Real Estate Ownership by Non-Real Estate Firms:
An Estimate of the Impact on Firm Returns

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Introduction

For many years operating companies around the world generally have owned their real estate assets. In the United States alone it is estimated that corporate users own well over $1 trillion worth of various property types, or at least five times the value held by publicly traded real estate companies. Companies own not only their production facilities, but frequently their offices, warehouses, and retail outlets. Although many of these properties are suitable for a broad range of users, many operating companies choose to commit their scarce capital to the ownership of real estate, rather than re-deploying this capital to core operating businesses.

A debate is emerging around the issue of whether non-real estate firms should own so much property, with Linneman (1998), among others, contending that it is harmful for non-real estate firms to devote capital to investments outside their core competencies. The rise of large, often national equity real estate investment trusts (REITs) also provides well-capitalized real estate firms who could buy and operate the assets, further increasing the relevance of the issue to non-real estate firms.

Unfortunately, relatively little empirical evidence exists on this issue. Related research tends to be of the event study variety, focusing on the impacts of special events such as large real estate asset sales or the break-up of a company.[2] While the bulk of this work suggests that disgorging real estate assets is associated with higher firm returns, generalizing from it is tricky because of possible sample selection biases. Stated differently, it could be that the relatively few firms engaging in real estate asset sales,

[2] See Rodriguez and Sirmans (1996) for a good review of this literature. They report on studies finding that dispositions or spin-offs tend to be associated with abnormally high returns around the event window.

spin-offs, or break-ups are badly managed to begin with and that any dismemberment of the firm is a good thing, whether or not real estate-related.

Our strategy is to test whether a wide variety of firms that own relatively large amounts of real estate do in fact perform differently. We do so by examining firm level returns for 718 companies in 57 different non-real estate industries to see whether more real property ownership is associated with lower returns. That is, we, too, look directly to the capital markets for evidence. However, we examine a much broader sample of firms in order to deal with possible sample-selection-bias issues. We also examine a decade-long holding period to see if there are longer-term impacts.

It is well known that return data are notoriously noisy, so a finding of no significant correlation between real estate ownership and return performance need not constitute a truly powerful rejection of the hypothesis that ‘too much’ real estate ownership is harmful. However, any significant negative correlation between real estate concentration and firm return would be meaningful for the same reason.

There are a variety of reasons why firms that commit relatively large amounts of capital to real estate could underperform because of their real estate exposure. One possibility is that non-real estate companies sub-optimally utilize their real estate. If they are inefficient real estate users, the firms may not be earning a high enough risk-adjusted return on their real property assets. If so, we would expect all firms with relatively high real estate concentrations to suffer return penalties.

A second possible reason for relatively poor performance by firms committing large amounts of corporate capital to real estate assets could be that investors do not want the risk profile of a non-real estate firm changed by such investment. Investors may desire ‘pure plays’ if they can diversify risk more cheaply on their own accounts. In this case, hybrid risks would underperform the pure plays. Since the beta of commercial real estate is estimated to be in the 0.8-0.9 range (see Gyourko & Keim (1992)), the bulk of the impact would fall on relatively risky, higher cost of capital firms. Firms in industries with systematic risk equal to that of commercial real estate should not be affected at all under this scenario.

Investor ignorance constitutes yet a third possible reason for underperformance by firms that invest a lot in real estate ownership. In this case, only firms in industries with costs of capital above that for commercial real estate would be negatively impacted. If investors in these companies do not fully perceive the lower risk associated with real property ownership, they effectively discount the real estate investment at too high a rate. Firms in industries with less risk than that of real estate would have increased returns for an analogous reason. We have no problem believing that the typical investor has little or no idea what real estate holdings the company has. Whether such ignorance could exist on the part of the marginal investor over many years is another matter.

Another factor that could lead riskier, higher cost of capital firms in particular to suffer return penalties is that allocating scarce corporate capital to property ownership may constitute a poor duration match with the firm’s product cycle. Since high cost of capital firms tend to be subject to more volatility over the cycle, it is likely that their real estate needs will vary a lot over the cycle, too. Ownership implies a long-term commitment of scarce corporate capital that may be an inappropriate match with the company’s capital requirements over the cycle. It could lead to the firm missing out on profitable projects, resulting in lower returns in the long run. Importantly, investors do not need to know anything about real estate holdings for an impact to be felt in this scenario.

Neither theory or speculation can take us much further. What is needed is a test of whether firms that own relatively large amounts of real estate do in fact perform differently from those that do not, and if so, whether this is the case for all such firms or only relatively high cost of capital firms. Using data spanning the 1984-93 time period, and employing a two-stage regression approach, with a simple capital asset pricing model (CAPM) estimated in stage one, we find a statistically and economically significant negative relation between the idiosyncratic component of firm return and the degree of real estate ownership—for high cost of capital firms only.[3] This is the first study of which we are aware to document any meaningful negative relation between firm returns and the degree of real estate ownership over a long holding period.

Our specifications also shed some light on the proximate cause of the return penalty, which is important in interpreting what the findings mean for real estate holdings by non-real estate firms. The results do not support a general inefficiency in usage explanation. If high real estate concentrations were signals of general inefficiency, then all firms, not just risky firms with high betas and associated costs of capital, should suffer return penalties. That only firms with betas above that for commercial real estate suffer a penalty suggests the cause lies with investors believing they can diversify risk more cheaply on their own accounts, or with investor ignorance, or with real estate ownership constituting a poor and costly duration match with the firm's capital needs over the cycle.

[3] More specifically, we cannot reject the null hypothesis that a return penalty exists only for firms with betas above 0.9 in our tests.

Unfortunately, we are unable to distinguish among these three factors. However, as long as the prime motivation is not investor ignorance (which we find very difficult to believe holds over a long period of time), then risky firms with relatively high real estate holdings should begin disgorging some of their property holdings, as our findings indicate a return bonus will result.[4]

The Data

The data sets used in this empirical study include the NYSE, AMEX, and NASDAQ monthly stock files maintained by the Center for Research in Security Prices (CRSP), and the Standard & Poor's COMPUSTAT annual industrial files. The CRSP Monthly Stock file provides detailed information on individual securities, most importantly including return data. COMPUSTAT is a database of financial, statistical, and marketing information. It provides more than 300 annual Income Statement, Balance Sheet, Statement of Cash Flows, and supplemental data items on more than 7,500 publicly held companies.

