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Abstract

We investigate Gompers, Ishii, and Metrick's (2003) finding that firms with weak shareholder rights exhibit significant stock market underperformance. If the relation between poor governance and poor returns is causal, we expect that the market is negatively surprised by the poor operating performance of weak governance firms. We find that firms with weak shareholder rights exhibit significant operating underperformance. However, analysts' forecast errors and earnings announcement returns show no evidence that this underperformance surprises the market. Our results are robust to controls for takeover activity. Overall, our results do not support the hypothesis that weak governance causes poor stock returns.

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Does Weak Governance Cause Weak Stock Returns? An Examination of Firm Operating Performance and Investors' Expectations

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ABSTRACT

We investigate Gompers, Ishii, and Metrick's (2003) finding that firms with weak shareholder rights exhibit significant stock market underperformance. If the relation between poor governance and poor returns is causal, we expect that the market is negatively surprised by the poor operating performance of weak governance firms. We find that firms with weak shareholder rights exhibit significant operating underperformance. However, analysts' forecast errors and earnings announcement returns show no evidence that this underperformance surprises the market. Our results are robust to controls for takeover activity. Overall, our results do not support the hypothesis that weak governance causes poor stock returns.

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Whether corporate governance affects firm performance is a matter of much study and debate. In an important and widely cited recent paper, Gompers, Ishii and Metrick (GIM, 2003) find for the period 1990 to 1999 that firms with strong shareholder rights have risk-adjusted stock returns that are 8.5% higher per year than those of firms with weak shareholder rights. A puzzling feature of the paper is that the authors find persistent stock market underperformance for firms with weak shareholder rights, but they do not find significant underperformance in firm operating performance, which they measure with accounting return on equity.[1] This lack of operating underperformance is surprising given the magnitude of the underperformance in stock returns. It is also surprising in that although one might expect poor operating performance in badly governed firms, in an efficient market one expects no relation between governance and future stock returns (Core, Holthausen, and Larcker (1999)).

GIM conclude that there are two potential explanations for the association between stock returns and governance.[2] The first explanation is that poor governance causes agency costs (e.g., managerial shirking, overinvestment, and perquisite consumption), and that these costs were underestimated by investors in 1990. As emphasized by GIM, the causal explanation requires that investors do not fully anticipate the extent of the agency costs caused by weak shareholder rights. Subsequent to the realization of the agency costs, investors lower their expectations about poorly governed firms' future cash flows, which results in stock price declines. If investor misunderstanding of corporate governance causes differences in stock returns, one should find

[1] They do find evidence that firms with weak governance have lower sales growth and lower profits as a percent of sales. These measures, however, can reflect differences in firms' life cycles, product mixes, and financing choices, and thus are not necessarily indicative of differences in overall operating performance. For example, low profits as a percent of sales will lead to a large return on equity for a firm that has high sales relative to invested capital, and sales growth is only valuable when it is profitable (see Palepu, Healy, and Bernard (2000) pages 9-4 to 9-5 and pages 12-6 to 12-7).

[2] GIM use the general term "governance" when they refer to shareholder rights, even though shareholder rights are only a subset of corporate governance mechanisms. Our paper examines the relation between shareholder rights and stock returns in order to provide a general framework for investigating the relation between governance and stock returns. When we describe this more general relation, we follow GIM and use the term governance.

that the market is surprised by one or both of the following sources of cash flows to investors: (1) higher (lower) than expected operating performance by the good (bad) governance firms, and/or (2) higher (lower) than expected takeover probability of the good (bad) governance firms. The alternative to the causal explanation is that governance is associated with risk or other factors that happened to drive stock returns during the 1990s. In this case, governance does not cause stock returns and there need not be any relation between shareholder rights and future cash flows.[3] Our objective is to distinguish between these two competing explanations.

As a preliminary step, we test for an association between governance and operating performance by examining operating return on assets, a more powerful measure of operating performance suggested by Barber and Lyon (1996). We follow GIM and measure governance using their index of shareholder rights, the "G-index"). The G-index sums restrictions on shareholder rights. A higher G-index is assumed to mean weaker shareholder rights and lower governance quality. We find that the G-index has a significant negative association with future operating performance. This result complements evidence in GIM and Fahlenbrach (2003) that firms with higher G-indices have greater agency costs.

To determine whether the stock market underperformance of high G-index firms is caused by investor surprise about the poor operating performance of weak governance firms, we examine whether investors were surprised by this difference in operating performance. We conduct two complementary tests: (1) an analysis of the relation between analyst forecast errors and governance, and (2) an analysis of the relation between earnings announcement returns and governance. Both tests are based on the idea that if investors do not understand the implications of governance for future operating cash flows, they will be surprised when the realized earnings

[3] GIM also propose a third explanation: Governance provisions do not cause agency costs, but are put in place by managers who forecast low performance. They reject this explanation for lack of evidence.

of weak (strong) governance firms are low (high) relative to their earnings forecasts. The forecast error test assumes that analysts' forecasts proxy for investors' forecasts, and allows for the possibility that investors may learn about the differential operating performance at any time between the forecast and the earnings announcement. If analysts are overly optimistic about the prospects of high G-index firms, we expect actual earnings to be low (high) relative to forecasted earnings when corporate governance is weak (strong). Over forecast horizons varying in length from one quarter to five years, we find that analysts anticipate the poor performance of high G-index firms. As a potentially more direct test of whether investors are surprised by the performance effects of governance, we examine whether stock returns around earnings announcements for good governance firms are significantly higher than for weak governance firms. For return windows of varying lengths around earnings announcements, we do not find this hypothesized relation. Further, we show that the forecast error and announcement return results hold for the abnormal stock returns recently documented by Cremers and Nair (2003) for firms with a combination of strong shareholder rights and high institutional ownership. All of our results are robust to alternative specifications that control for differences in mergers and acquisitions (which, because of financial accounting rules during our sample period, could cause stock returns without differences in operating performance) and differences in capital expenditures (which could cause returns but affect earnings beyond observable analyst forecast horizons).

The second explanation consistent with a causal relation between governance and returns is that weak (strong) governance firms have greater (lower) takeover protection, and that their stock returns could change when investors are surprised by the diminished (increased) probability of receiving a takeover premium. If this explanation is correct, returns could be lower

for weak governance firms even if investors are not surprised by these firms' lower operating performance. However, inconsistent with this explanation, we observe that the takeover frequency of weak governance firms increases over the 1990s, and that weak governance firms are taken over at about the same rate as strong governance firms. Also, consistent with Cremers and Nair (2003), we find that the return differences are not sensitive to excluding firms that were taken over. Overall, we find no evidence consistent with the hypothesis that governance causes unexpected cash flows that cause future abnormal stock returns.

Because our evidence is not consistent with a causal relation between governance and returns, we examine the possibility that the return differences result from a time period-specific irregularity that is correlated with governance. GIM (p. 131) also note this alternative explanation. We examine accounting returns, forecast errors, and stock returns in the four years (2000 to 2003) following the GIM sample period. Weak governance firms continue to have lower operating performance during this period, but investors and analysts continue to forecast this difference. Further, we find that the value weighted raw stock returns on the hedge portfolio, which is long in firms with strong shareholder rights and short in firms with weak shareholder rights, exhibit a reversal during 2000 to 2003; that is, high G-index firms outperform low G-index firms. However, this effect is substantially dampened when controlling for the four risk factors. Finally, we show that the differential returns in the original sample period are sensitive to the exclusion of technology firms. These results raise the possibility that at least some of the abnormal returns to shareholder rights are part of the larger new economy pricing puzzle of the (late) 1990s.

The remainder of the paper is organized as follows. In Section I, we describe our hypotheses. We describe the data in Section II. In Section III, we present the results of our

empirical investigation of the hypothesis that governance causes stock returns, and in Section IV, we present evidence on risk and other explanations for the return difference. We conclude in Section V.

I. Hypothesis Development

A. Shareholder Rights and Operating Performance

As noted by GIM, shareholder rights can have both negative and positive effects on a firm's operating performance, with the net effect being an empirical question. On the one hand, weak shareholder rights can inhibit the removal of incompetent management. Moreover, reduced capital market scrutiny might induce otherwise competent managers to engage in value reducing activities such as shirking, perquisite consumption, and empire building. On the other hand, an optimal contract may involve shareholders committing not to replace the manager by adopting restrictions on their rights. Weak shareholder rights could enhance performance by shielding managers from the consequences of lower-tail outcomes of good projects, thereby encouraging managers to behave in a less risk-averse manner. Similarly, takeover deterrents can be optimal because they reduce managerial "myopia," that is, the need to signal quality by boosting short-term performance at the expense of long-term value (Stein (1988)). Also, strong shareholder rights might encourage managers to invest (suboptimally) in areas in which they have specific expertise in order to make it harder to replace them. Weak shareholder rights might then give managers enough job security so that they will not overinvest in these types of projects (Shleifer and Vishny (1989)). GIM find mixed evidence on this question, but conclude overall that firms with weak shareholder rights have higher agency costs and lower operating performance. We reexamine this hypothesis, and state it in null form as follows

HYPOTHESIS 1: *Shareholder rights are not associated with future operating performance.*

B. Tests of Investors' Expectations about the Performance Implications of Shareholder Rights

As discussed above, one explanation for the documented stockmarket underperformance of firms with high G-indices is that investors were surprised by the operating performance of weak governance firms. In this case, however, it is not sufficient to find differences in operating performance. It is also important to find evidence that the differences in operating performance were unexpected by investors.

We use two complementary tests of whether investors are surprised by operating performance: Analyst forecast errors and earnings announcement returns. As discussed above, if investors do not understand the implications of governance for operating performance, they will be surprised by actual earnings that are low (high) relative to their forecasts of earnings when corporate governance is weak (strong). Our two tests differ primarily with respect to assumptions about when investors learn that actual earnings will be different from their forecasts: (1) at some time between the analysts' forecasts and the earnings announcements (forecast error tests); or, (2) at the earnings announcements (earnings announcement return tests).

In our forecast error tests, we use sell-side analysts' earnings forecasts as a proxy for investors' expectations to test whether investors fail to anticipate future differences in operating performance between firms with strong and weak shareholder rights. We expect that investors' expectations about future earnings that are impounded in stock prices are at least as sophisticated as the expectations of analysts. Analysts' forecasts have been shown to be both more accurate than time-series models (e.g., O'Brien (1988)), and a better proxy for the market's expectations of earnings than time-series models (e.g., Brown, Griffin, Hagerman, and Zmijewski (1987)).

