Corporate Governance and Idiosyncratic Skewness*

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Abstract

This paper analyzes the relation between corporate governance and idiosyncratic skewness of stock returns for a large sample of U.S. firms. Since firm-level skewness is determined by information flow and companies with good corporate governance are more informative and transparent than their less shareholder protective counterparts, we argue that differences in the quality of corporate governance matter to idiosyncratic skewness. Our results validate the hypothesis and reveal a significant relation between the level of shareholder protection and idiosyncratic skewness. Firms with stronger shareholder rights are associated with more positively skewed stock returns. Our findings are robust to the inclusion of various control variables used in the literature as well as to the use of different methodologies and governance measures.

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I. Motivation

According to classical asset pricing theory higher statistical moments of stock returns do not matter – neither for their distribution nor to investors – and idiosyncratic risk is not compensated (Markowitz 1952). These assumptions cannot withstand empirical evidence: at the aggregate level stock market returns display negative skewness whereas firm-level returns are positively skewed (Duffee 1995; Andersen et al. 2001). Furthermore, idiosyncratic components are priced in stock returns (Goyal and Santa-Clara 2003; Ang et al. 2006; Boyer et al. 2010) and investors do not only reveal a preference for positive skewness (Arditti 1967; Scott and Horvath 1980), but for idiosyncratic skewness as well (Mitton and Vorkink 2007; Barberis and Huang 2007; Conrad et al. 2012).

The persistence of skewness in stock returns has caused the emergence of various theories aiming to explain which underlying economic mechanisms these stylized facts reflect. The leverage-effects hypothesis states that a drop of the stock price increases leverage, which in turn leads to an increase of the stock's subsequent volatility. If the stock price rises, leverage shrinks and volatility decreases. This asymmetric response results in negatively skewed stock market returns (Black 1976; Christie 1982). Blanchard and Watson (1982) show that the stock market's negative skewness can be produced by a stock price bubble burst. The volatility-feedback effect explains market skewness via the arrival of either good or bad news – a signal for increased volatility, which in turn increases the risk premium (Pindyck 1984; French et al. 1987; Campbell and Hentschel 1992). The increase of this premium partly reduces the positive effect of good news, but amplifies the negative impact of bad news. Thus large negative stock returns are more common than large positive ones, leading to negatively skewed aggregated returns. Hong and Stein (2003) suggest that investor heterogeneity causes negative market skewness, and detect

that it is negatively related to turnover. This explanation is known as the difference-of-opinion model. Chen et al. (2001) document that this relation between skewness and turnover is observed in firm-level returns as well.

As these hypotheses focus on understanding the negative skewness of aggregated returns, they ignore the other stylized fact that firm stock returns display positive skewness. The discretionary-disclosure hypothesis traces positive firm-level skewness back to the degree of managers' discretion over the disclosure of information. As good news only have a positive impact on the firm's stock price, but bad news have both a positive effect – that of reducing the likelihood of a lawsuit – and a negative one – that of decreasing the firm's stock price – the manager will disclose all positive and all sufficiently negative bad news, but will be less precise on moderately negative news or withhold them (Skinner 1994; Truemann 1997). According to Chen et al. (2001) this behavior tends to impart a degree of positive skewness. A recent theory by Albuquerque (2012) relates positive stock skewness to firm-level heterogeneity that is reflected in the timing of firm announcement events. These firm-level skewness theories imply that the degree of *firm-specific* skewness can be influenced by managerial decisions on the release and handling of information. As accounting mechanisms are the primary source of information, one should expect that companies that differ in their information policies exhibit different degrees of skewness as well, which suggests a link with firm-specific corporate governance practices. Corporate governance addresses the principle-agent problem that evolves due to the separation of ownership and control and thus aims at shareholder protection from expropriation by managers. Hence it directly addresses managerial behavior and decisions,

which include information policy, among others. There is a large body of empirical evidence that corporate governance is closely linked to accounting and information flow (Basu 1997; Ahmed and Duellmann 2007; García Lara et al. 2009). Eng and Mak (2003) find that good corporate governance is coupled with a high degree of transparency and disclosure, subsequently reducing the possibility of insiders. Kanagaretnam et al. (2007) document that good corporate governance leads to more informative stock prices and that firms with stronger shareholder protection exhibit lower information asymmetry. Consequently good governance can be associated with stronger stock market reactions not only towards positive news, but also towards negative news, resulting in more tail observations.

In line with this claim, Ferreira and Laux (2007) use idiosyncratic volatility as a proxy for information flow and private information (cf. Roll 1988), and detect that firms with fewer anti-takeover provisions display higher levels of idiosyncratic volatility than firms with weak shareholder protection, because weak governance is linked with impeded information flow. John et al. (2008) confirm that stronger shareholder protection is associated with higher firm-level riskiness. Accordingly a link between corporate governance and firm-level skewness should exist. So far only Bae et al. (2008) investigate the relation between corporate governance and return skewness in a country-level analysis. They find that emerging markets that possess a poor corporate governance system, exhibit returns that are more positively skewed compared to the returns of developed countries that apply good corporate governance. This relation is traced back to the asymmetric information disclosure of emerging countries: good news is published immediately whereas bad news is hold back.

This paper expands the prevailing literature by analyzing how corporate governance and *idiosyncratic* skewness are linked in the U.S. market. To the best of our knowledge, we are the first addressing this research question. In particular, we focus on testing the link between corporate governance, information flow, and firm-specific skewness. Given the presented conceptual framework and prevailing empirical evidence we can formulate our testable hypotheses. Firstly, we expect a positive relation between good corporate governance and idiosyncratic skewness, as the degree of shareholder protection is positively related to information flow. Secondly, despite this positive link, we expect the well governed firm to exhibit more tail observations, due to lower information asymmetry, and therefore more informative stock prices.

The paper proceeds as follows. Section II describes the measure and data. Section III presents the evidence on the relation between idiosyncratic skewness and corporate governance, and tests for robustness. Section IV concludes.

II. Data and Methodology

Financial data is drawn from Thomson Reuters Datastream. The corporate governance index G is obtained from Andrew Metrick's homepage, industry effects and exchange dummies are constructed using the Center for Research in Stock Prices (CRSP) Directory. The sample period lasts from September 1990 to December 1999. On average there are 1,396 firms, with a minimum of 1,302 in 1990 and 1995 and a maximum of 1,678 in 1999. For all companies

monthly idiosyncratic skewness is constructed and analyzed concerning its relation to corporate governance, idiosyncratic volatility and relevant control variables. Table I defines all variables.