A key variable used throughout our analysis is the firm's real estate concentration ratio. This is computed for non-real estate firms from COMPUSTAT data. We proxy for real estate concentration by using the ratio of the company's Property, Plant, and Equipment (including buildings at cost plus land and improvements) divided by the company's Total Assets. Both numerator and denominator are book values, as the use of

[4] Selling real estate could be the right strategy even if investor ignorance underlies our results, but that is a subtler story. If learning occurs as a result of the asset sales, then the first few corporate sellers might benefit in the short run, but the long run could be different. That is, if previously ignorant investors begin to understand that real estate ownership affects the true risk profile of the firm, they will perceive the firm as more risky after the real estate is gone.

book numbers reduces potential endogeneity problems that can bias the estimations reported below.[5]

Due to a variety of data limitations in both databases, we confine our analysis to the period from 1984 to 1993. In addition, firms are included only if they have at least 60 months of consecutive monthly returns data, the standard in the finance literature for estimating stable betas (a key first step in the empirical strategy described below). Furthermore, each firm must have balance sheet information about property, plant, and equipment, total assets, total debt, stock-holders' total equity, as well as the company's year-end equity market capitalization information. After data cleaning and merging, the final sample includes stock returns and balance sheet data from 718 firms in 57 non-real estate industries.

The Test Methodology

The basic idea underpinning our test is the familiar one that the total return of each firm can be broken down into idiosyncratic and systematic components. It is crucial to control for systematic risk (or beta) as theory suggests that is the primary reason why returns vary across firms. After controlling for systematic risk differences across firms, we then examine whether the remaining idiosyncratic component of return is related to our proxy for the company's real estate concentration.

More specifically, the test is implemented using the following two-stage

[5] We also experimented with three other concentration measures. One is very similar to that just described, except that its numerator reflects the value of buildings at cost less accumulated depreciation. Use of this measure yields results very similar to those reported below. The other two measures examined are ratios of the book value of real estate (gross and net of accumulated depreciation) to total property, plant, and equipment. Use of these two measures yields qualitatively similar results to those reported below.

approach. In the first stage, a simple capital asset pricing model (CAPM) in the spirit of the cross-sectional regression approach suggested by Fama & Macbeth (1973) is estimated for 718 firms across 57 non-real estate industries such that

$$ERET_{it} = \alpha_i + \beta_i \, EMKT_{it} + \varepsilon_{it} \,. \tag{1}$$

The dependent variable, *ERET*, is the monthly excess return over the risk-free return, which is measured as the difference between the company's monthly holding period return and the 30-day T-bill return as reported in the CRSP monthly stock files; *EMKT* is the monthly excess return on the market portfolio, which is measured as the difference between the monthly return on the CRSP value-weighted market portfolio and the 30-day T-bill return reported in the CRSP monthly stock files; α is the idiosyncratic component of the monthly excess return; β measures systematic risk; ε is an error term following a standard normal distribution; *i* indexes the firms, and *t* is the monthly time index.

The second stage examines the non-systematic, or idiosyncratic, component of return to see if it is associated with the concentration of real estate ownership (denoted RC for the moment). The specifications estimated generally contain the following covariates: (a) a vector of industry dummies, *IND*, to control for industry fixed effects; (b) year-end capitalization, or *SIZE*, as reported by CRSP; this variable is included because recent research has shown that it is often related to differences in firm returns (e.g., see Fama & French (1992, 1993)); while there is no agreed upon theoretical explanation for this correlation, we control for it to avoid potential measurement error due to its possible association with the degree of real estate concentration; (c) a poor

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However, missing data is more of problem here, so that the findings often are not statistically significant performance indicator variable, *PERFORMANCE,* which takes on a value of 1 if the company suffered at least a ten percent drop in market capitalization during our sample period; this variable is included to control for the possibility that $\hat{\alpha}$ and real estate concentration could be spuriously correlated due to declining companies ending up with high concentrations of real estate as they sell off core assets during their decline; and (d) *FIRMBETA* which takes the form of a dummy variable indicating that the company's estimated beta is below that associated with commercial real estate; we also interact this measure with the real estate concentration measures to help distinguish whether the impact of real estate concentration differs for high versus low risk firms.

Thus, we estimate a series of specifications like that in equation (2)

$$\hat{\alpha}_i = f\left(IND_i, RC_i, SIZE_i, PERFORMANCE_i, FIRMBETA_i\right) \qquad (2)$$

where $\hat{\alpha}$ is a company specific idiosyncratic component of the excess return estimated from the first stage regressions. We suspect that the *Alpha-RC* relationship, if it exists at all, may vary across industries. Ideally, equation (2) should be tested by industry. However, the limited number of firms which satisfy our data screening criteria in each industry affects the power of our test. Therefore, we estimate equation (2) using a pooled sample by combining all the industries together and controlling for industry fixed effects in all specifications.[6]

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due to the smaller number of observations available.

[6] We also estimate equation (2) for ten selected industries, each of which has at least 25 firms with full data. The ten industries are: Food and Kindred Products Industry; Paper and Allied Products Industry; Printing, Publishing and Allied Products Industry; Chemicals and Allied Products Industry; Primary Metal Industry; Fabricated Metal, Excluding Machinery, and Transportation Equipment Industry; Industrial, Commercial Machinery, and Computer Equipment Industry; Electronics, and other Electronic Equipment excluding Computer Industry; Transportation Equipment Industry; and Measuring Instrument, Photo Goods, and Watches Industry. The impact of real estate concentration on company returns varies across industries, with the largest and most significant negative impact occurring in the Electronics Industry. Those results are available upon request.

Summary Statistics

The first row of Table 1 reports the means, medians, and standard deviations of key variables used in the analysis for the pooled sample. The remaining rows report analogous data by industry. Recall that these data are for the 1984-1993 time period and that returns are measured in excess of the CRSP value-weighted market return. The mean monthly excess return is 0.873%, with a large 12.3% standard deviation indicating a very large variance across firms. A median monthly excess return of 0.16% for the pooled sample also provides some indication of how skewed the return distribution is. In many cases, the variation in excess returns within industry is even larger.[7]

The typical idiosyncratic component of return is quite small as expected. However, the mean alpha of 0.057 percent per month comes with a relatively large standard deviation of 0.9 percent per month. It is that variance which we try to exploit in the regression analysis. Our pooled industries have slightly higher than average systematic risk as indicated by the mean beta of 1.13. Only 18 of the 57 industries have the estimated equity beta less than one. Among the eighteen, nine of them have the estimated beta below 0.9. Twenty industries have an estimated equity beta greater that 1.2. In general, our estimates are in line with previous research dating back at least to Gibbons (1982) on systematic risk across industry groupings.

Real estate concentration (RC) averages 20%, with a median of 16%. However, this also varies a lot across industry. For a few industries, the typical firm has well under 10 percent of it total assets allocated to property, plant, or equipment. Less than a

[7] Obviously, these are not averages but extreme values that occur in at least one monthly observation. For example, monthly excess returns vary from -52.8 percent to 229 percent in the Electronics Industry (SIC 3600), and from –77.1 percent to 524.5 percent in the Computer Equipment Industry (SIC 3500)

handful have means and medians in excess of 50 percent. For the bulk of industries, the median RC value ranges from 15 to 30 percent, with a good amount of within-industry variance around those figures.

