A Servant to Many Masters:

Competing Shareholder Preferences and Limits to Catering

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Abstract

We study how the firm complies with its shareholders' payout preferences. We create an index of payout compliance, measuring how much the firm diverges from its investors' desired payout. Compliance is driven by market segmentation and dispersion in investor payout preferences. Compliant firms experience a smaller stock price drop when issuing equity, and a positive market reaction to dividend announcements. Investors react to an increase in compliance by increasing their investment in the firm. The inability to comply constitutes a financial constraint: more compliant firms are less levered and invest more, through capital expenditure and acquisitions.

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Introduction

Classic corporate finance theory posits that payout policy does not affect firm value. Investor "clienteles" adjust to it, leaving firm value unchanged. While this has been the dominant paradigm for many years, recent evidence has cast doubt on it. There is growing evidence that firms cater to their shareholders, and that this affects their stock price. "Managers cater to investors by paying dividends when investors put *a stock price premium on payers* and not paying when investors prefer non-payers" (Baker and Wurgler, 2004). However, there is almost no evidence on the limits and constraints to catering, and how the firm exploits the positive price effects generated by its payout policy. This brings us to three core questions: What drives catering? How does catering affect financing choices? Does catering impact investment choices?

We study these issues by focusing on how the firm's incentives and ability to comply with its shareholders' payout preferences are affected by investor heterogeneity and market segmentation into investment styles. The dispersion of payout preferences limits the firm's ability to meet competing and heterogeneous payout demands. Deep and integrated markets would allow the firm to replace the disappointed shareholders with different investors, who appreciate its payout policy (Black and Scholes, 1974). However, this is not the case if markets are segmented. Market frictions, transaction costs or behavioral biases have been shown to segment markets (e.g., Mullainathan and Shleifer, 2002, Barberis and Shleifer, 2003). In a segmented market, the firm has access to a limited pool of capital. For example, a growth firm can tap the growth investors, but it will hardly appeal to investors who specialize in value stocks. Therefore, dispersion of payout preferences within the style will both limit the firm's ability to cater, by reducing its ability to satisfy competing and heterogeneous demands, and make it harder for the firm to replace the disappointed shareholders of its style with investors from other styles, who like its payout policy.

To illustrate this point, let us compare two firms located in two different investment styles, say, "value" and "growth".[1] Suppose that all the potential value investors have the same type of preferences – e.g., dividend paying stocks. In the growth style, on the other hand, there is wide investor heterogeneity: some investors prefer dividend paying stocks, while others prefer non-dividend paying stocks. It is easier for the value firm to comply with the policy demanded by its investors: it simply needs to pay dividends. In contrast, for the growth firm it is impossible to meet the competing demands of all its potential investors. It is forced to disappoint a significant part of them, regardless of the payout policy it actually adopts. At the same time, style segmentation makes it harder for value investors to replace the disappointed growth ones. This limits the ability of the firm to effectively cater to its shareholders.

Given that style segmentation and investor heterogeneity reinforce each other, from now on we will use the term "fragmentation" to refer to the combined effect of style segmentation and heterogeneous investor preferences. Any factor that increases market fragmentation reduces both the *incentives* to comply with investor payout preferences (as the benefits in terms of potential pool of capital are lower) and the *ability* to do so. That is, investor fragmentation effectively creates a limit to catering and pins down the optimal degree of payout compliance. We therefore propose as our main working hypothesis that when the firm belongs to a more fragmented style it complies less with its shareholders' desired payout policy.

What do the limits to catering imply for the firm? Answering this question requires looking at how the firm exploits the positive effects generated by catering, in terms of financing and investment. While there is growing evidence of catering and its impact on stock prices (Baker and Wurgler, 2004, Li and Lie, 2006), the relation between catering and corporate policies has not been directly studied. Analyzing this problem is far from trivial, as the decision of the firm to comply with its shareholders' preferences is endogenous. Any link between compliance with

[1] We refer to these two styles as they reflect a relatively "exogenous" style classification, that is used in the Morningstar "style box," widely employed by industry practitioners.

investors' payout preferences and firm policies is likely to be contaminated by spurious correlation. Resorting to exogenous limits to catering, such as investor fragmentation, allows us to provide a clear answer to this question. We look at the link between payout decisions and other corporate policies, using the effect of fragmentation on payout compliance as an exogenous identifying restriction.

By catering to the shareholders with the payout policy, managers increase the alignment between the firm and its shareholders, increasing their willingness to accept and share the firm's strategic choices. This would grant the firm cheaper access to equity financing (Boot and Thakor, 2005, Dittmar and Thakor, 2007). We therefore expect the market to charge a lower discount on the stocks of more compliant firms, and to more favorably receive their announcements of issuance and payout decisions. We also expect that, by facilitating the access to the equity market, payout compliance translates in lower leverage, while the inability to comply acts as a financial constraint for the firm. Higher compliance should stimulate investment, by relaxing the constraint.[2]

In this paper, we bring these intuitions to the data using information on mutual fund stock holdings to create an index of payout compliance between the firm and its institutional shareholders. Three main reasons justify our focus on mutual funds. First, institutional investors, and mutual funds especially, are the main players in the market, and the literature has linked their portfolio choices to payout policy (Falkenstein, 1996; Grinstein and Michaely, 2005). Second, since they pass their portfolio gains on to terminal investors, they provide a good proxy for the actual terminal investor preference for a specific payout policy. Third, their investment is linked to well-defined investment styles; that is, they effectively operate in a style-segmented market (Froot and Teo, 2004; Cooper *et al.*, 2005).

[2] Financially constrained firms with unexploited investment opportunities may use the proceeds of the equity issue to invest (Baker et al., 2007). Alternatively, "if the new investment projects are evaluated at the current stock market price, and if there is enough asymmetry of information regarding project quality, a rational manager may find it optimal to invest in projects with negative NPV" (Polk and Sapienza, 2007).

We start by defining a set of payout preferences that allows us to identify investors out-of-sample in terms of their desired payout ratios. We then construct a compliance index as the negative absolute difference between the firm's actual payout ratio and the payout preferred by its shareholders. Our index gauges how much the firm diverges from the desired payout policy of its main institutional shareholders, thus capturing the degree to which it complies with investor payout preferences. It acts as an indicator of the distance from investor "revealed preferences." We do not explicitly study what induces the firm to comply more – what incentives drive managers to be more aligned with the shareholders. Instead, we concentrate on the exogenous constraints that prevent the firm from complying.

In particular, we relate payout compliance to several measures of investor fragmentation in the firm's investment style. We group stocks in nine investment styles based on their size and book-to-market, as in the popular Morningstar "style box." For each style, we define four alternative measures of fragmentation, capturing different facets of fragmentation within the investment style. A higher value of these measures indicates that the incentives for the firm to comply with investor payout preferences, as well as its ability to do so, are more limited. To the extent that our proxies for fragmentation are based on style aggregates that the individual firm's payout policy cannot affect, they provide us with an exogenous driver of payout compliance.

The first measure is the degree of dispersion of the payout policies preferred by the mutual funds operating in each style. As illustrated by our earlier example, if the investors within the style have very dispersed payout preferences, it will be hard to cater to all of them. The second measure is the style's median dispersion of analysts' earnings forecasts. Higher analyst dispersion implies that the stocks have fewer available substitutes and are less liquid (Sadka and Sherbina, 2006), thus making style segmentation more severe. The third measure is the style's median degree of stock illiquidity. The less the market agrees about the value of an asset, the higher the dispersion of beliefs, and the more severe illiquidity (Sadka and Sherbina, 2006). The fourth measure is the style's median idiosyncratic volatility. High idiosyncratic volatility signals low substitutability of a stock with other stocks and the market (Wurgler and Zhuraskaya, 2002, Baker *et al.*, 2007). Lower substitutability, in turn, makes it more difficult for the firm to attract new shareholders, as each stock is perceived to be a different asset, difficult to arbitrage and to replace with others.

Our intuition is confirmed by the data. Higher fragmentation is related to less payout compliance. The effect is economically sizable. An increase in the dispersion of desired payout policies by one standard deviation is related to a 10% lower compliance. A one standard deviation higher illiquidity (dispersion of analyst forecasts, idiosyncratic volatility) is related to a 5% (37%, 10%) lower compliance. Controlling for standard measures of financial constraints such as the components of the Kaplan and Zingales (1997) index does not alter the results, nor do these other measures help to consistently explain compliance.

The data also explicitly rule out three alternative candidate drivers of payout compliance: the extent to which mutual funds control the firm (mutual fund ownership), financial constraints, and corporate governance. A formal Granger causality test shows that mutual fund ownership fails to drive payout compliance. The reverse, however, is true: a one standard deviation increase in compliance raises the fraction of the firm's shares held by mutual funds by up to 7% relative to the mean. Moreover, lack of payout compliance does not trivially arise from financial constraints that prevent the firm from making sufficiently large payouts. Again, the reverse is true: we find evidence of a significantly negative (albeit modest) correlation between compliance and dividend and total payout. In other words, firms that comply more pay out less. Finally, we do not find any significant impact on payout compliance of governance, measured by the Gompers *et al.* (2003) index.