[Table I]

A. Idiosyncratic Factors

Idiosyncratic volatility and skewness, $iv_{i,t}$ and $is_{i,t}$, are estimated according to the measure taken from Boyer et al. (2010) for each month using daily return data. Both factors are constructed out of the daily residuals, $\epsilon_{i,d}$, of the Fama and French (1993) three-factor model, based on daily excess stock returns that include re-investment of any cash dividends. The exogenous variables of the three-factor model – excess market return (*RMRF*), Small-minus-Big (*SMB*) and High-minus-Low (*HML*) – are taken from Kenneth French's website. Given $\epsilon_{i,d}$ idiosyncratic volatility and skewness are defined as

$$iv_{i,t} = \sqrt{\frac{1}{T-1}\sum_{d\epsilon S(t)} \epsilon_{i,d}^2} \tag{1}$$

$$is_{i,t} = \frac{1}{T-2}\frac{\sum_{d\epsilon S(t)} \epsilon_{i,d}^3}{iv_{i,t}^3} \tag{2}$$

where *S(t)* denotes the set of trading days and has a monthly horizon in this study. Then number of days in this set is *T*. Panel A of Table I describes the construction of the idiosyncratic measures.

B. Corporate Governance Index

The measure for corporate governance is the index G by Gompers et al. (2003), which is constructed using the Investor Responsibility Research Centre (IRRC) database (see Ferreira and Laux (2007) for a discussion of the usefulness of the IRRC data). The index is based on 24 distinct provisions that restrict shareholder rights, and composes of five groups: tactics slowing down hostile bidders, officers and directors' protection, shareholders' voting rights, state laws limiting takeover bids, and other takeover defenses. The index starts 1990 and updates 1993, 1995, and 1998, and has a possible range from 1 to 24, according to which companies are broken into deciles. Gompers et al. (2003) classify companies with G≤5 as the "Democracy Portfolio" and firms with the weakest shareholder rights (G≥14) as the "Dictatorship Portfolio", as they represent the two extreme governance portfolios. The sample period begins September 1, 1990 and ends December 31, 1999. The ten G portfolios are updated according to the frequency of the index G and exclude companies with dual-class shares. Thus rebalancing occurs in July 1993, July 1995, and February 1998.

[Table II]

Table II presents summary statistics of the distribution of G after identifying companies in Datastream. On average 96.52% of the firms can be identified. The least loss occurs in the Democracy Portfolios (2.17%), the highest in the Dictatorship Portfolios (4.57%). The other portfolios suffer a loss between 2.24% (G=12) and 4.52% (G=13). This average deficit of 3.46%

does not affect the distributional properties of the index. For robustness reasons and most importantly to equalize the loss distribution between the extreme governance portfolios we expand our analyses by a broader definition of the top/bottom extreme governance portfolios. We denote Democrats as companies with G≤6 and Dictators as companies with G≥13.

[Table III]

Table III presents the distributional characteristics of monthly idiosyncratic skewness computed according to formula (2), both for single years and for the full sample period. The sample exhibits periods where the mean is negative (1990 and 1991; 1995 to 1997) and where it is positive (1992 to 1994; 1998 and 1999). Especially during the first half of the 1990s idiosyncratic skewness is more distinct (ranging from -0.91 in 1990 to +1.07 in 1993) than in the second half (where the maximum range reaches from -0.40 in 1995 to +0.16 in 1999). On average the whole sample period displays positive idiosyncratic skewness (median: 0.19; mean: 0.16).

C. Control Variables

The choice of control variables is justified by the (firm-level) skewness hypotheses and the idiosyncratic skewness model of Boyer et al. (2010). Panel A and C of Table I briefly describe the construction of these variables. Our key control variable is idiosyncratic volatility (*iv*) as it proxies information flow as well as the volatility-feedback hypothesis and the (discretionary)

disclosure hypothesis. It is calculated according to formula (1). The cumulative return (*mom*) is the firm's sum of the daily log-returns and captures the observed fact of short-term reversal in stock returns, a phenomena documented by Jegadeesh (1990) and Lehmann (1990). Given that negative skewness is most profound in stocks that have experienced an increase in trading volume (Chen et al. 2001) we include turnover by volume (*turn*) in our analyses. As Harvey and Siddique (2000) and Chen et al. (2001) find that skewness is on average more positive for small-capitalization stocks we include a continuous size variable (*lnsize*). To control for corporate finance decisions we include the firm's monthly market-to-book value (*M/B*) instead of leverage since we test on a monthly basis and leverage is not reported on such a high frequency. Given that firms with higher market-to-book ratios have lower leverage ratios (Myers 1977; Baker and Wurgler 2002; Welch 2004) we regard the inclusion of *M/B* as appropriate. To capture the unique institutional features of the NASDAQ exchange – such as differences in turnover measurement – we include an exchange dummy *NASDAQ* that is coded one if the stock is traded at this exchange (cf. Boyer et al. 2010). Furthermore we model industry fixed effects based on each firm's primary two-digit SIC code. Averages are computed using the effective trading days for which values are reported. Panel A of Table IV reports the mean, median, standard deviation, minimum, maximum, and number of observations of the variables. Panel B reports the correlations among the variables.

[Table IV]

One month lagged idiosyncratic skewness and volatility are positively correlated with idiosyncratic skewness, whereas corporate governance is negatively correlated with idiosyncratic volatility and skewness. The descriptive statistics match the expectations: the negative correlation between G and $iv_{i,t-1}$ is in line with the results of Ferreira and Laux (2007). The negative correlation between G and $is_{i,t}$ (and $is_{i,t-1}$ as well) is in favor of this paper's hypothesis that an increase in G, which is associated with worse governance quality, reduces idiosyncratic skewness. The strong positive correlation between $is_{i,t}$ and $iv_{i,t-1}$ confirms that lagged idiosyncratic volatility is a strong positive predictor of firm skewness (Chen et al. 2001; Kapadia 2006; Boyer at al. 2010). The correlations are significant at the 5% level.

III. Governance and Idiosyncratic Skewness

This section presents graphical analyses, specifies the basic empirical design, provides cross-sectional and panel regression evidence on the relation of idiosyncratic skewness and corporate governance, and tests for robustness.

A. Graphical Analysis

Figure 1 provides an illustration of idiosyncratic skewness by governance levels. Panel A plots the means of idiosyncratic skewness for different governance index portfolios over the full sample period. Companies with fewer anti-takeover provisions exhibit higher idiosyncratic skewness values than companies that are less shareholder protective. The associated idiosyncratic skewness of 0.19 of the Democrats is above the sample mean (0.16), whereas the

respective idiosyncratic skewness of the Dictators (0.13) is below. The difference between the two extreme portfolios is significant at the 1% level with a t-statistic of 5.59.

[Figure 1]

In Panel B of Figure 1, we plot the difference in idiosyncratic skewness between the two extreme governance portfolios. The difference in idiosyncratic skewness between the Dictators and Democrats is negative in seven out of the ten sample years (1990 and 1991 and from 1995 onwards). Furthermore all differences in the second half of the nineties are statistically significant. Given the observed patterns in Panel B and in conjunction with Table III, we carry out additional sub-period analyses where we split the sample period into two subsamples: 1990 to 1994 and 1995 to 1999.

