

The Effects of Property Development Activities on the Performance of REITs

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Property investors sometimes claim that development activities are vital to get access to the most attractive investment opportunities, especially in a booming real estate market. The idea is that synergy effects between property development and investment would improve the performance of a real estate investment trust (REIT). In other words: a positive externality can be derived from development by combining development and investment in one entity. Others, however, point out that developing property differs completely from investing in it and that combining both would increase risks that would make property development an unattractive business for REITs.

Of the many published studies on the performance of REITs none has addressed the effects of property development activities directly. In this article we investigate whether participating in property development improves the performance of a REIT by examining the return and risk characteristics of REITs. This is done by using a sample of 174 U.S. equity REITs for the period of 1993-1999.

Cross-sectional analysis shows that property development is undertaken mainly by large REITs, and usually also by REITs specializing in outlet centers and regional malls. Concerning performance we find that developing REITs indeed have higher returns than REITs that do not develop. Concerning

risks, however, we find the same outcome. Property development activities increase the systematic risks of the REITs in our sample significantly. After adjusting returns for risks by applying the risk adjustment model of Litt and Mei [1999], no significant differences in performance remain. Thus, we find no empirical evidence for the notion of synergies between property investment and development. From this we can conclude that property development can be seen as a way for REITs to change their risk-return characteristics from low risk-low return towards a higher risk-higher return investment.

The remainder of this article is organized as follows. First, we briefly discuss the previous research regarding the performance of REITs, and then describe the sample collection procedures and the applied methodologies. The outcomes of our analysis are then presented along with our conclusions.

PREVIOUS RESEARCH

Although numerous studies have examined the performance of REITs, so far none of these have examined the impact of property development activities on performance. To understand the impact of property development activities on REIT performance we first need a thorough understanding of the risk-return characteristics of equity REITs. Fortunately these risk-return characteristics of REITs are well documented.

Chan, Hendershott, and Sanders [1990] proved that although REITs have lower systematic and total risks than common stocks, REITs do not offer a superior risk-adjusted return. When analyzing REIT returns with a multi-factor arbitrage pricing model, the evidence for excess risk-adjusted REIT returns, that was found especially for the 1980s when using a single-factor CAPM model, disappeared. These findings suggest that the simple-factor CAPM is not effective for analyzing the REIT market.

Ling and Naranjo [1997, 1998] studied the U.S. REIT market for the period 1978-1994 in order to identify the fundamental macroeconomic drivers affecting real estate returns. Their study provides us with more insights in the systematic risk of REITs but does not go into the issue of property development. Let us therefore turn to that issue now.

DATA COLLECTION AND METHODOLOGY

Data Collection

In our research we examine the U.S. equity REIT market, consisting of 211 publicly traded companies with a total market capitalization of about \$139 billion (June 1999). From this, we exclude all self-liquidating REITs in order to have a sample as homogeneous as possible. This leaves us with a sample consisting of 174 equity REITs, which we study for the period of 1993-1999. The data are collected from Datastream and the GPR data base and from annual reports of the different REITs.

Methodology

First, we want to find out which REITs participate in property development. The annual reports provide us with this information. After identifying the property developing REITs we examine whether they have some characteristics in common. We do this by performing cross-sectional analysis in relation to the size of the REITs and the underlying property types.

After identifying the REITs involved in property development, we start analyzing their returns. To identify potential differences in performance we compare both the returns and the risk-adjusted returns of developing REITs to those of the non-developers. For this we use the risk adjustment model (RAM) developed by Litt and Mei [1999] that enables us to see to what extent demand return is driven by systematic and unsystematic risk.

The intuition behind their model is straightforward. They decompose all the factors affecting REIT returns into two major sources — macro-factors (systematic factors) and firm-specific factors (unsystematic factors). Because of the high homogeneity of our sample, systematic factors will probably be well captured by the REIT market index — the NAREIT index in this case. Unsystematic risks, the variance in REIT returns that cannot be explained by changes in the return of the market, are included separately in the RAM. This results in the following cross sectional model:

$$E(r_i) = a + b(\beta_i) + c(\sigma_i) \quad (1)$$

where expected return $E(r_i)$ is a function of both systematic risk β_i and unsystematic risk σ_i . This RAM model enables us to analyze accurately whether significant differences in performance exist between REITs that are involved in property development activities and those that are not.

