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"Learning and the Disappearing Association between Governance and Returns"

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*presenting

Learning and the Disappearing
Association between Governance and Returns

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Abstract

In an important and influential work, Gompers, Ishii, and Metrick (2003) show that a trading strategy based on an index of 24 governance provisions (G-Index) would have earned abnormal returns during the 1991-1999 period, and this intriguing finding has attracted much attention ever since it was reported. We investigate in this paper the source of the 1990-1999 causation between the G-Index and returns (as well as between the E-Index based on the provisions that matter the most). We provide evidence consistent with the hypothesis that the correlation was due to market participants' gradually learning to appreciate the difference between firms scoring well and poorly on the governance indices. Consistent with the learning hypothesis, we find that:

(i) The correlation between governance indices and returns did not exist during the subsequent 2000-2008 period or any sub-period of it;

(ii) The disappearance of the governance-return correlation was associated with an increase in the attention to governance by a wide range of market participants;

(iii) Until the beginning of the 2000s, but not subsequently, stock market reactions to earning announcements reflected the market's being more positively surprised by the earning announcements of good-governance firms than by those of poor-governance firms;

(iv) Analysts were also more positively surprised by the earning announcements of good-governance firms than by those of poor-governance firms until the beginning of the 2000s but not afterwards;

(v) While the G and E indices could no longer generate abnormal returns in the 2000s, their negative association with Tobin's Q and operating performance persisted;

(vi) The existence and subsequent disappearance of the governance-return correlation cannot be explained by any of the factors that have been suggested in the literature for augmenting the Fame-French-Carhart four-factor model.

Keywords: Corporate governance, governance indices, GIM, shareholder rights, entrenchment, market efficiency, learning, earning announcements, analyst forecasts, IRRC provisions, behavioral finance, asset pricing.

JEL Classification: D03, G10, G12, G30, G34, K22

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1. Introduction

In an influential paper, Gompers, Ishii and Metrick (2003) (hereinafter GIM) identified a governance-based trading strategy that would have produced abnormal profits during the period 1990-1999. This strategy was based on a G-Index that GIM constructed on the basis of 24 governance provisions that weaken shareholder rights. These intriguing findings have attracted a great deal of attention ever since they were first reported, and the G-Index (as well as the E-Index that is based on a subset of these 24 provisions (Bebchuk, Cohen, and Ferrell (2009)) has been extensively used. As of March 2010, the GIM study has about 800 citations on SSRN.

In this paper, we contribute to understanding GIM's celebrated results concerning the association between governance and abnormal returns. We show that the G-Index (as well as the E-Index) was no longer associated with abnormal returns during the period of 2000-2008 (or any sub-periods within it), and we then focus on investigating what explains both the existence of the governance-returns correlation during the 1990s and its subsequent disappearance. We identify several systematic and related differences between the 1990s and subsequent years, and we provide evidence that is consistent with the hypothesis that both the existence and disappearance of the correlation were due to market participants' learning to appreciate the difference between well-governed and poorly-governed firms.

GIM suggested that governance provisions – or the characteristics of firms' governance and culture that they reflect – are associated with lower industry-adjusted Q, lower profits, lower sales growth, and more corporate acquisitions. Subsequent work found additional links between the G and E indices and firm performance. For example, Masulis, Wang and Xie (2007) find that worse G-Index and E-Index scores are correlated with worse acquisition decisions (as measured by the stock market returns accompanying acquisition announcements), Dittmar and Mahrt-Smith (2007) find that worse scores are correlated with a less valuable use of cash holdings.

That the G-Index and E-Index are associated with lower firm value and worse firm performance, however, does not imply that these indices should be associated with abnormal stock returns, as GIM found for the period 1990-1999. To the extent that market prices already reflect fully the differences between well-governed and poorly-governed firms, trading on the basis of the governance indices should not be expected to yield abnormal profits.

We conduct in this paper a series of tests for one possible explanation of the abnormal returns during the 1990s. According to this explanation, which was noted by GIM, investors in 1990 did not fully appreciate the differences between firms with good and bad governance scores. The

legal developments that shaped the significance of the G-Index provisions took place largely during the 1980s, which was also when many of these provisions were adopted. In 1990, investors might not yet have had sufficient experience to be able to forecast the expected difference in performance between well-governed and poorly-governed firms. Under the "learning" hypothesis, the association between governance indices and returns during the 1990s was expected to continue only up to the point at which a sufficient number of market participants would learn to appreciate fully the differences between well-governed and poorly-governed firms. Noting the empirical evidence that lengthy intervals are sometimes necessary even for information that is relatively tangible to be incorporated in prices,[1] GIM suggested that it was not possible at the time of their article to forecast when such a process of price adjustment would be completed.

We begin by documenting that, consistent with learning, the association between the governance indices did not persist. Using the exact methods employed by GIM for 1990-1999, we find that this association did not exist during 2000-2008. Indeed, we show that, even though trading based on either the G-Index or E-Index would have produced positive abnormal return during most of the four-year periods beginning sometime during the period 1991-1998, such strategies would not have produced abnormal returns during any four-year period beginning in 1999 or later. Core et al. (2006) noted that the GIM strategy did not produce abnormal returns during the four-year period 2000-2003, but were naturally cautious about drawing inferences from the relatively short period they examined, and did not focus on the change or seek to explain it. Our robust findings for a period of similar length to the one studied by GIM enable concluding that the documented governance-returns association did not persist.

Note that, to the extent that the disappearance of abnormal returns was due to learning, such learning did not necessarily have to involve learning about the significance of the provisions in the governance indices. While some market participants might have learned to appreciate that certain governance provisions are associated with how firms are governed, other market participants might have directly identified that some firms are well-governed without making a

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[1] GIM cited in this connection the evidence that earnings surprises (Bernard and Thomas (1989)), dividend omissions (Michaely, Thaler, and Womack (1995)), and stock repurchases (Ikenberry, Lakonishok, and Vermaelen (1995)) have long-term drift following the event, and noted that all seem to be relatively simple pieces of information compared with governance structures.

connection between their good governance and their governance provisions. For our purposes, the learning hypothesis involves market participants, in the aggregate, coming to appreciate the difference between firms that score well and poorly on the governance indices regardless of whether all or some of these participants made use of all the components of the indices themselves.

To investigate further the learning hypothesis, we study how the existence of abnormal returns to governance strategies was associated with changes in the attention paid to governance by market participants. We identify proxies for the attention to governance by the media, institutional investors, and academic researchers, as well as construct an aggregate attention index. We find that the decrease in the returns to the governance strategies was associated with an increase in levels of attention to governance. Furthermore, analyzing potential structural breaking points in the pattern of returns, we find that their location corresponds to the period in which attention to governance rose sharply. The number of media articles about governance, and the number of resolutions about corporate governance submitted by institutional investors (many of which focused on key provisions of the governance indices) jumped sharply in the beginning of the 2000s to historically high levels and remained there. Academic research, proxied either by the number of journal publications on corporate governance or by the number of NBER discussion papers in the area, also rose sharply around this point in time. The GIM paper itself was issued as an NBER discussion paper (and received significant media coverage) in 2001. Given our findings about the relationship between attention to governance and returns to the governance strategies, we proceed to test the hypothesis that, by the end of 2001, markets had sufficiently absorbed the governance differences reflected in the G-Index and the E-Index.

In particular, we examine whether, after 2001, market participants had a better appreciation of the differences between well-governed firms and poorly-governed firms in terms of their expected future profitability. In examining whether markets learned to differentiate better between well-governed and poorly-governed firms when forecasting future profitability, we examine the extent to which markets were differentially surprised by earning announcements as proxied by (i) the abnormal reactions accompanying earning announcements, and (ii) analyst forecast errors.

Consistent with the learning hypothesis, we find a marked difference between the 1990-2001 and 2002-2008 periods. During the 1990-2001 period, but not during the 2002-2008 period, the earning announcements of good-governance firms were more likely than the earning

announcements of poor-governance firms both (i) to be accompanied with more positive abnormal stock returns, and (ii) to produce a meaningful positive surprise relative to the median analyst forecast. Our analysis here extends the work of Core et al. (2006) and Giroud and Mueller (2010), who examined (with mixed results) whether the GIM findings were due to markets' forecasting errors about the difference between good-governance and poor-governance firms, but which did not consider whether such forecasting errors changed over time during the 1990-2008 period.

Under the learning hypothesis, while the governance indices can be expected at some point to cease to be correlated with abnormal trading profits, as their relevance for firm value and performance becomes incorporated into market prices, the correlation of these indices with firm value and performance can be expected to persist. We find that, indeed, the relationship that the governance indices have with Tobin's Q and various measures of operating performance remained strong during the 2000s (and, if anything, becomes more significant in the 2002-2008 period).[2] Thus, while governance indices may no longer be able to provide a basis for a profitable trading strategy, they should remain valuable tools for researchers, investors, and policy-makers interested in governance and its relationship with firm performance.

We also explore an alternative explanation that has been suggested in the literature to the correlation between governance and returns identified for the 1990s by GIM. Under this explanation, governance is correlated with some common risk factor that is not captured by the standard four-factor model used by GIM to calculate abnormal returns (Core et al. (2006), Cremers et al. (2009)). Under this explanation, governance can be expected to continue to play a role in explaining the cross-section of returns as long as the common risk factor correlated with governance continues to have such a role. To investigate this possibility, we examine the consequences of augmenting the Fama-French-Carhart four-factor model with additional common factors suggested in the literature – the liquidity factor (Pastor and Stambaugh (2003)), the downside risk factor (Ang et al. (2006)), and the takeover factor (Cremers et al. (2009)). We find that adding these factors cannot fully explain both the existence of the governance-returns correlation and its subsequent disappearance.

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[2] Our results concerning the persistence of the relationship with Tobin's Q and operating performance are consistent with those obtained for 2000-2006 by Cremers and Ferrell (2009) and Giroud and Mueller (2010), though these studies do not relate this persistence to the learning hypothesis.

Finally, we conduct three types of robustness checks for our results concerning how the periods 1990-2001 and 2002-2008 differ in terms of the association in abnormal returns with the governance indices, as well as in the ability of investors and analysts to forecast the differences in expected future earnings between good-governance and poor-governance firms. In particular, we examine whether our results are robust to excluding new economy firms (2006), to excluding firms in the most competitive industries (Giroud and Mueller (2010)), and to adjusting returns to take into account industry effects (Johnson, Moorman, and Sorescu (2009), Metrick and Lewellen (2010)). We find that our findings concerning the differences between 1990-2001 and 2002-2008 are all robust to these issues.[3]

In addition to the literature on governance indices and governance provisions, our paper is related to the large body of asset pricing and behavioral finance literature on the persistence and disappearance of abnormal returns associated with trading strategies based on public information. Trading strategies based on known information that produce risk-adjusted abnormal returns over significant periods of time have sometimes been labeled as "anomalies" (see, e.g., Schwert (2001)). Researchers have paid close attention to the extent to which such "anomalies" have persisted after they were documented by academic research, with some suggesting that it is reasonable to expect anomalies not to persist for long after they are reported (Cochrane (1999)). While classical efficient capital market theory (Fama (1970)) questions whether public information can ever be used to produce abnormal returns, adaptive efficient capital market theory (Daniel and Titman (1999)) suggests that the ability of any trading strategy based on public information to generate risk-adjusted abnormal profits will dissipate over time.

Estimating the future effects of (publicly known) governance provisions (or governance characteristics correlated with them) is far from a straightforward matter, and requires not only knowing the public information about the provisions but also plugging it into an appropriate structural model of the firms and their environment. Our evidence is consistent with such a process being one that takes time to develop, refine, and to accurately execute. As Brav and

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[3] While we focus on the differences between 1990-2001 and the period following it, we do not have the data to study how the 1990-2001 period differed from years preceding it. Cremers and Ferrell (2009) introduce a new dataset of governance provisions from the pre-1990 period and suggest that the association between governance and returns during the pre-1990 period, when legal rules making entrenching provisions more consequential were developed, was especially strong.

Heaton (2002) show, such a pattern is consistent with two models (that are difficult to distinguish empirically): (i) a "rational structure uncertainty" model in which all agents were uncertain in 1990 what structural model to use in order to make rational predictions from available public information, but learned to do so over time; and (ii) a "behavioral" model in which some rational investors (but not others) were able to draw accurate inferences from governance provisions already in 1990, but "limits on arbitrage" (Shleifer and Vishny (1997)) prevented their information from being fully reflected in prices, and in which, over time, such rational investors grow sufficiently in number and confidence for their information to be factored into market prices.

The remainder of the paper is organized as follows. Section II examines the relationship between the governance indices and returns during the 1990-2008 period. Section III investigates the causes of both the existence of a governance-returns association during the 1990s and its subsequent disappearance. Section IV concludes.

2. The Disappearance of the Governance-Returns Association

2. 1. The IRRC Dataset and Summary Statistics

Our data sample consists of all the companies included in the eight volumes published by the Investor Responsibility Research Center (IRRC), where the volumes were published on the following dates: September, 1990; July, 1993; July, 1995; February, 1998; November, 1999; February, 2002; January, 2004; and January, 2006. We do not use the 2008 vintage of RiskMetrics governance data because it is not comparable with data in the earlier IRRC volumes: in 2007, RiskMetrics acquired IRRC and revamped its data collection methods; consequently, changes were made both in the set of provisions covered and in the definitions of some of the covered provisions. For example, only 18 of the 24 provisions in the G-Index are covered by the 2008 volume of the RiskMetrics governance data.

Each IRRC volume tracks corporate governance provisions for between 1,400 to 2,000 firms. In addition to all the firms belonging to the S&P500, each IRRC volume also covers other firms considered to be important by the IRRC. Following Gompers, Ishii and Metrick (2003) and subsequent work in the literature, we exclude dual-class firms and real estate investment trusts

(REITs) because of the unique governance structures and regulations prevailing for these sets of firms.

We construct an annual time series of the G-Index and E-Index following the forward-fill method of Gompers, Ishii, and Metrick (2003): we assume that the governance provisions remain unchanged from the current date of one volume until the current date of the next volume. Since IRRC publishes a new volume between every 2 to 3 years, we fill forward for 2.5 years the data in the last (2006) IRRC volume, until June of 2008[4].