Average firm size is nearly $1.7 billion, with the median firm having an equity market capitalization of only $257 million. As with the other variables, there is substantial within and across industry variance. A related variable reported in Table 1 is the change in market capitalization (CSIZE). The mean change in size was under four percent, with the median about 1.5 percent. Once again, the variance is quite large (about 12 percent). As noted above, we will use this variable to help control for the possibility that poorly performing firms happen to end up with a lot of real estate rather than real estate contributing to poor performance.

Empirical Results

Table 2 reports on four different specifications of two basic models akin to that outlined in equation (2). In the first model, our real estate concentration proxy is measured in continuous form. In Model 2, real estate concentration is captured by a dichotomous dummy variable that divides the firms in those with concentration measures above versus below the sample median. All specifications control for industry-specific fixed effects.

Before getting to the real estate concentration effects that are of most interest to us, it is useful to address the impacts of the other covariates. As noted above, a firm size control is included because numerous studies on the cross-section of expected stock returns suggest that average returns on stocks are related to the size of the company. In most specifications, we find a negative partial correlation between log size and the idiosyncratic component of excess return that tends to be statistically significant at conventional levels. However, dropping this variable has virtually no impact on the real estate concentration coefficients.

The Poor Performance variable takes on a value of 1 if the company experienced at least a ten-percent drop in market capitalization over the sample period. This dummy variable is included to control for the possibility that any negative relation between RC and firm return is due to the fact that declining firms just happen to end up with a lot of real estate on their books after they disgorge other assets on the way down. As expected, Poor Performance is strongly negatively correlated with return. And, its inclusion does tend to lower the point estimates on the real estate concentration controls. In Model 2's specifications, the statistical significance of the real estate concentration coefficient falls just below the 5 percent level (although we cannot reject the null that there is not significant change in the coefficients themselves). Naturally, the R-squares improve considerably.

Finally, controlling for whether beta is less than that of commercial real estate in the first two models has little independent impact on the results. This variable's coefficient is small and insignificant, and it has no meaningful influence on the real estate concentration effect to which we now turn.

Each specification of Model 1, in which real estate concentration is entered in continuous form, indicates that even for very small increases about the mean concentration ratio, the idiosyncratic component of excess return is lower (at about a 10 percent confidence level or better in each case). However, the economic impact of small differences in real estate concentration is negligible. Focusing on specification four, a one-percentage point higher RC Ratio is associated with a –0.0000431 lower monthly excess return. Even if compounded over a long time period, this does not lead to an economically significant difference in return performance.

The second model controls for real estate concentration with a dichotomous dummy variable that divides companies into those with concentrations above the median for the sample (RC>50%). In each case, the coefficient on RC>50% indicates that on average a firm with less than the median book real estate concentration tends to earn more than one-tenth of a per cent per month higher return than a firm with a greater than median book real estate concentration (*cet. par.*). This impact is statistically significant at close to the five-percent level, and represents an economically meaningful impact as we discuss more fully below.

Table 3 reports on two more specifications that include interactions of the two real estate concentration ratios with indicators for whether the firm's beta is below that of commercial real estate (0.9 in this case).[8] In both models, the results strongly suggest all the return penalty occurs in firms with betas higher than that for commercial real estate. That is, only the coefficients on the interaction of RC (or RC>50%) with H Beta are significantly negative. The coefficients on the interaction of RC (or RC>50%) with L Beta not only are statistically insignificant, but the point estimates are very close to zero.

Before investigating the economic impact of these results, we should note that these findings are robust to a number of other changes to the specifications. For example, if we reestimate Table 3 after including a control for the firm's leverage ratio, the strongly significant negative impact on relatively risky, high real estate concentration firms' returns persists. Moreover, the leverage variable has little independent influence (both statistically and economically) on the idiosyncratic component of the typical company's excess return.[9]

The results also are robust to using asset betas in lieu of equity betas in the estimation. In this case, we estimated the first-stage CAPM using asset betas to help control for differences in firm leverage. We followed Gyourko & Nelling (1996) in determining a firm's asset beta β_A such that

$$\beta_A = \left(\frac{D}{S \times P}\right)\beta_D + \left(1 - \frac{D}{S \times P}\right)\beta_E \qquad (3)$$

where D is total debt (i.e., total long-term debt plus debt in current liability), S is common share outstanding, and P is the share price, β_E is the equity beta of each firm estimated from the first stage, and β_D is the debt beta of each firm, which is assumed to have a value of 0.2. Though the penalty towards high real estate concentration for high beta firms is slightly reduced, the major findings reported in Table 3 still hold. In particular, only high real estate concentration firms with higher betas suffer a penalty.

Figure 1 plots the weighted average of the idiosyncratic component of return by degree of real estate concentration for all firms in the pooled sample based on the results for Specification 3 of Model 2 in Table 2 (which is presented by the two bar charts on the left), and Model 4 in Table 3 (which is presented by the two bar charts on the right).[10] The difference in $\hat{\alpha}$ is about 0.12% per month for relatively high versus low real estate

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[8] We experimented with slightly different cut-off points. The results are not materially affected by whether one uses a number slightly above or below 0.9.
[9] These results are available upon request.

concentration firms (as indicated by the first two bars on the left of the chart). The next two bars in Figure 1 report $\hat{\alpha}$'s for all high real estate concentration firms split by whether firm beta is greater or less than 0.9 (i.e., based on Model 4 in Table 3). A comparison of these bar charts shows that the idiosyncratic component for low beta, high real estate concentration firms is almost identical to that for low real estate concentration firms. However the idiosyncratic component for high beta, high real estate concentration firms is much lower. Effectively, the entire return differential is reflected in high-risk firms.

Estimated annual excess returns are calculated based on equation (4)

$$AERET = \left[\left(ERET + 1 \right)^{12} - 1 \right] \tag{4}$$

where *AERET* is the annual excess returns, and *ERET* is computed based on equation (5):

$$ERET = \hat{\alpha} + \hat{\beta} EMKT \tag{5}$$

where $\hat{\alpha}$ is the estimated idiosyncratic component of excess return, β is the median systematic risk estimated from the first stage regression[11], and the *EMKT* is the excess market returns.

The left most two bars in Figure 2 show there is about a 1.7 percentage point difference in annual return between high and low real estate concentration firms based on Model 2 from Table 2.[12] The next two figures in this table then confirm this difference is

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[10] The computations assume a firm with a mean level size and no drop in equity market capitalization of 10% or more (i.e., Poor Performance=0).

[11] For the pooled sample, we use the mean level beta across all 718 firms.

[12] The level of excess returns reported is high because we eliminate the impact of all poor performers who lost more than ten percent of the equity market capitalization. This does not affect the differences in returns that are of most interest to us, as indicated by the fact that including the Poor Performer dummy has very little impact on the coefficients of the interactions of firm risk (beta) with real estate concentration (RC).

associated virtually exclusively with the riskier firms with betas above 0.9, the average beta level in commercial real estate industry.[13] We tested the robustness of this finding by divides the sample by the upper quartile, there is little difference in results if one divides the sample into half or into the upper quartile.