The prior literature uses analysts' forecast errors as a proxy for investors' earnings expectations to distinguish between stock returns that are anomalous due to market mispricing (e.g., the market has biased expectations about future earnings) and stock returns that are due to differences in expected returns. For example, Abarbanell and Bernard (1992), Bradshaw, Richardson, and Sloan (2001), and Teoh and Wong (2002) find patterns in analysts' forecast errors that are consistent with anomalous patterns in returns. These findings of negative (positive) returns following optimistic (pessimistic) forecast errors suggest that the market did not correctly understand the implications of current information for future performance, and favor a causal explanation for the anomalies studied. In contrast, Doukas, Kim, and Pantzalis (2002) find that value firms do not have more pessimistic forecast errors than growth firms, and interpret their results as providing no support for the hypothesis that the higher stock returns of value firms are caused by investors underestimating the future earnings of these firms.

We note three potential concerns about forecast error tests. First, analyst forecasts can be noisy or stale. Second, while mergers and acquisitions can influence stock returns, accounting for these transactions can mask earnings differences. Third, long-term capital expenditures can influence current stock returns, but can take longer than five years to appear in earnings – five years is the longest available horizon for analysts' forecasts. We address the first concern by complementing the forecast error tests with earnings announcement return tests; we address the two latter concerns below with sensitivity tests.

If future return differences are caused by unexpected operating performance, firms with weak shareholder rights will have relatively more optimistic earnings forecasts than firms with strong shareholder rights. In other words, we expect actual earnings to be low (high) relative to forecasted earnings when corporate governance is weak (strong). In this case, we would

conclude that poor governance is the root cause of the anomalous stock returns documented by GIM. In contrast, if analysts understand the relation between shareholder rights and operating performance, we do not expect to see any relation between shareholder rights and forecast errors.

The effect of a firm's governance structure in general, and shareholder rights in particular, can show up in short-term profits, long-term profits, or both. Ex ante it is not clear at which horizon systematic errors in expectations are most likely to occur, largely because it is not known when the effect on performance is fully incorporated in the expectations. Rather than arbitrarily picking a forecast horizon, we examine forecasts of annual earnings per share one quarter ahead, one year ahead, and two years ahead, as well as forecasts of long-term growth in earnings per share. The hypothesis, stated in null form, is

HYPOTHESIS 2: *Shareholder rights are not associated with analyst forecast errors.*

Our alternative method of examining whether the market is surprised by unexpected operating performance is to examine returns around earnings announcements (e.g., Bernard and Thomas (1990), Bernard, Thomas, and Wahlen (1997), La Porta, Lakonishok, Shleifer, and Vishny (1997)). An advantage of this method is that it does not rely on analysts' expectations of earnings, which can be noisy and untimely. Instead, we use the market's expectation directly as it is incorporated in the stock price before the announcement. However, a potential shortcoming of this method is that investor surprise about the effect of shareholder rights on operating performance does not necessarily occur in the short period of time around the earnings announcement. To the extent that investors learn about the importance of governance between earnings announcements, the earnings announcement period reflects only part of investor surprise.

As above, if future return differences are caused by unexpected operating performance, investors' forecasts of earnings will be high (low) relative to actual earnings when corporate governance is weak (strong). When the market is negatively (positively) surprised at the earnings announcement, returns will be negative (positive) for the weak (strong) governance firms. In this case, we would conclude that poor governance is the root cause of the anomalous stock returns documented by GIM. In contrast, if the market understands the relation between shareholder rights and operating performance, we do not expect to see any relation between shareholder rights and announcement returns. Our hypothesis, stated in null form, is

HYPOTHESIS 3: *Shareholder rights are not associated with excess returns around earnings announcements.*

C. Shareholder Rights and Takeover Probability

Firms with weak (strong) shareholder rights have more (fewer) takeover defenses in place, and this may result in lower (higher) takeover probability. Therefore, an alternative explanation for the observed poor stock returns for weak governance firms is that investors were not surprised by poor operating performance, but were instead surprised by a realized lower probability of receiving a takeover premium. GIM (p. 143) note this possibility:

> One could argue that investors had rational expectations about the costs and benefits of takeover defenses, where the expected costs are more severe agency problems and the expected benefits are higher takeover premiums. Then, when the hostile takeover market largely evaporated in the early 1990s – perhaps because of macroeconomic conditions unrelated to takeover defenses – Dictatorship firms were left with all of the costs and none of the benefits of their defenses.

GIM provide the following argument that changes in the assessed takeover probability cannot explain all of the return difference: Suppose that takeover premiums are 30%, and in 1990 investors assessed a 30% probability that Dictatorships would be taken over. If investors re-assessed a zero takeover probability for Dictatorships, their returns would fall by 9%, or roughly

one year of the 9.2% ten-year average return difference. Thus, even if assessed changes in takeover probability were very large for the firms with weak shareholder rights, it seems that this probability reassessment would only partially explain the return difference. For purposes of testing this conjecture, we cannot observe the expected takeover probabilities in 1990. We instead examine whether observed takeover probabilities between the firms are different during the 1990s, that is, we test the null hypothesis

HYPOTHESIS 4: *Shareholder rights are not associated with takeover probability.*

II. Data and Descriptive Statistics

The initial sample consists of all firms that have a G-index, and is the sample from GIM. GIM construct the G-index based on the Investor Responsibility Research Center (IRRC) surveys of investor rights and takeover protection. A firm's G-index is equal to the number of provisions restricting shareholder rights that the firm has. Restrictions can arise from either state law or charter provisions. There are 24 provisions. Some common examples include: poison pills, classified boards, supermajority requirements, and golden parachutes. During the 1990s, IRRC released four editions (1990, 1993, 1995, and 1998) of these surveys of shareholder rights and takeover defenses. As described in GIM, the IRRC universe contains large companies from the S&P 500 and from annual lists of the largest corporations by Fortune, Forbes, and BusinessWeek. The IRRC expanded the sample in 1998 to include smaller firms and firms with high levels of institutional ownership.

Since the IRRC surveys are not issued every year, we follow GIM and use each year of IRRC data to classify multiple years. For example, the G-index of 1990 is used for all time periods after publication of the 1990 edition until the G-index of the 1993 edition became

available, and so on. This considerably enlarges the sample, since there is no need to skip years. This does introduce noise in the measurement of the G-index, but given the relative stability of G-index over time, GIM claim that the noise is likely to be relatively minor. For our tests of operating performance and forecast errors, we require that the sample firms have accounting data, stock return data, and analyst forecast data available. We match the G-index to stock return data obtained from the Center for Research in Security Prices (CRSP) for 12,584 firm-years. Similar to GIM, we obtain accounting data from Compustat. Missing Compustat data reduces the sample by 1,266 observations to 10,649 firm-years. We obtain analysts' consensus forecasts from I/B/E/S, and missing I/B/E/S data reduces the sample by another 732 observations, to 9,917 firm-years.

Descriptive statistics are shown in Table I, Panel A. First, G-index shows a considerable amount of cross-sectional variation. The lowest score is two, denoting a firm with only two restrictions on shareholder rights. The firm with the most restrictions has 17 such provisions. The sample is fairly equally distributed over the G-index portfolios. The firms in the sample are quite large with mean (median) total assets of about $9 billion ($1.75 billion). The sample firms are generally more profitable than other firms in their industry, as shown by their positive mean and median industry-adjusted operating performance. We use operating return on assets (ROA) as our measure of operating performance (described in greater detail in Section III.A). Following GIM, we industry-adjust ROA by subtracting the ROA of the median firm in the corresponding Fama-French (1997) industry. The median is computed using the full sample of firms that have both CRSP and Compustat data.[4] Descriptive statistics on analysts' forecasts indicate that the firms underperform the analysts' average annual, two-year, and long-term forecasts. However,

[4] Results are very similar if we instead compute the median using only the subset of firms that have sufficient data on Compustat and I/B/E/S to compute *all* the variables that are required of the sample firms.

there is little median bias in these forecasts. Our finding of an optimistic bias in the mean forecast, but not in the median, is consistent with the findings of the prior literature (for a summary, see Basu and Markov (2004)).

[Insert Table I here]

Panel B of Table I provides Pearson correlations between the G-index and firm characteristics. Following GIM, we separately analyze the extreme portfolios in our tests. Using GIM's terminology, we refer to the portfolio with the strongest shareholder rights ($G \leq 5$) as the "Democracy" portfolio, and refer to the portfolio with the weakest shareholder rights ($G \geq 14$) as the "Dictatorship" portfolio. Panel B also contains the mean and standard deviation of each variable for both the Democracy firms and the Dictatorship firms, and the mean difference between the two groups. To ensure that our inference is unaffected by cross-sectional dependence and serial correlation, we follow Fama and MacBeth (1973) and GIM and estimate the correlations and mean differences by year. We report *t*-statistics based on the standard errors of these annual parameter estimates, after adjusting for serial correlation using the Newey-West (1987) procedure with one lag.[5] From the table it can be seen that the firms with strong shareholder rights tend to be smaller, more highly valued, and more profitable than firms with weak shareholder rights. Firms with strong shareholder rights have on average fewer analysts, and these analysts issue more optimistic and more dispersed forecasts.

In Table II, we replicate the GIM return results and show that the return results hold for our subsample of the GIM data. In the first panel, we show the results from GIM's Table VI, where a value-weighted portfolio that takes a long position in the Democracy firms and a short

[5] Because we only have nine time-series observations to estimate the autocorrelation, we limit the number of lags to one, both here in Table I, and later in Tables III, IV, and V, where we also use the Newey-West procedure. If we increase the number of lags up to six lags, the standard errors generally become slightly smaller. This occurs because the higher-order correlations are typically negative. The inferences in these four tables, however, are unaffected.

position in the Dictatorship firms earns an excess return of 71 basis points per month from 1990 to 1999. The second panel shows that we replicate these results quite closely in our sample before any data restrictions beyond those in GIM. In the third panel, we restrict the sample to firm-years for which Compustat and I/B/E/S data are available, and include each firm's return starting the first month of its fiscal year and ending six months after its fiscal year-end. While the returns for this subsample are slightly smaller than the original results, they are significant and statistically indistinguishable from GIM's results.[6]

[Insert Table II here]

III. Empirical Results: Do Shareholder Rights Cause Returns?

A. Operating Performance

To assess the effect of shareholder rights on firm performance, we regress measures of future operating performance (measured at time *t*) on G-index and control variables (measured at time *t-1*). The model we use for the tests is

$$\textit{Industry-adjusted } ROA_{it} = \alpha + \beta_1 \textit{G-index}_{i,\,t-1} + \beta_2 \textit{logMVE}_{i,\,t-1} + \beta_3 \textit{logBME}_{i,\,t-1}. \qquad (1a)$$

We interpret a significantly positive or negative estimate of β_1 as evidence of an association between the strength of shareholder rights and operating performance. To establish a stronger causal link, we would ideally conduct tests of the relation between changes in the G-index and subsequent changes in operating performance. However, as noted in GIM, the G-index does not change often, and as such we follow GIM and use a levels approach.