Firms that comply with investor payout preferences are better perceived by the market. Compliance has direct value implications: a portfolio long in the stocks of firms that increase their payout compliance and short in the stocks of firms that decrease their compliance earns a

6% yearly abnormal return. The better market perception of payout-compliant firms is reflected in the market reaction to corporate announcements. The more compliant firms experience a lower stock price drop when they issue equity. A one standard deviation increase in payout compliance raises the cumulative abnormal return around the SEO announcement by 107 basis points, effectively eliminating the average negative abnormal announcement return. This is consistent with a "pecking order" explanation of the SEO discount. The market has a negative reaction to the equity issue when it does not trust the firm. However, when the market can trust the firm because the firm complies with investor preferences, the discount disappears.

Payout compliance is also rewarded by the market when the firm announces dividend payments. We look at dividend continuations – i.e., excluding dividend increases and decreases. While a dividend continuation carries no information content *per se*, it conveys positive information to the market when the announcing firm complies with its shareholders' preferred payout policy. The effect is economically relevant: a one standard deviation increase in compliance raises the cumulative abnormal return around a dividend continuation announcement by 10 basis points (45% relative to the mean).

The use of investment style fragmentation as an exogenous source of identification allows us to study the link between compliance and financing and investment policies. We show that the cheaper access to the equity market that results from higher payout compliance makes the firm less reliant on debt financing. A one standard deviation increase in compliance raises the probability that the firm makes an equity issue by up to 19% (about 3 percentage points). This translates into lower leverage: a one standard deviation increase in compliance corresponds to a 2% lower leverage. Moreover, a more compliant firm invests more, both directly, through capital expenditures, and indirectly, through acquisitions. A one standard deviation increase in compliance is related to a 5% increase in capital expenditure and a 4% increase in the yearly rate of acquisition announcements. The strong correlation between compliance and investment suggests that firms that comply more have greater ability to raise funds and finance new investments. That is, compliance helps to relax financial constraints.

Our findings provide five new insights. First, they contribute to the literature on dividends and payout policy. The classic Miller and Modigliani (1961) proposition posits that the firm cannot use payout policy to increase its value, as dividend "clienteles" can readjust to it, leaving firm value unchanged. Baker and Wurgler (2004) relax the assumption of frictionless markets, and argue that "for either psychological or institutional reasons, *some investors have an uninformed, time-varying demand for dividend-paying stocks...* Arbitrage fails to prevent this demand from driving apart the prices of stocks that do and do not pay dividends." The main prediction is that the propensity to pay dividends depends on a measurable dividend premium in stock prices. We show that the incentives, as well as the ability, to cater to the shareholders through payout policy depend on the degree of investor fragmentation. Lack of compliance is not necessarily a choice of the firm, if it belongs to a style characterized by greater investor fragmentation. In particular, we link the time-series and cross-sectional variation in catering to the limits of arbitrage (Shleifer and Vishny, 1997, Barberis and Shleifer, 2003, Barberis *et al.*, 2005). The time-series and cross-sectional variation in market fragmentation help explain payout compliance, as they proxy for the time-varying limits to catering.

Second, we contribute to the growing literature on dividend clienteles (e.g., Elton and Gruber, 1970, Allen *et al.,* 2000, Hotchkiss and Lawrence, 2002, Grinstein and Michaely, 2005), by linking it to the limits or arbitrage and the other corporate payout policies.

Third, our results contribute to our understanding of the relation between compliance and the firm's financing and investment policies. We are, to our knowledge, the first to suggest that the ability to comply with shareholders' desired payout policy helps to explain financing, leverage and investment choices.

Fourth, our paper relates to the literature on institutional investors (Gompers and Metrick, 2001) and their governance role (Shleifer and Vishny, 1986, Bolton and Von Thadden, 1998, Kahn and Winton, 1998, Maug, 1998). While in general institutional investors are treated as a single, homogeneous group, more recently their heterogeneity has been analyzed. Hotchkiss and Strickland (2000) look at a classification of investors in terms of category, investment style, momentum strategies and portfolio turnover, while Bushee (1998, 2001) groups them in terms of horizon. Sulaeman (2007) looks at how firms cater to investor preferences in terms of leverage and investment. Our results contribute to this strand of literature by explicitly addressing the problem of the endogeneity of catering, relating payout compliance to style-wide, exogenous investor fragmentation.

Fifth, our results bring new insights into the recurrent debate on corporate governance. If by governance we mean the alignment between shareholder preferences and firm policies, our findings provide a case in which market fragmentation limits the firm's ability to comply, with negative implications on its access to the equity market. To the extent that shareholders do not have well defined preferences, our findings show that a system based on shareholder dominance will create financial constraints.

The remainder of the paper is articulated as follows. Section 2 describes the data and the methodology. Section 3 documents how style fragmentation drives compliance, and analyzes alternative drivers of compliance. Sections 4 and 5 relate compliance to firm value and corporate policies. A brief conclusion follows.

2. Data and methodology

The sample consists of all the nonfinancial, non-public utility firms appearing in the merged CRSP/Compustat dataset in the period 1980-2004. We exclude firms with book equity below $250,000 or total assets below $500,000. We further require that all the variables and their relevant lags are available for all observations. We supplement these data with mutual fund stock holdings information from the CDA/Spectrum dataset. We now describe how we build our main variables of interest.

2.1 Compliance index

Throughout the paper, we will rely on an index of how closely the firm complies with its investors' payout preferences: the *Compliance Index* (*CI*). We choose to focus on a particular class of investors – mutual funds – for three of reasons. First, mutual funds are the main players in the market, and the literature has linked their portfolio choices to payout policy (Falkenstein, 1996; Grinstein and Michaely, 2005).

Second, mutual funds arguably provide a good proxy for the payout preferences of the overall market. In particular, mutual funds pass capital gains and dividends on to the terminal investor, and therefore effectively provide a proxy for the overall market preference for particular payout policies.

Third, mutual funds operate in a style-segmented market, as reckoned by the academic literature (Froot and Teo, 2004; Cooper *et al.*, 2005) as well as industry practitioners (e.g. see the Morningstar "style box"). While it would be possible to construct a compliance index analogous to *CI* for the entire universe of institutional investors, the style-segmentation aspect of our argument would not be as relevant. As a robustness check, in unreported tests we re-estimate our main specifications with an alternative compliance index based on the holdings of all institutional investors from the TFN 13f data set, obtaining qualitatively similar results.

We construct the *Compliance Index* as follows. First, we obtain a measure of the payout policy desired by mutual fund j as a weighted average of the payouts that fund j receives from all the firms in which it holds a stake in the previous year. Let N_j be the set of all such firms and d_i a generic payout ratio from firm i. The desired payout of fund j in year t is:

$$d_{jt}^{D} = \sum_{i \in N_j} w_{it-1} d_{it-1} \ ,$$

where w_j is the percentage holding of mutual fund j in firm i. The information on the holdings comes from the CDA/Spectrum dataset. By a "revealed preference" argument, d_{jt}^{D} represents the desired payout policy of fund j.[3] The desired payout policy of firm i is, then, the weighted average payout demanded by the funds holding a stake in the firm:

$$D_{it} = \sum_{j \in F_i} h_{ijt} d_{jt}^{D} ,$$

where h_{ijt} is the fraction of shares of firm i held by mutual fund j at time t and F_i is the set of funds holding shares of firm i. We can now define the *Compliance Index* as the (negative) absolute difference between actual and demanded payout policy:

$$CI_{it} = -\left| d_{it} - D_{it} \right| .$$

CI increases with compliance: the closer the actual payout of the firm to the desired payout *D*, the higher *CI*. It is not clear in principle which of its two elements (actual and "desired" payout policy) is the main driver of cross-sectional variation in *CI*: the firm may fail to comply by either paying out more or less than what its shareholders desire. Therefore, we base *CI* on the absolute distance between actual and desired payout policy.

We compute compliance relying on three alternative payout ratios: *DPS/Price*, *Div/Earnings*, *(Div+Rep)/Earnings*. *DPS/Price* is the ratio of dividends per share (Compustat item 26) to closing price at calendar year-end (Compustat item 24). *Div/Earnings* is the ratio of Dividends (Compustat item 21) to Earnings before interest. Earnings before interest is equal to the Income before extraordinary items (Compustat item 18) + Interest expense (Compustat item 15) + Deferred taxes (Compustat item 50), if available. *(Div+Rep)/Earnings* is the ratio of

[3] Our measure is similar to the one used by Graham and Kumar (2006) for retail investors. They measure the dividend preference of a particular investor as the portfolio dividend yield (PDY) of their portfolio. While in theory mutual funds may hold a stock for a number of reasons other than payout preferences, we know that payout policy is indeed an important driver of mutual fund portfolio choices (Falkenstein, 1996, Grinstein and Michaely, 2005).