We follow the construction of the G-Index (which is based on 24 IRRC provisions) defined by GIM and the construction of the E-Index (which is based on 6 provisions) defined by Bebchuk, Cohen, and Ferrell (2009). Because the provisions in these indices restrict shareholder rights, a high score is viewed as representing worse governance. Following GIM, we define Democracy (G) firms and Dictatorship (G) firms as firms that have especially good governance and especially bad governance, respectively, based on the extremes of the G-Index. In particular, Democracy (G) firms are those whose G-Index score is 5 or lower, and Dictatorship (G) firms are those whose G-Index score is 14 or higher. In an analogous fashion, we create groups of firms whose scores are the very best and the very worst using the E-Index: we define Democracy (E) firms and Dictatorship (E) firms to be those with E-Index scores of 0 and E-Index scores of 5 or higher, respectively.

Table I, Panel A reports summary statistics concerning the governance indices. Rows (1)-(4) report a volume-by-volume breakdown of the G-Index and E-Index, and the percentage of the firms in each volume that are Democracy or Dictatorship firms using each of the indices.

Following GIM, we construct governance portfolios based on holding long Democracy firms and shorting Dictatorship firms. Portfolios are rebalanced at the beginning of each month and governance data is updated whenever information in a new IRRC volume becomes available. The trading strategy is carried out for the period from September 1990, the first publication date of IRRC volumes, until June of 2008. We match each firm's monthly governance data with its monthly returns (including dividends) from CRSP, then construct both a market-value-weighted portfolio and an equal-weighted portfolio.

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[4] Filling forward for 2 year only or for 3 full years does not materially change the results in our paper.

Table I, Panel B reports the average raw (unadjusted for risk) monthly portfolio returns from the four governance trading strategies – value- and equal-weighted, using G-Index and E-Index – between each pair of successive IRRC volumes. These statistics indicate that, for each of the four strategies, average monthly portfolio returns are high during the September 1990-December 1999 period examined by GIM, but drop in the latter half of our sample period (the January 2000-June 2008 period).

2.2. Governance and Abnormal Returns 1990-2008

The above monthly returns produced by the governance-based strategies do not account for their associations with systematic risks. To test whether the governance based strategies yield risk-adjusted abnormal returns, we use (as done by Gompers, Ishii, and Metrick (2003)) the standard four-factor model based on the three factors of Fama-French (1993) augmented by the momentum factor of Carhart (1997). In particular, we divide the sample period into the two periods 1990-1999 and 2000-2008, where the former matches the period studied by GIM. For each period, we run a regression of monthly portfolio returns on the four-factors. We display the results in Panel A of Table II.

For the first period of 1990-1999, we find economically and statistically significant abnormal returns for all four trading strategies. For example, the value-weighted (equal-weighted) portfolio formed on the G-Index produces average abnormal monthly returns of 69 (49) basis points, with statistical significance at the 1% (5%) level. Our results replicate those in GIM, who report the value- (equal-) weighted monthly portfolio return over the same period of 72 (45) basis points. We obtain similar, but stronger, results using E-Index based portfolios. The value and equal-weighted portfolios produce average abnormal monthly returns of 123 and 60 basis points, respectively, both statistically significant at the 1% level.

The results for the second period of 2000-2008 are strikingly different. For this period, both the value and equal-weighted portfolios based on the G-Index or the E-Index produce average monthly abnormal returns that are statistically indistinguishable from 0. Thus, combined with our findings in the raw portfolio returns, the profitability of trading strategies based on the G-Index and the E-Index, either adjusted or unadjusted for risk factors, appears to wane in the 2000s.

As a robustness check, we examine whether the above results, for the 1990s or for the 2000s, are driven by certain sub-periods. To be able to perform tests with a meaningful statistical power, we focus on four-year (48 months) sub-periods[5]. In particular, we examine all fifteen 4-year (48 month) sub-periods starting in January of each calendar year, from 1991 to 2005[6]. Panel B of Table II displays the results.

The results indicate that there is a marked difference between the eight 4-year sub-periods beginning earlier than 1999 and the seven 4-year sub-periods beginning in 2000 or later. For periods beginning prior to 2000, the governance-based strategies generate positive and statistically significant returns in all or many of these periods: the value-weighted E-based strategy produces a positive and statistically significant average abnormal monthly return in all nine sub-periods beginning prior to 2000; the equal-weighted E-based strategy produces such a return in seven sub-periods; the value-weighted G-based strategy produces such a return in five sub-periods, and the equal-weighted G-based strategy produces such a return in four sub-periods. By contrast, the results for sub-periods beginning in 2000 or later are strikingly different: none of the four governance strategies produce a statistically significant positive return in any of the seven 4-year periods beginning in 2000 or later.

In Figure I, we plot the cumulative abnormal returns using the 4-year sub-period average monthly abnormal returns. For each year, we annualize abnormal returns estimated using data over the next four years, and cumulate the annualized abnormal returns from 1991 to 2008. This graphical representation of Panel B of Table III shows that, for all four governance strategies, the cumulative excess returns are monotonically increasing during the 1990s and subsequently flatten until the end of our sample period.

Panel C of Table II displays the performance of the governance strategies for the period 1990-2008 as a whole. Consistent with the picture emerging from Figure I, three of the four governance strategies produce positive and significant (at the 1% confidence level) average monthly abnormal returns over the entire period. However, as Panels A and B of Table II (as well as Figure I) indicate, this performance of the governance strategies is generated entirely

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[5] Results using all three-year sub-periods and all five-year sub-periods are similar
[6] In the first sub-period, we include the last 4 months in 1990 resulting in a total of 52 months. In the last sub-period, we include only the first 6 months of 2008, resulting in a total of 42 months.

during the 1990-1999 period investigated by GIM, and these strategies produce subsequently returns that are indistinguishable from zero.

3. Learning and the Returns to Governance Indices

3.1 The Learning Hypothesis

What can explain the abnormal returns associated with governance strategies during the 1990s? In considering this question, it is important to note that, during the 1990s, or at least since 1995, there were no new legal developments that changed the significance of governance provisions in place and could by themselves produce abnormal returns associated with these provisions. During the 1980s, the Delaware courts issued rulings, culminating with the Delaware Supreme Court's 1990 decision in *Paramount Communications v. Time, Inc.*, expanding the power of boards to use governance provisions to "just say no" to acquisition offers they view as undesirable. One could perhaps view the 1995 *Unitrin* decision of the Delaware Supreme Court as clarifying the board's power to just say no, but even in such a case there can be little disagreement that there were no subsequent legal changes during the 1990s, and it is thus difficult to explain the abnormal returns associated with the G-Index and the E-Index during the 4-year periods of 1996-2000, 1997-2001, 1998-2002, and 1999-2003 as the product of legal changes.

For this reason, GIM and subsequent work viewed the association between the G-Index and returns for the 1990s as being due to (i) learning: an inability by market participants in 1990, facing a landscape of provisions and applicable rules that had substantially evolved and changed during the 1980s, to forecast accurately the significance of governance for the expected future performance of firms; or (ii) model misspecification: an association between governance and a common risk factor that is not captured by the four-factor model.[7] Our finding that the identified association between governance indices and returns did not persist after the 1990s raises the question of whether any of the two explanations offered for the existence of the associations during the 1990s could also explain the subsequent disappearance of the association.

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[7] Explanation (i) seems to have been favored by GIM, and Explanation (ii) was favored by Core et al. (2006) and Cremers et al. (2009).

Under the learning hypothesis (i), which is the focus of the investigatrion in this Section, market prices in the 1990s had not yet precisely priced the expected effects of the differences between well-governed and poorly-governed firms on future profitability, but over time a sufficient number of market participants have learned to appreciate the significance of these differences, making trading on the basis of such differences no longer profitable. The learning hypothesis accepts that it might have been difficult for market participants to forecast precisely how governance provisions would affect the future performance of firms overall. This overall effect combines many effects, some of which go in opposite directions, which in turn depend on how provisions interact with each other and with legal rules. Forecasting this overall effect on *a priori* theoretical grounds was clearly difficult. Furthermore, even assuming that some arbitrageurs of superior ability were able to make precise predictions in this connection, their activities might not have been sufficient to get the market prices of IRRC firms to fully reflect their forecasts: the firms in the IRRC universe represent the lion's share of the US capital markets, and there are limits to the amount of capital any arbitrageur can commit to a given long-term trading strategy (Shleifer and Vishny (1990)).

While market prices in 1990 might not have reflected a precise forecast of the differences between good-governance and poor-governance firms in terms of future performance, market participants might have gained over time a better appreciation of these differences. Under the learning hypothesis, the association between the governance indices and abnormal returns ceases to exist once market participants with sufficient capital have gained sufficient appreciation of these differences for market prices to reflect such appreciation, which in turn makes it no longer possible to profit by trading on the basis of the governance indices.

In this section we investigate the possibility that the learning hypothesis can explain both the association between governance indices and returns and its subsequent disappearance. We begin by analyzing the association between returns to governance portfolios and attention to governance among a broad range of players – the media, institutional investors, and academic researchers (section 3.2). Subsequently, to examine whether market participants made governance-related expectational errors during the learning period but not afterwards, we examine market reactions to earning announcements (section 3.3) as well as analyst surprises by such announcements (section 3.4). Next, we show that, consistent with the learning hypothesis, the relationship that the governance indices have with Tobin's Q and operating performance persist throughout 1990-2008 (section 3.5). We then consider factors suggested in the literature

for augmenting the four-factor model, and find that they cannot explain the existence of a governance-returns correlation during 1990-2001 and its subsequent disappearance (section 3.6). Finally, we show that our results are robust to excluding new economy firms or firms from competitive industries and to industry-adjustment of returns (section 3.7).

3.2 Returns to Governance Strategies and Attention to Governance

3.2.1 Measuring Attention to Governance

We begin by looking at several quantitative measures that reflect the evolution over time in the attention paid to governance by participants in the market and the environment in which it operates. Below we examine in turn the attention paid to governance by the media, institutional investors, and academic researchers. In all cases, we find that the level of attention rose in the beginning of the 2000s to levels much higher than those of the 1990s and subsequently remained high until the end of our sample period.

(i) The Media: We begin by looking at references in the media to corporate governance. Media references to and coverage of corporate governance may be relevant for two reasons: greater attention by journalists to governance issues may be a mechanism for information diffusion, influencing market participants and leading them to pay more attention to such issues; and, given that journalists talk with and write for market participants, media coverage may also partly reflect (rather than bring about) a greater interest in these issue on the part of market participants.

To obtain a quantitative proxy for the media interest in governance, we search through Lexis-Nexis Academic and tally, in each calendar year, the number of unique newspaper articles that reference the word "corporate governance" from four of the most widely followed newspapers, namely, USA Today, NYTimes, Washington Post, and the Financial Times. We normalize the number of articles by their 1990 values and plot in Figure II(A) the time series. These time series exhibit a slow, gradual increase during the 1990s, then a steep jump from 2001 to 2002, with interest subsequently remaining at a level much higher than during the 1990s.

(ii) Institutional Investors: We collect the total number of corporate governance shareholder resolutions submitted by institutional investors in each proxy season since 1990 from the annual proxy season reviews of Georgeson Shareholder; all values are normalized by the 1990 counts. We plot the time series in Figure II(B).

Here we see that the incidence of such shareholder proposals fluctuates between 1990 and 2002, rising steeply in the 2003 proxy season and subsequently remaining at levels that are substantially higher than those prevailing prior to the sharp rise. Because shareholder proposals need to be submitted substantially early in advance of the shareholder meeting, proposals for the proxy season of 2003 were largely submitted in 2002. Thus, Figure II(B) reflects a sharp rise in attention given to corporate governance already taking place in 2002, in the form of a rising tendency of institutional investors to submit corporate governance proposals.

Indeed, (Georgeson (2003)) lists all the corporate governance proposals submitted by institutional investors for vote during the 2003 proxy season, and a review of this list reveals that some of the most common types of proposals, and the ones attracting most support from shareholders in shareholder votes, were ones focusing on key provisions of the E-Index and the G-Index. In particular, a substantial fraction of all the corporate governance proposals submitted by institutions and voted upon during the 2003 proxy season concerned staggered boards, poison pills, or golden parachutes – all elements of the E-Index (as well, of course, as of the broader G-Index). Furthermore, each of these three types of proposals attracted on average a majority of the votes cast by shareholders.

(iii) Academic Research: We next look at the attention paid to governance by academic researchers. Academic research can provide market participants with ideas and findings that are directly relevant to the choices they make, and it can also influence the choice of issues to which they pay attention.

Academic papers are often published a significant time after they are written and first circulated (as most academic readers of this paper probably painfully recognize). Researchers affiliated with the NBER issue and circulate completed studies in this form, often significantly before their papers are published. We therefore look at the NBER working paper database and search for a number of newly issued working papers that reference the term "corporate governance." Figure II(C) reports in time series the number of new governance-related working papers that are posted on the NBER working paper database in each year, normalized by the total number of working papers posted on the NBER database in each year. This time series reveal similar time trends as the previous figures, showing that research on corporate governance increased considerably from 1998 to 2004, and that it remained subsequently at a much higher level than prior to this increase.

Overall, we see that the attention paid by academic researchers to governance has risen considerably around the 2001-2002 period in which interest from non-academics (the media and institutional investors) rose sharply. The substantial increase in the level of academic interest was spread over a somewhat longer period, starting to climb even before the jump in attention by the media and institutions, and continued climbing a bit after this jump.

Finally, it is worth noting the timing of the GIM study itself. The study was issued as an NBER discussion paper on August 2001, and its findings were already noted by the media in the fall of 2001. The *New York Times* dedicated its trading strategies column, and the *Financial Times* dedicated its Global Investing column, to reporting about the abnormal returns associated with GIM's governance strategies.[8]

(iv) The Attention Index: To aggregate the different proxies for attention described above, we construct an attention index as follows. We construct each of the above time series attention measures based on quarterly totals, normalized by their 1990 Q4 values, then taking the arithmetic average across the three series. As expected, Figure II(D) reveals a pattern consistent with those above: in the beginning of the 2000s there was a sharp increase in the level of the attention index, which subsequently remains at such high levels. In the following section, we revisit the learning hypothesis and attempt to make a linkage between governance-based abnormal returns and the attention index.

