
is but One Determinant

Abstract. Prior research of senior executive compensation in real estate investment trusts (REITs) has found REIT size as the sole statistically significant determinant of compensation. This research finds that size is only one of several determinants of equity REITs (EREIT) senior executive compensation. In addition to size as measured by EREIT market value, the designation of the EREIT as a retail EREIT, the percentage of stock owned by the senior executive, the dollar amount of dividends paid to the senior executive and the number of years since an EREIT's initial public offering were found to be significant factors impacting senior executive compensation. The results also contrast with the general executive compensation literature that shows proxies for size as the primary determinants of executive compensation. This research indicates the need for industry specific compensation models to account for variation in executive compensation.

Introduction

Because of the substantial gap between the compensation of senior corporate executives and the wages of non-executive corporate employees, the compensation of senior corporate executives continues to be subject to harsh criticism (Byrne, 1996). Since firm size has generally been the primary determinant of senior executive compensation (Ciscel and Carroll, 1980; Lambert, Larcker and Weigelt, 1991; and Davis and Shelor, 1995) and firm stock performance has generally not been shown to affect compensation, additional industry specific empirical research is needed.

Unlike most prior studies of senior executive compensation, this study uses only one industry and one type of corporate entity to generate a sample frame. By only using equity real estate investment trusts (EREITs), the extraneous variation in executive compensation that is inherent in most prior studies using samples from related, but differing industries is eliminated. The large number of publicly traded EREITs allows for a clearer analysis of the relationship between executive compensation and industry specific corporate performance measures.

Literature Review

The executive compensation literature has focused on firm size as the major determinant of senior executive compensation. Baumol's (1959) postulate that larger

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corporate operations increase the scope of a business with a resultant positive correlation between corporate revenues and executive compensation has served as the primary basis for most executive compensation research. The operationalization of corporate size, however, has been problematic with researchers using proxies such as sales revenue and net income. Lewellan and Huntsman (1970) showed net income to be a greater determinant of senior executive compensation than revenue. Ciscel and Carroll (1980) found that net income is the key determinant of executive compensation. Coughlan and Schmidt (1985) and Murphy (1985) showed that revenue and stock performance influence senior executive compensation. Leonard (1990) found a relationship between firm revenue and executive compensation that was subsequently confirmed by Lambert, Larcker and Weigelt (1991). Lambert, Larcker and Weigelt also showed that a change in revenue is not significant in determining executive compensation. Bartlett, Grant and Miller (1992) found net profit, revenue, and a firm's beta to be determinants of senior executive compensation while Ely (1991) showed that there are inter-industry differences in the determinants of senior executive compensation.

The study of senior real estate executive compensation has been minimal. Davis and Shelor (1995) showed firm size, as measured by total assets, and earnings per share to be determinants of executive compensation. A subsequent study by Chopin, Dickens and Shelor (1995) found a relationship between net income and REIT executive compensation, but did not examine the relationship between either REIT market value or funds from operations (FFO), more common measures of REIT operating performance and executive compensation. The use of an EREIT-specific sample and EREIT-specific measures of performance allows for a more detailed examination of the specific determinants of EREIT executive compensation than has previously been attempted.

Data

The 1995 National Association of Real Estate Investment Trusts (NAREIT) *REIT Handbook* was used to generate the sample frame. All nonspecialty EREITs with market capitalizations of \$90M were included in the sample frame. Eighty-seven REITs were identified. A year end 1994 Annual Report, Proxy Statement and 10-K were requested from each EREIT. Eighty-three companies responded. Of the eighty-three responses, sixty-eight provided sufficient data for inclusion in the study.

The total market capitalization of the usable sample was \$28.436B. This represented 80% of the total market value of nonspecialty EREITs at year end 1994. The sixty-eight EREITs in the usable sample represented 77% of the total number of EREITs identified having individual market capitalizations of greater than \$90M. Exhibits 1-3 summarize the sample's composition by property type, presence of the EREIT's founder as the corporation's senior executive and date of initial public offering. Apartment and retail EREITs were the two property types with the most representation in the sample. Forty-six EREITs or 68% of the EREITs in the sample were taken public in 1993 or 1994. Fifty-one EREITs or 75% were managed by company founders. Founder-managed EREIT market value totaled \$19.912B.

