



Corporate Governance and Performance: The REIT Effect

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Real estate investment trusts (REITs) offer a natural experiment in corporate governance due to the fact that they leave little free cash flow for management, which reduces agency problems. We exploit a unique and leading corporate governance database to test whether corporate governance matters for the performance of U.S. REITs. We document for a sample including governance ratings of more than 220 REITs that firm value is significantly related to firm-level governance for REITs with low payout ratios only. Repeating the analysis with the complete database that includes more than 5,000 companies and a control sample of firms with high corporate real estate ratios, we find a strong and significantly positive relation between our governance index and several performance variables, indicating that the partial lack of a relation between governance and performance in the real estate sector might be explained by a REIT effect.

The legal setting and organizational structure under which U.S. real estate investment trusts (REITs) operate changes the traditional principal–agent setting. Dividend payout maximization—in effect the reduction of the free cash flow problem as described by Jensen (1986)—is less of a concern for REITs, as U.S. law requires a 90% mandatory payout of net earnings. This legal obligation limits the opportunities for managerial expropriation and is often introduced in countries with a weak legal system (such as Brazil, Chile and Ecuador) as a substitute for other shareholder protection mechanisms (La Porta *et al.* 1998). In the case of U.S. REITs, which operate in one of the world’s strongest legal environments, the mandatory payout of net earnings was never implemented for reasons of shareholder protection. Therefore, the reduction of the agency problem is merely a favorable side effect. Under the substitution hypothesis

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(La Porta *et al.* 2000) the legal restrictions applying to REITs may mitigate the need for strong internal corporate governance mechanisms—that is, corporate governance may be less important for REITs than for regular corporations (Hartzell, Kallberg and Liu 2008).

On the other hand, it has been argued that the legal restrictions on REITs do not solve the agency problem. The obligatory 90% payout distribution applies to net earnings, which incorporate a substantial depreciation expense. The difference between net earnings and free cash flow creates discretionary cash, and REIT managers can freely decide on the actual payout ratio of this free cash flow.¹ Moreover, legal restrictions regarding ownership structure (the so-called 5–50 rule) deter the formation of large blockholders and may protect REIT managers from the scrutiny of the market for corporate control (Eichholtz and Kok 2008). Therefore, a competing hypothesis states that the legal setting in which REITs operate should be complemented by internal corporate governance mechanisms—as in regular corporations—to prevent managerial entrenchment and to reduce agency problems.

Under this “complement” hypothesis, we would expect that the relation between firm-level corporate governance and firm performance, which has been consistently documented in the broader corporate literature, will hold for U.S. REITs as well. However, Klapper and Love (2004) and Durnev and Kim (2005) find that a strong institutional setting weakens the well-documented link between corporate governance and performance. Under the substitution hypothesis, a strong legal or institutional setting mitigates the need for firm-level corporate governance mechanisms, and deviating from the optimal corporate governance structure is therefore less costly. Hence, under the substitution hypothesis one could expect the relation between corporate governance structure and REIT performance to be relatively weak.

Studying the structure and effectiveness of corporate governance in REITs is relevant as growing international property investment flows are increasingly allocated through indirect property vehicles such as REITs and unlisted property funds rather than into directly owned property investments. Meanwhile, an increasing number of countries have introduced or are contemplating a REIT-like structure to facilitate capital flows to the real estate sector.² The combination of both trends motivates additional research on the structure and effectiveness of corporate governance mechanisms in REITs.

¹ Several papers have shown that the actual payout ratio of REITs is often more than 90% of net earnings. See, for example, Wang, Erickson and Gau (1993), Downs, Guener and Patterson (2000) and Ghosh and Sirmans (2006).

² See Eichholtz and Kok (2007) for a detailed overview of recent international trends in global listed property markets.

This article contributes to the existing real estate corporate governance literature in three ways. First, instead of relying on self-constructed governance measures, we use the Corporate Governance Quotient index (CGQ), a database that is produced by one of the leading governance data providers, Institutional Shareholder Services (ISS).³ This index is widely used in practice and includes most of the governance mechanisms that are relevant for investors. Recent examples of investor recognition of ISS in the real estate sector are, for example, National Association of Real Estate Investment Trusts reports using 2003 ISS data (www.nareit.com) and the advisory role of ISS in the merger between SL Green Realty and Reckson Associates Realty. Our index includes governance measures on eight different categories and thus represents a much more complete proxy of corporate governance than, for example, the often-used G-Index constructed by Gompers, Ishii and Metrick (GIM, 2003). The G-Index is based on the Investor Responsibility Research Center (IRRC) surveys and covers only two categories of corporate governance: investor rights and takeover protection. The use of a governance index has the advantage of capturing the effects of all individual governance mechanisms in one single number (Boehren and Odegaard 2003, Black, Jang and Kim 2006). To our knowledge, this is the first real estate study that exploits a comprehensive corporate governance index.

Second, we not only investigate the governance-performance relation for the real estate sector, but we also provide results for the complete CGQ data set and perform three robustness checks. We use the complete CGQ data set, which includes more than 5,000 U.S. companies, to test whether our specific governance index yields results similar to the existing literature. As a first robustness check we test whether our results are REIT specific, as it has been documented that firms with a relatively high share of fixed assets (“hard capital”) generally have fewer possibilities to engage in value-destroying behavior (Gertler and Hubbard 1988). To this end, we match the REIT sample with a control sample of firms that have a high corporate real estate ratio (CRER). The second control sample is constructed by selecting all REITs in the G-Index data set, to test whether our findings are database specific. The last robustness check distinguishes REITs with high dividend payout ratios from those with low payout ratios.

The third contribution of the article is that we use a broad set of performance measures and methodologies to estimate the impact of corporate governance on firm performance. First, we measure the effect of corporate governance on firm value using an ordinary least squares (OLS) regression approach with Tobin’s q as the dependent variable. Second, we estimate the effect of corporate governance on operating efficiency, where return on assets (ROA), return on

³ ISS was acquired by the RiskMetrics Group in January 2007.

equity (ROE), the net profit margin (NPM), sales growth (SALES) and funds from operations growth (FFO) serve as proxies.

In line with the substitution hypothesis, we find that corporate governance does not matter for firm value and operating performance in a sample of U.S. REITs. The control sample of REITs selected from the G-Index sample also fails to show a relation between corporate governance and firm value and operating performance. Results for the sample of regular corporations and for the control sample of companies with high real estate ownership consistently show a significantly positive relation between corporate governance, operating performance and firm value. When we split the REIT sample based on the dividend payout ratio, it appears that governance is important for the subsample of REITs that have relatively low payout ratios and therefore large discretionary cash flows. However, only internal corporate governance mechanisms seem to be value enhancing, whereas other governance mechanisms are less important than for regular corporations. We explain the distinct findings for REITs by the mandatory payout rule and operational restrictions that apply to REITs, which make deviation from the optimal governance structure less costly and could therefore weaken the relation between governance and performance.

The rest of this article is structured as follows. In the next section, we briefly review the literature on the relation between firm-level corporate governance and performance. In the third section we describe our data set, which comprises the ISS CGQ index and financial information. In the fourth section, we address the impact of governance on firm value and operating performance, using Tobin's q and four measures of operating performance. We study the complete database, followed by the analysis of the REIT sample and the control samples. The final section provides discussion and conclusions to the article.