To derive estimates of systematic risk, we regress the monthly excess returns of each REIT on the NAREIT portfolio. Specific risk is determined by calculating the standard deviation for each individual REIT. After that we regress the mean excess returns onto the beta and the standard deviation. We use this cross-sectional regression we use to derive the parameter estimates for the RAM-equation, with the following result:

$$E(r_i) = 0.00399 + \beta_i(0.0044) - \sigma_i(0.0431) \quad (2)$$

With this model we calculate the required return for each REIT individually and compare it its actual return.

OUTCOMES

Which REITs Develop Property?

First, we want to know which of the REITs in our sample were actively involved in developing property during the years 1996 through 1998. For 1998 we find that 91 of the 174 REITs in our sample were actively developing property. In addition, we also look at the relative size of these development activities. We measure the importance of the development activities by expressing the nominal value of development activities as a percentage of total assets. For 1998, the size of these activities varies between 1% and 29.8% with an average of 5.4% of

total assets. Comparing these figures to the ones we find for 1996, we find not only a rise in the number of property developing REITs (eighty-five in 1996), but also an increase in the average size of these development activities (3.7% in 1996). Exhibit 1 shows these two trends for 1996, 1997, and 1998.

One explanation for this increase in property development activities is found by looking at economic growth. The favorable development of the American economy during the last three years, in which vacancy rates decreased and rents rose rapidly, caused property

acquisitions to become expensive. In such circumstances property development might offer attractive opportunities for REITs to expand their portfolios both in performance and in size.

The next question is whether these developing REITs have common characteristics. We first look at market size. Exhibit 2 shows how many REITs of each size-class are developing property. The graph clearly shows that larger REITs develop more often. One reason for this could be that development activities require a certain size in order to generate spin-offs.

EXHIBIT 1

Number of Property Developing REITs and the Average Size of the Activities (% of total assets)

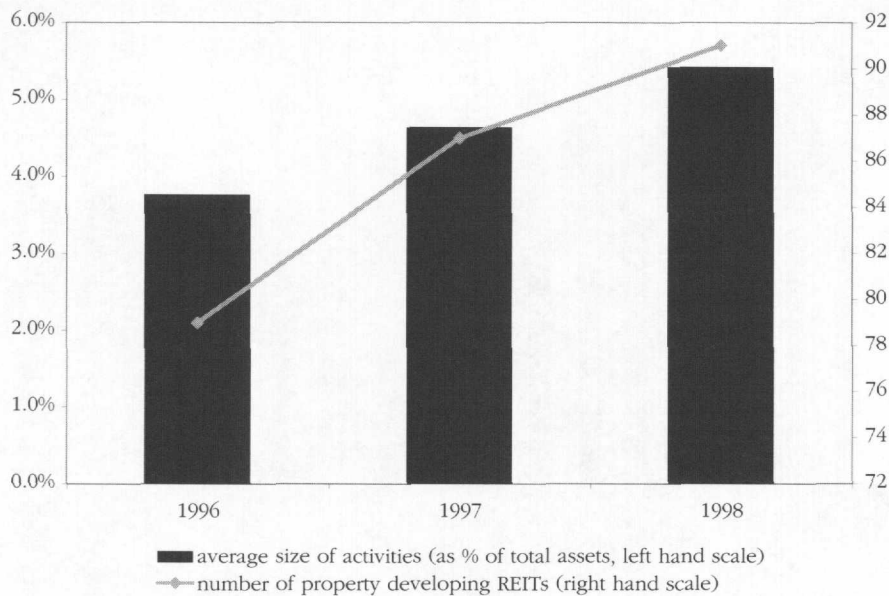
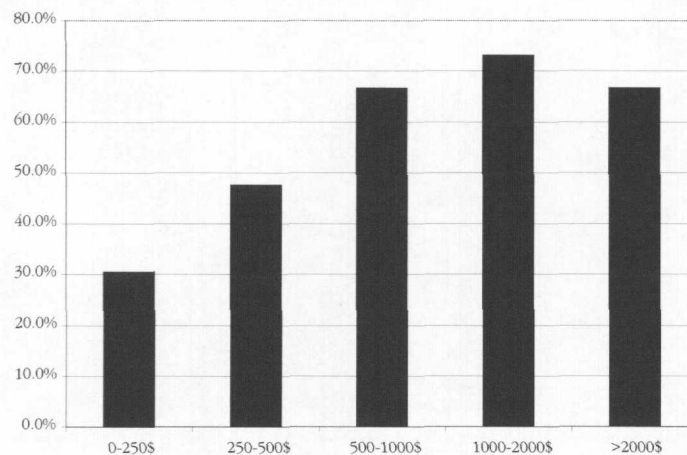