Exhibit 1
EREIT Sample Statistics by Property Type

Property Type	Number	Percentage	Market Value ('000)	Percentage of Type
Retail	22	32.3	8,464,100	29.8
Apartment	20	29.4	7,776,400	27.3
Office	7	10.3	2,264,200	8.0
Industrial	3	4.4	818,500	2.9
Mall	5	7.4	5,207,000	18.3
Mixed	8	11.8	2,703,900	9.5
Outlet	3	4.4	1,202,000	4.2
Total	68	100.0	28,436,100	100.0

Exhibits 4 and 5 provide descriptive information on the specific variables included in the compensation model. The mean salary for an EREIT's senior executive officer was \$250,162, with a mean cash incentive of \$69,853. Total cash compensation averaged \$320,015, with a range of \$100,000 to \$998,000. The mean market value of the EREITs was \$418M, with a range of \$94M to \$2.1B. The mean percentage ownership of the EREIT by the senior corporate executive was 6.7% with a range of 0% to 35%. The mean dividend cash flow to the senior executive was \$2.526M with a range of \$0 to \$34.605M. Senior executives of mall EREITs had the highest mean salary (\$365,600), while senior executives of office EREITs had the lowest mean salary (\$184,143). Senior executives of mall EREITs had the highest mean total compensation (\$424,200), while senior executives of industrial EREITs had the lowest mean total compensation (\$195,333).

Model

The model of EREIT senior executive compensation used in this study is as follows:

$$COMP = f(MVA, APART, RETAIL, FOUNDER, IPO, \%OWN, DCFLOW),$$

where:

- COMP* = Senior executive salary, cash bonus and cash incentives;
- MVA* = Market value of the EREIT;
- APART* = 1 if the REIT is an apartment REIT, 0 if otherwise;
- RETAIL* = 1 if the REIT is a retail REIT, 0 if otherwise;
- FOUNDER* = 1, if founder, 0 otherwise;
- IPO* = The number of years since the REIT's IPO with 1994 being 1;
- %OWN* = The senior manager's percentage ownership of the REIT; and
- DCFLOW* = The dividend cash flow to the senior executive.

Compensation (*COMP*), the model's dependent variable, is defined as salary plus cash

Exhibit 2
EREIT Sample Statistics by Presence of Founder

Property Type	Number	Founder	Percentage	Market Value ('000)	Percentage of Type
Retail	22	14	64	5,458,500	65
Apartment	20	15	75	4,966,700	64
Office	7	6	86	2,136,100	94
Industrial	3	3	100	818,500	100
Mall	5	4	80	3,123,700	58
Mixed	8	6	75	2,206,100	82
Outlet	3	3	100	1,202,000	100
Total	68	51	75	19,911,600	70

bonuses and incentives. Support for this definition comes from research by Lewellan and Huntsman (1970) showing that the salary plus bonus definition of compensation is a sufficient proxy for total compensation. Additionally, the use of the salary plus cash bonus definition of compensation follows Jensen and Murphy (1990), Lambert, Larcker and Weigelt (1991), Bartlett, Grant and Miller (1992), Chopin, Dickens and Shelor (1995) and Davis and Shelor (1995).

Since prior empirical studies indicate that firm size is the primary determinant of executive compensation in REITs, EREIT market value (*MVA*) is incorporated into the model as the proxy for firm size. Although Chopin, Dickens and Shelor (1995) used net income as a proxy for size and performance, and found a relationship between net income and compensation, it is not used in this model because the *MVA* variable is a better measure of the underlying value of the real estate portfolio from which economic returns are generated and net income is not a generally accepted measure of REIT performance. The use of EREIT market value also addresses Ciscel