Literature Review: Corporate Governance and Performance

A large body of literature, in real estate as well as in corporate finance, investigates the relation between corporate governance and performance. Most studies focus on one specific aspect of governance such as ownership structure, board composition or executive compensation, and relate this to performance. In their widely cited paper, GIM (2003) construct a so-called G-Index, in which takeover provisions are used as a proxy for the level of shareholder rights. The creation of an index allows for alternative methodologies, but it should be noted that the G-Index is based on one aspect of corporate governance only. Creating "democracy" and "dictatorship" portfolios, the authors find evidence that a trading strategy buying of firms with the greatest shareholder rights and selling companies with the least shareholder rights earned average annualized abnormal returns of 8.5% from 1990 to 1999. Moreover, firm value (Tobin's q)

is inversely related to the number of takeover provisions. The GIM (2003) paper prompted a new stream of literature using different samples and methodologies, all exploiting governance indices rather than individual governance measures.

Several of these studies focus on a specific country. Drobetz, Schillhofer and Zimmermann (2004) investigate the impact of governance on firm performance using a self-constructed corporate governance rating for the German market. Their results are in line with GIM (2003), as governance ratings are positively related to firm valuation and a zero-cost trading strategy that shorts firms with low ratings and buys firms with high ratings that leads to an annualized abnormal return of 12% over the sample period. Using a sample of Korean firms, Black, Jang and Kim (2006) are the first to test for endogeneity issues in the relation between an overall governance index and firm value. The results indicate that the relation between their corporate governance index and firm value is causal, thereby eliminating some of the often-voiced concerns on the endogeneity of the relation between governance indices and firm performance.

Several other studies strongly criticize GIM (2003) based on further empirical tests using the G-Index. Cremers and Nair (2005) investigate the impact of a corporate governance index on performance, but also include two measures of internal governance. They find that firms with a small number of takeover provisions outperform firms with a large number of takeover provisions, but this effect is conditional on stock ownership by pension funds, a result that indicates the importance of the interaction between internal and external mechanisms of control. Contrary to GIM (2003), Core, Guay and Rusticus (2006) find that the difference between stock returns of good- and bad-governance portfolios reverses after 1999, although their findings strengthen the observed relation between the G-Index and operating performance.

Finally, the effect of regulatory environments on the relation between corporate governance and firm valuation—as discussed by La Porta *et al.* (2002)—has been studied using aggregate corporate governance measures. Klapper and Love (2004) find, using a sample of 500 firms across 25 emerging countries, that firm-level corporate governance is most important in countries with poor investor protection. They note that a strong institutional setting may act as a substitute for firm-level corporate governance. Similarly, Durnev and Kim (2005) investigate the effect of legal environments on corporate governance practices in a multicountry setting. Using the CLSA database, they find for a sample of 859 firms in 27 countries that investment opportunities, the need for external financing and ownership structure all affect the quality of corporate governance. Furthermore, firms with better governance enjoy higher valuation as measured by Tobin's q . Most importantly, all these relations are stronger in less investor-friendly countries.

Real estate research on the relation between corporate governance and performance mainly focuses on the functioning of individual monitoring mechanisms. The results of these analyses can subsequently be compared to general corporate governance research in order to judge whether the distinct legal setting of REITs indeed affects transparency. Monitoring mechanisms that have been the subject of performance-related real estate research include board structure and/or ownership structure (Friday and Sirmans 1998, Friday, Sirmans and Conover 1999, Ghosh and Sirmans 2003), management structure (Howe and Shilling 1990, Cannon and Vogt 1995, Wei, Hsieh and Sirmans 1995, Ambrose and Linneman 2001), inside ownership (Capozza and Seguin 2003, Han 2006), involvement of institutional investors (Ling and Ryngaert 1997, Chan, Leung and Wang 1998) and a combination of different governance mechanisms (Hartzell, Kallberg and Liu 2008, Hartzell, Sun and Titman 2006).⁴

More recently, Bianco, Ghosh and Sirmans (2007) examine the relationship between the G-Index and performance of REITs. They find a relation between the takeover index and performance in 2004, but this result disappears in 2006. The authors argue that the irrelevance of the G-Index in more recent times suggests that external governance is ineffective for REITs and therefore REIT corporate governance studies should pay more attention to the efficiency of internal governance mechanisms.

Data

To study the aggregate impact of corporate governance on REIT performance we exploit the CGQ index provided by ISS. The CGQ index is based on public disclosure documents, which are used to gather data on 61 different issues in the following eight categories: (1) board of directors, (2) audit, (3) charter and bylaw provisions, (4) antitakeover provisions, (5) executive and director compensation, (6) progressive practices, (7) ownership and (8) director education. (See the Appendix for a detailed overview of all rating criteria.) Based on this information and an internal scoring system, ratings are calculated for each company.⁵

Two ratings are assigned to each company: one score relative to peers that are included in the stock index to which the company belongs, and one score relative to peers in the industry group. Furthermore, four different subscores are calculated to provide a measure of a company's governance in a particular

⁴ This short list of real estate studies on the relation between corporate governance and performance is by no means meant to be complete, but merely provides an overview of the monitoring mechanisms that have been studied in relation to performance in the real estate sector hitherto.

⁵ Please refer to www.riskmetrics.com for the exact methodology.

governance area. These four governance areas include: board of directors, takeover defenses, executive and director compensation and ownership and audit review. Higher values of these index numbers imply better alignment of shareholder and manager interests, more shareholder power and more transparency. In addition to the objectivity of the ratings and the broad range of governance variables included, the distinguishing feature of the CGQ index lies in its relative character, which (compared to absolute ratings such as the G-Index) ensures cross-sectional variability in corporate governance scores.

The CGQ database starts in 2002, but we restrict our analysis to the 2003–2005 ratings, as data on subindices are not or only partially reported before 2003. The initial number of companies in our sample is 4,950 in 2003 and increases to 5,260 in 2005. For our analysis, we match the corporate governance scores at the beginning of each year with financial data at the end of the respective year, where the latter is obtained from Compustat. We require that the firms in the sample have financial data available, which reduces our data set to 11,572 observations (firm-years). After our initial analysis on the complete data set we select all equity and mortgage REITs, leading to an initial REIT sample size of 216 property companies in 2003, increasing to 228 property companies in 2005. The information criterion leads to a final REIT data set of 509 observations (firm-years).

To get a first insight in the CGQ index, Panel A of Table 1 provides the average corporate governance scores of top- and bottom-ranked industries in 2005. For the purpose of comparison we use the company scores relative to the index to which the company belongs. The real estate sector scores remarkably well, together with the capital-intensive industry “utilities.” Among the low-ranked industries we find “telecommunication services,” “media” and “personal products,” all of which, according to Brounen and Eichholtz (2005), are characterized by relatively low CRERs. The descriptives are surprising, given the empirical evidence that firms with a concentration of “hard” capital already have fewer possibilities to engage in value-destructing behavior (Gertler and Hubbard 1988), which would make strong firm-level corporate governance less important.

Panel B of Table 1 reports correlations between the CGQ index and the four different subindices. *Board*, *Compensation*, *Takeover* and *Audit* are all positively correlated with the CGQ index, but the correlation between the overall CGQ index and *Takeover* is close to zero. Moreover, *Takeover* is negatively related with the other subindices. This makes intuitive sense, as firms have to comply with regulations, a variety of committees and public scrutiny regarding compensation schemes, board structure and audit practices, whereas they can decide more freely on the adoption of takeover provisions.