Conclusion

There is a growing debate as to the wisdom of non-real estate companies investing large amounts of scarce capital in real estate. Our findings suggest that firms with high degrees of real estate concentration and high levels of risk as measured by beta do experience lower returns, as reflected in the idiosyncratic component of return. There are a number of possible explanations for this. Our preferred one is that ownership of real estate implies an inefficiently costly duration mismatch with the firm's product cycle, leading to the firm not being able to take on some profitably projects over the cycle because of the capital it has tied up in long-term real estate. Whatever the precise reason, relatively risky non-real estate firms with relatively large amounts of real estate on their books should be encouraged to disgorge at least some of their real estate, as a return penalty appears to be associated with owning a lot of real estate.

[13] We experimented with other beta cutoffs and found similar results for the 0.8, 0.9 and 1.0 cutoff points.

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Table 1. Mean, Median, and Standard Deviation of Key Variables by Industry[1]

SIC[2]	N[3]	ERET[4]	ALPHA[5]	BETA_E[6]	BETA_A[7]	LVRG[8]	RC[9]	SIZE[10]	CSIZE[11]
Pooled[12]	**718**	**0.00873**	**0.00057**	**1.13304**	**0.39003**	**0.73628**	**0.20143**	**1.68905**	**3.76892**
		0.00160	0.00012	1.12052	0.72550	0.34202	0.16276	0.25700	1.46154
		(0.123)	(0.009)	(0.339)	(3.024)	(2.444)	(0.158)	(4.706)	(11.973)
0100	**4**	**0.00797**	**0.00159**	**0.87548**	**0.58270**	**0.49085**	**0.34431**	**0.96227**	**2.49558**
		0.00313	0.00066	0.86480	0.55270	0.43375	0.27473	1.08296	2.74681
		(0.095)	(0.002)	(0.192)	(0.294)	(0.343)	(0.224)	(0.583)	(1.169)
0200	**1**	**0.00656**	**-0.00005**	**0.90820**	**0.88700**	**0.02994**	**0.18885**	**0.33333**	**0.45497**
		-0.01929	-0.00005	0.90820	0.88700	0.02994	0.18885	0.33333	0.45497
		(0.119)	-	-	-	-	-	-	-
1000	**1**	**0.00511**	**0.00314**	**0.27160**	**0.26737**	**0.05908**	**0.16938**	**1.04013**	**3.54763**
		0.00820	0.00314	0.27160	0.26737	0.05908	0.16938	1.04013	3.54763
		(0.118)	-	-	-	-	-	-	-
1200	**1**	**-0.00110**	**-0.00763**	**0.89703**	**0.69891**	**0.28423**	**0.04172**	**0.36461**	**2.25203**
		0.00600	-0.00763	0.89703	0.69891	0.28423	0.04172	0.36461	2.25203
		(0.083)	-	-	-	-	-	-	-
1300	**6**	**0.00388**	**-0.00545**	**1.29528**	**-2.08600**	**2.59661**	**0.09111**	**3.01539**	**7.19501**
		-0.00469	-0.00773	1.39699	0.98687	0.34656	0.10888	1.55620	0.25570
		(0.177)	(0.014)	(0.197)	(6.344)	(4.758)	(0.029)	(4.119)	(18.234)
1400	**2**	**0.00708**	**0.00149**	**0.76657**	**0.70267**	**0.10481**	**0.54683**	**1.04483**	**0.82389**
		0.00414	0.00149	0.76657	0.70267	0.10481	0.54683	1.04483	0.82389
		(0.081)	(0.003)	(0.126)	(0.092)	(0.036)	(0.433)	(0.452)	(0.300)
1500	**1**	**0.00353**	**-0.00710**	**1.46002**	**0.52455**	**0.74242**	**0.13951**	**0.14387**	**0.42379**
		-0.00436	-0.00710	1.46002	0.52455	0.74242	0.13951	0.14387	0.42379
		(0.135)	-	-	-	-	-	-	-
1600	**7**	**0.00627**	**-0.00037**	**0.94268**	**0.66364**	**0.37806**	**0.09425**	**0.14835**	**0.88551**
		-0.00574	-0.00041	1.00564	0.69821	0.42019	0.08223	0.05060	0.87011
		(0.151)	(0.004)	(0.521)	(0.395)	(0.198)	(0.029)	(0.241)	(0.980)
2000	**35**	**0.01275**	**0.00573**	**0.97048**	**0.60564**	**0.43849**	**0.21422**	**3.94637**	**2.98206**
		0.00855	0.00730	0.97743	0.76538	0.20157	0.21427	1.10082	2.62323
		(0.095)	(0.010)	(0.203)	(0.472)	(0.551)	(0.104)	(6.330)	(2.730)
2100	**2**	**0.01743**	**0.01033**	**0.97561**	**0.74759**	**0.26276**	**0.23075**	**9.81219**	**4.19563**
		0.01381	0.01033	0.97561	0.74759	0.26276	0.23075	9.81219	4.19563
		(0.071)	(0.000)	(0.102)	(0.110)	(0.239)	(0.067)	(6.462)	(0.213)
2200	**20**	**0.01314**	**0.00455**	**1.20889**	**0.36327**	**0.69891**	**0.14404**	**0.28994**	**7.84691**
		0.00461	0.00231	1.11882	0.60590	0.52115	0.13972	0.10709	3.06485
		(0.128)	(0.009)	(0.380)	(0.698)	(0.611)	(0.040)	(0.342)	(10.765)
2300	**6**	**0.00777**	**-0.00003**	**1.05155**	**0.81298**	**0.32135**	**0.16099**	**0.41802**	**1.17139**
		0.00259	0.00189	1.00741	0.70429	0.30694	0.15447	0.10937	0.73115
		(0.103)	(0.007)	(0.309)	(0.385)	(0.316)	(0.045)	(0.699)	(1.461)

Table 1. Mean, Median, and Standard Deviation of Key Variables by Industry (Continued)