[6] The prior literature shows that it is difficult to obtain precise estimates of expected returns (e.g., Fama and French (1997)), and that recently developed accounting-based cost of capital measures are potentially less noisy than measures based on a multifactor approach (Guay, Kothari, and Shu (2003)). As a robustness check, we compute expected returns using the accounting-based cost of capital measures developed by Gebhardt, Lee, and Swaminathan (2001) and Claus and Thomas (2001). Although we find that firms with weak shareholder rights have slightly lower accounting-based cost of capital than firms with strong shareholder rights (untabulated), the effect is too small (less than 1% per year) to explain the return differential between Dictatorship and Democracy firms found in GIM.

Our measure of operating performance is operating return on assets. Operating return is a preferred measure of operating performance because it is not affected by leverage, extraordinary items, and other discretionary items (see Barber and Lyon (1996), pp. 361-364 for discussion). Return on assets also has more desirable distributional properties than the return on equity measure used by GIM (e.g., total assets are strictly positive, but equity can be zero or negative). We measure ROA as operating income divided by year-end total assets. We use two measures of operating income, namely, operating income before depreciation (Compustat data item 13) and operating income after depreciation (Compustat data item 178). Both operating income measures start with sales and subtract both costs of goods sold and selling, general, and administrative expenses. Barber and Lyon (1996) advocate operating income before depreciation because this measure is not affected by managerial discretion in depreciation policy. However, to the extent that governance affects firm performance through capital expenditure programs, depreciation expense is an important component of a firm's performance. GIM document larger capital expenditures by weak governance firms, and suggest that this difference may be overinvestment that leads to poor performance. Therefore, although we use both measures, we prefer the use of operating income after depreciation.[7]

We follow GIM and include book-to-market equity and firm size, measured as the logarithm of the market value of equity, as control variables. These variables are correlated with profitability, see, for example, Fama and French (1995), and are also correlated with shareholder rights. We recognize that these variables are not pre-determined with respect to G-index, that is, typically the components of G-index are known to the market at the time that our control variables are measured (*t-1* in our tests). Given that these control variables are correlated with

[7] A second drawback of operating income before depreciation is that it is not available for some firms, mainly in the financial services industry.

expected performance, if the market takes G-index into account in pricing the stock, then the control variables could subsume the effect of G-index. We therefore also show the results without these control variables. Following GIM, we perform tests using median regressions to reduce the influence of extreme observations.[8] Accordingly, although we have some outliers in our sample (see Table I), they do not affect the results. To ensure that our inference is unaffected by cross-sectional dependence and serial correlation, we follow Fama and MacBeth (1973) and GIM and estimate the regressions by year. We report *t*-statistics based on the standard errors of these annual coefficients, after adjusting for serial correlation using the Newey-West (1987) procedure with one lag.

We also examine operating performance differences between Democracies and Dictatorships, because these two groups are the source of the return differences documented by GIM. In these regressions, the sample is restricted to these two most extreme portfolios. The model is

$$Industry\text{-}adjusted\ ROA_{it} = \alpha + \beta_1 Dict_{i,\,t-1} + \beta_2 logMVE_{i,\,t-1} + \beta_3 logBME_{i,\,t-1}, \qquad (1b)$$

where Dict is a dichotomous variable that takes the value of one if the firm is a Dictatorship, and zero if the firm is a Democracy. If the coefficient β_1 on *Dict* is significantly negative (positive), we interpret this as evidence that weaker shareholder rights are associated with lower (higher) operating performance.[9]

The regression results are displayed in Table III. Panel A shows the results for the full sample, and Panel B shows the results for the restricted sample that compares Dictatorship firms with Democracy firms. Subpanels A1 and B1 show results using operating income after depreciation, and Subpanels A2 and B2 show results using operating income before depreciation.

[8] Our results for these and other tests are qualitatively similar when using regular OLS regressions.
[9] GIM employ a Democracy dummy, which is equal to 1 - *Dict*. We use *Dict* so that *G-index* and *Dict* are positively correlated and are larger when shareholders rights are weaker.

The first column of each subpanel shows results without controls. In Panel A, the coefficients on G-index in the absence of controls are negative but not significant. Results without controls in Panel B using the restricted sample are consistent with those in Panel A, but are somewhat stronger. The coefficients on *Dict* are negative in both subpanels and are significant in Subpanel B1 using operating income after depreciation. These results are broadly consistent with the hypothesis that weak shareholder rights are associated with poor operating performance.

[Insert Table III here]

The second and third columns of each subpanel add book-to-market equity (the specification in GIM), and book-to-market equity and market value of equity, respectively, as control variables. Now, the results for the full sample in Subpanels A1 and A2 provide strong support for the hypothesis that firms with weak shareholder rights have poorer operating performance. The results with controls in the restricted sample in Panel B are consistent with the results in Panel A, but have lower significance levels. The association between weak shareholder rights and poor operating performance is stronger in Subpanel B1 using income after depreciation than in Subpanel B2 using income before depreciation. However, as noted above, we consider income after depreciation to be a superior measure of operating performance for this application because it captures the income effects of capital expenditures. To summarize, in comparison to GIM who find no significant relation between shareholder rights and operating performance measured as ROE, we find evidence that weak shareholder rights are associated with lower operating performance measured as ROA.[10]

[10] We confirm in our sample GIM's result that there is no statistically significant relation between ROE and either *G-index* or *Dict*.

B. Analysts' Forecasts

In the prior section, we provide evidence of an association between weak investor rights and lower subsequent operating performance. Although we have not shown a causal relation, this evidence is consistent with the hypothesis that weak governance is costly to the firm because it lowers operating performance. However, to show that operating cash flow differences caused by governance cause, in turn, future stock return differences, one must establish that the differential operating performance was unexpected by investors. That is, if investors expect operating performance to be similar across firms with weak and strong shareholder rights, they will be surprised when firms with strong shareholder rights have greater operating performance, and stock returns will be greater for firms with strong shareholder rights. To investigate whether the earnings realizations surprise the investors, we examine analysts' forecast errors over one-quarter, one-year, two-year, and five-year forecasting horizons.

Forecasts of net income by sell-side analysts are the most widely available measures of expected operating performance. We use analysts' forecasts to proxy for investors' earnings expectations. To examine whether analysts understand the effect of shareholder rights on firms' earnings, we regress forecast errors on the G-index and control variables. Similar to our model for operating performance above, we use the model

$$Analysts' \ forecast \ error_{it} = \alpha + \beta_1 G\text{-}index_{i,\,t-1} + \beta_2 logMVE_{i,\,t-1} + \beta_3 logBME_{i,\,t-1}. \qquad (2a)$$

We measure the forecast error as the difference between the I/B/E/S actual annual earnings per share and the mean I/B/E/S consensus forecast of annual earnings per share, measured eight months before the earnings period being forecasted. Earnings per share is net income (income after depreciation, interest, and taxes) divided by the weighted number of shares outstanding for

the period.[11] Because the vast majority of annual reports are filed within three months after the fiscal year-end, our measurement of analysts' forecasts four months after the previous fiscal year-end ensures that analysts know prior year earnings when making forecasts. The timing of this variable is also consistent with Doukas, Kim, and Pantzalis (2002). Similarly, for two-year-ahead earnings, we measure the consensus forecast one year and eight months before the earnings period being forecasted. To control for heteroskedasticity, we deflate the forecast errors by lagged price and total assets per share, and report results for both measures. Consistent with our earlier tests, we include market value of equity and book-to-market equity as control variables. Prior research finds that these variables explain variation in forecast errors (e.g. Richardson, Teoh, and Wysocki (2004)). We obtain the same inference if we do not include these two control variables.

We obtain analysts' forecasts of long-term growth in earnings from I/B/E/S. In general, these forecasts refer to a period of five years (I/B/E/S Glossary (2000)). Consistent with Dechow, Hutton, and Sloan (2000), we use the median forecast as our measure of the consensus forecast of long-term growth in earnings. To measure actual long-term growth in earnings, we use the five-year realized growth in earnings per share provided by I/B/E/S. The computation of this annualized growth rate is described in Dechow and Sloan (1997, p. 9) and in the I/B/E/S Glossary (2000). The forecast error is the difference between actual and expected long-term growth, and because the measure is already expressed as a percentage, we do not deflate it.

[11] Recall that in the prior section, we argue that operating income (income before interest and taxes) scaled by total assets is the preferable measure to compare operating performance across firms. One reason for using this measure instead of net income is to remove the effect of interest expense so as to make income comparable across high and low leverage firms. Analysts and investors, on the other hand, use earnings per share to forecast and assess the performance of a given firm, and we use these earnings per share forecasts to assess whether the market is surprised by performance differences. Note that the ability of investors to accurately forecast the operating performance of two firms does not imply that large performance differences do not exist between the two firms. Conversely, two firms can exhibit no difference in ex post operating performance, and yet can exhibit large differences in earnings surprises, as, for example, when a historical underperformer subsequently overperforms.

We also estimate the regressions on the restricted sample using Democracies and Dictatorships only; that is,

$$Analysts' \ forecast \ error_{it} = \alpha + \beta_1 Dict_{i,\,t-1} + \beta_2 logMVE_{i,\,t-1} + \beta_3 logBME_{i,\,t-1}. \qquad (2b)$$

The variables are as defined above. If analysts are surprised by the differential operating performance of weak and strong governance firms, we expect to find negative coefficients on *G-index* and *Dict* in regressions (2a) and (2b), respectively.