Dividends (Compustat item 21) + Repurchases to Earnings before interest, where Repurchases (Rep) are Compustat item 115.

Although the "desired" payout D is a weighted average, it is characterized by substantial variation across firms. In particular, the coefficient of variation (ratio of standard deviation to the mean) of D is about 1 when D is based on the *DPS/Price* ratio, about 1.4 when D is based on the *Div/Earnings* ratio, and about 1.5 when D is based on the *(Div+Rep)/Earnings* ratio. We provide descriptive statistics for the compliance index *CI* in Table 1.

2.2 Measures of style fragmentation and control variables

We define four alternative measures of style fragmentation. We assign firms to styles by sorting them into nine groupings based on size (large-medium-small) and book-to-market (value-blend-growth), using the Fama-French breakpoints. Specifically, the firm is classified as "large" if the value of its market equity is above the 70th percentile, "medium" if it is between the 70th and the 30th percentiles, and "small" if it is below the 30th percentiles. The firm is classified as "value" if its book-to-market value is above the 70th percentile, "blend" if it is between the 70th and 30th percentiles, "growth" if it is below the 30th percentile.[4]

Our first proxy for fragmentation is the dispersion of the payout policies preferred by the mutual funds operating in the same style as the firm, *Desired-Payout Dispersion*. We construct it as the standard deviation of desired payouts (D_{it}, as defined above), style by style. We build a different *Desired-Payout Dispersion* measure for each of the three payout ratios we use as basis for the compliance index: *DPS/Price*, *Div/Earnings*, *(Div+Rep)/Earnings*.

The second proxy is the style's median *standard deviation of analysts' forecast EPS* from I/B/E/S. The third proxy is the style's median *natural logarithm of Amihud's (2002) illiquidity*. The fourth proxy is the style's median idiosyncratic volatility. We construct *Idiosyncratic* *volatility* as the yearly standard deviation of the residuals from a Fama-French three factor model for monthly returns. We report the descriptive statistics for these measures in Table 1, and a more detailed description of their construction in the Appendix. We define the firm-specific control variables following the literature. A detailed definition of these variables is also provided in the Appendix.

We also define variables that control for institutional investor demand at the firm and the investment style levels. *FH* is the log-percentage holdings of mutual funds in a given firm. The data on holdings come from the CDA/Spectrum quarterly holdings dataset. We aggregate the holdings by firm and year, obtaining the average percentage holdings over a given year *%H*. That is, *%H* is the fraction of the firm's shares held by mutual funds over a given year. Then, following Falkenstein (1996), we define the log-mutual fund holdings $FH = \ln(1+\%H)$.

$TNA own style is the total net asset value of mutual funds in the style of the observed firm. We assign firms to nine styles as described above. Mutual funds are also assigned to one of nine styles, on the basis of their Morningstar classification, also based on size and book-to-market, and corresponding to our style classification for firms. In order to construct our variable, we sum the total amount invested in equity by all mutual funds in a given style, and standardize this amount by the sum of total assets (Compustat item 6) of all firms in the same style. $TNA other styles, on the other hand, is the total net asset value of mutual funds in all styles different from that of the firm, again standardized by the total assets (Compustat item 6) of all firms belonging to those investment styles.

3. Determinants of compliance

We start by focusing on the nature of compliance, and investigate its determinants. First, we relate compliance to investor fragmentation. Higher investor fragmentation reduces the incentives

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[4] We consider segmentation by investment style more appropriate than other dimensions – e.g., industry or geography – as it is more widely employed in the industry. Indeed, when classifying a mutual fund as belonging to a given style we use the fund's Morningstar-assigned investment style.

to comply (the available pool of capital), as well as the firm's ability to comply. By looking at measures of investor fragmentation that are aggregated at the investment style level, we obtain an exogenous source of identification for payout compliance.

Second, we address three alternative explanations of compliance. The first one is that mutual funds control the firm's payout policy. We rule out this scenario by studying the relationship between compliance and the fraction of the firm's shares controlled by mutual funds. The second explanation is that payout compliance is just a proxy for standard measures of financial constraints, such as the ability to provide large payouts. We rule out this alternative explanation, by studying the relationship between compliance and payout policy. The third explanation is that payout compliance is just another proxy for known measures of corporate governance. We address this concern by studying the relationship between compliance and the Gompers *et al.* (2003) governance index.

3.1 Compliance and investor fragmentation

We start by linking compliance to style fragmentation. We argued that investor fragmentation within a style both reduces the incentives of the firm to comply with its shareholders' preferred payout policy, as well as its ability to do so. To the extent that our investor fragmentation measures are based on style aggregates, they will not be driven by the payout policy of an individual firm. This allows us to pin down the direction of causality, from style fragmentation to the firm's compliance. We expect an increase in fragmentation at the style level to lead to a lower degree of payout compliance. To test this claim, we estimate the following changes-on-changes regressions specification:

$$\Delta CI_{it} = \alpha + \beta \, \Delta\Sigma_{it} + \gamma' \, \Delta x_{it} + \varepsilon_{it}, \tag{1}$$

where Σ is the degree of style fragmentation and x denotes a set of control variables. We measure style fragmentation by *Desired-Payout Dispersion* (based on *DPS/Price*, *Div/Earnings*, and *(Div+Rep)/Earnings* respectively). We also estimate the model using our alternative fragmentation variables, namely the style median natural *logarithm of Amihud's (2002) illiquidity*, the style median *idiosyncratic volatility*, and the style median *standard deviation of analysts' forecast EPS*. The control variables are *Tobin's Q*, *Leverage, Div. payout*, *ln(Sales)*, *Cash Balances* and *Cash flows*. We perform different estimations based on the different measures of compliance. Following Petersen (2009), the standard errors are clustered around firms.[5]

The results are reported in Table 2. In Panel A, we focus on the style median *logarithm of Amihud's illiquidity*, *idiosyncratic volatility* and *standard deviation of analysts' forecast EPS*, while in Panel B, we also include *Desired-Payout Dispersion*. The findings show a strong and negative correlation between compliance and style fragmentation. This holds across the different specifications and for the different measures of style fragmentation. The results are also economically significant. A one standard deviation increase in *Desired-Payout Dispersion* reduces compliance by 1% when *CI* is based on *DPS/Price* (10% and 6% when based on *Div/Earnings* and *(Div+Rep)/Earnings*), while a one standard deviation increase in *illiquidity* (*standard deviation of analysts' forecasts*, *idiosyncratic volatility*) reduces compliance by 5% (37%, 10%). These results support our working hypothesis that the firm complies less when its investment style is more fragmented – i.e., when it is more difficult and/or less profitable to cater to investor payout preferences.

3.2 Alternative drivers of compliance

We now consider three alternative explanations of compliance. First, the firm may be more compliant with shareholder preferences if the shareholders can exert a more stringent control. Second, compliance may simply be due to financial constraints preventing the firm from making sufficiently large payouts. Third, compliance may just be a product of better governance.

[5] In unreported tests we cluster standard errors around investment style. The significance of the results is unchanged. We also estimate (1) using a Fama-MacBeth specification on the levels of compliance and investor fragmentation. Again, the results are consistent with the ones discussed above, and are omitted in the interest of brevity.

We start by testing whether it is the case that the firm is more compliant with shareholder preferences if the shareholder can exert a more stringent control. We test this hypothesis by studying whether the fraction of the firm controlled by mutual funds (*FH*) drives *CI*, or vice versa. If payout compliance is determined by investor fragmentation and drives mutual fund holdings, compliance will Granger-cause fund holdings, but fund holdings will fail to Granger-cause compliance. The opposite will be true if compliance is a product of investor control over the firm's policies. We therefore estimate the system:

$$CI_{it} = \alpha_1 + \beta_1 CI_{it\text{-}1} + \gamma_1 FH_{it\text{-}1} + \delta_1^{'} x_{it} + \varepsilon_{1,it} \quad (2a)$$

$$FH_{it} = \alpha_2 + \beta_2 CI_{it\text{-}1} + \gamma_2 FH_{it\text{-}1} + \delta_2^{'} x_{it} + \varepsilon_{2,it}\ , \quad (2b)$$

where FH_{it} is the log-percentage fraction of the firm's shares held by mutual funds at time t and x is a vector of standard control variables, including firm and year fixed effects. We estimate (2a) and (2b) as a dynamic panel, using the Anderson and Hsiao (1981) methodology; we also instrument *CI* by the fragmentation proxies defined before.[6] Following Petersen (2009), the standard errors are clustered around firms.