Table 1 ■ Summary statistics corporate governance quotient index.

| Panel A: CGQ Index Scores—All Industries | | | | |
|------------------------------------------|-------------|-------------|--------------|----------|
| | 2005 | | | |
| | CGQ | | SD | |
| Top five | | | | |
| Real Estate | 64.5 | | 28.6 | |
| Utilities | 63.1 | | 28.2 | |
| Banks | 60.2 | | 26.7 | |
| Pharmaceuticals & Biotechnology | 56.7 | | 26.0 | |
| Insurance | 54.5 | | 28.2 | |
| Bottom five | | | | |
| Hotels, Restaurants and Leisure | 46.4 | | 27.5 | |
| Telecommunication Services | 42.4 | | 27.1 | |
| Household & Personal Products | 41.0 | | 26.2 | |
| Food Beverage & Tobacco | 38.0 | | 30.1 | |
| Media | 35.6 | | 29.8 | |
| Panel B: Correlations Between Subindices | | | | |
| | CGQ | Board | Compensation | Takeover |
| Board | 0.78*** | | | |
| Compensation | 0.52*** | 0.24*** | | |
| Takeover | 0.04*** | -0.11*** | -0.08*** | |
| Audit | 0.44*** | 0.36*** | 0.10*** | -0.05*** |
| Panel C: CGQ Index Scores—Real Estate | | | | |
| | 2003 CGQ | 2004 CGQ | 2005 CGQ | |
| Governance Index | | | | |
| Mean | 50.5 | 54.6 | 64.5 | |
| Standard deviation | 26.8 | 29.3 | 28.6 | |
| Subindex Means | | | | |
| Board | 3.1 | 3.5 | 3.4 | |
| Compensation | 3.4 | 3.5 | 3.4 | |
| Takeover defenses | 2.7 | 3.4 | 3.5 | |
| Audit | 3.5 | 3.8 | 3.3 | |
| Number of firms | 216 | 210 | 228 | |

Notes: Panel A of Table 1 shows the average Institutional Shareholder Services Corporate Governance Quotient (CGQ) scores for industries ranking in the top five and in the bottom five of the CGQ universe in 2005. The ratings criteria on which the ratings are based are provided in the Appendix. The range of scores is 1–100. Panel B provides the pairwise correlations between the CGQ index and the four subindices. Panel C shows the CGQ Index scores for the sample of U.S. REITs, from 2003 to 2005. Scores on subindices are provided in the lower part of the table; the range of subscores is 1–5.

*, ** and *** indicate significance at the 10%, 5% and 1% levels, respectively.

Panel C of Table 1 provides the summary statistics for the CGQ index of REITs relative to their index peers.⁶ The increasing governance scores show that firm-level corporate governance in REITs has strongly improved over the sample period. We also study how governance scores differ between sectors in the REIT sample and find that diversified REITs score lowest (41.1), whereas industrial and office REITs score highest (66.1 and 63.1, respectively). This indicates that there is more managerial freedom in diversified REITs, and investors may therefore face higher agency costs. This is in line with evidence that property companies with a property focus outperform diversified property companies (Eichholtz, Koedijk and Schweitzer 2001, Boer, Brounen and Op't Veld 2005).

Empirical Analysis: Firm Value and Operating Performance

Full Sample: Governance, Firm Value and Operating Performance

It has been well established in the literature that governance indices can explain part of the cross-sectional variation in firm valuation. Among others, Brown and Caylor (2006), Core, Guay and Rusticus (2006), Durnev and Kim (2005), GIM (2003) and La Porta *et al.* (2002) find that companies with high governance ratings exhibit higher valuation as compared to their counterparts with weak governance structure, indicating that investors incorporate *ex ante* expectations on corporate governance into the stock price. A positive relation between corporate governance and operating measures of performance, such as ROE, NPM and SALES, is less consistently documented.

We test the influence of corporate governance on firm value by regressing Tobin's q (measured at time t) on the lagged CGQ index (measured at time $t - 1$). Tobin's q is defined as the market value of assets divided by the replacement cost of the assets. The market value of the assets is the sum of the book value of the assets and the market value of equity minus the book value of equity and deferred taxes. We assume that the replacement cost of the assets is the same as the book value of the assets.

Although estimating the effect of changes in the CGQ index on changes in firm value would establish a stronger causal link, the data force us to use a levels approach, as the time series over which the CGQ index is available covers a rather short time period and the CGQ index does not frequently change over time. A potential caveat is thus that our estimation possibly suffers from reverse causality (endogeneity). Firms with a higher market valuation could well be likely to establish a stronger governance structure, as they have a regular need

⁶ The index governance scores of REITs are relative to four different indices: CGQ Universe, Russell 3000, S&P400 and S&P500.

for outside financing and thus want to signal good governance practices to obtain a lower cost of capital (Klapper and Love 2004). Again, the limited time period over which data are available does not allow for solving the problem of endogeneity in the optimal way. Instead, we mitigate the reverse causality issue by including appropriate control variables in our estimation, an approach that is commonly used in the literature.⁷ First, following Shin and Stulz (2000), we include the natural logarithm of the firm's book value of assets and the firm's age. Second, we include a control variable for the debt-to-equity ratio, measured by the ratio of debt to total capital, to capture the effect of past financing decisions (Black, Jang and Kim 2006). Third, we include the current and lagged value of return on equity to account for the influence of performance on firm valuation.

Following the analysis of corporate governance and firm value, we investigate whether a high corporate governance rating also enhances operational performance. We study the impact of the CGQ index on four different measures of operating efficiency. Following GIM (2003), we select ROE, NPM and 5-year SALES. Additionally, we use ROA as this measure may be preferable to ROE due to its more desirable distributional properties and because it is not affected by leverage and other items (Core, Guay and Rusticus 2006). For the analysis on the REIT sample, we replace 5-year SALES with the average 3-year growth in FFO per share. FFO is a widely recognized performance measure in the real estate industry; it is calculated by adding depreciation and amortization expenses back to earnings. In all estimations, following Core, Guay and Rusticus (2006) and GIM (2003), we include the book-to-market ratio as a control variable.⁸ In the estimation with FFO as the dependent variable, we also include firm size in the model, proxied by the log of the book value of assets. We control for industry effects by including industry dummies in the regressions, using the RiskMetrics (formerly IRRIC) industry classification.⁹

Table 2 presents summary statistics for a selection of financial and accounting variables for year 2005 and their correlations with the CGQ index. The average firm value in our sample is comparable to GIM (2003), but the average operating performance is slightly lower than, for example, Core, Guay and Rusticus

⁷ See, for example, Bauer, Guenster and Otten (2004), Black, Jang and Kim (2006), Drobetz, Schillhofer and Zimmermann (2004) and Klapper and Love (2004).

⁸ We acknowledge that the equations estimating the effect of corporate governance on operating performance might be extended with more control variables. However, for reasons of comparability, we stick to methods used in the existing literature.

⁹ The RiskMetrics industry classification is are similar to the more commonly used Fama and French (1997) industry classification.

Table 2 ■ Summary statistics of complete sample (2005).

| | Mean | Median | SD | Corr. with CGQ |
|------------------|------|--------|-------|----------------|
| Tobin's q | 2.16 | 1.52 | 1.89 | -0.06*** |
| return on equity | 2.94 | 9.37 | 53.46 | 0.01*** |
| return on assets | 1.84 | 3.83 | 25.30 | 0.12*** |
| Size (log) | 2.56 | 2.59 | 1.02 | 0.37*** |
| Leverage | 0.69 | 0.02 | 3.24 | -0.18*** |
| BM-ratio | 0.43 | 0.43 | 0.56 | 0.01*** |

Note: Table 2 provides full sample summary statistics for a selection of financial and accounting measures in 2005. The last column provides the pairwise correlation for each of the variables with the Corporate Governance Quotient index.

*, ** and *** indicate significance at the 10%, 5% and 1% levels, respectively.

(2006), perhaps due to the inclusion of a substantial number of small-cap firms in our sample. The correlation statistics show that firms with a high governance score tend to be well-performing large firms with low leverage. The correlation coefficient between Tobin's q (BM-ratio) and the CGQ score is negative (positive), which is contrary to expectations. However, the preliminary figures in the table omit important determinants from the analysis.