We report the one-year forecast error estimates of regressions (2a) and (2b) in Table IV. The mean annual coefficients on both *G-index* and *Dict* are insignificant but positive, which is opposite to the predicted sign. In untabulated tests, we find that the results in Table IV are very similar over one-quarter and two-year analyst forecast horizons. These results suggest that analysts are aware of the negative effects of weak investor rights on operating performance. This finding is inconsistent with the hypothesis that investors misunderstand the implications of governance for performance, and that their surprise about low G-index firms' stronger operating performance is what causes excess relative stock returns for low G-index firms.[12]

[Insert Table IV here]

In Table V, we show that the one-year and two-year forecast results also hold over the long-term growth forecast horizon (i.e., five-year forecasts). As in Table IV, the mean annual coefficients on both *G-index* and *Dict* are insignificant but positive, and thus opposite to the predicted sign under the causality hypothesis. A potential concern with the long-term forecast results is that they are based on a 5,437 firm-year subsample that may not be representative of

[12] A potential concern with these tests stems from I/B/E/S' exclusion of extraordinary and special items from its calculation of net income. If the main driver of underperformance in weak governance firms is due to earnings write-offs, forecasted I/B/E/S earnings might not capture differences in performance. To address this concern, we re-run the forecast error test from Table IV, but use GAAP EPS (after extraordinary items) from Compustat instead of the I/B/E/S-reported EPS. The results of this test yield the same inference as Table IV. In addition, we note that our announcement return tests are not affected by this concern.

the return results for the larger sample. However, in untabulated tests, we confirm that the excess stock returns for this sample are qualitatively the same as those shown in Table II: The excess return to the Democracy portfolio is 74 basis points per month with a *t*-statistic of 2.54.[13]

[Insert Table V here]

It is possible that our results are influenced by Dictatorships engaging in earnings management. Recent literature suggests that managers bias earnings or guide analysts' forecasts in an attempt to meet the expectations of the market (e.g., Abarbanell and Lehavy (2003) and Richardson, Teoh, and Wysocki (2004)). If firms with weak shareholder rights are more likely to engage in this type of earnings management, then one might expect those firms to have more positive forecast errors. However, Bowen, Rajgopal, and Venkatachalam (2002) find that G-index is not related to measures of earnings management. In addition, while this "earnings game" might influence errors in forecasts made shortly before the earnings announcement, it is unlikely to affect forecast errors consistently over longer horizons of one year, two years, and five years.

C. Earnings Announcement Returns

In the prior section, we find no evidence that strong governance firms surprise analysts by their superior operating performance. In this section, we complement these results by examining whether the market is surprised at the earnings announcements of these firms. If the market learns about the differential operating performance of strong (weak) governance firms primarily at the time earnings are announced, we expect that returns around the announcement of earnings will be significantly greater (lower) for these firms. If earnings announcements are the sole information events when the market learns about the negative consequences of poor

[13] We measure returns for each firm-year in the sample starting with the first month of the forecast period and ending six months after the end of the fifth fiscal year-end (a 66-month period). This cuts the number of firm-month observations in the returns sample by about one-third.

governance, all of the annualized raw (abnormal) return difference of 9.2% (8.3%) will occur at earnings announcements. In this case, the raw (abnormal) announcement return difference will be 2.3% (2.1%) for each quarterly earnings announcement. If instead, earnings announcements are one of several information events whereby the market learns about the importance of governance, we expect that the announcement return difference between Democracies and Dictatorships will be greater than the average daily return difference experienced between these groups of firms over the sample period. For example, on an abnormal return basis, the Democracies outperformed the Dictatorships by a little more than 3.3 basis points per day over the sample period (830 basis points per year divided by 250 trading days). Therefore, to support the hypothesis that the market learns about the negative effects of bad governance at earnings announcements, the three-day abnormal announcement return for Democracies over Dictatorships should be greater than 10 basis points.

To test this hypothesis, we gather all quarterly earnings announcement days from I/B/E/S from September 1990 to December 1999, and match them to returns in the full GIM sample.[14] This results in a sample of 43,992 quarterly earnings announcements. We denote the earnings announcement day as day 0, and we measure returns over windows of varying lengths that include the announcement date.

We examine both raw returns and abnormal returns around earnings announcements. For both measures, we follow La Porta et al. (1997) and use a Fama-MacBeth (1973) approach to estimate value-weighted average announcement returns and their standard errors. The weighting of observations implicit in this procedure closely matches the hedge portfolio approach in GIM, whereby returns are value-weighted within months, but months are equally weighted. For all the

[14] Our results are qualitatively similar if we instead examine the subsample of GIM firms for which we have Compustat and I/B/E/S forecast data (9,917 firm-years as shown in Table I).

earnings announcements within a given calendar quarter, we weight each return by the market value of equity measured a month before the earnings announcement. This gives a value-weighted average return for each calendar quarter. Aggregating by quarter ensures an even distribution of observations within periods – each firm, regardless of its choice of fiscal year-end, announces earnings once per quarter.[15] We then calculate the overall value-weighted average announcement return as the average of these quarterly returns. We evaluate the significance of the mean return using the time-series standard error of the quarterly returns. We use this approach because earnings announcements tend to cluster by industry and because news about one firm in an industry is news about others, and as a result, we expect cross-sectional dependence even in abnormal returns.

In Panel A of Table VI, we report three-day returns from one day prior to the announcement day to one day after the announcement day, which we refer to as the (-1,1) window. Column 1 shows average raw returns for the G-index deciles. The announcement returns of Democracies are 0.27% higher than those of Dictatorships, but this difference is not significant. Annualized, this return difference is 1.08%, or less than 15% of the observed 9.2% difference in raw returns.

[Insert Table VI here]

In Column 3, we show three-day abnormal returns. The abnormal return is computed by subtracting from the raw return an expected return estimated using a Fama-French (1993) three-factor model for daily returns. We estimate the return model for the 250 trading days ending 21 trading days prior to the earnings announcement. We note that the intercept in the expected

[15] One could argue that estimating the difference by month more closely matches the hedge portfolio approach of GIM. However, most firms have a December fiscal year-end, whereas other months are much less frequently used. This causes clustering in certain months. When we examine announcements by Democracies and Dictatorships, the number of announcements per month is highly uneven, ranging from 12 to 186. The number of announcements per quarter has much less dispersion, ranging from 160 to 268 announcements.

return model captures the expected underperformance (overperformance) of the Dictatorships (Democracies) relative to the other decile portfolios. That is, the abnormal return measures are excess returns beyond the 0.10% return difference one would expect over a three-day period given that the Democracies are known to outperform the Dictatorships by 8.3% per year during this sample period.

The excess announcement returns for all of the G-index portfolios are positive, and are significant for two of the ten portfolios.[16] Unlike GIM's Table VI results on excess returns for the entire period, we find no evidence of monotonicity in the announcement period returns across G-index deciles. A Spearman rank-correlation test does not reject the null hypothesis of no correlation between the G-decile rankings and the announcement return rankings.

The abnormal announcement returns of the Democracies are 0.21% higher than those of the Dictatorships, but this difference is not significant. As in Column 1, on an annualized basis, this return difference is less than 15% of the observed difference in abnormal returns between the Dictatorships and Democracies. Also, the positive abnormal returns to the Dictatorships are inconsistent with investors being surprised by poor operating performance of those firms. Overall, the evidence in Table VI, Panel A does not support the hypothesis that the market perceives the news about cash flows at the announcement date to be significantly better for Democracies.

There are two potential concerns with using a short event period. First, firms with bad news announce earnings later on average. Investors react negatively to nondisclosure around the

[16] These positive abnormal returns seem counterintuitive, but are consistent with the prior literature that documents positive abnormal returns around earnings announcements (e.g., Ball and Kothari (1991), Chambers, Jennings and Thompson (2004), Cohen, Dey, Lys, and Sunder (2003)). This prior literature argues that positive returns occur because of nondiversifiable risk associated with earnings announcements, and investors require a premium for this risk. Cohen et al. (2003) show that there exists a three-day average excess return of 0.15% for a large sample of earnings announcements from 1978 to 2001.

expected announcement date, with the reaction around the official announcement day being muted. Second, firms with bad news might pre-announce some information before the actual earnings announcement. If Dictatorships have worse news on average and employ these strategies, a short-window event study will underestimate the return difference between the two groups. To address this concern, we investigate several other windows that start cumulating returns at an earlier date. The results, shown in Table VI, Panel B, indicate that lengthening the windows to as much as 22 days increases the magnitude of the difference in raw returns (as one would expect given the documented 9.2% annual return difference), but has little effect on the excess return results. However, none of the return differences are significant for any event window.

Overall, the earnings announcement tests confirm the conclusion of the forecast error tests that surprises about operating performance do not explain differences in observed stock returns between Dictatorships and Democracies.

D. Differences in Takeover Probability

An alternative explanation for the observed poor stock returns for weak governance firms is that investors were not surprised by poor operating performance, but were instead surprised by a lower realized probability of weak governance firms receiving takeover premiums. We test this argument by examining completed takeovers of Democracies and Dictatorships. We use delisting codes from CRSP to determine which firms were taken over. In Panel A of Table VII, we show the frequency of takeovers of Dictatorships and Democracies during four time intervals over the sample period. Each interval starts at the publication date of the IRRC book that is the source of the GIM classification, and ends with the publication of the next edition. For example, the first

row shows that over the 34-month period from September 1990 to May 1993, three of 85 firms classified at the start of the period as Dictatorships were taken over, and 13 of 158 firms classified as Democracies were taken over.

[Insert Table VII here]

In Panel B, we convert these frequencies into annualized probabilities by dividing the proportion of takeovers by the number of years in the period. We find that there is little difference in the probability of takeover between the two samples. Both groups of firms exhibit a greater takeover probability in the later part of the sample period. Although Democracies are more likely to be taken over in the early and late 1990s, Dictatorships have a higher takeover probability in the mid-1990s. Overall, Dictatorships have a slightly lower annualized takeover probability of 4.1% per year, as compared to 4.5% per year for the Democracies.[17] These results, while surprising if one views the G-index as an antitakeover index, are consistent with G-index being a broad governance index. For example, golden parachutes, which are typically assumed to reduce managerial resistance to takeovers, are included in the G-index as a restriction on shareholder rights.