The results are reported in Table 3. In columns (1) to (4), *CI* is based on *DPS/Price*; in columns (2) to (5), it is based on *Div/Earnings*; in columns (3) to (6), on *(Div+Rep)/Earnings*. The estimates support our conjectured relationship between compliance and the change in holdings of mutual funds. Across all specifications, compliance increases mutual fund holdings. The impact of compliance on mutual fund holdings is also economically relevant. A one standard deviation increase in *CI* raises mutual fund holdings by 6% when *CI* is based on *DPS/Price* (3% and 7% when based on *Div/Earnings* and *(Div+Rep)/Earnings*).

[6] The IV specification meets the criteria for the quality of the instruments: the (unreported) F test statistics on the instruments in the first-stage regression are above 10 (Staiger and Stock, 1997), and the Hansen test consistently fails to reject the null.

There is no trace of reverse causality. While an increase in payout compliance induces investment in the firm, more mutual fund investment does not translate into greater compliance. In other words, mutual fund holdings in the firm do not drive compliance.

We then turn to the second alternative explanation: compliance is due to financial constraints, which prevent the firm from making sufficiently large payouts. We confront this alternative scenario by looking at the relationship between *CI* and payout policy. In particular, in this case, lack of compliance would simply result in lower payout. We estimate:

$$Payout_{it} = \alpha + \beta CI_{it\text{-}1} + \gamma' x_{it} + \varepsilon_{it}, \tag{3}$$

where *i* denotes firms and *t* years and x is a vector of standard control variables, including firm, industry and year fixed effects. We estimate model (3) under alternative specifications: panel with fixed effects, 2SLS, where we instrument the compliance index by our fragmentation variables, and Fama-MacBeth estimation (in this case we drop the firm and year fixed effects).

The results are reported in Table 4. In Panel A, payout is defined as the ratio between dividends and lagged total assets (*Div. Payout*), while in Panel B payout is defined as the ratio between total payout (i.e., dividends plus repurchases) and lagged total assets (*Total Payout*). As before, we consider different definitions of compliance. In columns (1), (4) and (7), *CI* is based on *DPS/Price,* in columns (2), (5) and (8) on *Div/Earnings,* and in columns (3), (6) and (9) on *(Div+Rep)/Earnings*.

The results show a statistically significant negative relationship between compliance and payout. This is robust across the different econometric specifications and definitions of compliance. A one standard deviation increase in compliance is related to a 2% lower *Div. payout* when *CI* is based on *DPS/Price* (3% and 1% when based on *Div/Earnings* and *(Div+Rep)/Earnings*) and to a 1% lower *Total payout* when *CI* is based on *DPS/Price* (2% and 4% when based on *Div/Earnings* and on *(Div+Rep)/Earnings*). In short, firms that comply more, pay out less! These results confirm our intuition that payout compliance is not merely an alternative proxy for the standard measures of financial constraints, nor does it seem to be entirely explained by financial constraints.

Finally, we consider whether compliance is a product of better governance. We examine this case by testing whether the Gompers *et al.* (2003) governance index (*GIM*) affects *CI*. In unreported tests, we augment our specifications of model (1) to explicitly control for governance quality, by including among the regressors the Gompers *et al.* (2003) index.[7]

The results show that, while the statistical and economic significance of the style-fragmentation determinants of compliance is unaffected, the governance index does not appear to significantly affect *CI*. One possible explanation is that *CI* captures a facet of governance not captured by the *GIM* index. Alternatively, the sample size does not grant us sufficient statistical power to assess the effect of the governance index on the compliance index. Indeed, the Gompers *et al.* (2003) index is only available for a subset of all Compustat firms, and only for alternating years, starting in 1990.

4. Compliance and firm value

If compliance is perceived as a sign of alignment of the firm's policies to shareholder preferences, the market will better perceive more compliant firms. On the one hand, this will translate in higher prices and lower discount in response to an increase in compliance. We show this effect in section 4.1. On the other hand, it will result in a more favorable market reaction to the corporate decisions of compliant firms. We focus on seasoned equity issues and dividend announcements in sections 4.2 and 4.3.

4.1 The impact of compliance on market prices

We start by looking at the effects of a change in compliance on stock prices. We employ a methodology based on calendar time portfolios. Each year, we rank firms based on the percentage change in *CI* with respect to the previous year. We then form portfolios by sorting firms into deciles, based on their compliance change ranking. We focus on three portfolios: one that is long in stocks in the top decile and short in stocks in the bottom decile (Top 10% - Bottom 10%), one long in stocks in the top two deciles and short in stocks in the bottom two deciles (Top 20% - Bottom 20%), and one long in stocks in the top three deciles and short in stocks in the bottom three deciles (Top 30% - Bottom 30%). The portfolios are rebalanced each year in December. We then measure the portfolio's return over the 12 months (i.e., from January, year t, to December, year t) over which we measure the percentage change in compliance. We then estimate a four-factor factor model (Carhart, 1997):

$$R_{pt} - R_{ft} = \alpha_p + \beta_1(R_{mt} - R_{ft}) + \beta_2 \text{SMB}_t + \beta_3 \text{HML}_t + \beta_4 \text{UMD}_t + \varepsilon_{pt}, \tag{4}$$

where R_{pt} is the monthly return of long-short portfolio p, R_{ft} denotes the riskless rate of return, R_{mt} the month t value-weighted market return, and SMB_t, HML_t, and UMD_t are the month t returns on the factor-mimicking portfolios. We consider both equal- and value-weighted (by market value of equity) portfolios. We also look at net-of-industry returns, where a stock's industry is determined based on the Fama and French (1997) industry classification.

The significance and magnitude of the α_p coefficient determines whether the portfolio exhibits abnormal performance *in the period over which we calculate the change in compliance*. We focus on the price change contemporaneous to the change in compliance, as we want to study the effect of a change in compliance on the stock price. We therefore do not make any claim as to the implementability of a trading strategy based on such information.

The results are reported in Table 5. Panel A displays the results based on the raw returns, while Panel B displays net-of-industry returns. The results show that firms with increasing payout compliance display a significantly higher stock return than firms with decreasing compliance. On average, the difference ranges between 30 and 50 basis points per month. This is

[7] We thank Jeffrey Wurgler for this suggestion.

a substantial difference, corresponding to a 4%-6% higher yearly return net of risk. The results are consistent across the different compliance indexes, across equal- and value-weighted portfolios, and for both raw and net-of-industry returns. Combined with our earlier results on the relationship between mutual funds' holdings and compliance, these findings provide evidence that investors react to a change in compliance by increasing their investment in the complying firm, thereby raising prices.

4.2 Compliance and the market reaction to equity issues

If the market appreciates payout compliance, it should better receive new requests of funding from compliant firms. We should therefore observe a more favorable market reaction to seasoned equity offering (SEO) announcements of more compliant firms.

We retrieve SEO announcement dates from the Security Data Corporation (SDC) New Issues tape. Over the period 1980-2004, we find for the sample of firms used in the preceding analysis 6,730 SEO announcements.[8] We compute abnormal returns around the announcement date as the residual from a standard market model. The average cumulative abnormal return (CAR) over a three-day window ([–1,+1]) around the event date is –0.99%, highly statistically significant (–0.96% over a five-day window [–1,+3]).

We then regress the cumulative abnormal returns over the [–1,+1] and [–1,+3] windows on *CI* and a set of standard control variables. We average the CAR's for firms that have more than one announcement in the same year, and match the announcement data to the CRSP/Compustat merged dataset. The explanatory variables are measured at December of the year preceding the announcement (i.e. they are beginning-of-the-year values), with the exception of *Offer Size* and *Prior 6-months return* (the log-size of the equity offering, and the stock return over the 6-month period preceding the announcement date). The t-statistics are based on White

[8] If a firm makes more than one announcement in the same year, we average the abnormal returns to have one observation per firm-year. We require all variables and relevant lags to be available for all observations. This reduces the sample to 5,455 observations.

heteroskedasticity-robust standard errors. In order to control for the endogeneity of the decision to issue equity, we use a Heckman two-stage procedure. The first stage of the Heckman two-stage procedure is reported in Table 9. In order not to interrupt the logical flow of arguments of the paper, we will discuss these results in section 5.1.

The results are reported in Table 6. Panel A reports OLS estimates, while in Panel B the compliance index is instrumented by the familiar set of fragmentation measures employed in the previous regressions. The findings show a strong and positive correlation between compliance and abnormal returns around the SEO announcement. This is robust across the different econometric specifications. It is also robust to controlling for the endogeneity of the choice of issuing equity, and across the alternative versions of *CI*. Moreover, the results are economically significant. A one standard deviation increase in *CI* is related to an abnormal return at the SEO higher by 107 basis points when *CI* is based on *DPS/Price* (120 basis points and 102 basis points when compliance is based on *Div/Earnings* and *(Div+Rep)/Earnings* respectively). This effectively eliminates the negative abnormal announcement return experienced by the average SEO. The finding is consistent with a "pecking order" explanation. The market negatively reacts to an equity issue if it does not trust the firm. However, when the firm can be trusted, because it complies with investor payout preferences, the discount disappears.