3.2.2 Governance Alphas and the Attention Index

The patterns we document above beg the question of what is the relationship between governance abnormal returns and the attention given to corporate governance. We examine this question in two ways. First, we regress the raw governance portfolios on the four factors as before, but include interactions of each of the four factors and the constant term with quintile ranks of the attention index, where the first quintile is denoted as 0 and the fifth quintile denoted as 4. In this regression, the constant term represents the average abnormal return at the lowest level (i.e. first quintile) of attention paid to corporate governance.

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[8] See Alison Beard, "Shareholder-Friendly Companies Outperform," *Financial Times*, November 9, 2001; Mark Hulbert, "Who Best Protects Shareholders? The Shareholders," *New York Times*, November 4, 2001.

Results of this regression are reported in Panel A of Table III, in which we find that the value- (equal-) weighted G-Index portfolios produce an average of 70 (51) basis points per month when attention to governance is at the first quintile, but decreases by 23 (9) basis points per month for each quintile increase in the attention index, so that when the attention index reaches the 3rd (4th) quintile alphas are no longer positive and statistically significant at the 10% level. Moreover, the value- (equal-) weighted E-Index portfolios produce an average of 140 (52) basis points per month when attention to governance is at the first quintile, but decreases by 32 (4) basis points for each quintile increase in the attention index, so that when the attention index reaches the 4rd (5th) quintile alphas are no longer positive and statistically significant at the 10% level.

A second method by which we explore the association between governance abnormal returns to the attention paid to governance is by regressing 36-month rolling alphas on the quintile ranks of the attention index. Panel B of Table III reports the estimation results. Because rolling alphas are expected (by construction) to have a high degree of time-series correlation, we use Newey-West (1987) hoteroskedasticity and autocorrelation robust standard errors with 36 lags.

Results from this regression show that the value- (equal-) weighted G-Index abnormal returns are on average 71 (36) basis points per month when attention to governance is at the first quintile, but decreases by 18 (3) basis points per month for each quintile increase in the attention index, so that when the attention index reaches the 4th (5th) quintile rolling alphas are no longer positive and statistically significant at the 10% level. Moreover, the value- (equal-) weighted E-Index abnormal returns are on average 114 (59) basis points per month when attention to governance is at the first quintile, but decreases by 22 (5) basis points for each quintile increase in the attention index, so that when the attention index reaches the 5th quintile alphas are no longer positive and statistically significant at the 10% level.

Overall, the two sets of regressions in Table III show consistent patterns in the association between governance abnormal returns and the attention paid to corporate governance. Alphas from governance portfolios decreased to zero as the attention paid to corporate governance heightened.

3.2.3 Structural Break in Returns to Governance

In this Subsection we take another look at the relationship between returns to governance strategies and attention to governance. In particular, we analyze whether it is possible to locate a structural break in the pattern of returns and if so how it relates to the period in which attention

to governance rose sharply. As we have seen, the attention paid to governance by both the media and institutional investors rose sharply in 2002. By then, interest by academics had been already rising for several years, and continued rising a bit afterwards. The sharp rise in attention to governance from the media and institutional investors might have been due to the "shock" created by the governance scandals of Enron, Worldcom and others, and to the accompanying governance reforms (SOX and the new listing requirements). The preceding and accompanying rise in academic research on the subject might have further contributed to the increased attention to governance. Whatever the reasons for the increased attention to governance, the patterns displayed above make it clear that among media journalists, institutional investors, and academic researchers, the levels of interest in governance from at least 2002 onward were considerably higher than those prevailing during most of the 1990s.

With any learning process, there is no reason to expect that it ever reaches a point in which <u>all</u> market participants recognize the significance of certain factors. What matters is its reaching a point in which profits from trading based on this factor are no longer possible because a sufficient number of market participants with sufficient capital have recognized the issue.

Given that we have documented that 1) governance trading strategies ceased to produce abnormal stock returns in the 2000s and 2) the level of interest in governance in several important sets of players reached historically high levels in the early 2000s, we explore below the relationship between governance alphas and the attention paid to governance, and we attempt to identify a structural break point in governance alphas. Finally, we test the hypothesis that, by the end of 2001, sufficient learning had taken place for market prices to internalize the significance of governance sufficiently for abnormal profits based on the governance indices to be no longer possible. We find below evidence that is consistent with the learning hypothesis.

As we saw from the figures about attention there is a big jump in attention in the beginning of the 2000s, roughly when we stop having abnormal returns when we look at four year periods. To study the issue more carefully, we begin by examining whether one can locate a structural break in the abnormal returns. In particular, we employ the Quandt (1960) procedure for identifying a structural break with a single unknown break point: we seek to identify the point in time in our sample in which the period prior to and the period after which the abnormal returns are most "different" statistically. Specifically, we estimate the following regression (1) for a sequence of all possible breakpoints in the data.

$$r_t = \alpha + POST_t + \beta_1 \cdot MktRf_t + \beta_2 \cdot SMB_t + \beta_2 \cdot HML_t + \beta_3 \cdot Carhart_t + \varepsilon_t \qquad (1)$$

For each break point (year and month in the sample) we estimate (1) using POST as an indicator variable for any point in time including and after the break point, and we compute the F-statistic on the coefficient on POST for each regression. The estimated structural break point is the year and month which yields the largest F-statistic over all possible break points in the estimation sample. Note that in employing the procedure we consider break points from only the middle 85% of the sample (i.e. 15% trimming) to ensure sufficient data to estimate the coefficients on the intercept α and on POST. In Table IV Panel A we find the G-Index value- and equal-weighted, and the E-Index value- and equal-weighted portfolio returns to have break points in abnormal returns occurring on May 2000, September 2001, August 2000, and December 2000, respectively. On average, the break point in abnormal governance returns suggested by the Quandt procedure occurred in November 2000.[9]

The above procedure provides an estimate for a discrete break, occurring fully at one point in time, in governance alphas; however, under the learning hypothesis, we would not necessarily expect any structural breaks to occur discretely when learning takes place over some time. Under this view, one might be interested in identifying a point in time ("critical learning point") at which the market has sufficiently learned to appreciate the difference between good versus bad governance firms, and after which point there are no more abnormal returns associated with governance based trading strategies.

While no test can allow us to identify such a point exactly, we can seek to approximate the location of this point as follows. Under gradual learning, the above Quandt procedure will identify a point in time that is likely to be in the middle of the learning process and prior to the critical learning point. As an alternative, we attempt to approximate the critical learning point by estimating, for each governance portfolio, rolling 36-month alphas (as laid out in 3.2.2) and identifying the first point in time (year and month) in our sample period in which all subsequent rolling alphas are significantly positive. In Panel A of Table IV we find that such a point occurs on March 2002, December 2002, January 2003, and July 2002 for the G-Index value- and equal-

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[9] We use the asymptotic distribution developed by Andrews (1993) for the maximum F statistic to test the null hypothesis that $Post_t = 0$ (that is, the post period abnormal returns) for each of the estimated break points, and we reject the null hypothesis at the 1% level for the value-weighted portfolios but not for the equal weighted portfolios.

weighted, and the E-Index value- and equal-weighted portfolios, respectively. On average across the four governance portfolios considered, after August of 2002 we find no more positive and statistically significant abnormal returns associated with governance trading strategies.

By construction, we should expect the point in time identified by this procedure to occur AFTER the critical learning point, since the rolling alphas are estimated based on trailing 36 months data. Combined, the Quandt procedure should provide a lower bound for the critical learning point while the rolling alpha procedure should provide an upper bound for the critical learning point. Indeed, in our data we find that for each of the four governance portfolios considered, the break point identified by the Quandt procedure always precedes that obtained from the rolling alpha procedure. Using the mid-point between the two dates as an approximation for the critical learning point, we find that this point occurs on March 2001, April 2002, October 2001, and September 2001 for the G-Index value- and equal-weighted, and the E-Index value- and equal-weighted portfolios, respectively. On average, we estimate the critical learning point to have occurred on October of 2001. In other words, approximately by the end of 2001 sufficient learning about the significance of governance has occurred and markets have learned to appreciate the differences between good versus bad governance firms.

In Panel B of Table IV we examine and compare the abnormal returns to governance portfolios for the 1991-2001 period and the post-2001 period of 2002-2008 by again running regressions of the monthly returns of each governance strategy on the four factors, but this time adding a time dummy, labeled "POST," indicating whether the time period is after 2001, as well as interactions between each of the four factors with POST. Columns (1)-(4) report the estimation results of the regression using monthly returns from value-weighted and equal-weighted portfolios formed by going long the Democracy portfolio and short the Dictatorship portfolio based on the G-Index and the E-Index.

We find that all four trading strategies produce an average monthly alpha that is economically and statistically significant (at the 5% level) during the period 1990-2001. For our purposes, what is of special interest is the sum of the Alpha and POST variables, which reflects the post-2001 average monthly alpha. In all the columns, applying an F-test to the sum of the Alpha variable and the POST variable shows that, for the period 2002-2008, none of the four portfolios produces abnormal returns that are statistically different from 0 at the 5% level. Specifically, the G-Index (E-Index) value-weighted portfolio produces 57 (111) basis points in the pre-period; the difference in the post-period abnormal monthly returns is very close in

magnitude and statistically significant at the 5% (1%) level at -92 (-113) basis points, resulting in a post-period abnormal monthly return that is statistically no different from zero at the 5% level. The G-Index (E-Index) equal-weighted portfolio produces abnormal monthly returns of 49 (54) basis points in the pre-period which is statistically significant at the 5% (1%) level; F-test results show again that abnormal returns in the post-2001 period are not statistically different from zero at the 5% level.

3.3 Stock Market Reactions to Earnings Announcements

Following the approach introduced by LaPorta et al (1997) for testing for markets' failure to forecast differences in future profitability among firms, we turn to examine market reactions to earnings announcements both during 1990-2001 and during 2002-2008. To the extent that market participants did not during the first period fully appreciate differences between well-governed and poorly-governed firms, the market's expectation of future earnings should be expected not to have given sufficient weight to the difference between good-governance and poor-governance firms. Accordingly, during the 1990-2001 period, the market could be expected to be more positively surprised by the earning announcements of good-governance firms than by those of poor-governance firms. In contrast, to the extent that market participants in the aggregate had by the end of 2001 sufficiently learned to appreciate the difference between good-governance and poor-governance firms, we should see during the post-2001 period no association between governance indices and market surprises around earnings announcements.

We construct a dataset of quarterly earnings announcements data for firms in the IRRC dataset. Earnings announcements are obtained from I/B/E/S, for which we require each announcement to have at least one analyst forecast 30 days prior to the announcement, to have coverage in Compustat, and have returns data in CRSP. The resulting sample includes 91,101 earnings announcements from September 1990 to December 2008. Announcement dates are obtained by combining I/B/E/S and Compustat; following DellaVigna and Pollet (2009), in cases where I/B/E/S and Compustat announcement dates differ, we assign the announcement date to be the earlier of the two dates.[10]

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[10] Searching through Lexis-Nexis for the actual announcement date in the PR newswires, DellaVigna and Pollet (2009) find that the reported announcement date often reflects the date of publication in the *Wall*

Around these announcement dates we compute stock returns. Following prior work (see, for example, Core et al. (2006)), we consider the following earnings announcement return windows: from 20, 10, 5, 3, and 1 trading days prior to the earnings announcement until 1 day after the announcement. In addition to raw returns, we also calculate risk-adjusted excess returns as described below.

Following Giroud and Mueller (2010), we exclude from our regressions firms that are followed by less than 5 analysts. Firms in the IRRC dataset are covered on average by 9 analysts, and the excluded firms constitute less than 4.7% of the total market capitalization of IRRC firms. Firms followed by a significant number of analysts are the ones that attract significant attention from market participants and thus those with respect to which learning is more likely to occur. Our results continue to hold, but their statistical significance weakens somewhat, if we include firms that are followed by fewer than five analysts.

We begin by regressing returns accompanying earning announcements on a governance index, the POST variable indicating whether the observation is from the post-2001 period, and an interaction of the governance index with the POST variable:

$$r_i(t-\tau, t+1) = \alpha + \beta_1 \cdot Index_{it} + \beta_2 \cdot POST_t + \beta_3 \cdot Index_{it} \times POST_t + \varepsilon_{it} \text{ for } \tau \in \{1, 3, 5, 10, 20\} \quad (2)$$

Under the learning hypothesis we are testing, we expect to see i) higher returns around the announcements of good-governance firms during 1990-2001 ($\beta_1 < 0$), and ii) no association between governance and announcement returns during the post-2001 period ($\beta_1 + \beta_3 = 0$).

Columns (1)-(5) of Table V Panel A (B) report pooled OLS estimation results using the G-Index (E-Index). Each column looks at returns in one of the five windows of different lengths we examine. To account for possible autocorrelation and cross-sectional correlation in quarterly

Street Journal, which may occur later than the actual announcement. In cases of disagreement among I/B/E/S and Compustat, the earlier date tends to be the correct one, while the latter date tends to reflect the _WSJ_ publication date.

earnings surprises (e.g., see Bernard and Thomas (1989) and (1990)), we report two-way cluster robust standard errors, clustering by firm and by year-quarter[11].

In all ten regressions, we find that the coefficient of the governance index used is negative and statistically significant (at the 1% level in eight out of the ten regressions). Thus, whether using the G- or E-Index, and whatever window around the earning announcement is used, the evidence is consistent with the hypothesis that market participants were more positively surprised by the earning announcements of good-governance firms than by the announcements of poor-governance firms during the period 1990-2001.[12]

Furthermore, in all ten regressions, the coefficient of the interaction term between the POST variable and the governance index used is positive and significant (at the 1% level in nine out of the ten regressions). This evidence is consistent with a post-2001 erosion in the differential between good-governance and poor-governance firms in terms of generating positive market surprises by earning announcements.