B. Empirical Framework and Firm-Level Regressions

The previous sub-section supports the hypothesis of an existing relation between corporate governance and idiosyncratic skewness. This sub-section provides empirical evidence if and how corporate governance influences idiosyncratic skewness, after controlling for idiosyncratic skewness determinants. The baseline model is defined by the following firm-level regression:

$$is_{i,t} = a_0 + a_1 G + a_2 is_{i,t-1} + a_3 iv_{i,t} + a_4 mom_{i,t-1} + a_5 turn_{i,t-1} + a_7 lnsize_{i,t-1} + a_8 NASDAQ$$

The dependent variable is monthly idiosyncratic skewness ($is_{i,t}$) that is computed using the daily residuals of the Fama and French (1993) three-factor model. *G* denotes the corporate governance index constructed by Gompers et al. (2003). The choice of control variables is motivated by the (idiosyncratic) skewness literature. The explanatory variables are lagged idiosyncratic skewness ($is_{i,t-1}$) and volatility ($iv_{i,t-1}$), as well as the cumulative return ($mom_{i,t-1}$), turnover ($turn_{i,t-1}$), the continuous market capitalization ($lnsize_{i,t-1}$), and a *NASDAQ* dummy – this applies to about 20% of the sample. We refer to Table I, Panel C for a detailed definition of the explanatory variables. For methodology robustness reasons we conduct both panel regression with industry fixed effects and robust standard errors[1] as well as Fama-MacBeth (1973) regressions, which are an alternative allowing to tackle the problem of omitted variables, and which ensure that inferences are unaffected by cross-sectional dependences.

Table V reports the estimated coefficients of the baseline model and two extensions for the entire sample period (Part I) and for the two sub-periods 1990 to 1994 (Part II) and 1995 to 1999 (Part III). Panel A (model 1 to 3) reports the coefficients of the time-series cross-sectional regressions and Panel B (model 4 to 6) the Fama-MacBeth's estimates from monthly cross-sectional regressions. Model (1) and (4) refer to the baseline regression. In model (2) time fixed effects are included via monthly time dummies, model (3) extends by the market-to-book-value ($M/B_{i,t-1}$),

[1] The Hausman test validates the choice of fixed effects over random effects. The choice of industry rather than firm fixed effects – as suggested by Petersen (2009) – is due to insufficient within-variation of the index G, cf. Giroud and Mueller (2011).

model (5) includes industry dummies based on the two-digit SIC codes, and model (6) includes industry dummies and the market-to-book value.

[Table V]

In both approaches and in all models *G* is highly significant and negatively related to idiosyncratic skewness if the entire sample period is jointly analyzed. This validates the hypothesis that an increase in anti-takeover provisions reduces idiosyncratic skewness. In the baseline models (1) and (4) the estimated coefficient is -0.003 with a robust t-statistic of -3.08 (-2.82). Except model (3), which exhibits a respective coefficient of -0.002 (t-statistic=-2.31), all other extended regressions display a *G* coefficient of -0.003 as well. Furthermore all models confirm the expected significant positive relation between idiosyncratic skewness and lagged idiosyncratic skewness as well as with lagged idiosyncratic volatility (cf. Boyer et al. 2010). In line with Chen et al. (2001), we find that past returns are negatively correlated with future skewness. The impact of turnover is positive and significant, contradicting the model of Hong and Stein (2003). For our sample, we find that heavy trading volume is a strong predictor of positive skewness. Additionally, controlling for firm size proves to be important in the cross-sectional regressions. Larger firms tend to exhibit more negative skewness compared to smaller firms. In particular, Part II and III of Table V validate the observations of Panel B of Figure 1: If the sample period is divided into the first and second half of the nineties, governance is only

significant for the years 1995 to 1999; obviously the relation is stronger and ranges from -0.004 to -0.008.

Following the methodology of Ferreira and Laux (2007) the results of Table V are checked in a stand-alone analysis using a dummy variable (*GD*) for the governance index G. The regression model is given by

$$is_{i,t} = a_0 + a_1 GD + a_2 is_{i,t-1} + a_3 iv_{i,t} + a_4 mom_{i,t-1} + a_5 turn_{i,t-1} + a_7 lnsize_{i,t-1} + a_8 NASDAQ$$

where *GD* is a dummy variable that is coded one if G is higher than or equal to 13 and zero if the governance index is less than or equal to 6. Firms with intermediate G values (6<G<13) are excluded. Thus the remaining sample contains only Dictators and Democrats. Table VI reports the estimated coefficients for the industry fixed effects panel regressions (Panel A) and the Fama-MacBeth regressions (Panel B), both for the entire sample period (Part I) and the sub-periods (Part II and III).

[Table VI]

The negative difference in idiosyncratic skewness between the Dictators or Democrats is confirmed in both regression set-ups and statistically significant for the entire sample period and the second half of the nineties.

The section concludes that idiosyncratic skewness and the governance index G are negatively related if an overall perspective is adopted or if the second half of the sample period is analyzed. For the first half of the sample period we cannot validate our hypothesis. In order to draw general conclusions concerning the relation between corporate governance and idiosyncratic skewness the next section checks for robustness.

C. Robustness Checks

The results of the primary analyses are checked for robustness concerning the measurement of corporate. The previous section studies the relation between corporate governance and idiosyncratic skewness using the governance index G by Gompers et al. (2003). This index composes of 24 provisions. Bebchuk et al. (2009) investigate the relative importance of these 24 provisions and put forward an entrenchment index E based on six of the original 24 provisions: staggered boards, limits to shareholder bylaw amendments, poison pills, golden parachutes, and supermajority requirements for mergers and charter amendments. They show that the six entrenching provisions in the index E largely drive the negative governance-return relation documented by Gompers et al. (2003). Furthermore, as the 18 excluded provisions represent

"noise", the index E is useful by providing a measure of corporate governance quality that is not affected by the noise created by the inclusion of these provisions (cf. Bebchuk 2009, p. 17).

Table VII contains the industry fixed effects panel regressions (Panel A) and Fama-MacBeth regression results (Panel B) of the monthly idiosyncratic skewness on the index E and the control variables defined in section II. The regression design remains the same as in the previous analyses, except that *E* is the key independent variable, and that we waive the sub-sample analyses. The sample period lasts from September 1990 to December 1999.

[Table VII]

The estimates of the coefficients validate the general results of the previous sub-section. In both set-ups and all models the *E* coefficient is highly significant and ranges between -0.005 in (1) and -0.008 in (4). Furthermore the control variables display the same signs as in the G-score analyses. Therefore, we can conclude that the empirical relation between corporate governance and idiosyncratic skewness is robust to a change in the governance measure.

D. Frequencies of Extreme Returns

In this sub-section we analyze the effect of governance on the frequencies of extreme positive and negative residuals obtained through the Fama-French (1993) three-factor model. The thresholds are given by the top/bottom 1%, 5%, and 10% percentile of the entire sample. The

analysis is carried out on both governance indices and focuses on the extreme governance portfolios. Table VIII reports the relative frequencies each governance portfolio exhibits for a given extreme residual threshold. In all specifications the shareholder protective companies display both extreme positive and negative residuals more often than their less protective counterparts – these frequency differences are highly significant. For instance if companies are classified according to the index G the frequency of bottom 1% residuals is 0.54% for companies with G≥13, whereas companies with G≤6 face bottom 1% residuals in 1.42% of their residual distribution. The frequency of observing top 1% residuals is 8.45% for Dictators and 12.03% for Democrats. Thus the results validate the positive relation between good corporate governance and the tail distribution of idiosyncratic return components, and show that extreme residuals occur significantly more often in good corporate governance companies than in poor governance companies. This relation is in line with the finding that strong governance is associated with lower information asymmetry (cf. Kanagaretnam et al. 2007).