We have seen that if the firm is more compliant with its shareholders' payout preferences, it has easier access to the equity market. Will it also make better use of the funds it raises through the SEO? We cannot directly observe the use of such funds. We may, however, proxy for it by looking at firm value. We expect a positive relation between the increase in stock price following the SEO – measuring the increase in firm value – and the degree of compliance.

We proceed as follows. We split the sample by sorting firms based on the value of *CI* at the beginning of the announcement year, and form portfolios of firms with high *CI* (above the 70th percentile) and low *CI* (below the 30th percentile). We then measure the long-run abnormal performance of equal-weighted portfolios that are long in high-compliance stocks and short in low-compliance stocks. Abnormal performance is computed as the calendar-time alpha from a Carhart (1997) four-factor model. We perform the exercise based on raw stock returns, as well as net-of-industry returns (based on the Fama and French (1997) classification). We compute portfolio alphas focusing on 12, 24, 36 and 48-months holding periods.

The results are reported in Table 7. They show a strong positive alpha for the strategy of going long in high-compliance issuers and short in low-compliance issuers. The average monthly alpha ranges between 50 and 70 basis points, corresponding to a 6%-9% yearly abnormal return. Therefore, an equity issue by a more compliant firm is followed by a significant long-run increase in firm value, net of risk.

4.3 Compliance and dividend announcements

We now turn to the impact of payout compliance on the market reaction to dividend continuation announcements. The mere announcement of a dividend continuation – as opposed to an unexpected dividend increase or decrease – is in itself an uninformative event. However, once we control for compliance, the dividend announcement may help to discriminate between dividends that provide positive information to the market (i.e. the firm complies with investor preferences) and dividends that are uninformative. In other words, the announcement by the complying firm is a confirmatory signal of the firm's willingness to be in line with the shareholders' will.

We retrieve dividend announcement dates from the CRSP events tape, for the period 1980-2004. We compute the abnormal returns as residuals from the market model. The average cumulative abnormal return on a [–1,+1] ([–1,+3]) window around the announcement date is a statistically insignificant 0.15% (0.21%). We then regress the cumulative abnormal returns (CAR's) over the [–1,+1] and [–1,+3] windows around the announcement date on the compliance index *CI*, along with the familiar set of control variables.

The results are reported in Table 8. Panel A reports OLS estimates, while in Panel B, *CI* is instrumented by the same set of fragmentation measures defined before. We observe a strong, positive relationship between compliance and abnormal returns around dividend continuation announcements, robust across the different specifications and measures of compliance. A one standard deviation increase in *CI* increases the cumulative abnormal return around the dividend announcement by 10 basis points (45% relative to the average, when *CI* is based on *DPS/Price*; about 7 basis points when based on *Div/Earnings* and *(Div+Rep)/Earnings*).[9]

5. Compliance and financing and investment policies

5.1 Compliance and financing

We now turn to the effects of payout compliance on corporate financial policies, focusing on financing and investment. We start by looking at the impact of compliance on financing choices. If the market appreciates compliance, a firm that complies with its investors' preferred payout policy should have cheaper access to equity financing. This suggests two predictions. First, a more compliant firm will be more likely to issue equity through an SEO. Second, a more compliant firm will have lower leverage.

To test the first hypothesis, we estimate a probit model of the probability that the firm announces a SEO, as a function of our three compliance indexes plus the familiar set of control variables. The dependent variable is a dummy that takes the value of 1 if in year t firm i announces an SEO, and zero otherwise. The results are reported in Table 9. They show a strong and statistically significant positive correlation between compliance and the decision to issue equity. This is robust across the different econometric specifications and definitions of compliance. A one standard deviation increase in *CI* is related to a 16% higher probability of an

[9] In unreported tests, in line with Li and Lie (2006), we also look at all dividend announcements – i.e. including dividend increases and decreases – and we obtain qualitatively similar results. We think that dividend continuations are more appropriate to study how compliance affects the market reaction to payout announcements.

SEO when *CI* is based on *DPS/Price* (19% and 18% when based on *Div/Earnings* and *(Div+Rep)/Earnings*).

Turning to our second prediction, we analyze the effects of payout compliance on leverage. If compliance reduces the cost of issuing equity, it should also increase the marginal benefit of accessing the equity market over increasing debt. In turn, this should reduce leverage. We therefore expect a negative relation between leverage and compliance. We estimate:

$$Leverage_{it} = \alpha + \beta\, CI_{it-1} + \gamma'\, x_{it-1} + \varepsilon_{it}\ , \tag{5}$$

where i denotes firms and t years; x is a vector of standard control variables, including firm, industry and year fixed effects. The dependent variable is *Leverage*, defined as the ratio of total debt (Compustat data items 9 plus 34) to debt plus stockholders' equity (Compustat data items 9 plus 34 plus 216), minus the median leverage of the firm's Fama-French industry group.[10]

We have shown above that compliance affects firm value. To avoid a mechanic effect on *Leverage*, we explicitly control for the impact on capital structure of the past level of *Tobin's Q*, by including among the explanatory variables Baker and Wurgler's (2002) external-financing weighted average market-to-book, Q_{EFWA} (see the Appendix for a detailed description).

The results are reported in Table 10. In Panel A, we estimate the model with an OLS-fixed effects estimator, while in Panel B we re-estimate the model, instrumenting *CI* with our style fragmentation variables. In both panels, in columns (1) and (4), *CI* is based on *DPS/Price*; in columns (2) and (5) on *Div/Earnings*; in columns (3) and (6), it is based on *(Div+Rep)/Earnings*. Columns (4) through (6) report the estimates of an alternative specification, where Q_{EFWA}, is replaced by the standard *Tobin's Q*.

The results show a negative correlation between *Leverage* and *CI*. Firms with higher compliance display a significantly lower level of *Leverage*. This holds across the different

[10] We also estimate model (5) by a Fama-MacBeth procedure. As the results are qualitatively similar, they are omitted in the interest of brevity.

compliance indexes, and across both estimation approaches (OLS and IV). A one standard deviation increase in *CI* translates into a 2% lower *Leverage* when *CI* is based on *DPS/Price* (1% and 1% when based on *Div/Earnings* and *(Div+Rep)/Earnings*).

5.2 Compliance and investment

Finally, we turn to the relationship between payout compliance and investment. By allowing cheaper equity financing, payout compliance effectively relaxes the firm's financial constraints. Consequently, higher compliance should be related to greater investment. We estimate:

$$Investment_{it} = \alpha + \beta CI_{it} + \gamma' x_{it} + \varepsilon_{it}, \tag{6}$$

where *i* denotes firms and *t* denotes years. We consider two alternative measures of investment: *Capex* and the yearly count of M&A initiations. *Capex* is defined as the difference between the firm's capital expenditure (Compustat data item 128 standardized by lagged total assets) and the median capital expenditure for its Fama-French industry group. *M&A initiations* are defined as the count of mergers and acquisitions announcements, as reported by the Security Data Corporation's M&A tape, made by firm *i* in year *t*.

When looking at *Capex*, we augment the model of Baker *et al.* (2001) by including the compliance index *CI* among the regressors. Baker *et al.* (2001) regress *Capex* on the Kaplan-Zingales index of financial constraints *KZ*, *Tobin's Q*, and an interaction term. Controlling for these variables allows us to separate the impact on investment of payout compliance from that of classic financial constraints. We employ the Fama-MacBeth procedure as well as OLS and IV estimation with firm, industry and year fixed effects. In the case of IV estimation, we instrument *CI* by our investor fragmentation variables.

In the case of *M&A initiations*, in order to account for the discrete nature of the dependent variable we run fixed effects and Fama-MacBeth Poisson regressions, as well as an instrumental-variable Poisson regression, where we instrument *CI* by our investor fragmentation variables.[11]

The results are reported in Table 11. Panel A reports the results for *Capex* and Panel B reports the results for *M&A initiations*. The estimates show a strong positive correlation between investment and payout compliance. A firm that complies more will also make larger capital expenditures, and initiate more acquisitions. This finding is robust across the different econometric specifications and definitions of the compliance index. The magnitudes of the observed effects are also economically significant. A one standard deviation increase in *CI* is related to 5% higher *Capex* when *CI* is based on *DPS/Price* (2% and 1% when based on *Div/Earnings* and on *(Div+Rep)/Earnings*). Likewise, a one standard deviation increase in *CI* is related to a 4% higher yearly rate of M&A initiation when *CI* is based on *DPS/Price* (2% and 1% when based on *Div/Earnings* and on *(Div+Rep)/Earnings*). These results are robust, and in some cases strengthened, if we instrument *CI* by our fragmentation measures.

The results are not driven by equity-dependent firms (Baker *et al.*, 2001). In unreported results, we split the sample based on the level of the *KZ* index (high vs. low), and we do not find evidence that the impact of compliance on investment differs in the two samples. This suggests that payout compliance is not just a proxy for financial constraints. This is also consistent with the findings of Section 3.2 showing that a more compliant firm makes smaller payouts.