Furthermore, in most of the regressions, the coefficient of the interaction term (β_3) is similar in magnitude to the coefficient on the governance index used in the regressions (β_1). In nine of the ten regressions, F-test results show that the relationship between governance and earnings surprises post-2001, $\beta_1 + \beta_3$, is statistically indistinguishable from 0 at the 10% level. Thus, the evidence is consistent with the hypothesis that, by the end of 2001, the market had developed sufficiently accurate expectations for how differences between good-governance and poor-governance firms can be expected to manifest themselves in earning announcements.

As a robustness check, we re-run all of the regressions using as a dependent variable the risk-adjusted excess returns in our various announcement windows rather than the raw returns. Specifically, we estimate each firm's loadings on the Fama-French (1993) three factors using

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[11] Recent literature (e.g., see Peterson (2009) and Gow et al (2010)) has shown that in panel data settings where cross-sectional and time-series correlations exist in the error term, standard error estimates that accounts for only one of the two types of correlations can be often be downward biased.

[12] Examining the difference during 1990-1999 between the returns accompanying earning announcements of good-governance firms and those of poor-governance firms, Core et al. (2006) obtain findings with the same sign as ours but without statistical significance. Unlike our analysis, their analysis aggregates all the returns accompanying earning announcements of firms with a given G-Index score (which reduces statistical power) and does not exclude firms followed by less than 5 analysts.

data from 20 to 210 trading days prior to the announcement date. Using each firm's estimated factor sensitivities, we risk-adjust returns around announcement as follows:[13]

$$r_i^e\left(t-\tau,t+1\right)=r_i\left(t-\tau,t+1\right)-\left(\hat{\beta}_{i,mktrf}r_{mktrf}\left(t-\tau,t+1\right)+\hat{\beta}_{i,smb}r_{smb}\left(t-\tau,t+1\right)+\hat{\beta}_{i,hml}r_{hml}\left(t-\tau,t+1\right)\right)$$
$$for\ \tau\in\{1,3,5,10,20\}$$
(3)

Columns (6)-(10) of Table V Panel A (B) report the results of the regressions using the G-Index (E-Index). Our results are largely consistent with those obtained using the raw returns. In particular, the coefficient of the governance index (β_1) is negative in all ten regressions and statistically significant in eight of them (at the 1% level in six of them); moreover, the coefficient of the interaction term (β_3) is positive in all ten regressions and statistically significant in nine of them. Furthermore, this coefficient is similar in magnitude to that of the governance index used, and F-tests indicate that, in nine of the ten regressions, $\beta_1 + \beta_3$ is not statistically different from 0 at the 10% level, consistent with the possibility that markets were not differentially surprised by good-governance and poor-governance firms after 2001.

For robustness, we conduct further tests focusing on differences between firms with the best and worst governance scores, that is, firms in the Democracy and Dictatorship portfolios defined earlier. Table V reports estimation results of regressions that are similar to those reported in Table IV but that limit the universe of firms to Democracy and Dictatorship firms and replace the governance indexes used earlier with the DEMOCRACY dummy, indicating whether the firm belongs to the Democracy portfolio (DEMOCRACY = 1) or the Dictatorship portfolio (DEMOCRACY = 0). We thus test whether $\beta_1 > 0$ and $\beta_1 + \beta_3 = 0$ in the following specification:

$$r_i\left(t-\tau,t+1\right)=\alpha+\beta_1\cdot DEMO_{it}+\beta_2\cdot POST_t+\beta_3\cdot DEMO_{it}\times POST_t+\varepsilon_{it}\ \text{for}\ \tau\in\{1,3,5,10,20\}\ \ (4)$$

The organization of Table VI follows the format of Table V and the results are similar. The coefficient of DEMOCRACY is negative in all regressions and statistically significant in most of

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[13] Including the intercept term and compounding the returns does not alter our results.

them, consistent with the market being more positively surprised by the earning announcements of Democracy firms than by those of Dictatorship firms during 1990-2001. At the same time, F-tests show that in nearly all regression specifications $\beta_1 + \beta_3$ is not statistically different from 0, consistent with market participants' no longer being differentially surprised by those two types of firms after 2001. In sum, our findings in Tables V and VI are consistent with the learning hypothesis that (i) during 1990-2001 the market did not fully absorb the significance of the provisions in the governance indices and was consequently more positively surprised by the earning announcements of good-governance firms than by those of poor-governance firms, and (ii) after 2001, market participants sufficiently recognized the difference between good-governance and bad-governance firms so that they were not differentially surprised by the earning announcements of these different types of firms.

3.4 Analyst Forecast Surprises

If the market was more likely to be positively surprised by the earnings announcements of some firms, one might also wonder whether analysts were also more positively surprised by the announcements of such firms. Because there is evidence indicating that the I/B/E/S data on analysts may not be fully reliable (see, e.g., Ljungqvist et al. (2008)), and because stock prices and stock prices over time are determined by market participants in the aggregate rather than analysts alone, we believe that tests based on differences between earning announcements and analyst forecasts are likely to be less telling than tests based on market reactions reflected in stock returns. Nonetheless, we complement our analysis of such market reactions with an analysis of the relationship between analyst surprises and governance scores in different periods.

We use data about analyst forecasts from I/B/E/S as in the previous section, and we again exclude firms that are followed by fewer than five analysts. We continue to use quarterly earning announcements, and match them with the corresponding analyst forecasts. We define "consensus forecasted earning" as the median analyst forecast on the closest date prior to the last day of the fiscal period, and define the variable "SURPRISE" as equal to the actual earnings announced by a firm minus the consensus forecasted earnings divided by the stock price 5 days prior to the announcement date.

Since this variable can be quite noisy, we follow the approach of Campbell, Lo, and McKinley (1997) and use discretized variables that take three values depending on whether there is a meaningful positive surprise, a meaningful negative surprise, or no meaningful surprise.

First, we use NEWS1, which takes on 3 values representing good/no/bad news: it is equal to 1 if SURPRISE is greater than 5%, is equal to 0 if SURPRISE is between -5% to 5%, and is equal to -1 if SURPRISE is less than -5%. Second, we use NEWS2, which also takes on 3 values representing good/no/bad news: NEWS2 is equal to 1 if SURPRISE is greater than 10%, 0 if SURPRISE is between -10% to 10%, and is equal to -1 if SURPRISE is less than -10%.

For each of the NEWS1 and NEWS2 variables, we estimate an ordered probit using as explanatory variables a governance variable (E-Index, G-Index, DEMOCRACY(G) or DEMOCRACY (E)), the POST variable for observations after 2001, and an interaction of the governance variable and the POST variable. Again, to account for the possibility of time-series as well as cross-sectional correlation in analyst surprises, we report double cluster robust standard errors, clustering by firm and year-quarter. Results of the ordered probit estimation are reported in Table VII.

In general, we find evidence that is consistent with the findings in Tables V and VI based on surprises captured in market reactions to earnings announcements. Specifically, we find that better-governed firms are more likely to have good surprises (positive news), and vice versa. The coefficients of the governance variables are negative in all regressions, and statistically significant at the 5% level in five out of the eight regressions. This finding is consistent with the possibility that, during the 1990-2001 period, earning announcements of good-governance firms were more likely to represent a meaningful positive surprise relative to analyst forecasts than the announcements of poor-governance firms.[14]

Furthermore, examining the sum of the coefficient of the governance variable and the variable interacting governance with POST, F-tests indicate that in most regressions the associations between surprises and governance is statistically no different from 0 in the post-

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[14] Examining the difference between good-governance firms and poor-governance firms in terms of analyst surprises during 1990-1999, Core et al. (2006) obtain findings with the same sign as ours but without statistical significance. Unlike our analysis, their analysis does not focus just on meaningful surprises (which we do by using discretized variables following Campbell, Lo, and MacKinley (1997), does not exclude firms followed by less than 5 analysts, uses the annual analyst forecasts rather than the quarterly forecasts which we use, and does not use data about analyst surprises after 1999. Giroud and Mueller (2008), excluding firms followed by less than 5 analysts, obtain results consistent with those we obtain for the 1990-2001 period. None of these studies considers differences between the period before and after the end of 2001, which is the focus of our analysis in this subsection.

2001 period. This is consistent with the possibility that, after 2001, good-governance firms were no longer more likely to generate meaningful analyst surprises than poor-governance firms.

Thus, as with market surprises around earnings announcements, the evidence discussed in this section is also consistent with the hypothesis that, by the end of 2001, market players had internalized the difference between good-governance and poor-governance firms (as those firms are defined by the governance indices).

3.5 Operating Performance and Tobin's Q

Under the learning hypothesis, good governance will continue to be associated with higher firm value and better operating performance after the learning period. In particular, the learning hypothesis says that good governance will cease to be associated with abnormal returns after the end of the learning period simply because the improved performance associated with good governance will become factored into market prices.

We begin by looking at the relationship between the governance indices and Tobin's Q. Tobin's Q has long been used in the governance literature as a key measure of firm value and performance.[15] Gompers, Ishii and Metrick (2003) report a strong and negative association between the G-Index and Tobin's Q from 1990 to 1999, and Bebchuk, Cohen, and Ferrell (2009) find a strong and negative association between the E-Index and Tobin's Q from 1992 to 2002. Following prior work, we use the definition of Tobin's Q in Kaplan and Zingales (1997),[16] and we use as the dependent variable the log of industry-median adjusted Tobin's Q, defined as the log of a firm's Q divided by the industry's median Q, using Fama-French 48 industry definitions.

In row (1) of Table VIII Panel A we report results from pooled regressions of industry-adjusted Tobin's Q on the governance indices. As controls, we use all the variables used as controls in Bebchuk, Cohen, and Ferrell (2009), who in turn used the same controls of Gompers, Ishii and Metrick with a few additions[17]: log of the book value of assets in the current fiscal year, log of company age measured in months as of December of each year, a dummy for

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[15] See, e.g., Demsetz and Lehn (1985), Morck et al. (1988), McConnell and Servaes (1990), Lang and Stulz (1994), and LaPorta et al (2002).

[16] Under this definition, Tobin's Q is the market value of assets divided by the book value of assets plus the market value of common stock less the sum of book value of common stock and balance sheet deferred taxes.

[17] Using only the controls employed by GIM, with no additions, yields similar results.

incorporation in Delaware, insider ownership, square of inside ownership, ROA (the ratio of income before extraordinary items to assets at the beginning of the fiscal year) in the current fiscal year, CAPEX/assets (the ratio of capital expenditures to assets) in the current fiscal year, leverage in the current fiscal year, and R&D expenditures per sales in the current fiscal year, and dummies for missing R&D expenditure data and missing inside ownership data. Data on all these standard controls is taken from Compustat. To account for both cross-sectional and time-series correlation in the data, we estimate two-way cluster robust standard errors, clustering by year and by firm. We pooled two time periods in our regressions, 1990~2001 and 2002~2008.

Our results show that both the G-Index and E-Index are negatively associated with Tobin's Q both during 1990-2001 and during 2002-2008. Both the magnitudes and the statistical significance of the coefficients on the governance indices remained stable across the two periods.

In addition to Tobin's Q, also examine several operating performance metrics: ROA (defined as the ratio of net income before extraordinary items to assets at the beginning of the fiscal year), five-year, three-year, and one-year sales growth (the ratio of total sales in the current fiscal year to the total sales of five, three, and one fiscal years ago, respectively), and net profit margin (the ratio of net income before extraordinary items to sales in the current fiscal year). As with Q, these dependent variables are adjusted by their industry median values in the same fiscal year, using Fama-French 48 industry classifications.

Rows (2) ~ (6) of Table VIII Panel A report the results of pooled regressions of industry-adjusted operating performance measures on governance indices and controls. As controls in each of these pooled regressions we include log of the book-to-market ratio from the previous fiscal year, log of total assets, log of company age, an indicator for Delaware incorporation, inside ownership, square of inside ownership, CAPEX/assets, and R&D per sales, dummies for missing R&D expenditure data and missing inside ownership data as well as year and industry fixed effects. We estimate two-way cluster robust standard errors, clustering by firm and year.

As with Q, we find in general the association between the governance indices and operating performance to be negative and statistically significant both in the period 1990~2001 and also 2002~2008, with the magnitude and statistical significance of the coefficient on the governance index to be stable across the two periods. For net profit margin, we find the association to strengthen in the period 2002~2008. Panel B of Table IX uses Democracy (G) and Democracy (E) as the primary independent variables of interest, and yields qualitatively similar results to those obtained using the G-Index and E-Index.

We can thus conclude that, while the association between the governance indices and abnormal returns did not exist after the period for which it was identified, the relationship of governance indices with Tobin's Q and firm operating performance measures found by prior work persisted throughout our sample period 1990-2008. While the difference between good-governance and bad-governance firms was no longer a surprise to market participants, it remained in place and continued to be reflected in firms' operating performance and Tobin's Q. This finding also indicates that, even though the G-index and E-Index can no longer generate abnormal trading profits, they remain a valuable tool for researchers, investors, and policymakers.

3.6 Other Factor Models

As discussed earlier, an alternative explanation to the learning explanation is that the four factor model we employ to estimate abnormal returns is misspecified. An omitted risk factor (or a set of them) that is positively correlated with the G and E-Index can account for the existence of abnormal returns in the four factor model. If an alternative factor model explains asset returns, it must also explain the post-2001 disappearance in governance abnormal returns derived from the four factor model, which can occur if the risk premium associated with the unobserved and confounding risk factors became very small or non-existent during the period 2002-2008.

To examine the possibility that an alternative pricing model explains the pattern of abnormal returns observed in the standard four factor model, we consider six alternative factor models. In each of the six variations we include alternative factors to the regression specification of (1), but also include interaction terms with the POST 2001 dummy with each of the factors. We report regression results in Table IX but for ease of presentation only display the constant term and POST coefficient.

In row (1) of Table IX we consider a four factor model that uses, instead of the Carhart momentum factor, the UMD momentum factor constructed by Fama and French (1996). These two measures are similar, but the construction of UMD uses an additional sort based on size. Using the UMD, our results are qualitatively similar to those obtained using the Fame-French-Carhart four-factor model, with positive average monthly abnormal returns observed until the end of 2001 and none subsequently.