[Table VIII]

IV. Conclusion

The paper investigates the relation between corporate governance and idiosyncratic skewness for a large sample of U.S. firms. To the best of our knowledge, we are the first addressing this research question. In particular, we focus on testing the link between corporate governance, information flow, and firm-specific skewness. Given the presented conceptual framework and

prevailing empirical evidence we hypothesize that the relationship between good corporate governance and idiosyncratic skewness is positive, as the degree of shareholder protection is positively related to information flow. Our empirical analyses validate the hypothesis that the quality of corporate governance has a significant impact on idiosyncratic skewness. Firms with stronger shareholder rights are associated with more positively skewed stock returns. Our results are robust to the inclusion of various control variables used in the literature as well as to the use of a different methodologies and governance measures. A strong relation is detected especially for the second half of the sample period, in line with the increased attention and awareness of the importance of good corporate governance practices in this period.

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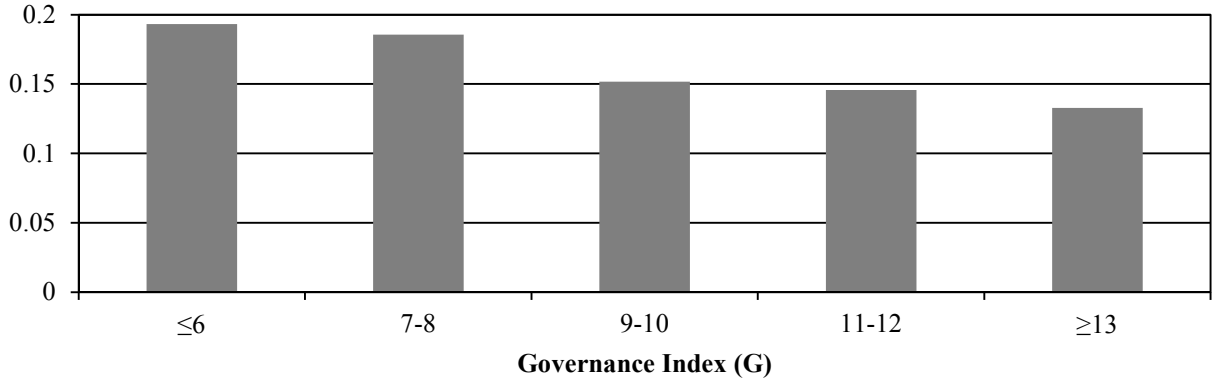
Figure 1
Idiosyncratic Skewness

The figure plots differences in idiosyncratic skewness values for different governance levels. Governance levels are measured according to the index G by Gompers et al. (2003). Panel A plots the average idiosyncratic skewness for the period September 1990 to December 1999 for different governance portfolios. Panel B shows the mean differences in idiosyncratic skewness between extreme governance portfolios (Dictators minus Democrats). Dictators are classified as companies with a governance score of G≥13, Democrats as companies with G≤6. Dark shaded bars in Panel B represent differences that are significant at the 5% level.

Panel A: Idiosyncratic Skewness by Governance Index Portfolios



Panel B: Difference in Idiosyncratic Skewness between Dictators and Democrats

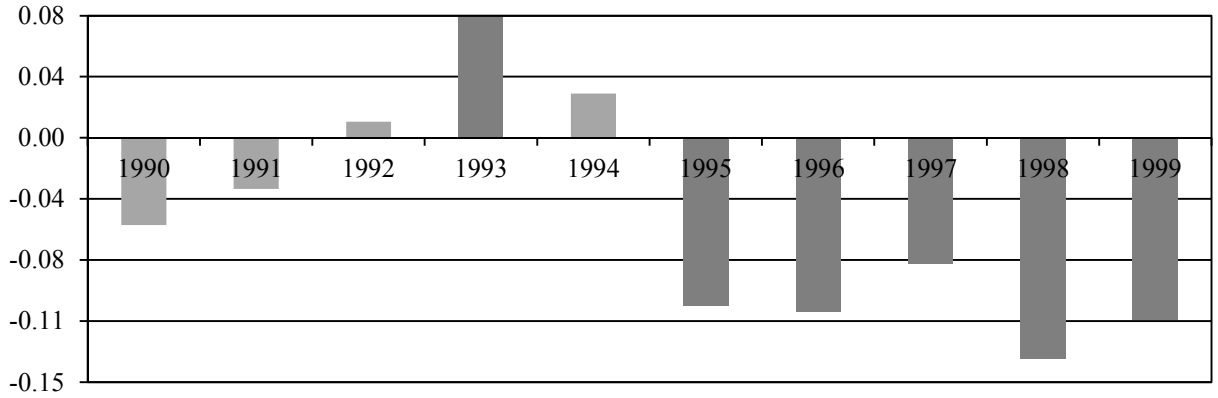


Table I
Definition of Variables

Variables		Definition
		Panel A: Idiosyncratic Factors
Idiosyncratic volatility	*iv*	Following Boyer et al. (2010) monthly idiosyncratic volatility is defined as $$iv_{i,t} = \left(\frac{1}{T-1} \sum_{d \epsilon S(t)} \epsilon_{i,d}^2 \right)^{1/2}$$ It is given by the square root of the summation of the squared daily residuals within the set of trading days *S(t)*, weighted by the number of days in the set minus one degree of freedom (T-1). The set of trading days has a monthly horizon. The daily, firm-specific residuals $e_{i,d}$ are extracted from the Fama and French (1993) three-factor model. The excess return (RMRF), the size factor (SMB) and the book-to-market factor (HML) are obtained from Kenneth French's website
Idiosyncratic skweness	*is*	Following Boyer et al. (2010) idiosyncratic skewness is defined as $$is_{i,t} = \frac{1}{T-2} \frac{\sum_{d \epsilon S(t)} \epsilon_{i,d}^3}{iv_{i,d}^3}$$ where *S(t)* denotes the set of trading days and has a monthly horizon in this study. The firm-specific, daily residuals are extracted from the Fama and French (1993) three factor model regressions.T-2 is the number of days in the set minus two degrees of freedom
		Panel B: Corporate Governance
Governance index	*G*	IRRC-Gompers et al. (2003) governance index, which is based on 24 anti-takeover provisions
Entrenchment index	*E*	IRRC-Bebchuk et al. (2009) entrenchment index, based on six of the original 24 provisions in G
		Panel C: Control Variables
Cumulative return	*mom*	Sum of the daily log-returns of month *t*. Daily log-returns are calculated using the daily total return index that includes re-investment of any cash dividends (Datastream Code: RI)
Turnover	*turn*	Monthly average of daily turnover by volume (Datastream Code: VO)
Size	*lnsize*	Monthly average of the logarithm of the company's daily market capitalization (Datastream Code: MV)
Nasdaq dummy	*NASDAQ*	Dummy variable coded one if the stock is traded at NASDAQ (CRSP Directory)
Market-to-book value	*M/B*	The share price of the company divided by the net book value (Datastream Code: MTBV)
Industry fixed effects	*Industry FE*	Industry fixed effects are based on the two-digit SIC codes (CRSP Directory)
Time fixed effects	*Time FE*	Monthly time dummies

Table II
The Governance Index

This table provides summary statistics on the distribution of the number of firms for the governance index G after identifying companies in Datastream. The values in brackets are the respective numbers for the complete governance index provided by Andrew Metrick. These values marginally deviate from Gompers et al.'s (2003) study. The highest deviation is in 1998 G=13 with +4 (106 companies are reported in the original study).