SIC	N	ERET	ALPHA	BETA_E	BETA_A	LVRG	RC	SIZE	CSIZE
2400	**8**	**0.01047**	**0.00023**	**1.42312**	**0.78137**	**0.53695**	**0.16126**	**1.76082**	**3.16592**
		0.00343	-0.00303	1.38196	0.98697	0.43228	0.13288	1.68278	2.48497
		(0.115)	(0.006)	(0.214)	(0.446)	(0.379)	(0.050)	(1.900)	(2.291)
2500	**12**	**0.01171**	**0.00416**	**1.02089**	**0.40119**	**0.79621**	**0.20616**	**0.39153**	**6.38349**
		0.00457	0.00180	0.96877	0.74635	0.27646	0.21156	0.22971	3.36905
		(0.111)	(0.008)	(0.389)	(0.915)	(1.049)	(0.068)	(0.457)	(7.400)
2600	**26**	**0.00933**	**0.00044**	**1.21503**	**0.36099**	**0.75999**	**0.17291**	**1.78787**	**3.01395**
		0.00362	0.00024	1.22548	0.72673	0.46559	0.12267	0.95274	1.56643
		(0.098)	(0.008)	(0.288)	(0.968)	(0.816)	(0.146)	(3.189)	(4.657)
2700	**28**	**0.00819**	**0.00005**	**1.12497**	**0.84056**	**0.32023**	**0.15730**	**1.36393**	**1.94118**
		0.00584	0.00026	1.14183	0.94854	0.16459	0.15434	0.57640	1.26060
		(0.092)	(0.005)	(0.249)	(0.441)	(0.412)	(0.054)	(1.534)	(1.895)
2800	**68**	**0.01342**	**0.00542**	**1.12452**	**0.86073**	**0.28505**	**0.18397**	**3.70461**	**8.25219**
		0.00929	0.00430	1.11552	0.87431	0.21923	0.17407	0.86446	2.56628
		(0.113)	(0.009)	(0.302)	(0.407)	(0.330)	(0.093)	(6.737)	(30.868)
2900	**2**	**0.01371**	**0.00501**	**1.19389**	**0.71831**	**0.41857**	**0.55389**	**0.10393**	**2.56790**
		-0.00042	0.00501	1.19389	0.71831	0.41857	0.55389	0.10393	2.56790
		(0.113)	(0.002)	(0.188)	(0.207)	(0.318)	(0.335)	(0.033)	(1.905)
3000	**18**	**0.01491**	**0.00653**	**1.20149**	**-0.17672**	**1.12742**	**0.17127**	**0.66529**	**5.81218**
		0.00023	0.00393	1.22654	0.58636	0.36603	0.18704	0.11203	1.53307
		(0.153)	(0.009)	(0.318)	(1.904)	(1.476)	(0.056)	(1.069)	(10.957)
3100	**4**	**0.01069**	**0.00540**	**0.71805**	**0.43791**	**0.50026**	**0.16460**	**0.01073**	**3.05181**
		-0.00656	0.00168	0.78741	0.51336	0.41460	0.16173	0.00607	2.44364
		(0.135)	(0.005)	(0.103)	(0.104)	(0.281)	(0.051)	(0.012)	(1.177)
3200	**10**	**0.00634**	**-0.00208**	**1.15572**	**0.36151**	**0.84597**	**0.39312**	**0.77974**	**2.47778**
		0.00032	-0.00239	1.06724	0.43520	0.71679	0.22588	0.29827	1.03711
		(0.126)	(0.009)	(0.379)	(0.579)	(0.628)	(0.393)	(1.134)	(3.209)
3300	**24**	**0.00627**	**-0.00240**	**1.18163**	**-0.15137**	**1.31875**	**0.22466**	**0.84851**	**2.29062**
		-0.00037	-0.00344	1.12856	0.55450	0.71461	0.15835	0.24473	1.28402
		(0.124)	(0.008)	(0.241)	(1.766)	(1.655)	(0.203)	(1.240)	(2.775)
3400	**31**	**0.00524**	**-0.00174**	**0.95560**	**0.32480**	**0.81989**	**0.18344**	**0.50379**	**1.56286**
		-0.00252	-0.00152	0.91386	0.61792	0.30966	0.16250	0.10262	0.69545
		(0.112)	(0.010)	(0.312)	(0.978)	(1.270)	(0.129)	(1.142)	(2.916)
3500	**66**	**0.00833**	**-0.00036**	**1.21429**	**0.65626**	**0.55497**	**0.16613**	**1.63185**	**3.97888**
		-0.00392	-0.00033	1.23472	0.73927	0.36524	0.15580	0.15577	1.19404
		(0.148)	(0.011)	(0.347)	(0.573)	(0.520)	(0.064)	(7.787)	(7.140)
3600	**68**	**0.00422**	**-0.00467**	**1.22226**	**0.73480**	**0.50246**	**0.16968**	**1.67435**	**1.84091**
		-0.00392	-0.00390	1.20728	0.86374	0.33726	0.15460	0.14279	0.96342
		(0.129)	(0.007)	(0.368)	(0.566)	(0.536)	(0.067)	(5.266)	(3.110)

Table 1. Mean, Median, and Standard Deviation of Key Variables by Industry (Continued)

SIC	N	ERET	ALPHA	BETA_E	BETA_A	LVRG	RC	SIZE	CSIZE
3700	**38**	**0.00744**	**-0.00141**	**1.21050**	**0.38001**	**0.75575**	**0.16548**	**2.52688**	**2.61686**
		0.00215	-0.00202	1.19717	0.72489	0.43930	0.16392	0.64072	0.76134
		(0.109)	(0.008)	(0.282)	(1.092)	(0.895)	(0.060)	(4.843)	(4.729)
3800	**33**	**0.00666**	**-0.00174**	**1.15062**	**0.62827**	**0.59847**	**0.17424**	**1.93062**	**2.61567**
		0.00056	-0.00147	1.10126	0.74962	0.38749	0.17253	0.77372	0.91308
		(0.124)	(0.009)	(0.313)	(0.660)	(0.845)	(0.066)	(3.045)	(4.897)
3900	**12**	**0.01312**	**0.00433**	**1.20637**	**0.42980**	**0.78250**	**0.15621**	**0.25254**	**8.20177**
		0.00099	0.00783	1.19761	0.52926	0.71154	0.14566	0.09806	2.37860
		(0.130)	(0.008)	(0.342)	(0.536)	(0.588)	(0.071)	(0.382)	(11.318)
4200	**3**	**0.00254**	**-0.00732**	**1.46285**	**0.14136**	**0.89910**	**0.27654**	**0.30646**	**0.60333**
		-0.00559	-0.00530	1.27909	0.56055	0.66588	0.21118	0.02727	0.53513
		(0.166)	(0.014)	(0.275)	(0.923)	(0.691)	(0.187)	(0.368)	(1.336)
4400	**2**	**0.00983**	**0.00282**	**0.96229**	**-0.16420**	**1.87607**	**0.45784**	**0.25310**	**3.46139**
		0.00069	0.00282	0.96229	-0.16420	1.87607	0.45784	0.25310	3.46139
		(0.115)	(0.007)	(0.258)	(0.673)	(1.180)	(0.440)	(0.185)	(1.317)
4500	**2**	**-0.00134**	**-0.00890**	**1.03789**	**0.53299**	**0.62639**	**0.13918**	**0.44088**	**-0.10005**
		-0.01659	-0.00890	1.03789	0.53299	0.62639	0.13918	0.44088	-0.10005
		(0.102)	(0.002)	(0.212)	(0.158)	(0.095)	(0.110)	(0.416)	(0.240)
4600	**1**	**0.01149**	**0.00814**	**0.49165**	**0.24217**	**0.85541**	**0.05994**	**0.32636**	**0.90909**
		0.00894	0.00814	0.49165	0.24217	0.85541	0.05994	0.32636	0.90909
		(0.051)	-	-	-	-	-	-	-
4700	**2**	**-0.00510**	**-0.01348**	**1.15098**	**-2.10969**	**2.76601**	**0.04002**	**0.18432**	**0.98401**
		-0.00501	-0.01348	1.15098	-2.10969	2.76601	0.04002	0.18432	0.98401
		(0.162)	(0.006)	(0.255)	(2.815)	(2.487)	(0.002)	(0.181)	(1.271)
4800	**5**	**0.01210**	**0.00440**	**1.04156**	**-14.36515**	**12.39305**	**0.09406**	**9.86529**	**3.46153**
		0.00431	0.00626	0.90234	0.45101	0.64260	0.07690	0.63351	1.84776
		(0.185)	(0.008)	(0.287)	(29.632)	(23.527)	(0.040)	(15.679)	(4.892)
4900	**3**	**0.01546**	**0.00665**	**1.27532**	**0.61803**	**0.63832**	**0.29073**	**0.60878**	**2.87333**
		0.00752	0.00915	1.23656	1.11103	0.12110	0.35221	0.58480	1.32774
		(0.118)	(0.007)	(0.057)	(0.822)	(0.762)	(0.147)	(0.305)	(3.018)
5000	**16**	**0.00724**	**-0.00176**	**1.26156**	**0.35653**	**0.80386**	**0.21278**	**0.35156**	**2.31101**
		0.00062	-0.00091	1.33237	0.67169	0.52243	0.11825	0.18246	1.35364
		(0.111)	(0.007)	(0.236)	(1.155)	(0.960)	(0.305)	(0.475)	(3.514)
5100	**9**	**0.00935**	**0.00262**	**0.95303**	**0.54537**	**0.50170**	**0.18047**	**0.93932**	**2.18291**
		0.00831	0.00557	0.88679	0.55672	0.44509	0.14005	0.39270	1.23102
		(0.090)	(0.007)	(0.161)	(0.372)	(0.409)	(0.074)	(0.853)	(2.617)
5200	**2**	**0.02002**	**0.00960**	**1.43174**	**1.20442**	**0.18185**	**0.31060**	**3.94624**	**21.46485**
		0.02332	0.00960	1.43174	1.20442	0.18185	0.31060	3.94624	21.46485
		(0.116)	(0.010)	(0.170)	(0.114)	(0.020)	(0.038)	(2.582)	(17.603)