Overall, these results show that firms that comply more also invest more. This can be explained by the fact that they have cheaper access to the equity market.

[11] In the instrumental-variable Poisson regression, we report t-statistics based on bootstrapped standard errors, to account for the generated regressor problem. The t-statistics based on conventional standard errors are not different, and are available upon request. The variables are re-scaled to facilitate convergence of the estimation algorithm.

6. Conclusion

We study how the firm complies with its shareholders' payout preferences, and investigate the implications of different degrees of compliance on firm policies. We argue that payout policy and catering are directly related to the degree of fragmentation of the firm's investment style. A more fragmented style – e.g., one in which the investors have very disperse preferred payout policies – limits the firm's ability to comply with its investors' preferences, and reduces the incentives to do so. If catering allows the firm to raise its stock price and obtain equity financing at better conditions, limits to catering will increase the cost of financing. This reduces the incentive to raise equity, increases leverage, limits investment and reduces firm value.

We create an index of payout compliance that gauges how much the firm diverges from the desired payout policies of its main institutional shareholders. We show that the firm complies less when its investment style is more fragmented. The market appreciates compliance. A firm that complies more with its shareholders' payout preferences experiences a lower stock price drop when it taps the market for financing through an SEO. Payout compliance also increases the informativeness of dividend continuation announcements, a generally uninformative corporate event (as opposed to dividend increases and decreases). The market reaction to a dividend continuation announcement is significantly positive for more compliant firms. Investors react to a change in compliance by increasing their investment in the firms that comply more; this has a positive price impact.

Compliance has direct and relevant implications for corporate decisions. A more expensive access to the equity market induces a less compliant firm to either invest less or to increase leverage. A more compliant firm, on the other hand, is more likely to resort to equity financing, has lower leverage, and invests more, directly through capital expenditures and indirectly through M&A's.

Our findings shed new light on the literature on payout policy, focusing on the extent to which it is driven by market fragmentation and on its impact on firms' policies. To the extent that the firm faces shareholders with irreconcilable requests, it effectively is confronted with a constraint that limits its ability to cater to its shareholders' payout preferences. In turn, when the firm is unable to cater it will face worse equity financing conditions. It will have higher leverage, and invest less.

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Appendix Variable definitions

DPS/Price	Ratio of dividends per share (Compustat item 26) to closing price at calendar year end (Compustat item 24).
Div/Earnings	Define: Earnings before interest = Income before extraordinary items (Compustat item 18) + Interest expense (Compustat item 15) + Deferred taxes (Compustat item 50), if available; then *Div/Earnings* is equal to the ratio of Dividends (Compustat item 21) to Earnings before interest.
(Div+Rep)/Earnings	Define Repurchases (Rep) as Compustat item 115; then *(Div+Rep)/Earnings* is equal to the ratio of Dividends (Compustat item 21) + Repurchases to Earnings before interest.
Compliance Index	Let d be a generic payout ratio. Consider a mutual fund j, holding a stake in a set of companies N_j; define the desired payout on part of fund j in year t as the weighted average of the payout ratios that the fund receives from all the companies in N_j in the year $t-1$: $$d_{jt}^{D} = \sum_{i \in N_j} w_{it-1} d_{it-1}$$ where w_i denotes the percentage holding of the mutual fund in company i, which we retrieve from the CDA/Spectrum dataset. Now consider a company i, whose shares are held by F_i, mutual funds and let D_i be the average desired payout of these funds: $$D_{it} = \sum_{j \in F_i} h_{ijt} d_{jt}^{D}$$ where h_{ijt} is the fraction of shares of company i held by mutual fund j at time t and F_i is the set of funds holding shares in firm i. Letting ψ_i be the actual payout ratio for company i, the compliance index CI is defined as: $$\mathrm{CI}_{it} = -\left| d_{it} - D_{it} \right|$$ We compute compliance based on several alternative payout ratios d: *DPS/Price*, *Div/Earnings*, *(Div+Rep)/Earnings* (see above definitions).
Desired-Payout dispersion (*DPS/Price*)	Standard deviation of the average desired payouts D_{it} (see definition of compliance, above) based on the *DPS/Price* payout ratio; the standard deviation is computed year-by-year, style-by-style. We assign companies to styles by sorting them into nine groupings based on the size (large-medium-small) and book-to-market (value-blend-growth) dimensions, based on the Fama-French breakpoints.
Desired-Payout dispersion (*Div/Earnings*)	Standard deviation of the average desired payouts D_{it} (see definition of compliance, above) based on the *Div/Earnings* payout ratio; the standard deviation is computed year-by-year, style-by-style. We assign companies to styles by sorting them into nine groupings based on the size (large-medium-small) and book-to-market (value-blend-growth) dimensions, based on the Fama-French breakpoints.
Desired-Payout dispersion (*(Div+Rep)/Earnings*)	Standard deviation of the average desired payouts D_{it} (see definition of compliance, above) based on the *(Div+Rep)/Earnings* payout ratio; the standard deviation is computed year-by-year, style-by-style. We assign companies to styles by sorting them into nine groupings based on the size (large-medium-small) and book-to-market (value-

	blend-growth) dimensions, based on the Fama-French breakpoints.
Style median ln(Amihud's illiquidity)	Median value of the natural logarithm of Amihud's (2002) measure of illiquidity (see below for a definition); the median is computed year-by-year and style-by-style; we assign companies to styles by sorting them into nine groupings based on the size (large-medium-small) and book-to-market (value-blend-growth) dimensions, based on the Fama-French breakpoints.
Style median St. Dev. of Analysts' forecast EPS	Median value of the standard deviation of analysts' forecast EPS, as retrieved from I/B/E/S; the median is computed year-by-year and style-by-style; we assign companies to styles by sorting them into nine groupings based on the size (large-medium-small) and book-to-market (value-blend-growth) dimensions, based on the Fama-French breakpoints.
Style median idiosyncratic volatility	Median value of idiosyncratic volatility (see below for a definition); the median is computed year-by-year and style-by-style; we assign companies to styles by sorting them into nine groupings based on the size (large-medium-small) and book-to-market (value-blend-growth) dimensions, based on the Fama-French breakpoints.
ln(Sales)	Firm size, defined as the natural logarithm of total sales (Compustat item 12) following Grinstein and Michaely (2005).
Q	Tobin's Q. Define: Preferred stock = Preferred stock − liquidating value (Compustat item 10) [or Compustat item 56, redemption value, or Compustat item 130, carrying value] Book Equity (BE) = Stockholders' equity (Compustat item 216) [or Common equity (Compustat item 60) + Preferred stock – carrying value (Compustat item 130); or Total assets (Compustat item 6) − Total liabilities (Compustat item 181)] − Preferred stock + Deferred taxed and investment tax credits (Compustat item 35, if available) - Net Postretirement Benefit Asset (Compustat item 330, if available); Market Equity (ME) = Closing price at fiscal year end (Compustat item 199) times Shares outstanding (Compustat item 25); Market value of the firm (MV) = Total assets (Compustat item 6) − BE + ME; Q = MV/BE.
Cash flow	Depreciation and amortization (Compustat item 14) + Income before extraordinary items (Compustat item 18) divided by lagged Total assets (Compustat item 6).
Div. payout	Common dividends (Compustat item 21) + Preferred dividends (Compustat item 19) divided by lagged Total assets (Compustat item 6).
Total payout	Common dividends (Compustat item 21) + Preferred dividends (Compustat item 19) + Repurchases (Compustat item 115) divided by lagged Total assets (Compustat item 6).
Leverage	Book leverage, defined as: Long-term debt (Compustat item 9) + Debt in current liabilities (Compustat item 34) divided by Long-term debt + Debt in current liabilities + Stockholders' equity (Compustat item 216).
Cash balances	Cash and short term investments (Compustat item 1) divided by lagged total assets (Compustat item 6).
Capex	Capital expenditures (Compustat item 128) divided by lagged total assets (Compustat item 6).
KZ	Kaplan-Zingales (1997) index (without the Q component), defined as: - 1.002 * Cash flow – 39.368 * Div. payout – 1.315 * Cash Balances + 3.139 * Leverage.

ln(Amihud's Illiquidity) Natural logarithm of Amihud's (2002) illiquidity measure. The latter is defined as:

$$1000 \times \sqrt{\frac{|R_{it}|}{DVol_{it}}}$$

Where R_{it} is the return on stock i on period t and $DVol_{it}$ is the corresponding dollar volume.