	1990	1993	1995	1998
Governance index				
Minimum	2 (2)	2 (2)	2 (2)	2 (2)
Mean	9.0 (9.0)	9.3 (9.3)	9.4 (9.4)	8.9 (8.9)
Median	9 (9)	9 (9)	9 (9)	9 (9)
Maximum	17 (17)	17 (17)	17 (17)	18 (18)
Standard deviation	2.9 (2.9)	2.8 (2.8)	2.8 (2.8)	2.8 (2.8)
10% Percentile	5 (5)	5 (5)	6 (5)	5 (5)
90% Percentile	13 (13)	13 (13)	13 (13)	13 (13)
Number of firms				
G ≤5	148 (156)	137 (139)	118 (120)	215 (216)
G=6	114 (119)	84 (88)	103 (108)	167 (169)
G=7	148 (157)	136 (140)	120 (127)	179 (181)
G=8	158 (163)	135 (139)	139 (152)	200 (203)
G=9	155 (160)	176 (183)	178 (183)	189 (195)
G=10	168 (176)	166 (170)	169 (178)	214 (220)
G=11	146 (150)	163 (168)	156 (166)	190 (193)
G=12	104 (105)	121 (123)	134 (142)	134 (135)
G=13	80 (85)	96 (100)	103 (110)	108 (110)
G≥14	81 (85)	89 (93)	82 (87)	82 (85)
Total	1,302 (1,356)	1,303 (1,343)	1,302 (1,373)	1,678 (1,707)

Table III
Distributional Properties of Idiosyncratic Skewness

This table reports summary statistics for the dependent variable, idiosyncratic skewness, defined as in Table I. The sample period is September 1990 to December 1999.

Percentiles	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	1990-1999
1%	-2.512	-2.628	-2.193	-1.917	-2.248	-2.727	-2.544	-2.648	-2.773	-2.706	-2.562
5%	-1.882	-1.734	-0.912	-0.534	-1.265	-1.778	-1.684	-1.684	-1.658	-1.622	-1.625
10%	-1.688	-1.496	-0.424	0.013	-0.835	-1.531	-1.414	-1.421	-1.296	-1.279	-1.350
25%	-1.441	-1.081	0.336	0.743	-0.049	-1.177	-0.926	-1.009	-0.670	-0.620	-0.743
Median	-1.130	-0.403	1.036	1.248	0.766	-0.541	-0.179	-0.259	0.130	0.162	0.186
Mean	-0.907	-0.297	0.833	1.072	0.603	-0.395	-0.111	-0.150	0.128	0.156	0.163
75%	-0.527	0.410	1.453	1.560	1.346	0.259	0.620	0.568	0.929	0.933	1.076
90%	0.274	1.101	1.794	1.862	1.750	1.018	1.333	1.332	1.541	1.551	1.602
95%	0.779	1.532	2.054	2.111	2.001	1.508	1.783	1.843	1.937	1.959	1.920
99%	1.727	2.583	2.771	2.751	2.806	2.662	2.775	2.951	3.082	3.052	2.827
Min	-4.619	-4.783	-4.774	-4.535	-4.646	-4.734	-4.445	-4.555	-4.583	-4.442	-4.783
Max	4.564	4.911	4.811	4.914	4.763	4.783	4.789	4.746	4.738	4.811	4.914
Observations	5,208	15,624	15,613	15,624	15,636	15,630	15,624	15,624	19,760	20,136	154,479
Std. Dev.	0.858	1.075	0.963	0.859	1.055	1.078	1.117	1.152	1.169	1.154	1.186
Skewness	1.250	0.442	-0.978	-1.382	-0.577	0.610	0.368	0.473	0.053	0.026	-0.032
Kurtosis	6.062	3.888	5.562	7.404	3.880	4.205	3.592	3.845	3.618	3.624	2.984

Table IV
Descriptive Statistics of Exogenous Variables

This table presents descriptive statistics of the exogenous variables used in the empirical analyses. All variables are as defined in Table I. The sample period is September 1990 to December 1999. Panel A reports the mean, median, standard deviation, minimum, maximum, and number of observations of the regressors. Panel B reports the correlations between the endogenous variable and the explanatory variables as well as the correlations between the explanatory variables. Boldfaced correlations are significant at the 5% level.

Panel A: Summary Statistics

	G	is_{t-1}	iv_{t-1}	mom_{t-1}	$turn_{t-1}$	$lnsize_{t-1}$	M/B_{t-1}
Mean	9.161	0.169	0.023	0.016	988.571	6.855	2.402
Median	9.000	0.195	0.018	0.004	189.410	6.874	1.860
Std. Dev.	2.842	1.186	0.078	0.357	4,757.724	1.734	15.681
Min	2.000	-4.783	0.000	-1.000	0.000	-4.416	-1,082
Max	18.000	4.914	27.278	123.079	180,293	13.075	1,006
Observations	154,479	152,275	152,275	152,275	143,677	152,180	125,304

Panel B: Correlations among Variables

	$is_{i,t}$	G	$is_{i,t-1}$	$iv_{i,t-1}$	$mom_{i,t-1}$	$turn_{i,t-1}$	$lnsize_{i,t-1}$	$M/B_{i,t-1}$	$NASDAQ$
$is_{i,t}$	1.0000								
G	**-0.0186**	1.000							
$is_{i,t-1}$	**0.2168**	**-0.0182**	1.000						
$iv_{i,t-1}$	**0.0125**	**-0.0244**	**0.0446**	1.000					
$mom_{i,t-1}$	**-0.0142**	-0.0006	**0.1870**	**0.9014**	1.000				
$turnover_{i,t-1}$	-0.0001	**-0.0381**	-0.0042	0.0037	**0.0086**	1.000			
$lnsize_{i,t-1}$	**-0.0547**	**0.1189**	**-0.0333**	**-0.1078**	-0.0020	**0.2571**	1.000		
$M/B_{i,t-1}$	-0.0048	0.0023	**-0.0058**	-0.0025	-0.0016	**0.0266**	**0.0543**	1.000	
$NASDAQ$	**0.0136**	**-0.1807**	**0.0130**	**0.0481**	**0.0051**	**0.1381**	**-0.1946**	**0.0077**	1.000