Table 1. Mean, Median, and Standard Deviation of Key Variables by Industry (Continued)

SIC	N	ERET	ALPHA	BETA_E	BETA_A	LVRG	RC	SIZE	CSIZE
5300	**12**	**0.01212**	**0.00265**	**1.30420**	**0.59650**	**0.61818**	**0.21554**	**5.20535**	**2.93852**
		0.00802	0.00349	1.31220	0.86404	0.41981	0.22116	2.38204	1.61108
		(0.108)	(0.006)	(0.327)	(0.753)	(0.559)	(0.099)	(8.546)	(3.179)
5400	**14**	**0.00666**	**0.00013**	**0.90999**	**0.41394**	**0.71218**	**0.23870**	**0.92402**	**1.61342**
		-0.00098	-0.00235	0.85790	0.70180	0.38374	0.22996	0.86671	0.89772
		(0.101)	(0.006)	(0.229)	(0.463)	(0.705)	(0.163)	(0.986)	(1.700)
5500	**1**	**0.01410**	**0.00609**	**1.09996**	**0.85516**	**0.27202**	**0.60802**	**0.80299**	**5.93245**
		0.02383	0.00609	1.09996	0.85516	0.27202	0.60802	0.80299	5.93245
		(0.092)	-	-	-	-	-	-	-
5600	**7**	**0.00868**	**-0.00100**	**1.35419**	**0.85063**	**0.37060**	**0.17073**	**1.02217**	**2.17809**
		0.00282	0.00170	1.23340	1.05820	0.16953	0.13720	0.50456	2.30940
		(0.114)	(0.007)	(0.390)	(0.790)	(0.558)	(0.127)	(1.074)	(1.583)
5700	**5**	**0.01051**	**0.00074**	**1.34308**	**0.96996**	**0.31175**	**0.08574**	**0.74598**	**14.06832**
		0.00024	0.00449	1.26288	0.95008	0.29317	0.06148	0.21089	1.65343
		(0.142)	(0.011)	(0.185)	(0.128)	(0.139)	(0.046)	(1.146)	(24.560)
5800	**18**	**0.01053**	**0.00204**	**1.16831**	**0.53579**	**0.65889**	**0.42664**	**1.00546**	**3.03191**
		-0.00267	0.00359	1.12105	0.78055	0.26038	0.48384	0.32038	0.89729
		(0.125)	(0.006)	(0.293)	(0.836)	(0.847)	(0.222)	(2.542)	(4.846)
5900	**10**	**0.00545**	**-0.00228**	**1.07133**	**0.73977**	**0.33010**	**0.17402**	**1.59613**	**1.74724**
		-0.00283	-0.00319	1.06360	0.79079	0.13689	0.11746	0.70250	1.17256
		(0.124)	(0.008)	(0.307)	(0.457)	(0.397)	(0.142)	(2.065)	(2.092)
6300	**8**	**0.00536**	**-0.00116**	**1.01092**	**0.46201**	**0.70018**	**0.16205**	**0.37047**	**3.42638**
		-0.00337	-0.00199	0.86536	0.44211	0.50279	0.11833	0.09832	2.27382
		(0.132)	(0.014)	(0.348)	(0.454)	(0.566)	(0.118)	(0.674)	(5.746)
6400	**1**	**0.02017**	**0.01313**	**0.96759**	**0.94785**	**0.02571**	**0.08725**	**0.15215**	**0.87876**
		0.01689	0.01313	0.96759	0.94785	0.02571	0.08725	0.15215	0.87876
		(0.093)	-	-	-	-	-	-	-
6700	**7**	**0.00973**	**0.00563**	**0.56539**	**0.24247**	**0.63988**	**0.45477**	**0.10001**	**1.63358**
		0.00003	0.00564	0.51422	0.30957	0.34052	0.34724	0.06000	0.91901
		(0.100)	(0.008)	(0.232)	(0.243)	(0.646)	(0.273)	(0.072)	(1.509)
7000	**3**	**0.00452**	**-0.00177**	**0.86192**	**0.52700**	**0.33381**	**0.54993**	**0.82233**	**0.72522**
		-0.00006	-0.00300	1.13656	0.59220	0.28952	0.51304	0.07325	1.04110
		(0.156)	(0.004)	(0.539)	(0.355)	(0.247)	(0.186)	(1.023)	(0.976)
7200	**4**	**0.00619**	**-0.00269**	**1.21950**	**1.07830**	**0.15228**	**0.23736**	**0.35868**	**1.55226**
		0.00458	-0.00296	1.15008	0.97964	0.17519	0.22966	0.27567	0.92146
		(0.092)	(0.004)	(0.194)	(0.252)	(0.077)	(0.055)	(0.272)	(1.332)
7300	**18**	**0.00623**	**-0.00115**	**1.02106**	**0.69939**	**0.41863**	**0.11034**	**0.91870**	**2.62448**
		-0.00221	-0.00031	1.00994	0.74472	0.11184	0.10087	0.36461	0.89681
		(0.145)	(0.012)	(0.345)	(0.569)	(0.617)	(0.062)	(1.710)	(4.439)