Exhibit 3
EREIT Sample Statistics by Date of IPO

Property Type	Number	1994	1993	1992	1991	1990	1989	Pre-1989
Retail	22	1	9	2	2	0	0	8
Apartment	20	10	8	0	0	0	0	2
Office	7	4	1	0	0	0	0	2
Industrial	3	2	1	0	0	0	0	0
Mall	5	2	2	1	0	0	0	0
Mixed	8	0	3	0	0	0	0	5
Outlet	3	2	1	0	0	0	0	0
Total	68	21	25	3	2	0	0	17

Exhibit 4
Descriptive Statistics

Variable	Mean	Std. Dev.	Min.	Max.
<i>Salary</i>	250,162	126,324	100,000	750,000
<i>Bonus</i>	69,853	81,835	0	327,000
<i>COMP</i>	320,015	172,569	100,000	998,000
<i>MVA ('000)</i>	418,178	578,373	94,000	2,083,300
<i>APART</i>	0.32	0.47	0	1
<i>RETAIL</i>	0.29	0.46	0	1
<i>FOUNDER</i>	0.75	0.44	0	1
<i>IPO (years)</i>	6.91	10.41	1	35
<i>%OWN</i>	0.07	0.08	0	0.35
<i>DCFLOW ('000)</i>	2,526	4,825	0	34,605

and Carroll's (1980) theoretical concern that compensation models depart from economic theory by using net income as an independent variable when in fact net income is derived from a firm's assets and their utilization.

Industry specific variables incorporated into the model include the length of time since the EREIT's IPO (*IPO*), the percentage of outstanding stock owned by the EREIT's senior executive (*%OWN*), the dividend cash flow paid to the senior executive or affiliated entities (*DCFLOW*), a dummy variable indicating that the senior executive is the EREIT's founder (*FOUNDER*) and dummy variables for the two largest EREIT property types, apartments (*APART*) and retail (*RETAIL*). The *IPO* variable is used to capture the relationship between time since the IPO and the senior executive's salary. Since REITs are required to pay dividends equivalent to 95% of net income, capital formation is difficult without secondary stock issuances. A positive relationship between compensation and time since the IPO is anticipated as initial ownership is diluted, but needed management skills are expanded requiring additional compensation. The *%OWN* and *DCFLOW* variables reflect the fact that 75% of senior executives are EREIT founders and retain substantial ownership interests in the newly public EREITs. The relationship between compensation and the percentage of outstanding stock owned by the senior executive is ambiguous as substantial executive ownership may allow the senior executive to influence the amount and type of compensation paid. There, however, should be a negative relationship between compensation and dividend payments. Because REITs are not taxed at the corporate level, there would be no tax benefit to the senior executive for taking an increase in salary in lieu of dividend income. Therefore, a negative relationship is hypothesized. The dummy variable for founder captures any impact derived from the founder's influence over his post-IPO compensation package. Because 68% of the EREITs in the sample completed their initial public offerings within a twenty-four month period prior to fiscal year end 1994, this variable captures any pre-IPO salary effect on post-IPO salary. The *APART* and *RETAIL* dummy variables are incorporated into the model

Exhibit 5
Compensation in Dollars by Property Type

Property Type	<i>n</i>	Mean	Std. Dev.	Min.	Max.
Retail	22				
Salary		292,591	130,921	109,000	665,000
Bonus		95,409	93,642	0	327,000
Total COMP		388,000	183,819	109,000	827,000
Apartment	20				
Salary		203,350	67,035	100,000	350,000
Bonus		55,900	63,385	0	200,000
Total COMP		259,250	112,246	100,000	498,000
Office	7				
Salary		184,143	75,311	125,000	350,000
Bonus		82,571	72,461	0	229,000
Total COMP		266,714	144,787	125,000	579,000
Industrial	3				
Salary		185,000	35,000	145,000	210,000
Bonus		10,333	15,373	0	28,000
Total COMP		195,333	19,655	173,000	210,000
Mall	5				
Salary		365,600	241,712	175,000	750,000
Bonus		58,600	107,656	0	248,000
Total COMP		424,200	345,800	175,000	998,000
Mixed	8				
Salary		274,125	139,185	150,000	591,000
Bonus		47,625	68,727	0	180,000
Total COMP		321,750	129,639	150,000	591,000
Outlet	3				
Salary		214,000	90,072	150,000	317,000
Bonus		83,333	144,338	0	250,000
Total COMP		297,333	113,782	175,000	400,000

to determine the effect of property type on compensation. This is warranted based on NAREIT's and real estate analysts' traditional delineation of investment by property type. No other real estate property types were of sufficient size to warrant individual classification.