Although the differences in takeover probability between Dictatorships and Democracies appear to be too small to explain the large differences in realized stock returns, it is possible that Democracies and Dictatorships differ in the circumstances of the takeover and the premium paid (e.g., it is conceivable that Dictatorships execute "friendly" takeovers at low premiums following poor market performance). To examine the effect of takeovers on stock returns, we recompute

[17] Empirical evidence suggests that larger firms are less likely to be taken over (e.g., Comment and Schwert (1995)). There is mixed evidence on whether there is an association between firm performance and takeover probability (e.g., Palepu (1986) finds a negative relation while Comment and Schwert (1995) find no relation). In untabulated tests, we examine differential takeover probabilities for Dictatorships and Democracies after controlling for firm size, time dummies, and recent stock returns. We find that size is negatively related to takeover probability, as expected, and that prior stock returns (either two or three years prior to delisting) are not related to takeover probability. Moreover, we find that the slightly higher unadjusted takeover probability for Democracies disappears after including the control variables.

the return differentials after excluding the returns of takeover targets in the period leading up to the delisting. Excluding returns in the year or in the two years before takeover delisting has little effect on the return differentials between Dictatorships and Democracies. In both cases, the return differential between the Dictatorships and the Democracies remains significant at over 73 basis points per month. Excluding takeover firms completely from the sample also has little effect on the results. In this case, the excess return differential between Dictatorship and Democracy firms remains significant at over 59 basis points per month. Our results are consistent with those of Cremers and Nair (2003), who show that their return results are robust to excluding firms that are taken over. Thus, we conclude that differences in takeover probability are unlikely to be a major cause of the difference in observed stock returns between Dictatorships and Democracies.

E. Robustness of Operating Performance Surprise Results and Further Tests

In this section, we explore the influence on our results of two potentially confounding issues: Accounting issues related to mergers and acquisitions and investment in capital projects with long-run earnings effects. As described below, these two issues could hamper our ability to document earnings surprises.

E.1. Mergers and Acquisitions

In our tests on operating performance and analysts' forecast errors, the maintained assumption is that if weak corporate governance leads managers to make poor decisions, the effects should ultimately show up in lower accounting earnings. When analysts and the market are surprised by poor earnings, forecast errors are negative and stock prices fall. A potential concern is that if managers' poor decisions come mainly in the form of overpaying for

acquisitions, these overpayments could lower the stock price, but not affect accounting earnings and forecast errors. This concern arises from the peculiarities of acquisition accounting, particularly the "pooling" method of accounting, which can cause short-term earnings increases or decreases regardless of whether the acquirer has overpaid for the acquisition target. This is of particular concern because GIM find that high G-index firms are more likely to engage in acquisitions, and the prior literature finds both negative announcement effects around acquisitions and post-acquisition stock price underperformance.

To mitigate this concern, we examine stock returns, forecast errors, and earnings announcement returns for periods in which the sample firms did not engage in acquisitions. We gather acquisition announcement dates from the SDC mergers and acquisitions database. We then re-run the stock return tests in GIM, after excluding returns for windows of varying lengths around the acquisition announcements. When excluding the five months centered on the announcement, the excess return differential between Dictatorship and Democracy firms remains significant (at a 10% level) at 55 basis points per month (compared to 69 basis points for the full sample). Using a more conservative window that excludes the fourteen-month period starting two months before the acquisition through the eleventh month after the acquisition, we find that the excess return differential is 59 basis points per month. These results indicate that mergers and acquisitions do not account for the majority of the stock return differential between the Dictatorships and Democracies.

To complete the analysis, we re-run the forecast error and announcement returns tests in Tables IV, V, and VI, and exclude forecasts and the associated announcement returns for periods in which acquisitions occurred. The results of these tests are very similar to those shown in the tables. Inconsistent with the hypothesis that the performance effects of governance are

unanticipated, the coefficients on *G-index* and *Dict* remain insignificant. Overall, this analysis indicates that firms not engaging in acquisitions yield results similar to the full sample of firms, and suggest that our inference is not biased by accounting for mergers and acquisitions.

E.2. Capital Expenditures

GIM find that the median capital expenditures scaled by assets are 0.6% higher for Dictatorships than Democracies, and interpret this as evidence consistent with the hypothesis that weak governance causes agency problems. If Dictatorships' capital expenditures are generally associated with very long-term projects, it is conceivable that it would take more than five years for the cash flow effects to show up in earnings. In this case, these excess capital expenditures would have little effect on forecast errors over the horizons we examine, but investors might observe the expenditures and lower the stock price.

To explore this possibility, we examine stock returns, forecast errors, and earnings announcement returns for periods in which the sample firms did not have "unusual" capital expenditures. We follow GIM and define industry-adjusted capital expenditures as annual capital expenditures divided by total assets minus the industry median of this ratio. We consider a firm's capital expenditures to be "unusual" if this figure is in the top 10% of annual observations over the full sample period.

We find that 11.7% of the Democracy firm-years exhibit unusual capital expenditures, compared to only 5.2% of the Dictatorship firm-years.[18] Although Dictatorships appear to make large industry-adjusted investments with lower frequency, it is possible that when Dictatorships

[18] Our results are virtually identical if we instead define "unusual" as the top 20% of this measure, or if we instead rank on the residual from a regression of industry-adjusted capital expenditures on book-to-market equity. Note that our finding that unusual capital expenditures are lower for Dictatorships does not contradict the GIM finding that median capital expenditures are higher for Dictatorships: The GIM median regressions downweight the unusual observations that are the focus of our analysis.

(Democracies) make unusually large investments, they are low (high) quality, which could trigger revisions in investors' beliefs about firm value. To test this conjecture, we exclude returns of firm-years with "unusual" capital expenditures. To do this, we exclude the firm's eighteen-month return starting the first month of the fiscal year in which the unusual capital expenditures were made, and ending six months after the fiscal year-end. The return results are nearly identical to those shown in Table II. To complete the analysis, we re-run the forecast error and announcement returns tests in Tables IV, V, and VI, and exclude forecasts and the associated announcement returns for periods in which unusual capital expenditures occurred. The results of these tests are very similar to those shown in the tables. Overall, this analysis indicates that our inference is not biased by poor capital expenditures made by Dictatorship firms.

F. Application to Other Research on Governance and Stock Returns

The framework developed above can be used to investigate other governance-related anomalies. For example, Cremers and Nair (2003) extend GIM by hypothesizing that a combination of strong shareholder rights and strong external monitoring (as proxied by high institutional or public pension fund ownership) results in more effective governance than strong shareholder rights alone. To test this hypothesis, they form a portfolio restricted to firms in the highest quartile of institutional (or public pension fund) ownership. Within this portfolio, they buy firms with low G-indices and sell firms with high G-indices. They document that these portfolios exhibit abnormal returns of 10% to 15% per year from 1990 to 2001. These abnormal returns are greater than the abnormal returns documented by GIM, who do not sort on institutional (or public pension fund) ownership.

To test whether investors are surprised by the performance of high ownership / low G-index firms, we conduct an analysis similar to that in Tables IV to VI, except that we modify it to follow Cremers and Nair's procedure of restricting the sample to the highest quartile of institutional (or public pension fund) ownership. Consistent with Cremers and Nair, we obtain the institutional ownership data from CDA Spectrum, which collects data from SEC 13f filings. Within this restricted sample, we then test whether low G-index firms have more positive forecast errors and more positive announcement returns. Consistent with the findings in Tables IV to VI, we find no evidence that analysts or investors are surprised by the operating performance of low G-index firms in the high institutional (or public pension fund) ownership sample.[19] Combined with other evidence provided in Cremers and Nair (2003), our results suggest that the abnormal returns are due to risk or other factors that happen to be correlated with governance.

IV. Empirical Results: Are the Findings Period-Specific?

Our analysis yields little evidence supporting the hypothesis that corporate governance causes the differential future returns found in GIM. Although the results do suggest that weak shareholder rights are associated with lower operating performance, we find that analysts appear to understand the performance effects of shareholder rights when making earnings forecasts, and that there is no difference in returns at earnings announcements. In this section, we explore the possibility that the GIM return differentials result from a period-specific factor that happens to be correlated with governance. This explanation is speculative.

We explore whether the GIM result is potentially time period-specific by looking at the returns to the strategy in the four years immediately after the original sample period (2000 to

[19] Results available on request.

2003). Following GIM we focus mainly on the value weighted returns. The results are displayed in Table VIII. Panel A shows the value of a hedge portfolio that takes a short position of $1 in the Dictatorship portfolio and invests it in the Democracy portfolio on September 1, 1990. During the original GIM sample period, 1990 to 1999, the hedge portfolio grows from $0 to $3.62. However, in the subsequent four years ending December 31, 2003, there is a sharp decline in the value of the hedge portfolio, mainly because of the poor performance of the Democracy portfolio. The second part of Panel A shows the annualized returns in the two subperiods (1990 to 1999 and 2000 to 2003) and for the whole period (1990 to 2003). Weak shareholder rights firms outperform strong shareholder rights firms by about 10% per year in raw returns over the four years immediately following the original sample period (2000 to 2003). This reduces the overperformance of the Democracy portfolio for the 1990-to-2003 period to 2.6% compared to 9.2% for the original 1990-to-1999 period.[20]

[Insert Table VIII here]

Figure 1 illustrates these differences. It shows the development of the value of the Democracy, Dictatorship, and hedge portfolio from 1990 to 2003. The upper line plots the value of the Democracy portfolio, assuming $1 is invested in the portfolio in September, 1990. The middle line plots the value of the Dictatorship portfolio, and the bottom line plots the value of the hedge portfolio. The graph indicates that nearly all of the positive returns to the hedge portfolio documented by GIM for the 1990-to-1999 time period occur from 1997 to 1999. Prior to 1997, the hedge portfolio earns nearly flat returns, and post-1999, the hedge portfolio earns negative returns.

[20] For these tests, we use the 1998 data on G-indices for the later periods instead of utilizing the new data that became available in 2000 and 2002. Using the 1998 data fits the notion that the stock market performance of a particular set of firm reverses. However, if we examine performance using the updated data on G-index, we find similar results.