We estimate OLS regressions to study the effect of corporate governance on firm value. We also estimate the models with curtailed regressions (1% at both sides) to reduce the influence of outliers and obtain similar results. Some comparable studies estimate yearly regressions and consequently calculate a Fama and MacBeth (1973) mean and t statistic. This approach partially avoids the problems of serial correlation and cross-sectional dependence; however, our short time-series does not allow for the same methodology, so we exploit our data set in a pooled setup. Ideally, we would estimate the panel in a firm fixed-effects setting with time-varying coefficients, but the CGQ index does not change frequently over time, so the estimation would not lead to proper results because the governance coefficient would be identified on the basis of only minor changes. Moreover, we expect that cross-sectional variation in corporate governance will be the driver of our results, rather than the small changes in governance over time (Zhou 2001). Therefore, we use a time fixed-effects approach and adjust standard errors to account for serial correlation within the firm-cluster, following Rogers' (1993) method.

The regression results are presented in Table 3. Panel A shows the results for firm value, whereas Panel B shows the results for operating performance. Coefficients of time and industry dummies are omitted. We first estimate the model with the overall CGQ index and subsequently use the four governance subscores, *Audit*, *Compensation*, *Takeover* and *Board*, respectively. In Panel A,

the coefficients on the CGQ index and its subscores are significantly positive, except for the “takeover” subscore. In terms of economic significance, the effects of governance on firm value are strong: a one-point increase in the overall CGQ index (range 1–100) leads to a 0.3% increase in the median Tobin’s q , whereas a one-point increase in the CGQ subindices (range 1–5) leads to a 3% to 5% increase in the median Tobin’s q . These findings indicate that firms with high corporate governance standards are more highly valued by the market.

The insignificant effect of the governance subindex “takeover” on firm value indicates that investors do not respond to the adoption of anti-takeover provisions, in contrast to the evident investor scrutiny regarding executive compensation and board structure. Finally, the signs on the control variables are in line with expectations: firm value is higher for young and small companies with strong past performance.

Table 3 ■ Corporate governance, firm value and operating performance: Full sample.

| Panel A: Tobin’s q —All Industries | | | | | |
|--------------------------------------|---------------------|---------------------|---------------------|---------------------|---------------------|
| | (1) | (2) | (3) | (4) | (5) |
| CGQ Index | 0.004 (5.25)*** | | | | |
| Audit Index | | 0.057 (3.66)*** | | | |
| Compensation Index | | | 0.046 (2.99)*** | | |
| Takeover Index | | | | 0.021 (1.35) | |
| Board Index | | | | | 0.069 (3.69)*** |
| Size (log) | -0.393 (7.57)*** | -0.359 (7.20)*** | -0.359 (7.10)*** | -0.341 (6.94)*** | -0.382 (7.36)*** |
| Age (log) | -0.160 (2.08)** | -0.111 (1.47) | -0.146 (1.94)* | -0.117 (1.55) | -0.141 (1.85)* |
| ROE | 0.001 (1.88)* | 0.001 (1.65)* | 0.001 (1.67)* | 0.001 (1.65)* | 0.001 (1.66)* |
| ROE _{$t-1$} | 0.001 (1.80)* | 0.001 (1.79)* | 0.001 (1.80)* | 0.001 (1.79)* | 0.001 (1.79)* |
| Leverage | 0.002 (0.28) | 0.002 (0.27) | 0.002 (0.28) | 0.002 (0.28) | 0.002 (0.27) |
| Intercept | 2.895 (14.39)*** | 2.765 (13.65)*** | 2.854 (13.92)*** | 2.810 (12.22)*** | 2.854 (14.31)*** |
| Year fixed effects | Y | Y | Y | Y | Y |
| Industry fixed effects | Y | Y | Y | Y | Y |
| n | 11572 | 11572 | 11572 | 11572 | 11572 |
| Adjusted R^2 | 26.53% | 26.67% | 26.63% | 26.56% | 26.71% |

Table 3 ■ continued

| Panel B: Operating Performance—All Industries | | | | |
|-----------------------------------------------|-----------------------|----------------------|----------------------|----------------------|
| | ROE | ROA | Sales Growth | NPM |
| CGQ Index | 0.027 (8.56)*** | 0.006 (5.17)*** | 0.000 (0.08) | 0.022 (9.16)*** |
| BM-ratio (log) | -17.023 (63.50)*** | -4.649 (52.32)*** | -7.885 (22.12)*** | -5.229 (25.52)*** |
| Intercept | 3.295 (3.39)*** | 3.477 (10.48)*** | 0.974 (0.75) | -1.654 (2.20)** |
| Year fixed effects | Y | Y | Y | Y |
| Industry fixed effects | Y | Y | Y | Y |
| Median adjusted | Y | Y | Y | Y |
| <i>n</i> | 11572 | 11572 | 11572 | 11572 |
| Pseudo <i>R</i> ² | 4.89% | 8.09% | 4.56% | 0.65% |

Notes: Panel A of Table 3 presents the results of the ordinary least squares regression of Tobin's *q* on the CGQ index and control variables. In column (1), the CGQ index is the main explanatory variable, whereas the results columns (2)–(5) are estimated using the subindices *Audit*, *Compensation*, *Takeover* and *Board*, respectively. Tobin's *q* is defined as the book value of assets plus the market value of equity minus the book value of equity and deferred taxes, the control variables include current and lagged return on equity (*ROE*), the natural logarithm of the book value of assets (*Size*), the natural logarithm of *Age*, the debt ratio (*Leverage*), year dummies and industry dummies (based on Institutional Shareholder Services industry classification). Panel B provides the estimation results of the median regressions for return on equity (*ROE*), return on assets (*ROA*), the *Sales Growth*, and the net profit margin (*NPM*) on the CGQ index, the natural logarithm of the book-to-market ratio (*BM-Ratio*) and year and industry dummies. *t*-statistics based on Roger's (1993) clustered standard errors are in parentheses.

*, ** and *** indicate significance at the 10%, 5% and 1% levels, respectively.

Although we exploit a database that has not been widely used in corporate governance studies hitherto, our results for the full sample of 5,000 firms confirm previous findings by, for example, Brown and Caylor (2006), Durnev and Kim (2005), GIM (2003) and Klapper and Love (2004). This contrasts criticism that findings of empirical governance-performance studies are index-specific (Sonnenfeld 2004).

Panel B of Table 3 presents several interesting results estimated using median (least-absolute-deviation) regressions to reduce the influence of outliers, following Core, Guay and Rusticus (2006), GIM (2003) and Klapper and Love (2004). First, we document that the CGQ index is positively related to the performance measures return on equity and net profit margin. This result is in line with GIM (2003), who find evidence that firms with weaker shareholder rights have weaker operating performance; however, the results of GIM (2003)

lack statistical significance whereas our results are statistically strong. With respect to ROA, the significantly positive coefficient is similar to Core, Guay and Rusticus (2006) and Klapper and Love (2004), who find a significantly positive relation between ROA and the G-Index and CLSA index, respectively. Regarding the economic significance of our findings, we note that the relations between the G-Index on the one hand and the ROE and NPM on the other hand are particularly strong: a one-point increase in the CGQ index leads to a 2.7% (2.2%) increase in ROE (NPM). For return on assets, the economic significance of the coefficient is smaller, but still considerable.