Idiosyncratic volatility We construct yearly observations of idiosyncratic volatility as follows. For each of our sample firms, we estimate a Fama-French (1993) three factor model of expected returns:

$$R_{it} - R_{ft} = \alpha_p + \beta_1 (R_{mt} - R_{ft}) + \beta_2 \text{SMB}_t + \beta_3 \text{HML}_t + \varepsilon_{it}$$

where R_{ft} denotes the riskless rate of return, R_{mt} the month t value-weighted market return, and SMB_t, HML_t, and are the month t returns on zero-investment factor-mimicking portfolios designed to capture size and book-to-market respectively. Next we take the series of residuals from the above model: $\hat{\varepsilon}_{it}$, and we estimate idiosyncratic volatility for firm i in a given year τ as:

$$\text{Idiosyncratic Volatility}_{i\tau} = \sqrt{\frac{1}{12} \sum_{t=\text{January}}^{\text{December}} \hat{\varepsilon}_{it}^2}$$

i.e. as the standard deviation of the three factor model residuals over the whole year.

FH (mutual fund holdings) Average percentage holdings of mutual funds in a given company. We retrieve quarterly holdings of mutual funds from the CDA/Spectrum dataset. We average holdings by year and aggregate them by company, obtaining the average percentage holdings over a given year (*%H*). Then, following Falkenstein (1996), we define $\text{FH} = \ln(1 + \%H)$.

External Finance Weighted-Average (EFWA) Q Baker and Wurgler's (2002) EFWA market-to-book value. We define *net equity issues* e_t as the change in book equity (defined above) minus the change in balance sheet retained earnings (Compustat item 36); we also define *net debt issues* as the residual change in total assets (the change in the Compustat item 6 minus net equity issues). The EFWA market-to-book value is then given by:

$$\text{Q}_{t,\text{EFWA}} = \sum_{s=0}^{t} \frac{e_s + d_s}{\sum_{r=0}^{t} e_r + d_r} \text{Q}_s$$

Offer size Natural logarithm of the value of a seasoned equity offering (SEO), retrieved from the Security Data Corporation's (SDC) New Issues tape.

Prior 6-month return Stock return over the six months period leading up a seasoned equity offering, return data are retrieved from CRSP.

Div. Amount/Price Ratio between the per share dividend amount and the stock price at the end of the year prior to the dividend announcement. The dividend amount is retrieved from the CRSP events tape; the stock price is retrieved from CRSP stock data.

$ TNA own style Total net assets of mutual funds in the *same* style as the observed company. We assign companies to nine styles by sorting them along the size (market value of equity) and book-to-market (value-blend-growth) dimensions, using the Fama-French breakpoints. Specifically, a company is classified as large if the value of its market equity is above the

70th percentile, medium if it is between the 70th and the 30th percentiles, and small if it is below the 30th percentiles; moreover, a company is classified as value if its book-to-market value is above the 70th percentile, blend if it is between the 70th and 30th percentiles, growth if it is below the 30th percentile. Mutual funds are assigned to one of nine styles based on the corresponding Morningstar classification, again based on the size and book-to-market dimensions. In order to construct our variable, we sum the total net assets under management (retrieved from CDA/Spectrum) of all mutual funds in a given style, and standardize this amount by the sum of total assets (Compustat item 6) of all companies in the same style.

$ TNA other styles — Total net assets of mutual funds in all styles different from that of the observed company. We assign companies to nine styles by sorting them along the size (market value of equity) and book-to-market (value-blend-growth) dimensions, using the Fama-French breakpoints. Specifically, a company is classified as large if the value of its market equity is above the 70th percentile, medium if it is between the 70th and the 30th percentiles, and small if it is below the 30th percentiles; moreover, a company is classified as value if its book-to-market value is above the 70th percentile, blend if it is between the 70th and 30th percentiles, growth if it is below the 30th percentile. Mutual funds are assigned to one of nine styles based on the corresponding Morningstar classification, again based on the size and book-to-market dimensions. In order to construct our variable, we sum the total net assets under management (retrieved from CDA/Spectrum) of all mutual funds in all styles except that of the observed company, and standardize this amount by the sum of total assets (Compustat item 6) of all companies in those styles.

Sentiment — Baker and Wurgler's (2006) investor sentiment variable; it is a composite index based on the first principal component of six sentiment indicators: the average closed-end fund discount, the NYSE share turnover, the number and average of first-day returns on IPOs, the equity share of new issues, and Baker and Wurgler's (2004) dividend premium (the difference in logs of the average market-to-book ratios of dividend payers and non-dividend payers).

Spread — Spread between the rate on AAA corporate bonds and the risk-free interest rate. The AAA bond rates are obtained from the Federal Reserve Statistical Release dataset; they are Moody's seasoned monthly rate series, and are available on the internet at the URL: http://www.federalreserve.gov/releases/h15/data.htm; the riskless rate is the same used in the regressions involving the Fama-French factors.

Table 1 Summary Statistics

The sample consists of all nonfinancial, non-public utility firms appearing in the merged CRSP/Compustat dataset in the period 1980-2004; we exclude firms with book equity below $250,000 or assets below $500,000; all variables are censored at their 1st and 99th percentiles. We further require that all the variables and relevant lags are available for all observations. Below we report the mean, median, standard deviation, smallest and largest observations, and number of available observations for each of the variables we subsequently employ in the analysis.

Variable	Mean	Median	St. Deviation	Min	Max	N. Obs.
CI (DPS/Price)	-0.0090	0.0061	0.0096	-0.0789	-0.0001	57790
CI (Div/Earnings)	-0.1110	-0.0712	0.1122	-0.6175	-0.0092	54136
CI ((Div+Rep)/Earnings)	-0.2724	-0.1652	0.2805	-0.8787	-0.0189	58709
ln(Sales)	5.1855	5.1262	1.6887	1.5332	8.7470	59269
Q	1.8471	1.3616	1.4188	0.5185	11.869	57948
Leverage	0.2962	0.2775	0.2388	0.0001	0.9229	57937
Div. payout	0.0094	0.0000	0.0161	0.0000	0.1139	53484
Cash flow	0.0696	0.0951	0.1514	-0.7943	0.4233	52665
Cash Balances	0.1715	0.0771	0.2265	0.0002	0.8461	52795
KZ	0.2639	0.2344	0.8683	-1.5167	1.9319	52795
ln(Amihud's Illiquidity)	4.8806	4.9793	2.7764	-1.5916	11.799	54296
Idiosyncratic Volatility	12.548	11.016	6.6202	3.2129	35.039	57373
FH (mutual fund holdings)	0.1309	0.0921	0.1228	0.0001	0.5442	57933
Desired-Payout dispersion(DPS/Price)	0.0103	0.0078	0.0088	0.0032	0.0964	58709
Desired-Payout dispersion(Div/Earnings)	0.2563	0.1302	0.3467	0.0362	0.8037	58709
Desired-Payout dispersion((Div+Rep)/Earnings)	0.6409	0.2671	0.9082	0.0686	0.9889	58709
Style median ln(Amihud's Illiquidity)	5.2793	5.5738	2.0601	0.2147	9.1154	55888
Style median St. Dev. of Analysts' forecast EPS	0.0418	0.0301	0.0286	0.0200	0.2122	58709
Style median Idiosyncratic volatility	12.165	12.300	2.7048	5.1795	18.853	58709

Table 2 Compliance and Investor Fragmentation

The table reports the estimates of a model: $\Delta CI_{it} = \alpha + \beta\Delta\Sigma_{it} + \gamma'\Delta x_{it} + \varepsilon_{it}$. The dependent variable is the change in the compliance index *CI*, based on the three definitions (*DPS/Price*, *Div/Earnings*, and *(Div+Rep)/Earnings*). Σ denotes our market fragmentation measures. The first measure of fragmentation is the *Desired-payout dispersion*, i.e. the standard deviation of the average payout ratio (*DPS/Price*, *Div/Earnings*, and *(Div+Rep)/Earnings respectively*) demanded by the mutual funds belonging to the firm's style (based on size and book-to-market). We further measure fragmentation by the style median value of the *natural logarithm of Amihud's (2002) illiquidity*, the style median value of *idiosyncratic volatility*, the style median value of the *standard deviation of analysts' forecast EPS from I|B|E|S*. In panel A, Σ is the style median of the *natural logarithm of Amihud's illiquidity* (columns (1)-(3)), the style median of *idiosyncratic volatility* (columns (4)-(6)), the style median of the *standard deviation of analysts' forecast EPS* (columns (7)-(9)). In columns (1), (4) and (7) the compliance index *CI* is based on *DPS/Price*; in columns (2), (5) and (8) on *Div/Earnings*; in columns (3), (6) and (9) on the *(Div+Rep)/Earnings*. In panel B, Σ is the *Desired-payout dispersion* based on the three payout ratios *DPS/Price*, *Div/Earnings* and *(Div+Rep)/Earnings*; columns (1)-(3)); in columns (4)-(9) we include all measures of fragmentation employed in the previous regressions; in columns (7)-(9) we add as a further control Barker and Wurgler's (2004) *dividend premium*. All results are based on changes-on-changes specifications; following Petersen (2009), t-statistics are based on standard errors clustered around firms in all regressions. The symbols *, ** and *** denote statistical significance at the 10%, 5% and 1% levels respectively.