Table V
Regressions of Idiosyncratic Skewness on Corporate Governance

The table reports estimates of coefficients of the baseline firm-level regression

$$is_{i,t} = a_0 + a_1 G + a_2 is_{i,t-1} + a_3 iv_{i,t-1} + a_4 mom_{i,t-1} + a_5 turn_{i,t-1} + a_6 lnsize_{i,t-1} + a_7 NASDAQ$$

where $is_{i,t}$ is the monthly idiosyncratic skewness. G is the IRRC-Gompers et al. (2003) governance index. The regressors include lagged idiosyncratic skewness ($is_{i,t-1}$), idiosyncratic volatility ($iv_{i,t-1}$), the cumulative return ($mom_{i,t-1}$), turnover by volume ($turn_{i,t-1}$), the logarithm of the firm's market capitalization ($lnsize_{i,t-1}$), and *NASDAQ* is a dummy if a stock is traded on NASDAQ. Refer to Table I for variable definitions. Estimates in Panel A are obtained through a monthly time-series cross-sectional firm-level regression using industry fixed effects which are modeled through the two-digit SIC codes. Model (1) refers to the baseline model given by the equation above. Model (2) expands by time fixed effects. Model (3) extends by the monthly market-to-book value. Robust t-statistics are in parentheses. Estimates in Panel B are obtained using Fama-MacBeth (1973) monthly cross-sectional regressions. Model (4) is equivalent to the baseline model above. Model (5) extends by industry dummies based on the two-digit SIC codes and model (6) adds the market-to-book value. Fama MacBeth t-statistics are in parentheses. Coefficients significant at the 5% level are boldface. Panel A and B are separated into three parts: Part I covers the entire sample period from September 1990 to December 1999, Part II studies the first half of the nineties (September 1990 to December 1994), and Part III analyzes the second half (January 1995 to December 1999).

	Panel A: Panel Regression			Panel B: Fama-MacBeth		
	Part I: 1990-1999			Part I: 1990-1999		
	(1)	(2)	(3)	(4)	(5)	(6)
G	**-0.003**	**-0.003**	**-0.002**	**-0.003**	**-0.003**	**-0.003**
	(-3.08)	(-3.14)	(-2.31)	(-2.82)	(-2.94)	(-2.96)
$is_{i,t-1}$	**0.251**	**0.043**	**0.051**	**0.042**	**0.037**	**0.038**
	(10.63)	(7.87)	(7.44)	(8.45)	(8.16)	(7.81)
$iv_{i,t-1}$	**4.424**	**2.278**	**2.531**	**1.161**	0.886	1.11
	(7.89)	(12.57)	(10.21)	(2.20)	(1.88)	(1.93)
$mom_{i,t-1}$	**-1.07**	**-0.536**	**-0.593**	**-0.638**	**-0.7**	**-0.738**
	(-8.20)	(-12.07)	(-10.17)	(-9.79)	(-12.04)	(-11.70)
$turnover_{i,t-1}$	**0**	**0**	**0**	**0**	**0**	**0**
	(2.24)	(2.14)	(2.53)	(3.85)	(3.38)	(3.95)
$lnsize_{i,t-1}$	**-0.012**	**-0.023**	**-0.025**	**-0.025**	**-0.026**	**-0.028**
	(-2.63)	(-7.78)	(-7.90)	(-5.35)	(-5.65)	(-5.95)
NASDAQ dummy	**-0.032**	-0.004	-0.007	0.004	-0.008	-0.012
	(-2.48)	(-0.42)	(-0.78)	(-0.31)	(-0.72)	(-0.94)
Industry FE	yes	yes	yes		yes	yes
Time FE		yes	yes			
M/Bi,t-1			0			**-0.001**
			(0.43)			(2.43)
Constant	**0.167**	**-0.853**	**-0.859**	**0.358**	**0.425**	**0.442**
	(4.05)	(23.18)	(23.95)	(7.95)	(3.69)	(3.79)
R-squared	0.06	0.22	0.25	0.04	0.12	0.14
Observations	143,532	143,532	118,370	143,532	143,532	118,370
Number of months				111	111	111

(continued)

Table V – *Continued*

	Panel A: Panel Regression						Panel B: Fama-MacBeth					
	Part II: 1990-1994			Part III: 1995-1999			Part II: 1990-1994			Part III: 1995-1999		
	(1)	(2)	(3)	(1)	(2)	(3)	(4)	(5)	(6)	(4)	(5)	(6)
G	0.001	0	-0.001	**-0.008**	**-0.004**	-0.004	0	-0.001	-0.002	**-0.005**	**-0.005**	**-0.005**
	(1.14)	(0.32)	(-0.34)	(-3.20)	(-2.11)	(-1.51)	(0.23)	(-0.74)	(-1.04)	(-4.07)	(-3.52)	(-3.12)
$is_{i,t-1}$	**0.396**	**0.08**	**0.077**	**0.04**	**0.016**	**0.02**	**0.055**	**0.05**	**0.052**	**0.031**	**0.026**	**0.026**
	(12.41)	(7.26)	(6.87)	(5.09)	(2.59)	(2.87)	(8.12)	(7.89)	(8.31)	(4.48)	(4.24)	(3.76)
$iv_{i,t-1}$	**5.617**	**2.234**	**2.32**	**3.716**	**2.201**	**2.832**	**-1.883**	**-1.771**	**-2.093**	**3.748**	**3.145**	**3.832**
	(7.84)	(8.69)	(8.65)	(4.74)	(5.46)	(4.09)	(2.42)	(2.56)	(2.75)	(7.07)	(6.48)	(5.68)
$mom_{i,t-1}$	**-1.321**	**-0.524**	**-0.545**	**-0.548**	**-0.54**	**-0.578**	**-0.473**	**-0.573**	**-0.646**	**-0.778**	**-0.808**	**-0.817**
	(-8.01)	(-8.61)	(-8.46)	(-6.43)	(-6.33)	(-6.03)	(-5.89)	(-7.54)	(-8.08)	(-8.08)	(-9.61)	(-8.65)
$turn_{i,t-1}$	**0**	0	0	**0**	**0**	**0**	0	0	0	**0**	**0**	**0**
	(2.22)	(0.08)	(0.04)	(2.28)	(4.16)	(5.06)	(1.25)	(0.86)	(0.96)	(4.19)	(3.98)	(4.82)
$lnsize_{i,t-1}$	**0.052**	0.003	0.001	**-0.028**	**-0.048**	**-0.055**	-0.007	-0.006	-0.008	**-0.041**	**-0.043**	**-0.045**
	(10.87)	(1.02)	(0.47)	(-6.65)	(-13.59)	(-14.68)	(-0.87)	(-0.74)	(-1.12)	(-9.40)	(-9.53)	(-8.32)
NASDAQ dummy	-0.032	**-0.07**	**-0.071**	**0.064**	**0.027**	**0.029**	**-0.05**	**-0.058**	**-0.055**	**0.05**	**0.034**	0.025
	(-1.58)	(-3.68)	(-3.99)	(4.40)	(2.25)	(2.42)	(-3.24)	(-4.13)	(-3.93)	(2.87)	(2.05)	(1.36)
Industry FE	yes	yes	yes	yes	yes	yes		yes	yes		yes	yes
Time FE		yes	yes		yes	yes						
M/Bi,t-1			0			0			-0.001			0
			(1.05)			(0.42)			(1.17)			(0.42)
Constant	**-0.172**	**-0.984**	**-0.993**	**0.147**	0.12	0.121	**0.539**	**0.616**	**0.644**	**0.205**	0.263	0.271
	(-3.52)	(-25.02)	(-26.29)	(2.76)	(1.92)	(1.41)	(7.79)	(5.79)	(5.93)	(3.94)	(1.38)	(1.40)
R-squared	0.14	0.33	0.34	0.01	0.08	0.08	0.05	0.13	0.14	0.03	0.11	0.14
Observations	63,171	63,171	58,314	80,361	80,361	60,056	63,171	63,171	58,314	80,361	80,361	60,056
Number of months							51	51	51	60	60	60