The sign on the control variable is in line with expectations; operating performance is negatively related to book-to-market value. For Panel B, the goodness of fit of the model is represented by the pseudo R^2 . At first sight, the figures seem to be quite low, which can be partially attributed to the method we use. Furthermore, Brown and Caylor (2006) also use the CGQ index in combination with the same methodological setup and document similar explanatory power for their models.

REITs: Governance, Firm Value and Operating Performance

The results for the complete CGQ data set confirm existing empirical evidence that well-structured corporate governance leads to better operating performance, even though the results are based on an index that has not been widely used in corporate governance research before. Moreover, the market seems to value strong firm-level corporate governance and incorporates this information *ex ante*, leading to higher valuations for well-governed firms.

For REITs, the distinct legal environment leads to two competing hypotheses: under the substitution hypothesis, we argue that the naturally strong institutional setting in which REIT managers operate makes it less costly to deviate from the optimal corporate governance structure. As investors especially value strong corporate governance mechanisms in weak institutional settings (Klapper and Love 2004, Durnev and Kim 2005), a weak relation between the CGQ index and REIT value can be expected. With respect to operating performance, strong firm-level corporate governance cannot force REIT managers to enhance operating performance to the same extent as compared to firms operating in a nonrestricted legal environment, so the relation between corporate governance and operating performance is expected to be weak as well.

On the other hand, the depreciation expense is excluded from the distribution requirement, which leaves REIT management with discretionary cash flows (Kallberg, Liu and Srinivasan 2003). Moreover, the restrictions of the REIT

structure on ownership concentration may reduce the pressure of the market for corporate control. Under the complement hypothesis, firm-level corporate governance mechanisms are an important addition to the legal setting in which REITs operate. Therefore, one would expect the relation between corporate governance and firm value to be similar to other industries. With respect to operating performance, stronger firm-level corporate governance would lead to less managerial entrenchment and thus more efficient operations.

To test the hypotheses we repeat the analysis of the previous section, but instead of analyzing the complete CGQ data set we now focus on the REIT sample only. We replace industry dummies with dummies that correspond to REIT investment focus (diversified, industrial, mortgage, office, residential, retail and other). Data are collected from SNL. Table 4 reports the results, where Panel A presents the results for firm value and Panel B presents the results for operating performance. Coefficients of time and investment focus dummies are omitted. We first estimate all models with the overall CGQ index and subsequently use the four subindices. In contrast to the full sample results, we find no evidence that REITs with higher corporate governance ratings have a higher firm value. This supports the substitution hypothesis: the strong institutional setting in which REITs operate seems to reduce the importance of firm-level corporate governance for investors. Therefore, a lower corporate governance rating does not directly lead to lower firm value, which is in line with findings by Durnev and Kim (2005) and Klapper and Love (2004).

In Panel B of Table 4, we document no significant evidence on the relation between corporate governance and operating performance in REITs. In line with evidence on firm value, this contrasts with the full sample results, where we documented that lower corporate governance scores lead to lower operating performance. We can explain the lack of a significant relation between corporate governance and operating performance in REITs by the restricted environment in which REIT managers operate. The obligation to obtain at least 75% of income from real estate investments limits operational freedom, so managers have less influence on operating performance independent of the structure of corporate governance.

Our results are not only in line with, but also add to the findings of Hartzell, Sun and Titman (2006), as we find similar results while using an aggregate governance index rather than a combination of individual governance measures. However, our results contrast with several previous studies that have documented a significantly positive relation between firm value and managerial ownership (Capozza and Seguin 2003, Han 2006) and between firm value and identity of management (Capozza and Seguin 2000). This inconsistency can be explained in four ways. First, the CGQ index includes insider holdings

in the ratings criteria, but this is just one element of the total governance index; moreover, the ratings reflect the presence of director shareholdings rather than variation in the level of insider holdings. Second, Agrawal and Knoeber (1996) show that the effect of insider shareholdings on firm performance is present only when included as the single governance mechanism; the effect disappears when other corporate control mechanisms are included in the regression. This indicates that alternative corporate governance measures may be interdependent and explains the inconsistency between our results and Capozza and Seguin (2000, 2003) or Han (2006). Third, Capozza and Seguin (2000) document that REITs with external management have less cash flow available for distribution as compared to REITs with internal management. Although the identity of management is not specifically addressed in the CGQ index, we expect the

Table 4 ■ Corporate governance, firm value and operating performance: REITs.

| Panel A: Tobin's q —REITs | | | | | |
|---------------------------------|--------------------|--------------------|--------------------|--------------------|--------------------|
| | (1) | (2) | (3) | (4) | (5) |
| CGQ Index | 0.001 (1.32) | | | | |
| Audit Index | | -0.008 (0.47) | | | |
| Compensation Index | | | 0.002 (0.10) | | |
| Takeover Index | | | | 0.016 (0.78) | |
| Board Index | | | | | 0.037 (1.33) |
| Size (log) | -0.119 (1.75)* | -0.102 (1.57) | -0.104 (2.30)** | -0.101 (1.56) | -0.122 (1.65) |
| Age (log) | 0.258 (2.11)** | 0.255 (2.04)** | 0.257 (3.08)*** | 0.264 (2.11)** | 0.246 (2.08)** |
| ROE | 0.001 (4.42)*** | 0.001 (4.43)*** | 0.001 (2.26)** | 0.001 (4.28)*** | 0.001 (4.72)*** |
| ROE _{$t-1$} | 0.000 (6.53)*** | 0.000 (7.23)*** | 0.000 (8.64)*** | 0.000 (7.09)*** | 0.000 (5.71)*** |
| Leverage | -0.042 (1.88)* | -0.043 (1.91)* | -0.042 (2.04)** | -0.043 (1.88)* | -0.042 (1.94)* |
| Intercept | 1.453 (7.55)*** | 1.494 (7.66)*** | 1.465 (9.36)*** | 1.375 (6.05)*** | 1.422 (8.03)*** |
| Year fixed effects | Y | Y | Y | Y | Y |
| Sector fixed effects | Y | Y | Y | Y | Y |
| n | 509 | 509 | 509 | 509 | 509 |
| Adjusted R^2 | 13.03% | 12.71% | 0.13 | 12.81% | 13.41% |

Table 4 ■ continued

| Panel B: Operating Performance—REITs | | | | |
|--------------------------------------|----------------------|---------------------|---------------------|---------------------|
| | <i>ROE</i> | <i>ROA</i> | <i>FFO Growth</i> | <i>NPM</i> |
| CGQ Index | −0.015 (1.26) | 0.001 (0.23) | −0.001 (1.60) | −0.008 (0.23) |
| BM-ratio (log) | −10.842 (9.47)*** | −2.343 (4.96)*** | −0.091 (4.68)*** | −3.313 (0.94) |
| Size (log) | | | 0.036 (4.55)*** | |
| Intercept | 5.395 (6.05)*** | 5.086 (12.89)*** | −0.072 (3.00)*** | 16.912 (5.33)*** |
| Year fixed effects | Y | Y | Y | Y |
| Sector fixed effects | Y | Y | Y | Y |
| Median adjusted | Y | Y | Y | Y |
| <i>n</i> | 509 | 509 | 509 | 509 |
| Pseudo <i>R</i> ² | 1.25% | 2.67% | 2.16% | 3.76% |

Notes: Panel A of Table 4 presents the ordinary least squares regression results for the REIT sample of Tobin's *q* on the CGQ index and control variables. In column (1), the *CGQ Index* is the main explanatory variable, whereas columns (2) to (5) are estimated with subindices *Audit*, *Compensation*, *Takeover* and *Board*, respectively. Tobin's *q* is defined as the book value of assets plus the market value of equity minus the book value of equity and deferred taxes. The control variables include current and lagged return on equity (*ROE*), the log of the book value of assets (*Size*), the log of *Age* and the debt ratio (*Leverage*), year dummies and sector dummies. Panel B provides the estimation results of the median regression, with return on equity (*ROE*), return on assets (*ROA*), and three-year growth in funds from operations per share (*FFO Growth*) on the CGQ index as dependent variables, respectively. We include the natural logarithm of the book-to-market ratio (*BM-Ratio*), *Size*, year dummies and sector dummies as control variables. *t*-statistics based on Roger's (1993) clustered standard errors are in parentheses.