In rows (2)~(4) we consider three five-factor models which add to the three Fama-French factors and the Carhart momentum factor an additional fifth risk factor. First, Row (2) includes

as the fifth factor the liquidity factor of Pastor and Stambaugh (2003), which we obtain from Pastor's website.[18] The results in row 2 indicate that, with the inclusion of the liquidity factor, the results remain qualitatively similar to those obtained using the four factor model.

Row (3) includes as a fifth risk factor the downside risk factor of Ang et al. (2006), which we constructed following the description in Ang et al (2006). As the results in row (3) indicate, with the inclusion of the downside risk factor, the results remain qualitatively similar to those obtained using the four factor model.

Next, row (4) includes as the fifth risk factor the takeover factor of Cremers et al. (2009), which we obtained from these authors.[19]. Consistent with Cremers et al. (2009) and Giroud and Mueller (2010), we find that the inclusion of the takeover factor in general weakens our results using the G-Index portfolios, particularly for the equal weighted portfolios. Still, for the value-weighted G-Index portfolio produces average monthly abnormal returns of 45 basis points, which is significant at the 10% level, during 1990-2001, and, moreover, the POST coefficient is negative and statistically significant at the 10% level so that the sum of the constant and POST results in average abnormal monthly returns for the 2002-2008 that is statistically indistinguishable from 0 at the 10% level. Furthermore, the value-weighted E-Index portfolio produces the same patterns in returns as those obtained for the four factor model, with the results retaining strong statistical significance. Although the equal weighted G-Index and E-Index portfolios do not obtain statistical significance, the constant and POST coefficients still have the same sign and similar magnitude to those obtained using the four factor model.

Finally, in rows (5) and (6) of Table IX we consider six and seven factor models, adding to the original four factors the liquidity and the downside risk factor (row (5)) and the liquidity, downside risk, and takeover factors (row (6)), respectively. While both factor models generally weaken the equal-weighted portfolios results, our inferences using value-weighted portfolios continue to exhibit statistically strong results that are consistent with our earlier findings using the standard Fama-French-Carhart four factor model.

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[18] http://faculty.chicagobooth.edu/lubos.pastor/research/liq_data_1962_2008.txt

[19] We are grateful to Martin Cremers for making this data available to us. The data on the takeover factor provided by the authors ranges from January 1991 to December of 2003; therefore all our regressions involving the takeover factor only contains 156 months of data, with 24 months in the post 2001 period.

3.7 Robustness Checks

Before concluding, we conduct robustness checks with respect to our results concerning the differences between the 1990-2001 and 2002-2008 periods in terms of (i) abnormal returns on the governance strategies based on the G-Index and E-Index, (ii) how good-governance and poor-governance firms differed in the abnormal returns accompanying earning announcements, and (iii) how these two types of firms differed in producing positive analyst surprises. As explained below, we find that our results are robust to the three types of tests we conduct.

First, we examine the robustness of our results to the exclusion of new economy firms. Core et al. (2006) suggest that GIM's results might have been partly driven by new economy firms. It might therefore be asked whether the differences we identify between the two periods are driven by the new economy firms, which fared so differently in these two periods. To examine this possibility, we repeat all of our tests after excluding new economy firms. We use the classification of new economy firms used by Murphy (2003) (who in turn followed the approach of Anderson et al. (2000)). In untabulated results, we also repeat all our tests excluding new economy firms as classified by Hand (2003) (a classification which excludes fewer firms), and we obtain similar results.

Second, we examine the robustness of our results to the exclusion of firms in competitive industries. Giroud and Mueller (2010) report that GIM's results were driven by firms in non-competitive industries, where the lack of product market competition makes internal governance especially important. Accordingly, it might be asked whether the differences between the 1990-2001 and 2002-2008 periods that we identify continue to hold when one focuses solely on firms in non-competitive industries. In examining this question, we follow Giroud and Mueller (2010). In particular, we use the 48 industry classifications of Fama and French (1997), and we compute, for each firm in each fiscal year and industry, the Herfindahl index, defined to be the sum of squared market shares:

$$HHI_{kt} \equiv \sum_{i=1}^{N_k} s_{ikt}^2 \qquad (5)$$

where s_{ikt} is the market share of firm i in industry j in year t, and market shares are defined using sales. The computation of HHI requires the entire Compustat universe; however, in our tests we compute HHI medians in a given point in time among firms in the democracy and dictatorship portfolios, respectively. That is, in a given point in time we divide the Democracy and Dictatorship portfolios into two equal-sized portfolios based on HHI median. To test whether our

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results hold for the firms in the least competitive firms, we remove the lowest half of firms from the Democracy and Dictatorship portfolios respectively and repeat our tests.

Third, we examine the robustness of our results concerning the differences in abnormal returns between the 1990-2001 and 2002-2008 periods to industry adjustments to control for possibility of industry-level clustering in stock returns. Johnson, Moorman, and Sorescu (2009) ("JMS")) argue that industry effects may drive governance alphas, and Metrick and Lewellen (2010) develop a methodology of adjusting for industry effects in returns that display strong econometric properties. Following Metrick and Lewellen (2010), we adjust for the returns of governance portfolios as follows:

$$R_{i,t}^{adj} = R_{i,t} - \sum_{j=1}^{J} w_{j,t-1} R_{j,t} \qquad (6)$$

That is, the return for a firm i (from the Democracy or Dictatorship portfolios) from $t-1$ to t is adjusted by the weighted average weighted average return from the set of all firms J from CRSP which share the same industry classification as i. We use beginning of month market capitalization as weights and, consistent with our earlier results, continue to use Fama-French 48 industry classification. After adjusting for industry effects in this way, we compute the value- and equal-weighted G-Index and E-Index portfolios by using industry adjusted returns in place of raw stock returns.

Table X displays the results of the three types of robustness tests that we conduct. Panel A of Table X reports the results of robustness tests for our results on abnormal returns to governance strategies (see Table IV). We find that, after excluding new economy firms, excluding firms in more competitive industries, and adjusting for industry effects, we still obtain consistent and persistent evidence that after 2001 there is a statistically and economically significant decline in the abnormal returns generated by trading on the governance indices. For each of the three cuts of the data -- excluding new economy firms, excluding the lower half of HHI firms among the Democracy and Dictatorship portfolio firms respectively, and adjusting for industry returns -- we consider abnormal returns from going long(short) on Democracy(Dictatorship) firms, defined by E and G, both using market-value-weighted and equal-weighted portfolios. Altogether, we conduct in this way a total of 3x2x2 = 12 robustness tests. In 11 of the 12 tests of Panel A, we find statistically significant average monthly abnormal returns from 1990 to 2001. Moreover, in

all the 12 tests of Panel A, F-tests indicate that after 2001 average abnormal returns are statistically indistinguishable from 0.

Panel B of Table X displays the results of robustness tests for our results relating earnings announcement returns to governance indices (see Table VI). While we report only results from a window of five trading days prior to until one day after the earnings announcement date, we also conduct robustness tests using all other windows considered in Tables V and VI and obtain similar results. For each of the two cuts of data -- excluding new economy firms, excluding the lower half of HHI firms among the Democracy and Dictatorship portfolio firms respectively -- we conduct tests using Democracy(Dictatorship) definitions based on G and E, and we consider raw returns as well as returns in excess of Fama-French three factors. Thus, we conduct a total of 2x2x2 = 8 robustness tests. All 8 robustness tests in Panel B of Table X indicate that the market is more positively surprised by good-governance firms than bad-governance firms during the period 1990-2001. Moreover, in 11 of the 12 tests we find that, during the 2002-2008 period, there is no statistically significant difference in the market's reaction around earnings announcements of good-governance versus bad-governance firms.

Finally, Panel C of Table X conducts robustness tests for our results relating analyst surprises to governance indices (see Table VII). Here, we re-run the ordered probit of Table VII for each of two cuts of the data -- excluding new economy firms, and excluding the lower half of HHI firms among the Democracy and Dictatorship portfolio firms, respectively. Because we re-run the regressions using Democracy (Dictatorship) firms based on either G or E definitions, as well as use the two news variables (NEWS1 and NEWS2) used in Table VI, we run a total of 2x2x2 = 8 robustness tests. In 6 of the 8 tests we find that analysts are more likely to be positively surprised by good-governance firms during the period 1990-2001, with 5 of the 8 tests showing statistical significance at the 5% level. In contrast, for the 2002-2008 period, this relationship no longer holds in 7 of the 8 robustness tests.

4. Conclusion

This paper has sought to help resolve the questions arising from GIM's well-known and intriguing finding of an association between governance and abnormal returns during the 1990s. After showing that the association ceased to exist during the 2000s, we have provided evidence that can help explain both the existence of the association during the 1990s and its subsequent

disappearance. In particular, our analysis provides evidence consistent with the hypothesis that both the existence and disappearance of the governance-returns correlation were due to market participants' learning during the 1990s to appreciate the difference between firms scoring well and poorly on the governance indices.

Consistent with the learning hypothesis, we find that (i) the disappearance of the governance-return correlation was associated with an increase in the attention to governance by a wide range of market participants; (ii) the structural break in the returns to governance strategies corresponded to the timing of the sharp rise in the attention to governance; (iii) until the beginning of the 2000s, but not subsequently, stock market reactions to earning announcements reflected the market's being more positive surprised by the earning announcements of good-governance firms than by those of poor-governance firms; (iv) analysts were also more positively surprised by the earning announcements of good-governance firms than by those of poor-governance firms until the beginning of the 2000s but not afterwards; (v) while the G and E indices could no longer generate abnormal returns in the 2000s, their negative association with Tobin's Q and operating performance persisted; and (vi) the existence and subsequent disappearance of the governance-return correlation cannot be explained by any of the factors that have been suggested in the literature for augmenting the Fame-French-Carhart four-factor model. Our results are robust to excluding new economy firms and firms in non-competitive industries and to adjusting for industry returns. We hope that our findings will be useful to subsequent work on governance and indices and on learning in capital markets.

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Figure I: Cumulative Excess Returns 1990-2008
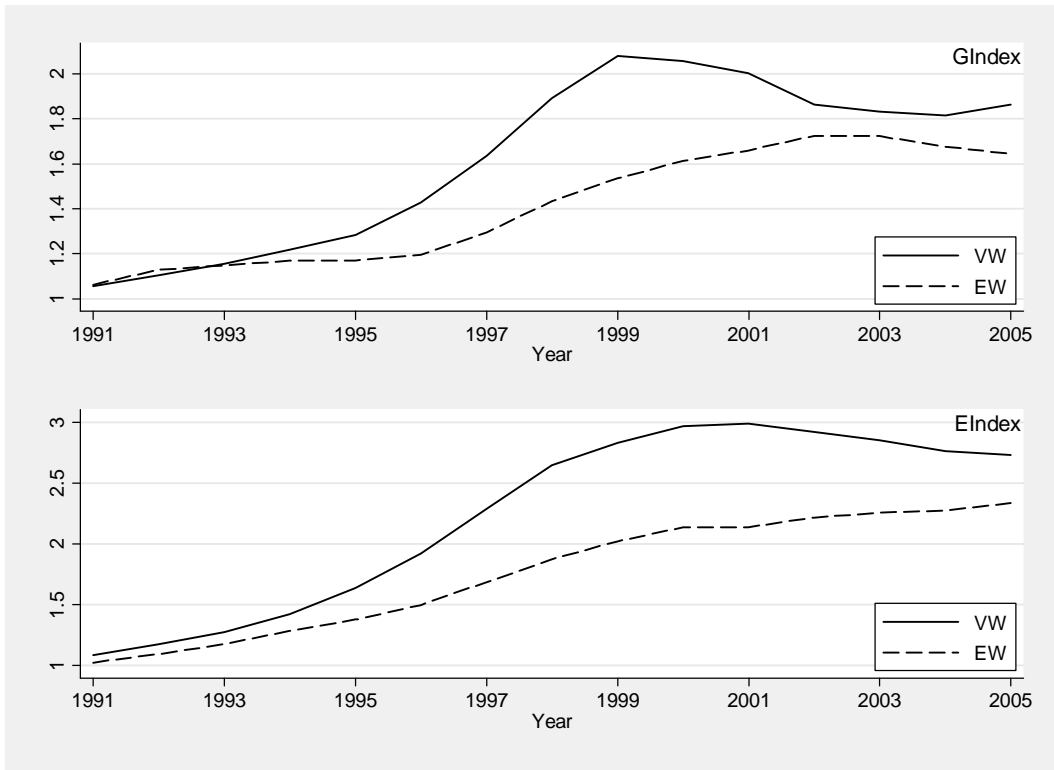
Figure II: Attention to Governance from the Media, Institutional Investors, and Researchers

Figure II(A) plots by year the number of unique newspaper articles, news wires, publications, and articles in four major newspapers (*USA Today*, *New York Times*, *Washington Post*, and *Financial Times*) that reference the word "Corporate Governance", normalized by 1990 base period counts. The data is obtained from Lexis-Nexis Academic. Figure II(B) reports the number of shareholder proposals submitted by institutional investors in each year, normalized by 1990 base period counts. Figure III (C) plots in solid line the number of new governance-related working papers that are posted on the NBER working paper database, and in dotted line the number of new governance-related working papers posted in the NBER working paper database normalized by the total number of new papers in the NBER working paper database over the same year.