Table VI
Regressions of Idiosyncratic Skewness on Dictators and Democrats

The table reports estimates of coefficients of the firm-level regression

$$is_{i,t} = a_0 + a_1 GD + a_2 is_{i,t-1} + a_3 iv_{i,t-1} + a_4 mom_{i,t-1} + a_5 turn_{i,t-1} + a_6 lnsize_{i,t-1} + a_7 NASDAQ$$

Control variables are defined as in Table I. *GD* is a dummy variable that is coded one if G is higher than or equal to 13 and zero if the governance index is less than or equal to 6. Intermediate companies (6<G<13) are excluded from the analysis. Part I covers the entire sample period from September 1990 to December 1999, whereas Part II and III distinguish the sample into two sub-samples: the first sub-sample covers the months September 1990 to December 1994 (Part II), the second estimates coefficients based on the time span January 1995 to December 1999 (Part III). Panel A reports the coefficients of the monthly time-series cross-sectional regression with industry fixed effects. Panel B reports the coefficients of the monthly Fama-MacBeth cross-sectional regressions. The sample period is September 1990 to December 1999. Industry effects are modeled via the two-digit SIC codes. Robust t-statistics (Panel A) and Fama-MacBeth t-statistics (Panel B) are in parentheses. Coefficients significant at the 5% level are boldface.

	Panel A: Panel Regression			Panel B: Fama-MacBeth		
	Part I: 1990-1999			Part I: 1990-1999		
	(1)	(2)	(3)	(4)	(5)	(6)
GD	**-0.023**	**-0.028**	-0.018	**-0.028**	**-0.026**	**-0.029**
	(-2.88)	(-3.14)	(-1.84)	(-2.73)	(-2.32)	(-2.37)
$is_{i,t-1}$	**0.256**	**0.042**	**0.053**	**0.041**	**0.041**	**0.041**
	(10.92)	(4.68)	(6.59)	(5.78)	(5.45)	(4.84)
$iv_{i,t-1}$	**2.391**	**1.855**	**2.087**	1.033	0.653	0.711
	(4.53)	(7.71)	(6.85)	(-1.52)	(-0.88)	(-0.84)
$mom_{i,t-1}$	**-1.251**	**-0.575**	**-0.712**	**-0.71**	**-0.827**	**-0.845**
	(-6.65)	(-5.69)	(-7.42)	(-8.58)	(-10.25)	(-9.22)
$turn_{i,t-1}$	0	0	0	**0**	**0**	**0**
	(1.63)	(1.28)	(1.46)	(2.88)	(2.47)	(2.84)
$lnsize_{i,t-1}$	**-0.024**	**-0.026**	**-0.031**	**-0.024**	**-0.027**	**-0.032**
	(4.48)	(5.56)	(6.29)	(4.33)	(4.94)	(5.25)
NASDAQ Dummy	-0.015	-0.002	-0.017	0.007	-0.004	-0.018
	(-1.08)	(-0.13)	(-1.09)	(-0.43)	(-0.26)	(-1.50)
Industry FE	yes	yes	yes		yes	yes
Time FE		yes	yes			
M/Bi,t-1			0			**-0.003**
			-0.46			(-2.07)
Constant	**0.286**	**0.21**	0.091	**0.333**	**0.39**	**0.571**
	(6.13)	(2.87)	(0.78)	(6.16)	(2.63)	(4.37)
R-squared	0.06	0.21	0.24	0.05	0.21	0.23
Observations	46,264	46,264	38,279	46,264	46,264	38,279
Number of months				111	111	111

(continued)

Table VI – *Continued*

	Panel A: Panel Regression						Panel B: Fama-MacBeth					
	Part II: 1990-1994			Part III: 1995-1999			Part I: 1990-1994			Part III: 1995-1999		
	(1)	(2)	(3)	(1)	(2)	(3)	(4)	(5)	(6)	(4)	(5)	(6)
GD	0.017	0.01	0.01	**-0.076**	**-0.053**	-0.042	0.003	0.001	-0.003	**-0.055**	**-0.048**	**-0.051**
	(-1.51)	(-0.68)	(-0.61)	(-3.19)	(-2.39)	(-1.53)	(0.19)	(0.04)	(-0.16)	(-4.25)	(-3.37)	(-3.09)
$is_{i,t-1}$	**0.4**	**0.078**	**0.08**	**0.029**	0.01	**0.02**	**0.051**	**0.055**	**0.059**	**0.032**	**0.029**	**0.026**
	(13.77)	(6.68)	(6.85)	(3.08)	(0.82)	(2.36)	(5.48)	(5.54)	(5.66)	(3.12)	(2.66)	(2.02)
$iv_{i,t-1}$	**3.485**	**1.986**	**1.85**	**4.826**	**2.143**	**2.765**	**-2.269**	**-2.422**	**-2.891**	**3.84**	**3.267**	**3.773**
	(3.77)	(6.07)	(5.44)	(7.56)	(5.11)	(3.88)	(-2.15)	(-2.27)	(-2.47)	(5.40)	(3.62)	(3.53)
$mom_{i,t-1}$	**-1.674**	**-0.664**	**-0.673**	**-0.43**	**-0.457**	**-0.648**	**-0.588**	**-0.748**	**-0.81**	**-0.815**	**-0.895**	**-0.875**
	(-7.28)	(-6.88)	(-5.80)	(-4.03)	(-2.96)	(-4.69)	(-5.60)	(-6.36)	(-6.03)	(-6.58)	(-8.06)	(-6.92)
$turn_{i,t-1}$	0	0	0	0	0	0	0	0	0	**0**	**0**	**0**
	(1.04)	(0.91)	(1.04)	(0.84)	(1.71)	(1.86)	(1.63)	(1.61)	(1.77)	(2.79)	(2.18)	(2.58)
$lnsize_{i,t-1}$	**0.028**	**-0.013**	**-0.016**	**-0.023**	**-0.04**	**-0.047**	-0.014	-0.017	**-0.02**	**-0.033**	**-0.035**	**-0.042**
	(3.35)	(-2.49)	(-3.14)	(-4.28)	(-7.64)	(-8.07)	(-1.46)	(-1.92)	(-2.16)	(-5.15)	(-5.37)	(-5.31)
NASDAQ	-0.031	**-0.069**	**-0.077**	**0.054**	0.03	0.024	**-0.054**	**-0.052**	**-0.052**	**0.059**	0.037	0.01
	(-1.26)	(-2.61)	(-3.27)	(2.07)	(1.25)	(1.03)	(-2.68)	(-2.59)	(-2.46)	(2.57)	(1.54)	(0.37)
Industry FE	yes	yes	yes	yes	yes	yes		yes	yes		yes	yes
Time FE		yes	yes		yes	yes						
M/Bi,t-1			0			0			-0.001			**-0.004**
			(0.65)			(0.18)			(-0.73)			(-2.07)
Constant	**0.045**	**-0.871**	**1.092**	0.051	0.039	0.075	**0.578**	**0.663**	**0.811**	0.124	0.157	0.368
	(0.62)	(-16.95)	(17.40)	(1.15)	(0.48)	(1.05)	(7.67)	(2.84)	(4.84)	(1.88)	(0.84)	(1.91)
R-squared	0.14	0.32	0.33	0.01	0.07	0.07	0.06	0.22	0.23	0.04	0.2	0.24
Observations	20,182	20,182	18,588	26,082	26,082	19,691	20,182	20,182	18,588	26,082	26,082	19,691
Number of months							51	51	51	60	60	60