[Insert Figure 1 here]

In Panel B of Table VIII, we show stock return results after controlling for the Fama-French (1993) three factor model plus momentum (consistent with GIM, Table VI). We first show the results from Table II of our replication of the GIM results over the 1990-to-1999 period. Next we present the analysis of the four years after the initial sample period (2000 to 2003). Controlling for the four factors reduces the reversal effect substantially, with two factors playing an important role in explaining this effect. First, the hedge portfolio has a strong negative loading on the HML factor, and HML performs very well during the 2000-to-2003 period. And, second, the hedge portfolio has a positive and statistically significant loading on the market factor during the market downturn, but hardly any loading during the rest of the period. The combined effect is a small and statistically insignificant reversal in abnormal returns. However, adding these four years to the original sample reduces the observed abnormal returns by over one-third and reduces their significance for the 1990-to-2003 period. While the annualized excess returns to the strategy are 8.3% per year from 1990 to 1999, they lose significance and fall to 4.8% a year over the extended period from 1990 to 2003.[21] [22] When we examine equal weighted returns, we find that the raw returns are very similar for the Democracy and the Dictatorship portfolios from 2000 to 2003 The hedge portfolio continues to earn abnormal returns (though not statistically significant) during this period, and monthly abnormal returns over the extended period (1990 to 2003) are similar to those in the original sample period (1990 to 1999).

[21] There is a suggestion of this finding in Cremers and Nair (2003): They modify the GIM sample to exclude ADRs and extend this sample to the end of 2001, and find that excess returns fall from 8.5% to 7.5%.

[22] To ensure that the return reversal is not driven by unexpected changes in operating performance, we re-run our analyses in Tables III to VII to include the years 2000 to 2003 (not tabulated). We find that weak governance firms continue to have lower operating performance during this latter period (2000 to 2003), that analysts continue to forecast this difference, and that there are no differences in announcement returns.

The results of the 2000-to-2003 period are somewhat surprising in light of claims that in the last few years we have witnessed a "governance crisis." If this were the case, one would expect well-governed firms to outperform poorly governed firms as investors realize the importance of good governance. This raises doubts about whether the observed stock returns are caused by governance characteristics or instead by other correlated factors. Given the pattern and timing of the stock returns, an obvious candidate to consider is the influence of the "new economy." In untabulated tests, we follow Anderson and Reeb (2003) and exclude firms with two-digit SIC codes of 35 (Industrial machinery and equipment), 36 (Electronic and other electrical equipment), 38 (Instruments and related products), and 73 (Business services). We acknowledge that this is a rather crude approximation of new economy firms; for example, Amazon is classified as a retail firm and hence is not excluded. Excluding these firms from the sample drops the monthly hedge returns to 0.44% (t = 1.74) over the original sample period (1990 to 1999), and to 0.25% (t = 1.11) over the full period (1990 to 2003). When excluding the sample of Internet firms identified in Hand (2000), a much smaller and more focused sample, we find very similar results, namely 0.46% (t = 1.83) and 0.25% (t = 1.14), respectively.[23] Since excluding observations without a clear theory is rather arbitrary, we view these results mainly as exploratory in nature. The results are suggestive of the shareholder rights anomaly being connected to (but not fully explained by) the larger new economy pricing anomaly of the (late) 1990s.[24]

[23] When we examine equal weighted returns, we find that excluding firms according to the Anderson and Reeb definition drops the monthly hedge from 0.45% (t = 2.05) to 0.20% (t = 0.89) during the original sample period (1990 to 1999), and from 0.43% (t = 2.34) to 0.17% (t = 0.92) over the extended period (1990 to 2003). Using the Hand definition, the effect is only a few basis points due to the small number of firms that are excluded. Overall, these tests are consistent with finding in GIM that industry affiliation explains part of the return difference between Democracies and Dictators.

[24] In a recent working paper, Moorman (2004) calculates expected returns using benchmark portfolios based on matching Dictatorships and Democracies to firms that are in the same industry, and have similar momentum and size. He finds that Dictatorships and Democracies exhibit returns similar to these benchmarks. If these benchmarks

V. Summary and Conclusion

We extend GIM's comparative investigation of stock returns and operating performance for firms with strong and weak shareholder rights. The key puzzle that we explore is why public information about governance does not appear to be impounded in stock prices in a timely manner. Specifically, what accounts for GIM's intriguing result that abnormal stock returns for strong governance firms are greater than for weak governance firms? We begin our analysis by providing evidence that firms with weak shareholder rights have lower operating performance. Then, using analysts' earnings forecasts and returns around earnings announcements as proxies for investor expectations, we find that analysts and investors are not surprised by differences in operating performance. We also show that weak governance firms are taken over at about the same rate as strong governance firms, and that differences in takeover probability are unlikely to explain the return difference. Finally, we provide evidence that the return differences are not due to market reactions to acquisition and capital expenditure announcements. Our evidence is inconsistent with the hypothesis that shareholder rights cause future abnormal stock returns.

This inference about causality, however, makes the abnormal stock returns for strong governance firms even more puzzling. We consider the possibility that the time period in GIM's study is somehow unusual. We examine stock returns and operating performance for weak and strong governance firms subsequent to GIM's original sample period, and find that weak governance firms continue to have lower operating performance and that analysts and investors continue to forecast this difference. However, abnormal stock returns for firms with weak shareholder rights are somewhat greater than returns for strong governance firms. Overall, our

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are used to control for expected returns, there is no excess return difference between Dictatorships and Democracies. His results are consistent with the shareholder rights anomaly being a manifestation of returns to industry, momentum, and size.

evidence points away from the hypothesis that differences in shareholder rights cause higher returns, and suggests that time period-specific returns and/or differences in expected returns likely play a role in explaining the documented abnormal stock returns of strong governance firms.

Although we focus our analysis on carefully examining a single governance anomaly, we believe that we provide a framework for investigating other governance-related anomalies. We illustrate a use of this framework by providing supporting evidence for Cremers and Nair's (2003) findings that the abnormal returns are due to risk or other factors that happen to be correlated with governance. Such a framework is important because it is important to understand the implications of governance for performance. We understand the attractiveness of directly examining stock returns to determine this association. However, we believe that stock returns are difficult to interpret because bad governance can impose substantial ongoing costs on shareholders with no return effect so long as shareholders are not surprised by the costs. Moreover, it is well known that current models of asset pricing are imperfect, and that researchers regularly find new examples of significant excess returns that appear anomalous (see Schwert (2003) for a survey). We argue that the anomalous returns to governance need not be a puzzle and can be verified and strengthened following the approach in our paper. If governance causes long-term stock returns, governance also causes systematic differences in operating performance, and these systematic differences cause systematic performance surprises to the market, which should appear in unexpected earnings.

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Table I: Descriptive Statistics

Panel A:

Variable	Mean	Std Dev	Minimum	Q1	Median	Q3	Maximum	N
G-index	9.30	2.82	2	7	9	11	17	9917
Total assets (in millions of $)	8,932	29,952	14	582	1,756	5,894	716,937	9917
Market value of equity (in millions of $)	5,199	16,738	5	478	1,271	3,705	508,329	9905
Log(market value of equity$_{t-1}$)	7.12	1.51	1.34	6.06	7.03	8.08	12.72	9917
Log(book-to-market equity$_{t-1}$)	-0.66	0.70	-6.49	-1.07	-0.58	-0.19	2.86	9917
Industry-adjusted ROA (after depreciation.)	0.04	0.10	-1.43	0.00	0.02	0.07	0.81	9917
Industry-adjusted ROA (before depreciation)	0.05	0.10	-0.73	0.00	0.02	0.08	0.81	9704
Forecast error (one year)/price	-0.02	0.23	-13.81	-0.01	0.00	0.00	1.43	9917
Forecast error (one year)/total assets per share	-0.01	0.06	-3.00	-0.01	0.00	0.00	1.70	9917
Number of forecasts in consensus	12.72	8.83	1.00	6.00	11.00	18.00	50.00	9917
Log (dispersion in analysts' forecasts)	-2.92	1.18	-5.94	-3.73	-3.12	-2.30	3.58	9220
Median long-term growth forecast	12.21	5.68	0.00	9.00	12.00	15.00	52.50	5437
Actual annualized five-year EPS growth rate	11.89	36.93	-83.78	-0.21	9.06	18.21	1297.20	5437
Forecast error in long-term growth forecast	-0.31	37.02	-108.78	-12.27	-1.47	6.02	1288.20	5437

Panel B:	**Correlation with G-index**		**Democracy firms**		**Dictatorship firms**		**Difference**		
	correlation	*t*-statistic	Mean	Std Error	Mean	Std Error	Mean	*t*-statistic	
Log(market value of equity$_{t-1}$)	0.08	8.92	6.90	0.13	7.22	0.14	-0.32	-6.92	**
Log(book-to-market equity$_{t-1}$)	0.01	0.73	-0.72	0.07	-0.61	0.09	-0.12	-2.87	*
Industry-adjusted ROA (after depr.)	-0.03	-2.49	0.05	0.00	0.03	0.01	0.02	3.45	**
Industry-adjusted ROA (before depr.)	-0.03	-2.86	0.05	0.00	0.03	0.01	0.02	3.84	**
Forecast error (one year)/price	0.04	5.73	-0.02	0.01	-0.01	0.00	-0.02	-1.77	
Forecast error (one year)/assets per share	0.05	4.37	-0.01	0.00	-0.01	0.00	-0.01	-4.46	**
Number of forecasts in consensus	0.10	4.61	10.53	0.31	12.78	0.45	-2.25	-4.43	**
Log (dispersion in analysts' forecasts)	-0.05	-3.39	-2.79	0.08	-2.98	0.17	0.18	1.96	
Median long-term growth forecast	-0.13	-4.31	14.75	0.70	12.04	0.14	2.70	3.92	**
Actual five-year EPS growth rate	0.00	-0.30	10.79	1.46	14.22	4.09	-3.42	-1.21	
Forecast error in long-term growth forecast	0.03	1.73	-3.96	2.08	2.17	4.08	-6.13	-2.77	*

*significant at 0.05 level, **significant at the 0.01 level

Significance levels

Results are based on correlations and mean differences estimated by year. The *t*-statistics are based on the standard errors of these annual parameter estimates, and are adjusted for serial correlation using the Newey-West procedure with one lag.