EXHIBIT 2

Developing REITs as Percentage for Different Size-Classes (\$ millions)



A second factor we look at is the property type the REITs invest in. Exhibit 3 shows that REITs specializing in outlet centers and regional malls almost always develop property themselves. One reason for this could be the scarcity of existing property in these markets. REITs specializing in other property types like resorts and healthcare almost never develop property themselves.

What Kind of Return do They Have?

Now that we know which REITs develop property, we want to examine whether it is worthwhile to do so. For this we apply two approaches. First, we compare the plain returns of the REITs to

the NAREIT index to see whether property developing REITs perform differently than non-developing REITs. The outcomes of this non-risk-adjusted performance analysis are summarized in Exhibit 4.

The property developing REITs are divided into three subclasses, based on the relative size of their development activities. Exhibit 4 shows clearly that property developing REITs outperform the NAREIT index on average by 2.27%, while non-developing REITs do not outperform at all. The last column of Exhibit 4 shows that this outperformance of developing REITs holds for 81.0% of all developing REITs, which suggests that outperformance is robust.

EXHIBIT 3

Developing REITs as Percentage of Total for Different Property Types

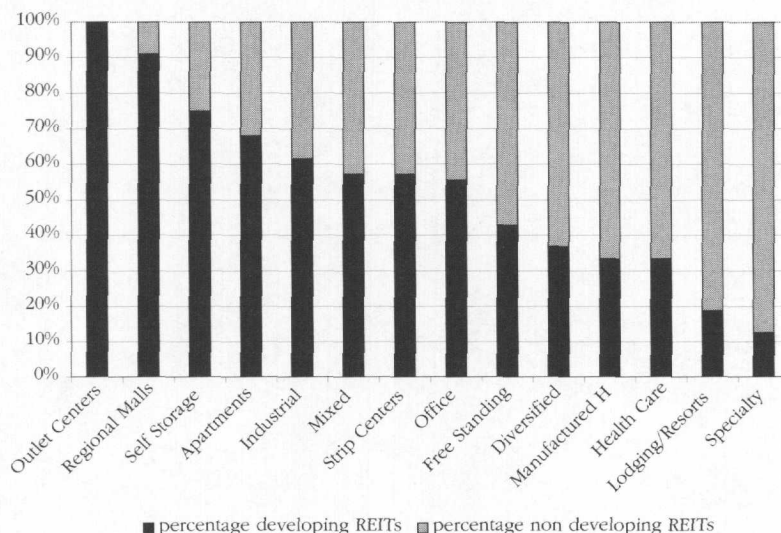


EXHIBIT 4

Returns per Category for the Period 1993-1999

Category	Number of REITs	Mean Annual Excess Return	Out-/Under-Performance	% REITs Outperforming
Developing REITs				
> 10% of Total Assets	17	9.53%	+3.36%	76.5%
5%–10% of Total Assets	24	7.45%	+1.28%	91.7%
2.5%–5% of Total Assets	17	8.74%	+2.57%	70.6%
Total	58	8.44%	+2.27%	81.0%
Semi-Developing REITs	22	6.12%	-0.05%	62.5%
Non-Developing REITs	73	6.16%	-0.01%	65.8%
NAREIT Index	174	6.17%	0.00%	

What if We Adjust for Risk?

Next, we want to know whether these higher returns of property developing REITs are accompanied by higher risks. In other words: is the higher return simply a compensation for an increase in risk or is it caused by synergy-effects? The answer to this question can be found by adjusting returns for risks by using the RAM model of Litt and Mei [1999]. Exhibit 5 shows the outcomes of the risk-adjusted performance analysis.