*, ** and *** indicate significance at the 10%, 5% and 1% levels, respectively.

influence of external management on operating performance to be limited in our sample, as the number of REITs with this structure has decreased dramatically over the past few years. Fourth, we execute our study during a more recent period and we use a larger sample of REITs than comparable studies.

The REIT results suggest that the structure of corporate governance does not matter for performance. We argue that this result may be due to a "REIT effect": the distinct legal setting in which REITs operate limits managerial freedom through the obligation to pay out at least 90% of net earnings and through operational restrictions, and deviating from the optimal governance structure is therefore less costly. There are, however, alternative explanations for this REIT effect. First, there is considerable variation in the discretionary cash flow available to REIT managers. Therefore, corporate governance might

not be a driver of performance when examining the full cross-section of REITs, but only for REITs that are awash with cash. Second, the lack of a relation between corporate governance and performance in our sample of REITs might be inherent to the nature of the product: real estate. Property companies are highly transparent, as the individual properties in the portfolio are relatively easy to value. The REIT industry is very capital-intensive as the asset base of these companies consists mainly of fixed assets, and expenses on intangible assets such as marketing and research and development are limited. Therefore, there may be less scope for agency problems. Third, our results may be driven by the specific governance index that we exploit.

Control Samples

To investigate the alternative explanations for the REIT effect, we conduct three robustness checks. First, we create a sample based on a selection of capital-intensive companies by matching the REIT sample with non-REIT companies that have a comparable CRER. Second, to test whether our results are driven by the specifics of the CGQ index, we repeat our analysis with the REITs in the G-index. Third, we split the REIT sample into a selection that is cash constrained and a selection that is cash rich.

Firms with High CRERs

REITs are typically companies with a relatively large percentage of fixed assets. Gertler and Hubbard (1988) show that companies with a concentration of hard capital have fewer possibilities to engage in value-destroying behavior, which may be an alternative explanation to our findings. As a first robustness check, we construct a control sample of companies with high CRERs. Following the methodology of Brounen and Eichholtz (2005), this ratio quantifies relative real estate ownership in the following way:

$$CRER = \frac{PPE}{Total\ Assets}, \quad (1)$$

where *PPE* represents the Compustat item “Property, Plant and Equipment” and *Total Assets* is the book value of the firm’s total assets. We exclude REITs from the total CGQ sample, sort the remainder on their CRERs and match them to the REIT sample on a yearly basis. After collecting the necessary accounting data, this leads to a control sample of 545 observations (firm-years). To test whether our results for REITs can be explained by the relatively high share of fixed assets, we estimate similar regressions, again including industry dummies to correct for industry effects. For the models with operating measures as the dependent variables, we estimate median (least-absolute deviation) regressions to correct for outliers.

Table 5 presents the results. Panel A shows that the average CGQ score of companies in the control sample is 50.5. The average CGQ score for the control sample ranges from 49.4 in 2003 to 54.1 in 2005 (not reported), substantially lower than the average CGQ score for REITs, which is 64.5 in 2005 (see Table 1). In Panel B, we find that the CGQ index is significantly and positively related to firm value and operating performance except for the performance measure “sales growth.” This is similar to the results for the complete sample. The coefficients are economically significant as well: a one point increase in the CGQ index leads to a 0.2% increase in the median Tobin’s q and to a 3.4% increase in return on equity.

The presence of a relation between corporate governance and performance in our control sample of companies with a high CRER makes it unlikely that the lack of findings regarding the governance-performance relation in the real estate sector is the result of the high percentage of fixed assets in REITs. This confirms the possible existence of a “REIT effect” in explaining the lack of a relation between firm-level corporate governance and performance in U.S. REITs.

REITs in G-Index

In the previous sections, we frequently compared our results to those of Core, Guay and Rusticus (2006) and GIM (2003). These authors derive their governance index, which is the so-called G-Index, from publications of the Investor Responsibility Research Center. However, the G-Index includes takeover provisions only. One could argue that our findings cannot be compared with GIM (2003) directly, as the CGQ index incorporates a much broader range of corporate governance mechanisms. As a robustness check, we therefore repeat our governance-performance analysis of REITs with the G-Index. This additional analysis has parallels with Bianco, Ghosh and Sirmans (2007). We collect data from RiskMetrics, including bi-annual ratings on approximately 2,000 U.S. companies. We select all REITs in the sample years 2004 and 2006 and collect financial information from Compustat. This leads to a total sample of 113 observations (firm-years).

Panel A of Table 6 shows the average number of takeover provisions in place for the REIT sample and the total G-Index sample, respectively. We note that the G-Index has a range from 1 to 24, where each point represents a takeover provision, so a lower score implies less restricted shareholder rights. The descriptive statistics show that REITs have fewer takeover provisions in place as compared to the full sample, which means that shareholder rights are relatively strong in REITs. In Panel B, we present the results of the regression analysis, in which we use Tobin’s q , ROE , ROA and FFO growth as dependent

Table 5 ■ Control sample: Firms with high corporate real estate ratios.

| Panel A: Descriptives Control Sample | | | | | |
|------------------------------------------------|---------------------|-----------------------|---------------------|---------------------|---------------------|
| | Mean | | SD | | |
| CGQ | 50.47 | | 27.89 | | |
| Tobin's q | 1.33 | | 0.53 | | |
| Panel B: Tobin's q and Operating Performance | | | | | |
| | (1) | (2) | (3) | (4) | (5) |
| CGQ Index | 0.003 (1.89)* | 0.034 (3.69)*** | 0.012 (1.84)* | -0.003 (0.13) | 0.022 (3.15)*** |
| BM-ratio (log) | | -18.686 (20.00)*** | -4.632 (6.94)*** | -8.659 (3.88)*** | -5.528 (8.23)*** |
| Size (log) | -0.217 (2.99)*** | | | | |
| Age (log) | 0.098 (0.75) | | | | |
| ROE | -0.000 (0.44) | | | | |
| ROE _{$t-1$} | 0.001 (0.41) | | | | |
| Leverage | -0.113 (2.43)** | | | | |
| Intercept | 0.939 (4.73)*** | 3.626 (13.82)*** | 3.732 (1.59) | -0.510 (5.18)*** | 3.313 (1.38) |
| Year fixed effects | Y | Y | Y | Y | Y |
| Industry fixed effects | Y | Y | Y | Y | Y |
| Median adjusted | N | Y | Y | Y | Y |
| N | 545 | 545 | 545 | 545 | 545 |
| Adjusted R^2 | 17.14% | | | | |
| Pseudo R^2 | | 11.39% | 12.59% | 11.87% | 1.98% |

Notes: The control sample used in Table 5 is constructed by matching the REIT sample with regular corporations that have a similar corporate real estate ratio (CRER). Panel A shows the descriptives. In Panel B, column (1) shows the results of the OLS regression of Tobin's q on the CGQ index and control variables. The control variables include current and lagged return on equity (ROE), the natural logarithm of the book value of assets ($Size$), the natural logarithm of Age , the debt ratio ($Leverage$), year dummies and industry dummies. Tobin's q is defined as the book value of assets plus the market value of equity minus the book value of equity and deferred taxes. Columns (2) through (5) provide the estimation results of the median regressions for return on equity (ROE), return on assets (ROA), the sales growth and net profit margin (NPM) on the CGQ index, the natural logarithm of the book-to-market ratio ($BM-Ratio$), year dummies and industry dummies. t -statistics based on Roger's (1993) firm clustered standard errors are in parentheses.