(A): Media References to Corporate Governance

Sources: NY Times, Financial Times, Washington Post, and USA Today

(B): Corporate Governance Shareholder Proposals Submitted by Institutional Investors
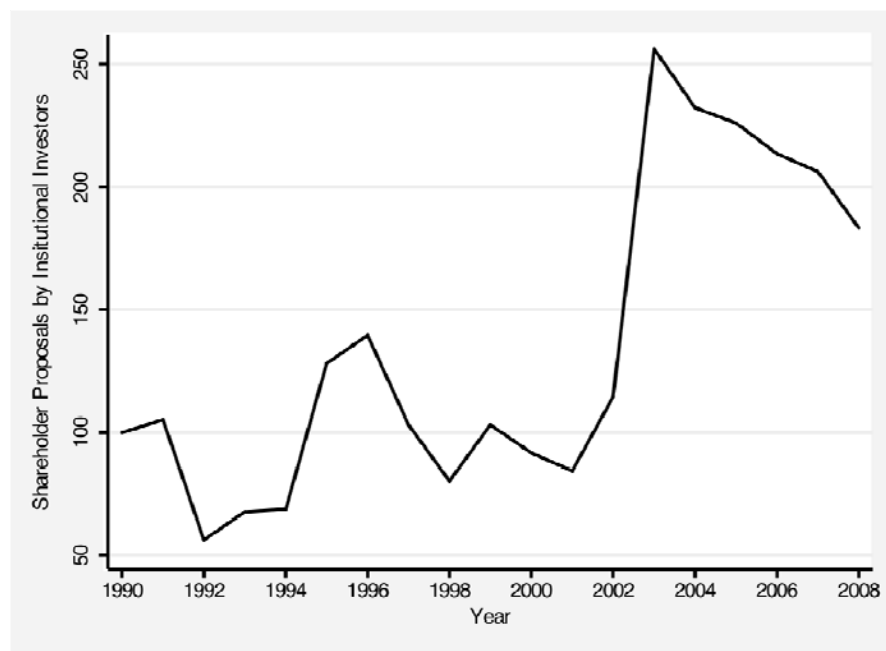
(C): NBER Working Papers on Corporate Governance
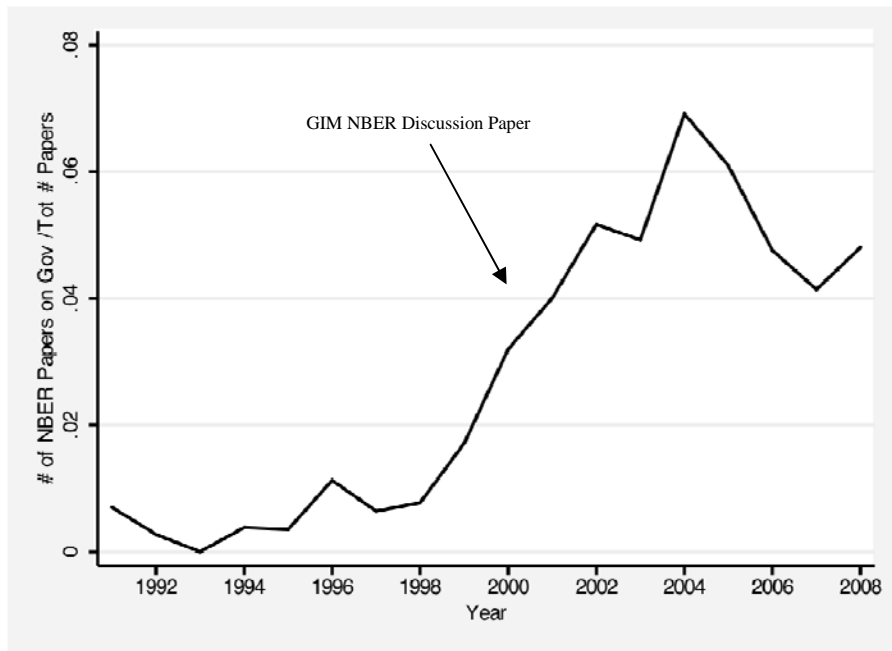
(D): Attention Index
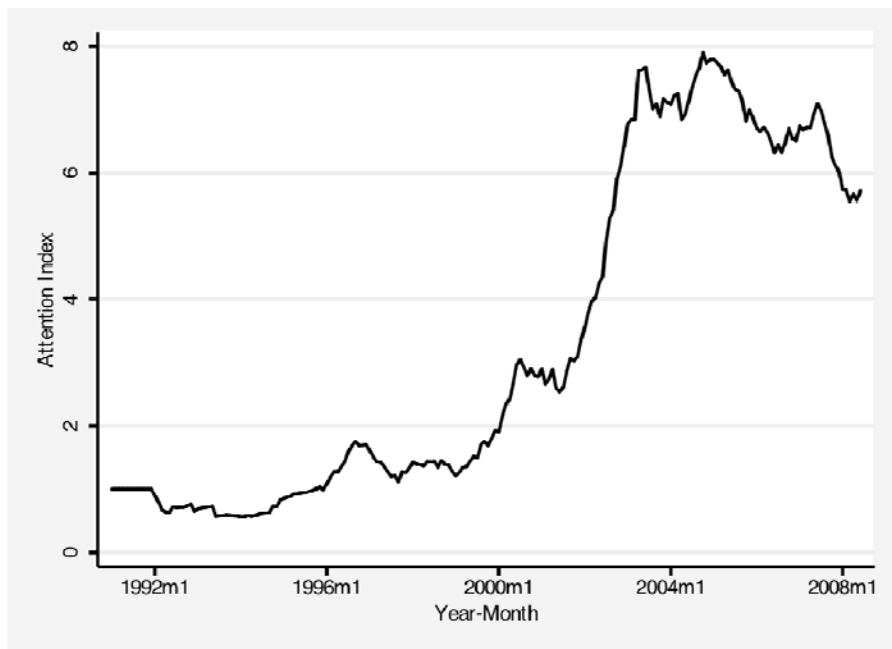
Table I: Governance and Returns –Summary Statistics

Table I reports summary statistics of the data used in the empirical analyses of this paper. Panel A reports summary statistics on governance indices, as measured by the G-Index (Gompers, Ishii, and Metrick 2003) and the E-Index (Bebchuk, Cohen, and Ferrell 2009), for each of the 8 years in which IRRC volumes were published. Democracy (G) refers to firms with G-Index values less than or equal to 5, while Democracy (E) refers to firms with E-Index values of 0; Dictatorship (G) refers to firms with G-Index values greater than or equal to 14, while Dictatorship (E) refers to firms with E-index values greater than or equal to 5. Panel B reports the average monthly returns of value-weighted and equal-weighted governance portfolios, which are long Democracy portfolios and short Dictatorship portfolios, for G and E respectively, in the period between publications of IRRC volumes.

Panel A: Governance Indices

	1990	1993	1995	1998	2000	2002	2004	2006
G-Index	9.1209	9.3833	9.4316	8.9248	9.1672	9.2269	9.2640	9.1936
	(2.850)	(2.831)	(2.789)	(2.842)	(2.706)	(2.607)	(2.554)	(2.527)
E-Index	2.2807	2.3487	2.3203	2.2717	2.4187	2.4897	2.5425	2.4957
	(1.386)	(1.352)	(1.343)	(1.344)	(1.331)	(1.300)	(1.260)	(1.244)
Democracy (G)	10.19%	9.89%	8.84%	12.47%	9.20%	7.17%	7.12%	6.45%
Dictatorship (G)	6.09%	6.72%	6.27%	5.01%	5.44%	5.57%	4.99%	4.54%
Democracy (E)	12.29%	10.57%	10.84%	11.04%	8.59%	7.50%	6.18%	5.27%
Dictatorship (E)	4.40%	4.51%	3.71%	3.66%	4.37%	4.84%	4.56%	3.88%
Observations	1,001	1,041	1,052	1,476	1,304	1,507	1,602	1,519

Panel B: Governance Indices Portfolios and Average Raw Returns

	1990	1993	1995	1998	2000	2002	2004	2006
	9/90~6/93	7/93~6/95	7/95~1/98	2/98~1/00	2/00~1/02	2/02~12/03	2/04~12/05	1/06~6/08
VW: Democracy (G) - Dictatorship (G)	-0.065%	0.273%	0.019%	1.369%	-0.767%	-0.491%	-0.403%	-0.112%
EW: Democracy (G) - Dictatorship (G)	0.196%	0.114%	-0.275%	0.778%	-0.081%	0.008%	0.055%	-0.164%
VW: Democracy (E) - Dictatorship (E)	0.084%	0.277%	0.273%	1.382%	-0.952%	-0.588%	-0.301%	0.012%
EW: Democracy (E) - Dictatorship (E)	0.003%	0.235%	-0.056%	0.972%	-0.275%	-0.218%	-0.038%	0.058%

Table II: Governance Portfolios and Abnormal Stock Returns

Table II reports a sub-period breakdown of governance portfolio monthly alphas, estimated using Fama-French (1993) three-factor model and includes the Carhart (1997) momentum factor, for two sets of governance portfolios. The first portfolio is long stocks in the Democracy (G) portfolio (G $\leq$ 5) and short stocks in the Dictatorship (G) portfolio (G $\geq$ 14); the second portfolio is long stocks in the Democracy (E) portfolio (E = 0) and short stocks in the Dictatorship (E) portfolio (E $\geq$ 5). We consider portfolios both value- and equal- weighted by firms' common stock market capitalization. Firms' entrenchment scores were adjusted when updated information on firms' corporate governance provisions became available: July 1993; July 1995; February 1998; February 2000; February 2002; January 2004; and January 2006. For each year, average monthly alpha is estimated using 12 months of data corresponding to the calendar year. All standard errors are White (1980) robust and reported in parentheses. Levels of significance are indicated by *, **, and *** for 10%, 5%, and 1%, respectively.

Panel A: Alphas during and after GIM Sample Period

Periods	Democracy (G) - Dictatorship (G)		Democracy (E) - Dictatorship (E)	
	VW	EW	VW	EW
1990~1999	0.0069 ***	0.0049 **	0.0123 ***	0.0060 ***
	(0.002)	(0.002)	(0.003)	(0.002)
2000~2008	-0.0030	0.0022	0.0026	0.0035
	(0.003)	(0.002)	(0.002)	(0.002)

Panel B: Alphas by 4-Year Sub-Periods

Sub-Periuods	Democracy (G) - Dictatorship (G)		Democracy (E) - Dictatorship (E)	
	VW	EW	VW	EW
1990~1994 [a]	0.0050 *	0.0064 **	0.0065 **	0.0026
1992~1995	0.0040	0.0052 *	0.0074 **	0.0057 **
1993~1996	0.0036	0.0014	0.0078 ***	0.0061 **
1994~1997	0.0041 *	0.0015	0.0098 ***	0.0077 ***
1995~1998	0.0035	0.0001	0.0133 ***	0.0060 **
1996~1999	0.0086 **	0.0018	0.0152 ***	0.0071 **
1997~2000	0.0100 **	0.0068 **	0.0162 ***	0.0105 ***
1998~2001	0.0097 *	0.0090 ***	0.0130 ***	0.0093 ***
1999~2002	0.0065	0.0059	0.0069 *	0.0067
2000~2003	-0.0015	0.0043	0.0056	0.0049
2001~2004	-0.0019	0.0025	0.0020	0.0001
2002~2005	-0.0051	0.0033	0.0000	0.0031
2003~2006	-0.0017	-0.0001	-0.0007	0.0015
2004~2007	-0.0011	-0.0023	-0.0015	0.0005
2005~2008 [b]	0.0021	-0.0029	-0.0025	0.0017
Mean	0.0031	0.0029	0.0066	0.0049
Std Dev	0.0046	0.0034	0.0062	0.0032
Min	-0.0051	-0.0029	-0.0025	0.0001
Max	0.0100	0.0090	0.0162	0.0105

[a]: Includes September ~ December of 1990

[b]: Includes January ~ June of 2008

Panel C: Alphas During the Whole Sample Period

Periods	Democracy (G) - Dictatorship (G)		Democracy (E) - Dictatorship (E)	
1990~2008	0.0018	0.0032 **	0.0069 ***	0.0041 **
	(0.002)	(0.001)	(0.002)	(0.002)

Table III: Governance Alphas and Attention to Governance

Panel A reports a regression of governance portfolio hedge returns on the Fama-French (1992) three factors and the Carhart (1997) momentum factor, as well as a quintile ranked attention to corporate governance index and interactions between the four factors and the quintile-ranked index. The attention index is defined to be XXX. Only the constant term and the coefficients on the quintile ranked attention index are reported. Columns (1) and (2) consider the value- and equal-weighted portfolios, respectively, formed on the G-Index: long stocks in the Democracy (G) portfolio (G ≤ 5) and short stocks in the Dictatorship (G) portfolio (G ≥ 14); columns (3) and (4) considers the value- and equal-weighted portfolios, respectively, based on the E-Index: long stocks in the Democracy (E) portfolio (E = 0) and short stocks in the Dictatorship (E) portfolio (E ≥ 5). VW portfolios are weighted based on firms' beginning of month common stock market capitalization, and weights are rebalanced monthly. Firms' entrenchment scores were adjusted when updated information on firms' corporate governance provisions became available: July 1993; July 1995; February 1998; February 2000; February 2002; January 2004; and January 2006. Standard errors are White (1980) robust and appear immediately below the coefficient estimate in parentheses. Panel B reports a regression of rolling 36-month alphas on the quintile ranked attention index. Rolling 36 month alphas are estimated, for each month, using portfolio returns and four factors over the current and previous 35 months. Standard errors are heteroskedasticity and autocorrelation robust, using Newey-West (1987) estimator with 36 lags. Throughout, levels of significance are indicated by *, **, and *** for 10%, 5%, and 1%, respectively.

Panel A: Governance Portfolio Returns and Attention to Corporate Governance

Variable	Democracy (G) - Dictatorship(G)		Democracy (E) - Dictatorship(E)	
	(1) VW	(2) EW	(3) VW	(4) EW
Alpha	0.0070**	0.0051**	0.0140***	0.0052**
	(0.003)	(0.002)	(0.003)	(0.002)
Quintile of Attention Index	-0.0023**	-0.0009	-0.0032***	-0.0004
	(0.001)	(0.001)	(0.001)	(0.001)
Observations	210	210	210	210

Panel B: Rolling 36 Month Alphas and Attention to Corporate Governance

Variable	Democracy (G) - Dictatorship(G)		Democracy (E) - Dictatorship(E)	
	(1) VW	(2) EW	(3) VW	(4) EW
Alpha	0.0071***	0.0036***	0.0114***	0.0059***
	(0.002)	(0.001)	(0.004)	(0.002)
Quintile of Attention Index	-0.0018**	-0.0003	-0.0022*	-0.0005
	(0.001)	(0.001)	(0.001)	(0.001)
Observations	179	179	179	179

Table IV: Structural Break in the Association between Governance and Returns

Panel A reports the structural breakpoints in governance excess returns from two methodologies, first using the QLR statistic and second using a 36-month rolling regression approach. Panel B reports the difference in governance hedge portfolio monthly alphas before (and including) 2001 and post 2001 for four governance portfolios, using governance portfolio returns from September of 1990 to December of 2009. Governance portfolios are defined as described in Table II. Monthly alphas are estimated using Fama-French (1992) three-factor model and include the Carhart (1997) momentum factor. We include a post (and not including) 2001 dummy (POST) to test for changes in governance portfolios' average monthly alphas. The factors and interactions of factors with the post 2001 dummy are suppressed for ease of presentation. All standard errors are White (1980) robust and errors appear immediately below the coefficient estimate in parentheses. Levels of significance are indicated by *, **, and *** for 10%, 5%, and 1%, respectively.