This time the average excess returns for each category are compared to returns calculated by the RAM model. The outcome of this analysis show a completely different result. We find that adjusting the performances for risks decreases the outperformances of developing REITs drastically (0.64% instead of 2.27%). Furthermore, comparing columns 4 and 5 of Exhibit 5 shows that the outperformances of both developing and non-developing REITs do no longer differ significantly from each other (0.64% and 0.71%). This means that the higher returns we found in Exhibit 4 are driven by a proportional increase in risk.

When we compare the risk-parameters we find that property developing REITs have, on average, a higher beta (0.94) than non-developers (0.77). In other words, property developing REITs are more sensitive to changes in the NAREIT index than non-developers. Besides that the R^2 indicates that the betas of the developing REITs also explain more (38%) of the variances in returns than the betas of the non-developers do (25%).

Besides systematic risk we also analyze the firm-specific risks of both types of REITs. Like in the case of systematic risk we expect to find higher firm-specific risk for developing REITs than for non-developers. Instead we find the opposite, an average of 6.01% for the developing REITs and an average of only 4.42% for the non-developers.

An explanation for this remarkable outcome can be found in previous research performed by Chen and Peiser [1999] and Litt and Mei [1999]. They prove that large REITs have more possibilities to diversify risks. Since diversification decreases firm-specific risk, it is rational to include this relation in this matter. Since we already find that the larger REITs (especially) participate in property development, size and not property development itself might be the explaining factor in this context. To test this hypothesis we performed an additional cross-sectional analysis. The outcomes are presented in Exhibit 6.

Exhibit 6 shows that for non-developing REITs the differences in firm-specific risks are exactly as predicted. Smaller REITs are indeed associated with more firm-specific risk (6.54%) than their larger competitors (4.56%). For the property developing REITs this relation is less obvious (4.47% compared to 4.42%).

Altogether we can conclude that the increase of systematic risk exceeds the decline in firm-specific risk. In other words, one could say that the higher returns of the developing REITs are a compensation for the higher systematic risk they have to bear.

EXHIBIT 5

Risk-Adjusted Performance per Category for the Period 1993-1999

Category	Beta	R ²	Firm-Specific Risk	Mean Annual Excess Return	Demanded Excess Return	% REITs Outperforming
Developing REITs						
> 10% of Total Assets	0.89	39%	4.08%	9.53%	7.67%	58.8%
5%–10% of Total Assets	0.91	39%	4.18%	7.45%	7.77%	50.0%
2.5%–5% of Total Assets	1.05	38%	5.10%	8.74%	7.96%	58.8%
Total	0.94	38%	4.42%	8.44%	7.80%	55.2%
Semi-Developing REITs	0.85	32%	4.83%	6.12%	6.94%	41.7%
Non-Developing REITs	0.77	25%	6.01%	6.16%	5.45%	52.1%

EXHIBIT 6

Market Value and Firm-Specific Risk for Developers and Non-Developers

Category	Number of REITs	Beta	Firm-Specific Risk	Total Risk
Developing REITs > \$1.000 million	19	0.87	4.42%	9.73%
Non-Developing REITs > \$1.000 million	12	0.92	4.56%	9.67%
Developing REITs < \$500 million	20	0.98	4.47%	9.70%
Non-Developing REITs < \$500 million	51	0.72	6.54%	14.86%

CONCLUSIONS

Property development is quite popular among REITs: of our sample of infinite life equity REITs, 52.3% are actively developing property themselves. We also find that this number has been rising over the last few years. These developing REITs have a relatively high average market capitalization and are mostly involved in property types like outlet centers and regional malls.

When we do not adjust the performance for risk we see that property-developing REITs outperform the NAREIT index on average by 2.27%, while non-developers do not significantly outperform the index. When taking risk into account by applying the RAM model, we discover that property-developing REITs hardly outperform the demanded returns. This change is mainly caused by the increase of systematic risk that results from developing property. Thus, the overall conclusion of our research is that we do not find empirical evidence for the idea that synergies exist between property development and investment.

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