Variable definitions

G-index = number of restrictions on shareholder rights (full sample, 9,917 observations).
Total assets = book value of total assets: data6.
Market value of equity = outstanding shares at the end of the fiscal year multiplied by the share price at the end of the fiscal year: data199 x data25.
Book-to-market equity = book value of equity plus book value of deferred taxes divided by market value of equity: (data60 + data74)/(data199*data25).
Industry-adjusted ROA (after depreciation.) = operating income after depreciation divided by total assets: data178/data6.
Industry-adjusted ROA (before depreciation) = operating income before depreciation divided by total assets: data13/data6.
The two operating performance measures above are industry adjusted by deducting the median performance of the corresponding Fama-French industry.
Forecast error/price = forecast error based on I/B/E/S actual scaled by price: (I/B/E/S actual EPS – I/B/E/S forecast of EPS)/(share price at beginning of fiscal year).
Forecast error/assets = forecast error based on I/B/E/S actual scaled by year-end total assets per share: (I/B/E/S actual EPS – I/B/E/S forecast of EPS)* # shares/data6.
Number of forecasts in consensus = number of analysts having a forecast of earnings per share outstanding eight months before fiscal year-end.
Dispersion in analysts' forecast = standard deviation of analysts' forecasts outstanding eight months before fiscal year-end divided by the mean consensus forecast.
Forecast error in long-term growth forecast = I/B/E/S actual annualized growth in earnings per share minus I/B/E/S forecast of long-term growth in earnings per share, expressed in percentage terms.

I/B/E/S data items used:
Forecast: mean consensus earnings per share forecast that is eight months before fiscal year-end (e.g., mid-April for firms with December fiscal year-end).
Actual: actual earnings per share as reported by I/B/E/S.
Median long-term growth forecast = median consensus forecast of long-term growth in earnings per share, expressed as the percentage growth per year.
Actual annualized five-year EPS growth rate = realized long-term growth in earnings per share, expressed as the percentage growth per year.

Compustat data items used:
data6 = total assets.
data13 = operating earnings before depreciation.
data25 = number of shares outstanding at the end of the fiscal year.
data60 = book value of common equity.
data74 = deferred taxes.
data178 = operating income after depreciation.
data199= share price at the end of the fiscal year.

Table II: Monthly Abnormal Returns from September 1990 to December 1999

This table presents the returns realized by a trading strategy based on G-index. Following Gompers, Ishii, and Metrick (2003), we estimate four-factor regressions using monthly hedge portfolio returns. The hedge portfolio is constructed by taking a long position in a value-weighted portfolio of Democracy firms (G≤5) and taking a short position in a value-weighted portfolio of Dictatorship firms (G≥14). The intercept measures the abnormal returns to such a strategy after controlling for the four factors. The first regression represents the original results in GIM. The second regression is our replication using the same restrictions as in GIM. The last regression represents the results when we restrict our sample to the firm-years for which we have Compustat and I/B/E/S data available. For each firm-year with all data available (9,917 firm-years), we include monthly returns starting the first month of the fiscal year and ending six months after the end of the fiscal year.

Original results by GIM, Table VI

	Intercept	RMRF	SMB	HML	Momentum
Coefficient	0.71**	-0.04	-0.22*	-0.55**	-0.01
Standard error	0.26	0.07	0.09	0.10	0.07
t-statistic	2.73	-0.57	-2.44	-5.50	-0.14

Our replication of GIM result for full sample

	Intercept	RMRF	SMB	HML	Momentum
Coefficient	0.69**	-0.04	-0.22*	-0.54**	-0.01
Standard error	0.26	0.07	0.09	0.10	0.07
t-statistic	2.72	-0.59	-2.47	-5.35	-0.09

Restricted sample for which Compustat and I/B/E/S data are available

	Intercept	RMRF	SMB	HML	Momentum
Coefficient	0.68*	-0.01	-0.20*	-0.52**	0.01
Standard error	0.28	0.08	0.10	0.11	0.07
t-statistic	2.39	-0.06	-2.03	-4.59	0.07

*significant at 0.05 level, **significant at the 0.01 level

Table III: Operating Performance

Panel A presents the coefficients on *G-index* in regressions of industry-adjusted ROA on (1) *G-index* alone, (2) *G-index* and log(book-to-market equity), and (3) *G-index*, log(market value of equity), and log(book-to-market equity) (coefficients on control variables are not reported). Panel B presents the coefficients on the *Dict* indicator variable in regressions of industry-adjusted ROA on *Dict* alone, *Dict* and log(book-to-market equity), and *Dict*, log(market value of equity) and log(book-to-market equity). *Dict* is a dichotomous variable that takes the value of one if the firm is in the decile with the weakest shareholder rights (G-index greater or equal to 14), and zero if the firm is in the decile with the strongest shareholder rights (*G-index* less than or equal to five). The sample in Panel B is restricted to firms in the highest and lowest deciles of G-index. We measure ROA as operating income divided by year-end total assets. We measure operating income in two ways, after and before depreciation. ROA is industry-adjusted by subtracting the ROA of the median firm in the corresponding Fama-French (1997) industry. Results are based on median regressions by year. Then the time-series mean of coefficients, and the standard deviation and *t*-statistics for the average of the coefficients are calculated. The standard errors and *t*-statistics are adjusted for serial correlation using the Newey-West procedure with one lag. All coefficients are multiplied by 100 for expositional convenience.

Panel A: $\textit{Industry-adjusted } ROA_{it} = \alpha + \beta_1 G\text{-}index_{i,t-1} + \beta_2 logMVE_{i,t-1} + \beta_3 logBME_{i,t-1}$ *(1a)*

	Subpanel A1: Operating income after depreciation				**Subpanel A2: Operating income before depreciation**			
	Coefficient on G-index				Coefficient on G-index			
	(1)	(2)	(3)	Obs	(1)	(2)	(3)	Obs
1991	-0.01	-0.04	-0.03	1093	-0.06	-0.03	-0.02	1054
1992	0.02	-0.05	-0.06	1060	0.06	-0.05	-0.04	1015
1993	-0.07	-0.16**	-0.16**	1038	-0.04	-0.12*	-0.12*	997
1994	-0.08	-0.14**	-0.16**	1145	-0.12	-0.12*	-0.13*	1128
1995	-0.08	-0.13*	-0.15**	1092	-0.07	-0.10	-0.13	1076
1996	0.02	-0.05	-0.05	1166	0.02	-0.03	-0.02	1153
1997	0.04	-0.06	-0.05	1038	0.08	-0.01	-0.03	1028
1998	0.05	-0.10	-0.10	989	0.09	-0.06	-0.03	974
1999	-0.21**	-0.09	-0.10	1296	-0.33 **	-0.19*	-0.10	1279
Control variables	None	BME	BME, MVE		None	BME	BME, MVE	
Time-series mean	-0.03	-0.09**	-0.10**	9	-0.04	-0.08**	-0.07**	9
Time-series std	0.03	0.02	0.02		0.04	0.02	0.02	
t-statistic	-1.28	-5.35	-4.77		-1.01	-3.78	-3.67	

Panel B (Restricted Sample): $Industry\text{-}adjusted\ ROA_{it} = \alpha + \beta_1 Dict_{i,t-1} + \beta_2 logMVE_{i,t-1} + \beta_3 logBME_{i,t-1}$ *(1b)*

	Subpanel B1: Operating income after depreciation				**Subpanel B2: Operating income before depreciation**			
	Coefficient on Dict				Coefficient on Dict			
	(1)	(2)	(3)	Obs	(1)	(2)	(3)	Obs
1991	-0.25	-0.70	-0.52	180	-1.02	-1.06	-0.39	169
1992	-0.43	0.00	-0.49	173	0.00	-0.19	0.48	158
1993	-1.03	-1.19*	-1.09	169	-0.84	-0.67	-0.86	155
1994	-2.16*	-1.32*	-1.26*	192	-1.70	-1.40	-1.39	187
1995	-1.64*	-1.00	-1.02	182	-0.67	-0.45	-0.58	179
1996	-0.34	-0.32	-0.34	179	-0.21	0.26	0.03	176
1997	-0.02	0.61	0.29	159	-0.07	0.30	0.32	157
1998	0.72	0.17	-0.10	155	1.09	0.88	-0.25	153
1999	-1.53	0.03	-0.13	227	-1.16	-0.78	-0.25	225
Control variables	None	BME	BME, MVE		None	BME	BME, MVE	
Time-series mean	-0.74*	-0.41	-0.52**	9	-0.51	-0.35	-0.32	9
Time-series std	0.34	0.27	0.22		0.27	0.27	0.21	
t-statistic	-2.20	-1.52	-2.35		-1.89	-1.30	-1.51	

*significant at 0.05 level, **significant at the 0.01 level

Table IV: Differences in One-year Analysts' Forecast Errors

Panel A presents the coefficient on *G-index* in the regression of one-year analysts' forecast errors on *G-index*, log(market value of equity), and log(book-to-market equity) (coefficients on control variables are not reported). Forecast errors are defined as I/B/E/S actual earnings per share minus I/B/E/S forecasted earnings per share, and are deflated either by price or assets per share. Panel B presents the coefficient on the *Dict* indicator variable in the regression of one-year analysts' forecast errors on *Dict*, log(market value of equity), and log(book-to-market equity). *Dict* is a dichotomous variable that takes the value of one if the firm is in the decile with the weakest shareholder rights (G-index greater or equal to 14), and zero if the firm is in the decile with the strongest shareholder rights (G-index less than or equal to five). The sample in Panel B is restricted to firms in the highest and lowest deciles of G-index. Results are based on median regressions by year. Then the time-series mean of coefficients, and the standard deviation and *t*-statistics for the average of the coefficients are calculated. The standard errors and *t*-statistics are adjusted for serial correlation using the Newey-West procedure with one lag. All coefficients are multiplied by 100 for expositional convenience. The regressions for each of the panels are as follows:

Panel A: $Analysts'\ forecast\ error_{it} = \alpha + \beta_1 G\text{-}index_{i,\,t-1} + \beta_2 logMVE_{i,\,t-1} + \beta_3 logBME_{i,\,t-1}$ (2a)

Panel B: $Analysts'\ forecast\ error_{it} = \alpha + \beta_1 Dict_{i,\,t-1} + \beta_2 logMVE_{i,\,t-1} + \beta_3 logBME_{i,\,t-1}$ (2b)