Panel A: Identifying Structural Break

	VW Gindex	EW Gindex	VW Eindex	EW Eindex	Average
QLR Statistic	May-00	September-01	August-00	December-00	November-00
Rolling Alpha	March-02	December-02	January-03	July-02	August-02
Midpoint	March-01	April-02	October-01	September-01	October-01

Panel B: Post-2001 Changes in the Association between Governance and Returns

	Democracy (G) - Dictatorship (G)		Democracy (E) - Dictatorship (E)	
	(1)	(2)	(3)	(4)
Variable	VW	EW	VW	EW
ALPHA	0.0057**	0.0049***	0.0111***	0.0054***
	(0.002)	(0.002)	(0.002)	(0.002)
POST	-0.0092**	-0.0029	-0.0113***	-0.0014
	(0.004)	(0.003)	(0.003)	(0.003)
Observations	214	214	214	214
Adj. Rsq	0.3586	0.5581	0.4774	0.4843
F Stat	1.55	0.84	0.01	2.95
P-Val	0.21	0.36	0.94	0.09

Table V: Earnings Announcement Returns and Governance Indices

Table V reports the relationship between earnings announcement returns and corporate governance indices in the period before and after the end of 2001, where the announcement return windows range from 1, 3, 5, 10, and 20 trading days prior to the earnings announcement date until 1 trading day after the announcement. We define a post (and not including) 2001 dummy to indicate the earnings announcement occurred in calendar year 2002 or later. Panel A reports coefficients from an OLS regression of the announcement returns in a particular window on the G-index, the POST dummy, and an interaction of the two terms; Panel B is identical to Panel A but uses the E-index instead. Each panel is divided into two parts; the left hand side panel uses raw stock returns around the announcement window as the dependent variable, whereas the right hand side panel's specifications use returns in excess of the Fama-French (1992) three factors over the relevant time window, using betas estimated from 20 to 210 trading days prior to the earnings announcement. Double cluster robust standard errors are used throughout, clustering by firm and year-quarter, and appear immediately below the coefficient estimate in parentheses. F statistics and p-value testing the null hypothesis of no relation between earnings announcement returns and governance in the post-2001 period ($\beta_1+\beta_3=0$) are reported in the last two rows of each panel. Levels of significance are indicated by *, **, and *** for 10%, 5%, and 1%, respectively.

Panel A: G-Index

Variables	Raw Returns					Excess Returns				
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
	(T-1,T+1)	(T-3,T+1)	(T-5,T+1)	(T-10,T+1)	(T-20,T+1)	(T-1,T+1)	(T-3,T+1)	(T-5,T+1)	(T-10,T+1)	(T-20,T+1)
G-Index (β_1)	-0.0004*	-0.0006***	-0.0009***	-0.0012***	-0.0016***	-0.0003	-0.0005**	-0.0007***	-0.0011***	-0.0013***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
POST2002 (β_2)	-0.0088**	-0.0132**	-0.0180**	-0.0235**	-0.0310**	-0.0065**	-0.0076**	-0.0099***	-0.0125**	-0.0178***
	(0.004)	(0.006)	(0.007)	(0.010)	(0.013)	(0.003)	(0.003)	(0.004)	(0.005)	(0.006)
G-Index x POST (β_3)	0.0006**	0.0009***	0.0012***	0.0014**	0.0019***	0.0005*	0.0006**	0.0008**	0.0011**	0.0016***
	(0.000)	(0.000)	(0.000)	(0.001)	(0.001)	(0.000)	(0.000)	(0.000)	(0.000)	(0.001)
Cons (β_0)	0.0105***	0.0154***	0.0201***	0.0265***	0.0333***	0.0076***	0.0105***	0.0134***	0.0172***	0.0182***
	(0.003)	(0.004)	(0.004)	(0.006)	(0.007)	(0.002)	(0.002)	(0.003)	(0.003)	(0.004)
Observations	55,632	55,631	55,631	55,630	55,626	55,589	55,588	55,588	55,587	55,583
Adj. Rsq	0.0004	0.0010	0.0018	0.0029	0.0031	0.0002	0.0003	0.0004	0.0005	0.0006
F Stat ($\beta_1+\beta_3=0$)	1.4952	1.2924	1.0307	0.1493	0.4926	1.2787	0.3493	0.3170	0.0382	0.6621
P-Val	0.2214	0.2556	0.3100	0.6992	0.4828	0.2581	0.5545	0.5734	0.8451	0.4158

Panel B: E-Index

Variables	Raw Returns					Excess Returns				
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
	(T-1,T+1)	(T-3,T+1)	(T-5,T+1)	(T-10,T+1)	(T-20,T+1)	(T-1,T+1)	(T-3,T+1)	(T-5,T+1)	(T-10,T+1)	(T-20,T+1)
E-Index (β_1)	-0.0006**	-0.0011***	-0.0017***	-0.0021***	-0.0023***	-0.0004	-0.0008**	-0.0013***	-0.0020***	-0.0024***
	(0.000)	(0.000)	(0.000)	(0.001)	(0.001)	(0.000)	(0.000)	(0.000)	(0.001)	(0.001)
POST2002 (β_2)	-0.0064**	-0.0093**	-0.0132**	-0.0170**	-0.0220**	-0.0049***	-0.0053***	-0.0068***	-0.0076***	-0.0108***
	(0.003)	(0.004)	(0.006)	(0.008)	(0.010)	(0.002)	(0.002)	(0.002)	(0.003)	(0.003)
E-Index x POST (β_3)	0.0015***	0.0019***	0.0026***	0.0027**	0.0036***	0.0012**	0.0013**	0.0019***	0.0025***	0.0033***
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Cons (β_0)	0.0084***	0.0120***	0.0157***	0.0200***	0.0243***	0.0061***	0.0080***	0.0101***	0.0117***	0.0118***
	(0.002)	(0.002)	(0.003)	(0.004)	(0.005)	(0.001)	(0.001)	(0.001)	(0.002)	(0.002)
Observations	55,632	55,631	55,631	55,630	55,626	55,589	55,588	55,588	55,587	55,583
Adj. Rsq	0.0005	0.0010	0.0018	0.0028	0.0029	0.0002	0.0003	0.0004	0.0004	0.0006
F Stat ($\beta_1+\beta_3=0$)	3.6824	2.4679	2.0237	0.4163	1.6538	3.9670	1.6107	1.3205	0.5059	1.2929
P-Val	0.0550	0.1162	0.1549	0.5188	0.1984	0.0464	0.2044	0.2505	0.4769	0.2555

T-5

Table VI: Earnings Announcement Returns: Democracy vs. Dictatorship Firms

Table VI reports the relationship between earnings announcement returns and democracy/dictatorship firms in the period before and after the end of 2001, where the announcement return windows range from 1, 3, 5, 10, and 20 trading days prior to the earnings announcement date until 1 trading day after the announcement. We define a post (and not including) 2001 dummy to indicate the earnings announcement occurred in calendar year 2002 or later. Panel A reports coefficients from an OLS regression of the announcement returns in a particular window on a democracy portfolio dummy (where DEMOCRACY (G) = 1 if G ≤ 5 and DEMOCRACY (G) = 0 if G ≥ 14), a post 2001 period dummy, and an interaction of the two terms; Panel B is identical to Panel A but uses the E-index to define the democracy portfolio dummy (where DEMOCRACY (E) = 1 if E = 0 and DEMOCRACY (E) = 9 if E ≥ 5). Each panel is divided into two parts; the left hand side panel uses raw stock returns around the announcement window as the dependent variable, whereas the right hand side panel's specifications use returns in excess of the Fama-French (1992) three factors over the relevant time window, using betas estimated from 20 to 210 trading days prior to the earnings announcement. Double cluster robust standard errors are used throughout, clustering by firm and year-quarter, and appear immediately below the coefficient estimate in parentheses. F statistics and p-value testing the null hypothesis of no relation between earnings announcement returns and governance in the post-2001 period ($\beta_1+\beta_3=0$) are reported in the last two rows of each panel. Levels of significance are indicated by *, **, and *** for 10%, 5%, and 1%, respectively.

Panel A: G-Index

Variables	Raw Returns					Excess Returns				
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
	(T-1,T+1)	(T-3,T+1)	(T-5,T+1)	(T-10,T+1)	(T-20,T+1)	(T-1,T+1)	(T-3,T+1)	(T-5,T+1)	(T-10,T+1)	(T-20,T+1)
DEMOCRACY (G) (β_1)	0.0041	0.0068**	0.0091***	0.0125***	0.0151***	0.0031	0.0052**	0.0068**	0.0112***	0.0134***
	(0.003)	(0.003)	(0.003)	(0.004)	(0.005)	(0.002)	(0.003)	(0.003)	(0.004)	(0.005)
POST2002 (β_2)	-0.0016	-0.0021	-0.0020	-0.0028	-0.0067	-0.0013	-0.0008	0.0001	0.0042	0.0033
	(0.002)	(0.003)	(0.004)	(0.006)	(0.008)	(0.002)	(0.002)	(0.003)	(0.004)	(0.004)
DEMOCRACY (G) x POST (β_3)	-0.0083**	-0.0112***	-0.0145***	-0.0180***	-0.0230***	-0.0064*	-0.0079**	-0.0097**	-0.0151***	-0.0202***
	(0.004)	(0.004)	(0.004)	(0.006)	(0.007)	(0.003)	(0.004)	(0.004)	(0.006)	(0.006)
Cons (β_0)	0.0059***	0.0069***	0.0078***	0.0070*	0.0101**	0.0042***	0.0044***	0.0043**	0.0006	-0.0016
	(0.001)	(0.002)	(0.002)	(0.004)	(0.005)	(0.001)	(0.001)	(0.002)	(0.003)	(0.003)
Observations	7,536	7,536	7,536	7,536	7,536	7,523	7,523	7,523	7,523	7,523
Adj. Rsq	0.0022	0.0035	0.0045	0.0055	0.0076	0.0012	0.0015	0.0017	0.0022	0.0031
F Stat ($\beta_1+\beta_3=0$)	2.2241	2.5600	2.8107	1.6767	2.7890	1.4724	1.0114	0.8509	0.8250	1.8627
P-Val	0.1359	0.1096	0.0937	0.1954	0.0950	0.2250	0.3146	0.3563	0.3637	0.1724

Panel B: E-Index

Variables	Raw Returns					Excess Returns				
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
	(T-1,T+1)	(T-3,T+1)	(T-5,T+1)	(T-10,T+1)	(T-20,T+1)	(T-1,T+1)	(T-3,T+1)	(T-5,T+1)	(T-10,T+1)	(T-20,T+1)
DEMOCRACY (E) (β_1)	0.0040**	0.0057**	0.0095***	0.0095**	0.0090*	0.0026*	0.0041*	0.0079***	0.0090***	0.0104**
	(0.002)	(0.003)	(0.003)	(0.004)	(0.005)	(0.001)	(0.002)	(0.002)	(0.003)	(0.004)
POST2002 (β_2)	-0.0007	-0.0018	0.0000	-0.0053	-0.0072	-0.0006	-0.0009	0.0023	0.0028	0.0031
	(0.003)	(0.004)	(0.005)	(0.007)	(0.010)	(0.002)	(0.003)	(0.003)	(0.004)	(0.005)
DEMOCRACY (E) x POST (β_3)	-0.0097***	-0.0110**	-0.0159***	-0.0135*	-0.0205***	-0.0081**	-0.0073*	-0.0114**	-0.0129**	-0.0193***
	(0.004)	(0.004)	(0.005)	(0.008)	(0.008)	(0.003)	(0.004)	(0.005)	(0.006)	(0.007)
Cons (β_0)	0.0057***	0.0067***	0.0061**	0.0095**	0.0142**	0.0047***	0.0046***	0.0030*	0.0029	0.0015
	(0.002)	(0.002)	(0.003)	(0.004)	(0.006)	(0.001)	(0.001)	(0.002)	(0.002)	(0.004)
Observations	7,198	7,198	7,198	7,198	7,198	7,198	7,198	7,198	7,198	7,198
Adj. Rsq	0.0027	0.0035	0.0047	0.0050	0.0070	0.0019	0.0014	0.0019	0.0017	0.0029
F Stat ($\beta_1+\beta_3=0$)	3.7463	2.4415	2.3113	0.3773	3.9677	4.0312	1.1784	0.8811	0.5526	2.5625
P-Val	0.0530	0.1182	0.1285	0.5390	0.0464	0.0447	0.2777	0.3479	0.4573	0.1095

Table VII: Analyst Surprises and Governance Indices

Table VII reports coefficients from an ordered probit of analyst surprise on corporate governance measures in the period before, and after the end of 2001. We define a post (and not including) 2001 dummy to indicate the earnings announcement occurred in calendar year 2002 or later. We code two news variables to capture the information in analyst surprise, defined as actual earnings minus forecasted earnings divided by the stock price 5 days prior to the announcement date. News1 takes on 3 values representing good/no/bad news: news1 equals 1 if analyst surprise is greater than 5%, 0 if analyst surprise is between -5% to 5%, and -1 if analyst surprise is less than -5%. News2 also takes on 3 values representing good/no/bad news; news2 equals 1 if analyst surprise is greater than 10%, 0 if analyst surprise is between -10% to 10%, and -1 if analyst surprise is less than -10%. Four governance measures are considered: G-Index, E-Index, an indicator for democracy/dictatorship using the G-Index (where DEMOCRACY (G) = 1 if $G \leq 5$ and DEMOCRACY (G) = 0 if $G \geq 14$), and an indicator for democracy/dictatorship using the E-Index (where DEMOCRACY (E) = 1 if E = 0 and DEMOCRACY (E) = 1 if $E \geq 5$). We control for the log of market capitalization and the log of the book to market ratio, but have suppressed the coefficients in the table. White (1980) robust and errors appear immediately below the coefficient estimate in parentheses. F statistics and p-value testing the null hypothesis of no relation between analyst surprise and governance in the post-2001 period ($\beta_1+\beta_3=0$) are reported in the last two rows of each panel. Levels of significance are indicated by *, **, and *** for 10%, 5%, and 1%, respectively.

