supports our results from the cluster analysis, in that corporate focus tends to increase the firm-specific risk of a listed property company, while the impact on the systematic risk is less compelling.

Overall we conclude that our results exhibit strong variations in corporate focus profiles that appear both across countries, firms and over time. This difference in focus strategies seems to be affecting both the return and risk of the property companies in our sample. Specialized property companies tend to be associated with both the highest historic outperformance and the highest firm-specific risk.

Acknowledgments

Notes

1. The exact corporate tax rate for U.K. property companies depends on profit level and company structure.
2. We proxied the size of the economy by stating the corresponding GDP of 2001.
3. We used the standard real estate region classification that has previously been used in other studies like Capozza and Seguin (1999).
4. The Randstad area includes Amsterdam, the Hague, Rotterdam, and Utrecht.
5. Where n represents the number of regions or industries in which the firm can invests.
6. For estimating the model coefficients we used a moving window of at least 24-months, expanding until a 60-month window, which then moves onwards.

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