	Panel A: Full sample			**Panel B: Restricted sample**		
Dependent variable	FE scaled by price	FE scaled by assets		FE scaled by price	FE scaled by assets	
	Coefficient on G-index			Coefficient on Dict		
	(1)	(2)	Obs	(1)	(2)	Obs
1991	-0.025	-0.008	1093	-0.31	-0.18	180
1992	0.002	-0.002	1060	0.00	0.02	173
1993	0.007	0.010	1038	0.02	0.20	169
1994	-0.004	0.000	1145	0.01	-0.01	192
1995	0.000	0.005	1092	0.24	0.04	182
1996	0.020**	0.011**	1166	0.37*	0.18	179
1997	0.004	0.002	1038	0.12	0.11	159
1998	0.001	-0.006	989	0.06	0.10	155
1999	0.007	0.008	1296	0.16	0.11	227
Time-series mean	0.001	0.002	9	0.07	0.06	9
Time-series std	0.004	0.002		0.07	0.04	
t-statistic	0.37	1.00		1.04	1.67	

*significant at 0.05 level, **significant at the 0.01 level

Table V: Differences in Analysts' Long-Term Growth Forecast Errors

Panel A presents the coefficient on *G-index* in the regression of analysts' long-term growth forecast errors on *G-index*, log(market value of equity), and log(book-to-market equity) (coefficients on control variables are not reported). Analysts' long-term growth forecast error is defined as realized long-term percentage growth in earnings (annualized five-year EPS growth rate) minus forecasted long-term percentage growth in earnings, both are provided by I/B/E/S. Panel B presents the coefficient on the *Dict* indicator variable in the regression of analysts' long-term growth forecast errors on *Dict*, log(market value of equity), and log(book-to-market equity). *Dict* is a dichotomous variable that takes the value of one if the firm is in the decile with the weakest shareholder rights (G-index greater or equal to 14), and zero if the firm is in the decile with the strongest shareholder rights (G-index less than or equal to five). The sample in Panel B is restricted to firms in the highest and lowest deciles of G-index. Results are based on median regressions by year. Then the time-series mean of coefficients, and the standard deviation and *t*-statistics for the average of the coefficients are calculated. The standard errors and *t*-statistics are adjusted for serial correlation using the Newey-West procedure with one lag. The years 1997 and 1998 are combined due to the low number of observations with realized growth available for 1998. The regressions for each of the panels are as follows:

Panel A: $Analysts'\ forecast\ error_{it} = \alpha + \beta_1 G\text{-}index_{i,\,t-1} + \beta_2 logMVE_{i,\,t-1} + \beta_3 logBME_{i,\,t-1}$ (2a)

Panel B: $Analysts'\ forecast\ error_{it} = \alpha + \beta_1 Dict_{i,\,t-1} + \beta_2 logMVE_{i,\,t-1} + \beta_3 logBME_{i,\,t-1}$ (2b)

	Panel A: Full sample		**Panel B: Restricted sample**	
Dependent variable	Long-term growth forecast error		Long-term growth forecast error	
	Coefficient on G-index	Obs	Coefficient on Dict	Obs
1991	0.00	852	1.02	129
1992	-0.17	835	0.92	129
1993	0.01	761	-0.42	113
1994	0.20	799	0.46	133
1995	0.48*	727	3.01	120
1996	0.26	718	4.83	107
1997/1998	-0.40	745	-2.89	118
Time-series mean	0.05	7	0.99	7
Time-series std	0.12		0.83	
t-statistic	0.45		1.20	

*significant at 0.05 level, **significant at the 0.01 level

Table VI: Returns Around Earnings Announcements

This table shows the returns around earnings announcements during the period from September 1990 through December 1999. Panel A shows the return for each G-index portfolio for the three-day window around the earnings announcement. All announcement returns are value-weighted within quarter and then averaged over the quarters. The *t*-statistics are based on the time series of quarterly returns. Column 1 shows the cumulative raw return over the three-day window and Column 2 shows the accompanying *t*-statistic. Column 3 shows the cumulative excess return (based on a Fama-French three-factor model for daily returns estimated from day t=-250 till day t=-21) for the same period, and Column 4 shows the accompanying *t*-statistic. Panel B shows a test on the difference between the Democracy portfolio (G-index ≤ 5) and the Dictatorship portfolio (G-index ≥ 14) for both raw returns and excess returns over various event windows. Returns are calculated as in Panel A.

Panel A: Returns for decile portfolios of the full sample over a (-1,1) window

G-index	Raw return	*t*-statistic	Excess return	*t*-statistic	Number of observations
≤ 5 (Democracy)	1.05%	6.87**	0.57%	3.70**	4333
6	0.56%	2.70**	0.20%	1.33	3604
7	0.53%	2.85**	0.11%	0.68	4377
8	0.50%	2.38*	0.27%	1.83	5007
9	0.44%	3.26**	0.11%	1.38	5499
10	0.58%	3.60**	0.26%	2.18*	5683
11	0.58%	2.67**	0.17%	1.01	5387
12	0.33%	2.10*	0.02%	0.15	4065
13	0.55%	2.56*	0.21%	1.70	3262
≥ 14 (Dictatorship)	0.77%	3.22**	0.36%	1.95	2775

Panel B: Returns for the restricted sample over various event windows

	Raw returns				Excess returns			
window	*Demo*	*Dict*	difference	*t*-statistic	*Demo*	*Dict*	difference	*t*-statistic
car -1,1	1.05%	0.77%	0.27%	1.08	0.57%	0.36%	0.21%	0.83
car -3,1	1.36%	1.11%	0.25%	0.87	0.66%	0.38%	0.28%	0.91
car -5,1	1.48%	1.17%	0.31%	0.94	0.55%	0.33%	0.22%	0.6
car -10,1	1.67%	1.37%	0.30%	0.68	0.29%	0.12%	0.17%	0.42
car -20,1	2.32%	1.64%	0.68%	1.32	-0.10%	-0.18%	0.08%	0.18

*significant at 0.05 level, **significant at the 0.01 level

Table VII: Completed Takeovers of Dictatorships and Democracies

This table presents the number and percentage of firms that were the target of a takeover/merger for both the Democracy portfolio (G-index ≤ 5) and the Dictatorship portfolio (G-index ≥ 14). The classification is based on CRSP delisting codes. The deals are presented in three categories: stock deals (CRSP delisting code 231), cash deals (CRSP delisting code 233), and other (CRSP delisting codes 200-299, excluding 231 and 233). Panel A shows the number of firms taken over by period for each portfolio. Each period begins with the new IRRC edition. Panel B shows the takeover activity as a percentage of the number of firms in the portfolio (annualized to ensure comparability across IRRC editions).

Panel A: Firms taken over by period

	Dictatorship					***Democracy***				
Period	# firms	stock	cash	other	total	# firms	stock	cash	other	total
9/90-6/93	85	1	1	1	3	158	9	3	1	13
7/93-6/95	93	5	1	1	7	139	4	4	1	9
7/95-1/98	87	4	7	0	11	120	8	6	0	14
2/98-12/99	83	7	3	2	12	215	18	11	4	33
Total	-	17	12	4	33	-	39	24	6	69

Panel B: Annualized probability of takeover

	Dictatorship					***Democracy***				
Period	# firms	stock	cash	other	total	# firms	stock	cash	other	total
9/90-6/93	85	0.4%	0.4%	0.4%	1.2%	158	2.0%	0.7%	0.2%	2.9%
7/93-6/95	93	1.9%	0.4%	0.4%	2.7%	139	1.0%	1.0%	0.3%	2.3%
7/95-1/98	87	1.6%	2.8%	0.0%	4.5%	120	2.4%	1.8%	0.0%	4.1%
2/98-12/99	83	3.0%	1.3%	0.9%	5.1%	215	3.0%	1.8%	0.7%	5.4%
Annualized average	-	2.1%	1.5%	0.5%	4.1%	-	2.5%	1.6%	0.3%	4.5%

Table VIII: Performance Attribution Regressions

This table presents the returns realized by a trading strategy based on G-index. Panel A shows the development of the returns on the hedge portfolio based on total returns. The first part shows the cumulative growth of the hedge portfolio and the second part shows the annualized stock returns in each of the two subperiods and over the total period. Panel B shows the abnormal returns. Following Gompers, Ishii, and Metrick (2003), we estimate four-factor regressions using monthly hedge portfolio returns. The hedge portfolio is constructed by taking a long position in a value-weighted portfolio of Democracy firms (G≤5) and taking a short position in a value-weighted portfolio of Dictatorship firms (G≥14). The intercept measures the abnormal returns to such a strategy after controlling for the four factors.

Panel A: Total returns on the hedge portfolio

Cumulative results in dollars	*9/1/1990*	*12/31/1999*	*12/31/2003*
Value of $1 invested in the Democracy portfolio:	1	7.04	5.54
Value of $1 invested in the Dictatorship portfolio:	1	3.42	4.05
Value of hedge portfolio:	0	3.62	1.49

Annualized stock returns	*1990-1999*	*2000-2003*	*1990-2003*
Democracy portfolio	23.3%	-5.8%	13.7%
Dictatorship portfolio	14.1%	4.3%	11.1%
Difference	9.2%	-10.1%	2.6%

Panel B: Monthly abnormal returns

Our replication of GIM results over the original sample period (Sept. 1990 - Dec. 1999)

	Intercept	RMRF	SMB	HML	Momentum
Coefficient	0.69**	-0.04	-0.22*	-0.54**	-0.01
Standard error	0.26	0.07	0.09	0.10	0.07
t-statistic	2.72	-0.59	-2.47	-5.34	-0.09

Analysis of period following the original sample period (Jan. 2000 - Dec. 2003)

	Intercept	RMRF	SMB	HML	Momentum
Coefficient	-0.13	0.28*	0.07	-0.41**	0.03
Standard error	0.55	0.12	0.11	0.14	0.05
t-statistic	-0.24	2.39	0.58	-2.89	0.63

Analysis of the combined sample period (Sept. 1990 - Dec. 2003)

	Intercept	RMRF	SMB	HML	Momentum
Coefficient	0.40	0.09	-0.08	-0.53**	-0.01
Standard error	0.24	0.06	0.06	0.08	0.03
t-statistic	1.68	1.34	-1.18	-6.65	-0.25

*significant at 0.05 level, **significant at the 0.01 level

Figure 1: Cumulative raw returns: Democracies and Dictatorships from 1990-2003

This figure shows the development of the value of the Democracy, Dictatorship and hedge portfolios from 1990 to 2003. The upper line plots value of the Democracy portfolio over time, assuming $1 is invested in the portfolio in September, 1990. The middle line plots the value of the Dictatorship portfolio. And the bottom line plots the value of the hedge portfolio.