Table 1. Mean, Median, and Standard Deviation of Key Variables by Industry (Continued)

SIC	N	ERET	ALPHA	BETA_E	BETA_A	LVRG	RC	SIZE	CSIZE
7500	**2**	**0.00194**	**-0.00635**	**1.13842**	**0.31648**	**0.62285**	**0.34190**	**0.91200**	**0.11776**
		-0.00582	-0.00635	1.13842	0.31648	0.62285	0.34190	0.91200	0.11776
		(0.089)	(0.000)	(0.383)	(0.440)	(0.623)	(0.250)	(0.863)	(0.665)
7800	**4**	**0.01167**	**0.00394**	**1.08037**	**-0.07120**	**1.37055**	**0.26110**	**3.19442**	**4.55464**
		0.00963	0.00224	1.17775	0.04609	1.23238	0.19538	0.06371	3.75051
		(0.120)	(0.006)	(0.217)	(0.975)	(0.939)	(0.181)	(5.169)	(3.636)
7900	**8**	**0.01120**	**0.00571**	**0.77638**	**0.17684**	**1.33744**	**0.56826**	**0.37516**	**16.18072**
		0.00163	0.00670	0.57335	0.23433	0.88037	0.65605	0.13389	5.23059
		(0.133)	(0.013)	(0.385)	(0.514)	(1.530)	(0.193)	(0.489)	(38.440)
8000	**8**	**0.01015**	**0.00072**	**1.30743**	**-1.08448**	**2.15113**	**0.39684**	**0.48225**	**3.22108**
		-0.00477	-0.00362	1.27533	-0.19259	1.69080	0.45409	0.12017	1.36459
		(0.163)	(0.009)	(0.333)	(2.238)	(1.999)	(0.211)	(0.725)	(4.851)
8700	**8**	**0.00398**	**-0.00309**	**1.05530**	**0.37954**	**0.93086**	**0.17509**	**0.12223**	**1.85152**
		-0.00472	-0.00338	1.01943	0.64385	0.31456	0.14829	0.02322	1.88710
		(0.152)	(0.007)	(0.322)	(0.684)	(1.152)	(0.145)	(0.224)	(2.776)
9900	**1**	**0.00671**	**-0.00343**	**1.39261**	**0.81967**	**0.48041**	**0.09262**	**0.12946**	**0.15827**
		-0.00276	-0.00343	1.39261	0.81967	0.48041	0.09262	0.12946	0.15827
		(0.126)	-	-	-	-	-	-	-

[1] Mean values are in bold type face, with the medians immediately below. Standard deviations are in parentheses.
[2] SIC is the COMPUSTAT Standard Industrial Classification code. See Table A-1 in Appendix for a list of SIC codes and industry names.
[3] Number of firms in the sample.
[4] ERET is monthly excess return over 30-day T-bill returns.
[5] ALPHA is the idiosyncratic component of the monthly excess returns estimated from the first stage regressions.
[6] BETA_E is the systematic risk of the monthly excess returns (Equity Beta) estimated from the first stage regressions.
[7] BETA_A is the Asset Beta estimated based on firm's leverage ratio, equity beta and debt beta using equation (3).
[8] LVRG is the ratio of total debt (total long-term debt plus debt in current liability) divided by common share outstanding multiplied by share price.
[9] RC is the ratio of plan and equipment (buildings at cost plus land) divided by total assets, all at book value.
[10] SIZE is year-end equity market capitalization, measured in billion dollars.
[11] CSIZE is the percentage change in market capitalization during the relevant sample period.
[12] The pooled sample has 75,163 observations of monthly returns from 718 firms in 57 industries.

Table 2. Second Stage Estimates

Variable	Model 1				Model 2			
	Spec. 1	Spec. 2	Spec. 3	Spec. 4	Spec. 1	Spec. 2	Spec. 3	Spec. 4
RC Ratio	-0.00416 (1.58)	-0.00432 (1.64)	-0.00414 (1.75)	-0.00431 (1.82)				
RC > 50%					-0.00162 (2.18)	-0.00162 (2.19)	-0.00117 (1.76)	-0.00123 (1.85)
Log Size		0.00024 (1.30)	-0.00038 (2.15)	-0.00034 (1.88)		0.00023 (1.24)	-0.00038 (2.20)	-0.00034 (1.93)
Poor Performance			-0.01229 (12.60)	-0.01235 (12.64)			-0.01221 (12.50)	-0.01226 (12.54)
Beta < 0.9				0.00092 (1.12)				0.00094 (1.15)
R^2	0.1545	0.1567	0.3207	0.3220	0.1574	0.1593	0.3208	0.3221

NOTES: The pooled sample contains 718 firms. t-ratios are in parenthesis. Industry specific fixed effects were estimated for all models, but they are not reported here.
RC Ratio Property, Plan and Equipment (building at cost plus land) divided by Total Assets.
RC > 50% Dummy variable indicating that the company's RC Ratio is above the sample median.
Log Size Log of Year End Equity Market Capitalization.
Poor Performance Dummy variable indicating the company has suffered at least a ten percent decline in market capitalization during the sample period.
Beta < 0.9 Dummy variable indicating that the company's estimated beta is less than 0.9, which roughly is the average level of beta in commercial real estate industry.

Table 3. Second Stage Estimates

Variable	Model 3	Model 4
RC Ratio * H Beta	-0.00629 (2.41)	
RC Ratio * L Beta	-0.00034 (0.11)	
RC > 50%*H Beta		-0.00164 (2.26)
RC > 50%*L Beta		-0.00009 (0.09)
Log Size	-0.00030 (1.70)	-0.00034 (1.91)
Poor Performance	-0.01233 (12.6)	-0.01229 (12.58)
R^2	0.3246	0.3225

NOTES: The pooled sample contains 718 firms. t-ratios are in parenthesis. Industry specific fixed effects were estimated for all models, but they are not reported here.

RC*H Beta RC variable interacted with a high beta dummy indicating beta is above 0.9, the average level of beta in commercial real estate industry.

RC*L Beta RC variable interacted with a low beta dummy indicating beta is below 0.9, the average level of beta in commercial real estate industry.

RC>50%*H Beta RC dummy variable interacted with a high beta dummy indicating RC above median and beta above 0.9, the average level of beta in commercial real estate industry.

RC>50%*L Beta RC dummy variable interacted with a low beta dummy indicating RC above median and beta below 0.9, the average level of beta in commercial real estate industry.