Table VII
Regressions of Idiosyncratic Skewness on Entrenchment Index

The table reports estimates of coefficients of the firm-level regression

$$is_{i,t} = a_0 + a_1 E + a_2 is_{i,t-1} + a_3 iv_{i,t-1} + a_4 mom_{i,t-1} + a_5 turn_{i,t-1} + a_6 lnsize_{i,t-1} + a_7 NASDAQ$$

Control variables are defined as in Table I. *E* is the entrenchment index by Bebchuk et al. (2009) and is based on six of the original 24 provisions of the governance index G. Panel A reports the coefficients of the industry fixed effect panel regressions. Panel B reports the coefficients of the monthly Fama-MacBeth cross-sectional regressions. Robust t-statistics (Panel A) and Fama-MacBeth t-statistics (Panel B) are in parentheses. The sample period covers September 1990 to December 1999. Coefficients significant at the 5% level are boldface.

	Panel A: Panel Regressions			Panel B: Fama-MacBeth		
	(1)	(2)	(3)	(4)	(5)	(6)
E	**-0.005**	**-0.007**	**-0.007**	**-0.008**	**-0.007**	**-0.007**
	(-3.27)	(-5.39)	(-4.59)	(-3.31)	(-3.28)	(-3.10)
$is_{i,t-1}$	**0.252**	**0.043**	**0.05**	**0.042**	**0.037**	**0.038**
	(10.61)	(7.86)	(7.42)	(8.44)	(8.16)	(7.79)
$iv_{i,t-1}$	**4.426**	**2.273**	**2.521**	**1.144**	0.87	1.091
	(7.82)	(12.59)	(10.20)	(2.17)	(1.85)	(1.90)
$mom_{i,t-1}$	**-1.071**	**-0.536**	**-0.591**	**-0.639**	**-0.701**	**-0.736**
	(-8.14)	(-12.08)	(-10.16)	(-9.73)	(-11.94)	(-11.59)
$turnover_{i,t-1}$	**0**	**0**	**0**	**0**	**0**	**0**
	(2.20)	(2.02)	(2.41)	(3.76)	(3.29)	(3.88)
$lnsize_{i,t-1}$	**-0.013**	**-0.024**	**-0.026**	**-0.026**	**-0.027**	**-0.029**
	(-2.82)	(-8.04)	(-8.18)	(-5.54)	(-5.81)	(-6.09)
NASDAQ dummy	**-0.03**	-0.003	-0.007	0.005	-0.007	-0.01
	(-2.36)	(-0.28)	(-0.69)	(-0.41)	(-0.59)	(-0.77)
Industry FE	yes	yes	yes		yes	yes
Time FE		yes	yes			
M/Bi,t-1			0			**-0.001**
			(0.45)			(-2.37)
Constant	**0.159**	**-0.859**	**-0.862**	**0.355**	**0.422**	**0.434**
	(3.71)	(-23.65)	(-24.49)	(7.95)	(3.68)	(3.75)
overall R-squared	0.06	0.22	0.25	0.04	0.12	0.14
Observations	143,338	143,338	118,199	143,338	143,338	118,199
Number of months				111	111	111

Table VIII

Frequencies of Extreme Daily Residuals

The table reports frequencies of extreme negative and positive daily residuals. The threshold is determined by the bottom/top 1%, 5%, and 10% of the residual distribution of the entire sample. For each extreme portfolio (Dictators and Democrats) the frequency of observing a residual that exceeds the given threshold is calculated by dividing the number of residual observations that lie beyond the threshold through the total number of residual observations the given extreme portfolio exhibits. Panel A reports the results using the governance index G. Extreme portfolios are classified as Dictators (G≥13) and Democrats (G≤6). Panel B reports the results using the entrenchment index E. Extreme portfolios are classified as Dictators (E≥5) and Democrats (E=0). The z-test is used to test the null hypothesis that the frequencies of extreme daily residuals between the Dictators and Democrats are equal. Z-statistics are in parentheses. Differences significant at the 5% level are boldface.

Percentile	bottom 1%	bottom 5%	bottom 10%	top 1%	top 5%	top 10%
Threshold: Residual	≤ -7.18%	≤ -3.48%	≤ -2.38%	≥ 7.90%	≥ 3.65%	≥ 2.38%
Panel A: Governance index G						
Dictators (G≥13)	0.54%	3.57%	8.11%	0.61%	3.71%	8.45%
Demorats (G≤6)	1.42%	6.60%	12.14%	1.56%	6.60%	12.03%
Difference	**-0.88%**	**-3.03%**	**-4.03%**	**-0.95%**	**-2.88%**	**-3.57%**
z-statistic	(-43.21)	(-67.45)	(-65.98)	(-44.22)	(-63.85)	(-58.30)
Panel B: Entrenchment index E						
Dictators (E≥5)	0.71%	3.97%	8.34%	0.77%	3.98%	8.59%
Democrats (E=0)	1.17%	5.76%	11.06%	1.28%	5.85%	11.08%
Difference	**-0.46%**	**-1.78%**	**-2.72%**	**-0.50%**	**-1.86%**	**-2.50%**
z-statistic	(-14.43)	(-25.40)	(-28.52)	(-15.11)	(-26.41)	(-26.04)