*, ** and *** indicate significance at the 10%, 5% and 1% levels, respectively.

Table 6 ■ Control sample: REITs in G-Index.

| Panel A: Descriptives G-Index | | | | |
|------------------------------------------------|----------------------|---------------------|---------------------|---------------------|
| | 2004 | | 2006 | |
| | Mean | SD | Mean | SD |
| GIM (2003) Sample | 9.05 | 2.56 | 9.02 | 2.52 |
| REIT Sample | 7.67 | 2.11 | 8.34 | 2.21 |
| Panel B: Tobin's q and Operating Performance | | | | |
| | (1) | (2) | (3) | (4) |
| G-Index | 0.009 (0.61) | -0.460 (-0.98) | -0.234 (-1.33) | -0.038 (-1.01) |
| BM-ratio | | -14.415 (-1.51) | -3.707 (-2.61)** | -0.316 (-2.19)** |
| Size (log) | -0.194 (-2.78)** | | | -0.005 (-0.06) |
| Age (log) | 0.134 (0.88) | | | |
| ROE | 0.005 (2.77)** | | | |
| ROE _{$t-1$} | 0.007 (8.56)*** | | | |
| Leverage | -0.010 (-4.72)*** | | | |
| Intercept | 2.659 (8.04)*** | 20.860 (3.24)*** | 6.755 (3.05)*** | 0.431 (1.74)* |
| Year fixed effects | Y | Y | Y | Y |
| Median adjusted | N | N | N | N |
| n | 113 | 113 | 113 | 113 |
| Adjusted R^2 | 27.83% | 7.04% | 6.64% | 8.96% |

Notes: Panel A presents descriptives of the G-Index for the full sample and the REIT sample. The G-Index is derived from the IRRIC data provided by RiskMetrics. Column (1) of Panel B shows the results of the OLS regression of Tobin's q on the G-Index and control variables. The control variables include current and lagged return on equity (ROE), the natural logarithm of the book value of assets ($Size$), the natural logarithm of Age , the debt ratio ($Leverage$), year dummies and industry dummies. Tobin's q is defined as the book value of assets plus the market value of equity minus the book value of equity and deferred taxes. Columns (2) through (4) provide the estimation results of the median regressions for return on equity (ROE), return on assets (ROA), funds from operations (FFO) on the G-Index, the natural logarithm of the book-to-market ratio ($BM-Ratio$), year dummies and industry dummies. t -statistics based on Roger's (1993) firm clustered standard errors are in parentheses.

*, ** and *** indicate significance at the 10%, 5% and 1% levels, respectively.

variables, respectively. Contrasting Core, Guay and Rusticus (2006) and GIM (2003), we do not find a statistically significant relation between the G-Index, firm value and operating performance. These findings confirm the results we documented for REITs in the previous section, where we exploited the CGQ index. The lack of a relation between the G-Index, firm value and operating performance supports the findings of Bianco, Ghosh and Sirmans (2007), who argue that a governance index based solely on takeover provisions is not a suitable governance proxy for the real estate sector.

REITs with High versus Low Payout Ratios

Although the 90% distribution requirement of REITs is a distinguishing feature setting them apart from non-REIT corporations, it has been well documented that this requirement is generally not binding. Among others, Wang, Erickson and Gau (1993) find that the average ratio of dividends to net income is 1.65, whereas Kallberg, Liu and Srinivasan (2003) document a median ratio of dividends to income of 1.11. This indicates that various expenses—most importantly the depreciation expense—leave discretionary cash flows for REIT managers. REITs that distribute cash flows in excess of the distribution requirement will return to the capital market more frequently and are subject to additional scrutiny of the capital market. In this way, shareholders benefit from the strong institutional setting of REITs and from additional monitoring by the market. In contrast, shareholders of REITs that retain excess cash flows are more likely to face agency problems as in non-REIT corporations, even if these problems probably have a lower magnitude due to the 90% distribution requirement.

To test this hypothesis, we adapt the payout measure of Wang, Erickson and Gau (1993) by calculating the ratio of dividend payout to *free cash flows* rather than to *net income* for each REIT, where the free cash flows include net income before extraordinary items plus the depreciation expense. This accurately determines the availability of discretionary cash flows in REITs. An alternative measure of free cash flow would be FFO, but this measure excludes cash outflows such as amortization and cash inflows such as gains from property sales.

Subsequently, we split the REIT sample at the median into a subsample of “high-payout” REITs and a subsample of “low-payout” REITs.¹⁰ Panel A of Table 7 presents descriptive statistics for both samples. Corporate governance

¹⁰ Ideally, we would also take variables such as growth, REIT type and capital structure into account when separating the sample, as these are well-documented determinants of dividend payout. However, this is beyond the goal of this robustness check and would lead to analytical problems due to the small subsamples.

ratings are on average slightly higher for REITs that distribute most of their cash flows, but there are similar levels of cross-sectional variation in both samples.

Panels B and C of Table 7 show the subsample results for the OLS regression of Tobin's q on the governance index and control variables. Coefficients of

Table 7 ■ Corporate governance and firm value in REITs: High versus low payout.

| Panel A: Descriptives REIT Subsamples | | | | | |
|---------------------------------------|--------------------|--------------------|--------------------|--------------------|--------------------|
| | CGQ Index | | Tobin's q | | |
| | Mean | S.D. | Mean | S.D. | |
| Low payout | 50.01 | 30.13 | 1.22 | 0.54 | |
| High payout | 52.75 | 29.08 | 1.30 | 0.31 | |
| Panel B: REITs—High Payout Ratio | | | | | |
| | (1) | (2) | (3) | (4) | (5) |
| CGQ Index | 0.001 (1.22) | | | | |
| Audit Index | | -0.016 (1.26) | | | |
| Compensation Index | | | -0.011 (0.79) | | |
| Takeover Index | | | | 0.008 (0.48) | |
| Board Index | | | | | -0.002 (0.13) |
| Intercept | 1.386 (8.12)*** | 1.438 (8.34)*** | 1.384 (8.09)*** | 1.339 (7.71)*** | 1.380 (8.08)*** |
| Control variables | Y | Y | Y | Y | Y |
| Year fixed effects | Y | Y | Y | Y | Y |
| Sector fixed effects | Y | Y | Y | Y | Y |
| n | 249 | 249 | 249 | 249 | 249 |
| Adjusted R^2 | 30.35% | 30.51% | 30.18% | 30.11% | 30.04% |
| Panel C: REITs – Low Payout Ratio | | | | | |
| | (1) | (2) | (3) | (4) | (5) |
| CGQ Index | 0.003 (2.00)** | | | | |
| Audit Index | | -0.004 (0.15) | | | |
| Compensation Index | | | 0.019 (0.59) | | |
| Takeover Index | | | | 0.022 (0.50) | |

Table 7 ■ continued

| Panel C: REITs – Low Payout Ratio | | | | | |
|-----------------------------------|--------------------|--------------------|--------------------|--------------------|--------------------|
| | (1) | (2) | (3) | (4) | (5) |
| Board Index | | | | | 0.097 (2.60)*** |
| Intercept | 1.580 (6.16)*** | 1.669 (6.38)*** | 1.610 (5.65)*** | 1.516 (3.62)*** | 1.403 (6.18)*** |
| Control variables | Y | Y | Y | Y | Y |
| Year fixed effects | Y | Y | Y | Y | Y |
| Sector fixed effects | Y | Y | Y | Y | Y |
| <i>n</i> | 233 | 233 | 233 | 233 | 233 |
| Adjusted <i>R</i> ² | 12.48% | 11.52% | 11.63% | 11.65% | 14.50% |