Log Size Log of Year End Equity Market Capitalization.

Poor Performance Dummy variable indicating the company has suffered at least a ten percent decline in market capitalization during the sample period.

Appendix

Table A-1. SIC Code and Industry Names

SIC CODE	INDUSTRY NAMES
0100	Agriculture Production-Crops
0200	Agriculture Production-Live Stock, Animal Species
1000	Metal Mining
1200	Coal Mining
1300	Oil And Gas Extraction
1400	Mining, Quarry Nonmetal Minerals
1500	Building Construction-General Contractors, Operative Builders
1600	Heavy Construction-Not Building Construction
2000	Food And Kindred Products
2100	Tobacco Products
2200	Textile Mill Products
2300	Apparel And Other Finished Products
2400	Lumber And Wood Products, Excluding Furniture
2500	Furniture And Fixtures
2600	Paper And Allied Products
2700	Printing, Publishing And Allied
2800	Chemicals And Allied Products
2900	Petroleum Refining And Related Industries
3000	Rubber And Misc. Plastics Products
3100	Leather And Leather Products
3200	Stone, Clay, Glass, And Concrete Products
3300	Primary Metal Industries
3400	Fabricated Metal, Excluding Machinery, Transportation Equipment
3500	Industrial, Commercial Machinery, Computer Equipment
3600	Electronics, Other Electronic Equipment, Ex Computer
3700	Transportation Equipment
3800	Measuring Instrument, Photo Goods, Watches
3900	Misc. Manufacturing Industries
4200	Motor Freight Transportation, Warehousing
4400	Water Transportation
4500	Transportation By Air
4600	Pipe Lines, Excluding Natural Gas
4700	Transportation Services
4800	Communications
4900	Electric, Gas, Sanitary Services
5000	Durable Goods-Wholesale
5100	Non-durable Goods-Wholesale
5200	Building Material, Hardware, Garden-Retail
5300	Misc. General Merchandise Stores
5400	Food Stores

Table A-1. SIC Code and Industry Names (continued)

SIC CODE	INDUSTRY NAMES
5500	Auto Dealers, Gas Stations
5600	Apparel And Accessory Stores
5700	Home Furniture And Equipment Store
5800	Eating And Drinking Places
5900	Miscellaneous Retail
6300	Insurance Carriers
6400	Insurance Agents, Brokers And Service
6700	Holding, Other Invest Offices
7000	Hotels, Other Lodging Places
7200	Personal Services
7300	Business Services
7500	Auto Repair, Services, Parking
7800	Motion Picture
7900	Amusement And Recreation Services
8000	Health Services
8700	Engineering, Accounting, Research, Management, Related Services
9900	Non-classifiable Establishments

Fig. 1 Plot of Idiosyncratic Component of Monthly Excess Returns by Percentile of Real Estate Concentration
(Based on Model 2 in Table 2, and Model 4 in Table 3)

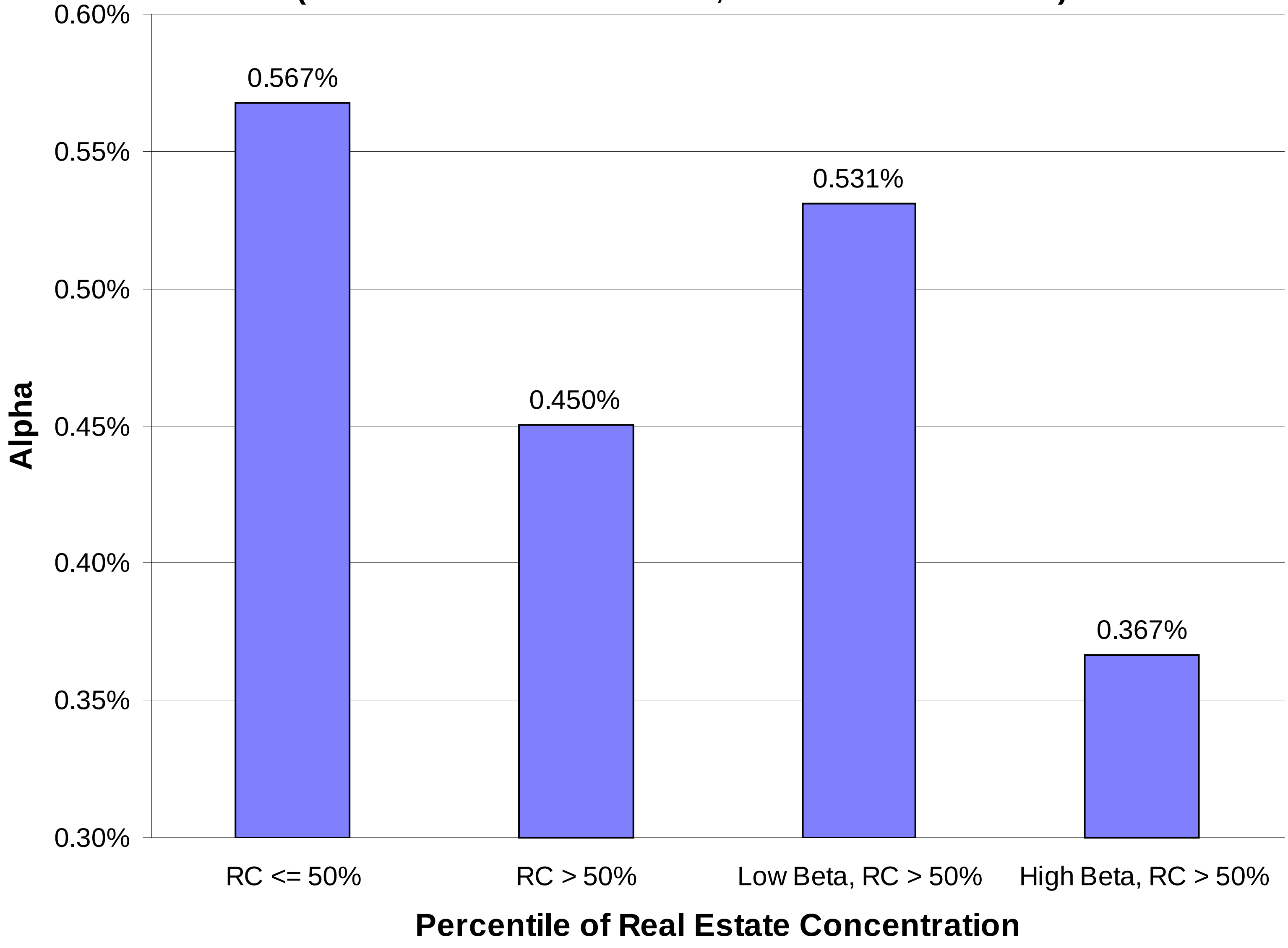

Fig. 2 Annual Excess Returns by Percentile of Real Estate Concentration (Based on Model 2 in Table 2, and Model 4 in Table 3)