Ordered Probit Dependent Variable:	NEWS 1 (1)	NEWS 2 (2)	NEWS 1 (3)	NEWS 2 (4)	NEWS 1 (5)	NEWS 2 (6)	NEWS 1 (7)	NEWS 2 (8)
	Governance Variable: G-Index		Governance Variable: E-Index		Governance Variable: Democracy (G)		Governance Variable: Democracy (E)	
Governance Variable (β_1)	-0.0051	-0.0092***	-0.0080	-0.0214***	0.1283**	0.1269***	0.0912	0.1239**
	(0.004)	(0.003)	(0.007)	(0.006)	(0.056)	(0.045)	(0.063)	(0.050)
POST2002 (β_2)	-0.1126**	-0.0795*	-0.0807***	-0.0646***	-0.0072	-0.0153	0.0385	-0.0230
	(0.053)	(0.041)	(0.030)	(0.024)	(0.063)	(0.050)	(0.075)	(0.059)
Governance Variable x POST (β_3)	0.0095*	0.0078*	0.0232**	0.0250***	-0.0942	-0.0573	-0.2066**	-0.1389*
	(0.005)	(0.004)	(0.011)	(0.009)	(0.083)	(0.065)	(0.092)	(0.072)
Observations	55,249	55,238	55,249	55,238	7,463	7,465	7,153	7,154
F Stat ($\beta_1+\beta_3=0$)	1.138	0.172	3.2161	0.3085	0.3042	2.0219	2.3274	0.0684
P-Val	0.2861	0.6783	0.0729	0.5786	0.5812	0.155	0.1271	0.7937

Table VIII: Firm Valuation, Operating Performance, and Governance Pre/Post 2001

Table IX reports pooled OLS estimation results of Q and operating performance measures on measures of corporate governance (G-Index and E-Index in Panel A, Democracy (G) and Democracy (E) in Panel B) and controls on two separate subperiods: 1990~2001 and 2002~2008. Each cell in the table represents the coefficient on the respective governance variable in the respective subperiod. Row 1) uses as the dependent variable log of Tobin's Q, defined to be the ratio of the market value of assets to the book value of assets, where the market value of assets is computed as book value of assets plus the market value of common stock less the sum of book value of common stock and balance sheet deferred taxes. We use as controls in the Q regressions log of the book value of assets in the current fiscal year, log of company age measured in months as of December of each year, a dummy for incorporation in Delaware, insider ownership, square of inside ownership, ROA in the current fiscal year, CAPEX/assets in the current fiscal year, leverage in the current fiscal year, and R&D per sales in the current fiscal year. Insider Ownership is equal to the fraction of shares held by officers and directors. ROA is the ratio of income before extraordinary items to assets at the beginning of the fiscal year. CAPEX/assets is the ratio of capital expenditures to assets. R&D per Sales is the ratio of research and development expenditures to total sales. Leverage is the ratio of long-term debt plus debt due in one year to assets. We also include dummies for missing R&D expenditure data and missing inside ownership data. Rows 2) ~ 6) consider several operating performance measures as dependent variables in the pooled OLS estimation; 2) uses ROA, defined as above; 3) ~ 5) use the 5-year, 3-year, and 1-year sales growth, respectively; finally, 6) uses net profit margin (NPM), defined as the ratio of net income before extraordinary items to sales in the current fiscal year. We use as controls for the regressions in 2) ~ 6) log of the book-to-market ratio from the previous fiscal year, log of total assets, log of company age, an indicator for Delaware incorporation, inside ownership, square of inside ownership, CAPEX/assets, and R&D per sales. Again we include dummies for missing R&D expenditure data and missing inside ownership data as well as year and industry fixed effects. All dependent variables are industry median adjusted, according to the Fama-French 48 industry definitions, and all regressions include FF48 industry and year fixed effects. Two-way cluster robust standard errors are used throughout, clustering by firm and year, and appear immediately below the coefficient estimate in parentheses. Levels of significance are indicated by *, **, and *** for 10%, 5%, and 1%, respectively.

Panel A: G-Index and E-Index

	G-Index		E-Index	
	1990~2001	2002~2008	1990~2001	2002~2008
1) Q	-0.0076**	-0.0057**	-0.0255***	-0.0247***
	(0.003)	(0.003)	(0.007)	(0.006)
2) ROA	-0.0014**	-0.0019***	-0.0026*	-0.0036***
	(0.001)	(0.001)	(0.001)	(0.001)
3) 5 Yr Sales Growth	-0.0642***	-0.0220*	-0.1164***	-0.0866**
	(0.014)	(0.012)	(0.028)	(0.034)
4) 3 Yr Sales Growth	-0.0156***	-0.0106***	-0.0302***	-0.0219**
	(0.006)	(0.004)	(0.010)	(0.010)
5) 1 Yr Sales Growth	-0.0021*	-0.0023*	-0.0047*	-0.003
	(0.001)	(0.001)	(0.002)	(0.002)
6) NPM	-0.0009	-0.0015**	-0.0011	-0.0031**
	(0.001)	(0.001)	(0.001)	(0.001)

Panel B: Democracy (G) and Democracy (E)

	Democracy (G)		Democracy (E)	
	1990~2001	2002~2008	1990~2001	2002~2008
1) Q	0.0393	0.1904***	0.1003***	0.1341***
	(0.031)	(0.041)	(0.036)	(0.044)
2) ROA	0.0241***	0.0199*	0.009	0.0386***
	(0.009)	(0.011)	(0.009)	(0.014)
3) 5 Yr Sales Growth	0.5323***	0.5295***	0.6159**	0.9458***
	(0.163)	(0.169)	(0.248)	(0.263)
4) 3 Yr Sales Growth	0.1223**	0.1733***	0.1723**	0.2496***
	(0.054)	(0.060)	(0.082)	(0.061)
5) 1 Yr Sales Growth	0.0271*	0.0294*	0.019	0.0286***
	(0.015)	(0.016)	(0.020)	(0.007)
6) NPM	0.0190***	0.0181**	0.005	0.0355***
	(0.007)	(0.009)	(0.008)	(0.012)

Table IX: Alternative Factor Models

Table VIII reports alternatives to the FF 3 factors + Carhart momentum factor model estimated in Table III(B), fully interacted with a post-2001 indicator variable. Row 1) replaces the Carhart momentum factor with the Fama-French UMD factor. Rows 2) ~ 4) add on to the FF 3 factors and the Carhart momentum factor an additional fifth factor: 2) adds the liquidity factor of Pastor and Stambaugh (2003); 3) adds the downside risk factor of Ang, Chang and Xing (2006); 4) adds the takeover factor of Cremers, Nair, and John (2009). 5) and 6) consider five and six factor models by adding to the FF 3 factors and the Carhart momentum factor combinations of factors from 2)~4). Data on takeover factor returns ends at the end of 2003 and therefore all estimations involving the takeover factor only contains data from September of 1990 to December of 2003. White robust standard errors are used throughout, and p-values for the F-tests (Cons + Post = 0) are reported in italics. Levels of significance are indicated by *, **, and *** for 10%, 5%, and 1%, respectively.

| | Democracy (G) - Dictatorship (G) | | | | | | Democracy (E) - Dictatorship (E) | | | | | |
| | VW | | | EW | | | VW | | | EW | | |
	Cons	Post	Pval of Fstat	Cons	Post	Pval of Fstat	Cons	Post	Pval of Fstat	Cons	Post	Pval of Fstat
1) Use FF UMD Factor	0.0045*	-0.0076**	0.27	0.0043*	-0.0099***	0.59	0.0099***	-0.0016	1.00	0.0047**	-0.0030	0.21
	(0.002)	(0.004)		(0.002)	(0.003)		(0.002)	(0.003)		(0.002)	(0.003)	
2) Liquidity Factor	0.0056**	-0.0085**	0.35	0.0048**	-0.0041	0.75	0.0115***	-0.0121***	0.78	0.0057***	-0.0023	0.16
	(0.002)	(0.004)		(0.002)	(0.003)		(0.002)	(0.003)		(0.002)	(0.003)	
3) Downside Risk Factor	0.0101***	-0.0108**	0.84	0.0040	-0.0039	0.96	0.0122***	-0.0116**	0.87	0.0048*	0.0005	0.15
	(0.004)	(0.005)		(0.003)	(0.004)		(0.004)	(0.005)		(0.003)	(0.005)	
4) Takeover Factor	0.0047*	-0.0106*	0.28	0.0022	-0.0042	0.65	0.0118***	-0.0107**	0.78	0.0017	-0.0057	0.35
	(0.003)	(0.006)		(0.002)	(0.005)		(0.003)	(0.005)		(0.002)	(0.005)	
5) Liquidity + Downside Risk Factors	0.0100***	-0.0105*	0.89	0.0039	-0.0043	0.90	0.0125***	-0.0121**	0.92	0.0050*	0.0000	0.19
	(0.004)	(0.005)		(0.003)	(0.004)		(0.004)	(0.005)		(0.003)	(0.005)	
6) Liquidity + Downside Risk + Takeover Factors	0.0091**	-0.0129	0.60	0.0000	0.0013	0.83	0.0140***	-0.0114*	0.56	0.0013	0.0019	0.61
	(0.005)	(0.008)		(0.003)	(0.007)		(0.004)	(0.006)		(0.003)	(0.007)	

Table X: Robustness Checks

Table VII reports robustness checks for Tables IV (Panel B), VI (Columns (3) and (8)), and VII (Columns (5)~(8)) in Panels A, B, and C, respectively. In each Panel, we replicate the estimation in the respective tables but in subsample; in particular, we 1) exclude "New Economy" firms as classified by Murphy (2003), and 2) exclude the 1/3 most competitive firms (i.e. firms that lie in the lowest tercile of HHI) in the Democracy portfolio as well as the 1/3 most competitive firms in the Dictatorship portfolio. In each robustness test, we report the key coefficients and report standard errors in parentheses below the coefficients. In each specification, we report F-statistics that tests the null hypothesis that the post period effect of governance on abnormal returns (Panel A), earnings announcement period returns (Panel B), and analyst surprises around earnings announcements (Panel C) is zero; p-values for the F-tests are reported in italics below the F-statistics. Levels of significance are indicated by *, **, and *** for 10%, 5%, and 1%, respectively.

Panel A: Robustness Checks for Table IV

	Democracy (G) - Dictatorship (G)						Democracy (E) - Dictatorship (E)					
	VW			EW			VW			EW		
	Cons	Post	Pval of Fstat	Cons	Post	Pval of Fstat	Cons	Post	Pval of Fstat	Cons	Post	Pval of Fstat
1) Excluding New Economy Firms	0.0055**	-0.0111***	0.07	0.0045**	-0.0032	0.55	0.0108***	-0.0114***	0.80	0.0046**	-0.0019	0.22
	(0.002)	(0.004)		(0.002)	(0.003)		(0.002)	(0.003)		(0.002)	(0.003)	
2) Excluding Firms from Top 1/2 of Most Competitive Industries	0.0067**	-0.0102**	0.34	0.0064***	-0.0036	0.26	0.0139***	-0.0154***	0.52	0.0062**	-0.0026	0.25
	(0.003)	(0.005)		(0.002)	(0.003)		(0.004)	(0.004)		(0.002)	(0.004)	
3) Adjusting for Industry	0.0040*	-0.0053	0.60	0.0033**	-0.0012	0.27	0.0060***	-0.0056**	0.85	0.0025	0.0007	0.61
	(0.002)	(0.003)		(0.003)	(0.003)		(0.002)	(0.003)		(0.002)	(0.002)	

Panel B: Robustness Checks for Table VI

	Democracy (G) vs. Dictatorship (G)						Democracy (E) vs. Dicttatorship (E)					
	Raw Returns (T-5,T+1)			Excess Returns (T-5,T+1)			Raw Returns (T-5,T+1)			Excess Returns (T-5,T+1)		
	Demo	DemoXPost	Pval of Fstat	Demo	DemoXPost	Pval of Fstat	Demo	DemoXPost	Pval of Fstat	Demo	DemoXPost	Pval of Fstat
1) Excluding New Economy Firms	0.0075***	-0.0130***	0.12	0.0058**	-0.0089**	0.35	0.0077***	-0.0133***	0.12	0.0068***	-0.0098**	0.36
	(0.003)	(0.004)		(0.003)	(0.004)		(0.003)	(0.004)		(0.003)	(0.004)	
2) Excluding Firms from Top 1/2 of Most Competitive Industries	0.0121***	-0.0163***	0.26	0.0088***	-0.0120***	0.34	0.0126***	-0.0206***	0.07	0.0103***	-0.0166***	0.13
	(0.004)	(0.006)		(0.003)	(0.005)		(0.004)	(0.006)		(0.003)	(0.005)	

Panel C: Robustness Checks for Table VII

	Democracy (G) vs. Dicttatorship (G)						Democracy (E) vs. Dicttatorship (E)					
	News1			News2			News1			News2		
	Demo	DemoXPost	Pval of Fstat	Demo	DemoXPost	Pval of Fstat	Demo	DemoXPost	Pval of Fstat	Demo	DemoXPost	Pval of Fstat
1) Excluding New Economy Firms	0.1409**	-0.109	0.61	0.1258***	-0.0742	0.30	0.1171*	-0.2025**	0.27	0.1311**	-0.1214	0.87
	(0.058)	(0.085)		(0.046)	(0.067)		(0.064)	(0.095)		(0.052)	(0.074)	
2) Excluding Firms from Top 1/2 of Most Competitive Industries	0.1006	0.0142	0.15	0.1100**	0.0355	0.02	0.1102	-0.1137	0.97	0.1555**	-0.051	0.13
	(0.069)	(0.102)		(0.055)	(0.081)		(0.080)	(0.113)		(0.062)	(0.089)	