Empirical Results

Ordinary least squares regression results are presented in Exhibit 6. With the exception of *APART* and *FOUNDER*, all variables are significant at the 10% level. The model accounts for approximately 55% of the variation in senior executive compensation, which is a substantial improvement over Davis and Shelor's 26% (1995). As expected, the coefficient for *MVA* is positive and highly significant (*p*-value of .001). This confirms past empirical studies showing a positive relationship between real estate firm size and senior executive compensation. The *RETAIL* coefficient is positive and significant (*p*-value of .027), while the coefficient for *APART* is not statistically

Exhibit 6
Regression Results

Variable	Coeff.	t-Stat.	p-Value
Intercept	164.415	3.2	.0020
<i>MVA</i>	<0.001	7.4	.0001
<i>APART</i>	-14.023	-0.4	.7016
<i>RETAIL</i>	78.230	2.3	.0274
<i>FOUNDER</i>	-63.941	-1.6	.1155
<i>IPO</i>	4.336	2.8	.0069
<i>%OWN</i>	558.343	1.8	.0787
<i>DCFLOW</i>	-0.012	-2.5	.0147

Note: The dependent variable is *COMP*; $R^2 = .5962$; Adjusted $R^2 = .5491$; F -Value = 12.66; Probability - Value = .0001; and $N = 68$.

significant. The senior executives of retail EREITs are paid a premium of approximately \$78,231. The *FOUNDER* variable is only marginally significant with a p -value of .116. It is possible that the *%OWN* and *DCFLOW* variables partially capture the relationship between compensation and founder status as the founders have larger ownership stakes and dividend cash flow than non-founding senior executives. The coefficient of *%OWN* is positive and statistically significant (p -value of .079) indicating a positive relationship between stock ownership and compensation while the coefficient of the *DCFLOW* variable is negative and significant (p -value of .013) as expected. For every 1% of ownership in outstanding common shares, compensation increases by \$5,583. An increase of \$10,000 in senior executive dividend income, however, decreases compensation by \$125. The coefficient of the *IPO* variable is positive and significant (p -value of .007) which lends support to the postulate that the ownership dilution required for growth after an IPO requires additional pay to compensate a senior executive for experience and increased management skill.

The model evidences no problems with the underlying assumptions required for the use of OLS regression. To quantify potential multicollinearity between the independent variables in the model, a major issue in most compensation studies, variance inflation factors (VIFs) were generated. Using criteria from Neter, Wasserman and Kutner (1990), the VIFs indicate no multicollinearity problems. Additionally, White's test (1980) indicates that the model is not heteroskedastic (p -value of .556) and the Shapiro-Wilks test statistic generated by SAS (p -value of .975) indicates that the residual error terms are normally distributed.

Conclusion

By incorporating variables that reflect EREIT industry characteristics, substantially more of the variation in senior executive compensation was modeled than in previous

research. In addition to firm size as measured by the market value of an EREIT, the designation of the EREIT as a retail EREIT, the percentage of stock owned by the senior executive, the dollar amount of dividends paid to the senior executive and the number of years since an EREIT's IPO were found to be significant determinants of senior executive compensation. This is an important finding because prior studies have only been able to consistently show a relationship between firm size and senior executive compensation.

The research also highlights the need for industry specific compensation models that take into account inter-industry differences in capital structure, ownership structure and risk. It is very probable that the low explanatory power of prior compensation models can be traced to poorly specified models. The development of better compensation models at the industry level is a prerequisite to any meaningful discussion of executive compensation. The relative homogeneity of the EREIT industry segment will allow it to be a focal point for additional research on executive compensation.

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