Notes: Panel A contains the descriptive statistics of the REIT subsamples with low and high payout ratios, respectively. Panel B presents the OLS regression results for the “high payout” REIT subsample of Tobin’s *q* on the CGQ index and control variables. In column (1), the CGQ Index is the main explanatory variable, whereas columns (2) to (5) are estimated with subindices *Audit*, *Compensation*, *Takeover* and *Board*, respectively. Tobin’s *q* is defined as the book value of assets plus the market value of equity minus the book value of equity and deferred taxes. The control variables include current and lagged return on equity (*ROE*), the log of the book value of assets (*Size*), the log of *Age*, the debt ratio (*Leverage*), year dummies and sector dummies. Panel C provides the OLS regression results for the “low payout” REIT subsample of Tobin’s *q* on the CGQ Index and control variables. *t*-statistics based on Roger’s (1993) clustered standard errors are in parentheses.

*, ** and *** indicate significance at the 10%, 5% and 1% levels, respectively.

year dummies, sector dummies and financial variables are omitted. Panel B contains the REITs that distribute most of their free cash flows. For these firms corporate governance is not a significant determinant of firm value. Deviating from the optimal governance structure is less costly, as free cash flow is scarce and managers are frequently scrutinized by the capital market. In Panel C, we show the results for the subsample of REITs that retain more discretionary cash from expenses. In this case, corporate governance does matter for REIT value. The coefficients in columns (2)–(5) indicate that a well-structured board is especially reflected in REIT valuation. Nevertheless, the results for the cash rich REITs still differ considerably from the results that we documented for our sample of 5,000 non-REIT corporations, for which the audit and compensation indices were significant as well.

In general, corporate governance is less important for REITs than it is for regular corporations, as the payout restrictions act as a safety net for investors. However, the discretionary cash flows created by the various expenses still offer the opportunity for managerial entrenchment. Indeed, for REITs that do not

distribute these additional cash flows, a strong internal corporate governance mechanism seems to be value enhancing, although other governance mechanisms are less important than for regular corporations. We attribute this to the strong institutional governance setting surrounding REITs: the REIT effect.

Concluding Remarks

Although the relation between corporate governance and performance has been studied extensively in the corporate finance literature, it has been investigated only partially for listed property companies. Most of the real estate literature investigates the effect of a combination of individual corporate governance elements on performance. This study fills the empirical gap by investigating the aggregate effect of corporate governance on performance using a CGQ that is provided by a leading governance-rating agency, ISS, and that covers a far larger number of REITs than other corporate governance indices.

REIT managers operate in a restricted setting. On the one hand this reduces the agency conflict by curbing managerial freedom, which may reduce the need for alternative corporate governance mechanisms and raise industry-wide governance standards. On the other hand, the legal restrictions may increase managerial entrenchment, thereby increasing the need for strong firm-level monitoring mechanisms.

In line with the substitution hypothesis, we document for the REIT sample that our CGQ index is related neither to REIT value, as measured by Tobin's q , nor to any of the three operating measures of performance—ROA, ROE and FFO growth. These results contrast with the consensus in the broader corporate literature and the empirical evidence that we document for the complete CGQ sample. Moreover, our findings are supported by evidence on two control samples and an additional robustness check. The first control sample consists of companies with relatively high CRERs, for which we find a relation between the CGQ index and performance, leading to the conclusion that the results we find for REITs do not appear to be driven by the assets they invest in. The second control sample is constructed by selecting all REITs in the G-Index, for which we do not find evidence of a relation between governance and performance, implying that our results are not driven by the peculiarities of our data set. However, when distinguishing high-payout from low-payout REITs, we find that governance does matter for the valuation of the latter.

Comparing the results for the subsample of cash-rich REITs to the results for the sample of 5,000 non-REIT corporations, we document that a broader range of governance variables affects valuations for the second group. Our results

corroborate with expectations that corporate governance has less impact on firm performance in strongly regulated business environments, as documented by Durnev and Kim (2005) and Klapper and Love (2004). We therefore explain the weak relation between corporate governance and performance in REITs as a “REIT effect.”

To conclude, we note that our article has three caveats. First, we argue that corporate governance is static and that cross-sectional differences rather than time-series changes explain the effect of corporate governance on performance, but the short time span does not allow us to test how severe the endogeneity issue actually is. Second, the relatively small sample of REITs does not allow us to dig very deeply into the REIT sample. However, this problem is inherent to research on listed real estate companies and cannot be solved appropriately at the moment. Countries all over the world converge toward standards for listed property companies comparable to U.S. REITs. This will likely broaden the scope of future corporate governance research in the real estate sector. Third, our index enables us to focus on all measures of corporate governance, but not on ownership concentration. As institutional ownership is increasing in REITs and the role of shareholders is becoming more prominent, future research may incorporate this external governance mechanism in the analysis.

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Appendix: Ratings Criteria ISS Corporate Governance Quotient

| | | | |
|----------------|----------------------------|------------------------|--------------------------------------|
| Board | | State of Incorporation | |
| 1 | Board Composition | 33–40 | Takeover Provisions Applicable |
| 2 | Nominating Committee | | Under State Law- Has |
| 3 | Compensation Committee | | Company Opted Out? |
| 4 | Governance Committee | | |
| 5 | Board Structure | | Executive and Director Compensation |
| 6 | Board Size | 41 | Cost of Option Plans |
| 7 | Changes In Board Size | 42–43 | Option Re-pricing |
| 8 | Cumulative Voting | 44 | Shareholder Approval of |
| 9 | Boards Served On – CEO | | Option Plans |
| 10 | Boards Served On – Other | 45 | Compensation Committee Interlocks |
| | Than CEO | 46 | Director Compensation |
| 11 | Former CEO's | 47 | Pension Plans For Nonemployee |
| 12 | Chairman/CEOs Separation | | Directors |
| 13 | Board Guidelines | 48 | Option Expensing |
| 14 | Response To Shareholder | 49 | Option Burn Rate |
| | Proposals | 50 | Corporate Loans |
| 15 | Board Attendance | | |
| 16 | Board Vacancies | | Qualitative Factors |
| 17 | Related Party Transactions | 51 | Retirement Age for Directors |
| | | 52 | Board Performance Reviews |
| Audit | | 53 | Meetings of Outside Directors |
| 18 | Audit Committee | 54 | CEO Succession Plan |
| 19 | Audit Fees | 55 | Outside Advisors Available to Board |
| 20 | Auditor Rotation | 56 | Directors resign upon job change |
| 21 | Auditor Ratification | | |
| | | | Ownership |
| Charter/Bylaws | | 57 | Director Ownership |
| 22–27 | Features of Poison Pills | 58 | Executive Stock Ownership Guidelines |
| 28–29 | Vote Requirements | 59 | Director Stock Ownership Guidelines |
| 30 | Written Consent | 60 | Officer and Director Stock Ownership |
| 31 | Special Meetings | | |
| 32 | Board Amendments | | Director Education |
| 33 | Capital Structure | 61 | Director Education |

Notes: The Appendix provides the ratings criteria used by Institutional Shareholder Services to construct the CGQ index. To come to the final rating, some of the criteria are also looked at in combination, under the premise that corporate governance is enhanced when selected combinations of these criteria are adopted.

Source: Institutional Shareholder Services (www.issproxy.com).