Panel A.

	CI based on:			*CI* based on:			*CI* based on:		
	DPS/ Price	*Div/ Earnings*	*(Div+Rep)/ Earnings*	*DPS/ Price*	*Div/ Earnings*	*(Div+Rep)/ Earnings*	*DPS/ Price*	*Div/ Earnings*	*(Div+Rep)/ Earnings*
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Style median ln(Amihud's Illiquidity)	-0.0002***	-0.0005	-0.0063***						
	-4.68	*-0.80*	*-3.88*						
Style median Idiosyncratic volatility				-0.0001***	0.0006	-0.0032***			
				-2.57	*1.64*	*-3.19*			
Style median St. Dev. of Analysts' forecast EPS							-0.0320	-0.1560***	-0.2587***
							1.07	*-4.11*	*-2.78*
ln(Sales)	0.0003**	0.0087***	0.0108**	0.0004***	0.0073***	0.0091*	0.0004***	0.0075***	0.0093*
	2.33	*4.10*	*2.04*	*2.82*	*3.63*	*1.79*	*3.13*	*3.74*	*1.82*
Q	0.0006***	0.0058***	-0.0005	0.0006***	0.0057***	0.0017	0.0005***	0.0051***	0.0001
	13.84	*8.37*	*-0.20*	*15.70*	*8.85*	*0.71*	*12.46*	*7.87*	*0.04*
Leverage	-0.0021***	-0.0173***	-0.0842***	-0.0020***	-0.0133**	-0.0734***	-0.0023***	-0.0138**	-0.0782***
	-5.16	*-2.72*	*-4.61*	*-5.06*	*-2.12*	*-4.16*	*-5.77*	*-2.21*	*-4.44*
Div. payout	-0.1310***	-2.3506***	-2.3622***	-0.1348***	-2.2865***	-2.2517***	-0.1360***	-2.2950***	-2.2520***
	-7.98	*-11.82*	*-5.45*	*-8.44*	*-12.15*	*-5.48*	*-8.54*	*-12.2*	*-5.48*
Cash flow	0.0022***	0.0870***	0.1401***	0.0022***	0.0819***	0.1319***	0.0020***	0.0803***	0.1322***
	5.36	*10.78*	*6.79*	*5.42*	*10.55*	*6.63*	*4.88*	*10.34*	*6.64*
Cash Balances	0.0013***	0.0074*	0.0789***	0.0012***	0.0078**	0.0788***	0.0011***	0.0072**	0.0782***
	5.22	*1.89*	*5.67*	*5.13*	*2.08*	*5.92*	*4.74*	*1.94*	*5.86*
N. Obs.	37637	34222	31046	39811	36073	32911	39811	36073	32911
Adj. R^2	0.0168	0.0183	0.0073	0.0166	0.0171	0.0064	0.0228	0.0177	0.0062

Panel B.

	CI based on:			*CI* based on:			*CI* based on:		
	DPS/ Price	*Div/ Earnings*	*(Div+Rep)/ Earnings*	*DPS/ Price*	*Div/ Earnings*	*(Div+Rep)/ Earnings*	*DPS/ Price*	*Div/ Earnings*	*(Div+Rep)/ Earnings*
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Desired-payout dispersion (Dps/Price)	-0.0125***			-0.0148***			-0.0066		
	-2.43			*-2.95*			*-1.24*		
Desired-payout dispersion (Div/Earnings)		-0.0326***			-0.0332***			-0.0317***	
		-15.24			*-15.48*			*-13.11*	
Desired-payout dispersion ((Div+Rep)/ Earnings)			-0.0191***			-0.0190***			-0.0195***
			-11.03			*-10.86*			*-11.14*
Style median ln(Amihud's illiquidity)				-0.0002***	-0.0003	-0.0025	-0.0001*	-0.0002	-0.0036
				-4.07	*-0.51*	*-1.28*	*-1.83*	*-0.32*	*-1.80*
Style median idiosyncratic volatility				0.0000	-0.0001	-0.0037***	-0.0001***	-0.0002	-0.0028**
				-1.63	*-0.29*	*-3.04*	*-4.11*	*-0.47*	*-2.20*
Style median st. dev. of analysts' forecast EPS				-0.0350***	-0.0982***	-0.2354***	-0.0345***	-0.1014***	-0.3039***
				-12.3	*-2.54*	*-2.33*	*-11.62*	*-2.60*	*-3.14*
Dividend Premium							0.0000	-0.0001	0.0016***
							1.26	*-1.27*	*6.49*
ln(Sales)	0.0004***	0.0073***	0.0081	0.0004***	0.0089***	0.0298***	0.0004***	0.0088***	0.0124**
	2.66	*3.68*	*1.61*	*3.62*	*4.23*	*5.54*	*2.82*	*4.20*	*2.32*
Q	0.0006***	0.0054***	0.0019	0.0026***	0.0049***	-0.0005	0.0005***	0.0048***	0.0029
	15.69	*8.53*	*0.80*	*16.16*	*7.09*	*-0.19*	*11.97*	*6.87*	*1.13*
Leverage	-0.0021***	-0.0099	-0.0794***	-0.0028***	-0.0151**	-0.1000***	-0.0022***	-0.0153***	-0.0856***
	-5.27	*-1.61*	*-4.52*	*-7.42*	*-2.39*	*-5.34*	*-5.52*	*-2.42*	*-4.71*
Div. payout	-0.1349***	-2.2954***	-2.2429***	-0.1516***	-2.3580***	-2.7777***	-0.1325***	-2.3572***	-2.3827***
	-8.45	*-12.29*	*-5.53*	*-9.97*	*-11.97*	*-6.45*	*-8.09*	*-11.96*	*-5.53*
Cash flow	0.0022***	0.0789***	0.1255***	0.0024***	0.0838***	0.1526***	0.0019***	0.0835***	0.1329***
	5.43	*10.31*	*6.3*	*6.25*	*10.5*	*7.08*	*4.62*	*10.45*	*6.42*
Cash Balances	0.0012***	0.0065*	0.0849***	0.0010***	0.0059	0.0800***	0.0012***	0.0058	0.087***
	5.34	*1.77*	*6.37*	*4.63*	*1.52*	*5.61*	*5.01*	*1.50*	*6.27*
N. Obs.	39811	36073	32911	39811	36073	32911	39811	36073	32911
Adj. R^2	0.0167	0.0297	0.0116	0.0291	0.0328	0.0153	0.0257	0.0329	0.0167

Table 3 Compliance and Mutual Funds' Holdings

The table reports the estimates of the system of equations:

$$CI_{it} = \alpha_1 + \beta_1 CI_{it-1} + \gamma_1 FH_{it-1} + \delta_1' x_{it} + \varepsilon_{1,it}$$
$$FH_{it} = \alpha_2 + \beta_2 CI_{it-1} + \gamma_2 FH_{it-1} + \delta_2' x_{it} + \varepsilon_{2,it}$$

The dependent variable of the first equation is the compliance index *CI*; in the second equation, it is the log-mutual fund holdings *FH*; *x* is a vector of standard control variables. All regressions also include firm and year fixed effects; following Petersen (2009), standard errors are clustered around firms. We estimate each equation as a dynamic panel data model, adopting the Anderson and Hsiao (1981) approach. We instrument the lagged dependent variable in each equation by its lagged changes; the lags of the fragmentation measures previously employed provide additional instruments for the lagged compliance index *CI*. The sample consists of all nonfinancial, non-public utility firms appearing in the merged CRSP/Compustat dataset in the period 1980-2004; we exclude firms with book equity below $250,000 or assets below $500,000. We further require that all the variables and relevant lags are available for all observations. In columns (1)-(3) the dependent variable is the log-mutual fund holdings *FH*; in columns (4)-(6), it is the compliance index *CI*. The compliance index *CI* is based on *DPS/Price* in columns (1) and (4), on *Div/Earnings* definition in columns (2) and (5), on *(Div+Rep)/Earnings* in columns (3) and (6). The symbols *, **, and *** denote statistical significance at the 10%, 5% and 1% levels respectively.

Dep. Variable	*FH*			*CI*		
	CI based on			*CI* based on		
	DPS/ Price	*Div/ Earnings*	*(Div+Rep)/ Earnings*	*DPS/ Price*	*Div/ Earnings*	*(Div+Rep)/ Earnings*
	(1)	(2)	(3)	(4)	(5)	(6)
CI	0.6482**	0.0373**	0.0252***	0.0872**	0.3295	-0.4953***
	2.40	*2.46*	*3.53*	*2.24*	*0.94*	*-2.81*
FH	1.6213***	1.6363***	1.6793***	-0.0001	-0.0189	0.0121
	4.16	*4.13*	*4.09*	*-0.08*	*-0.73*	*0.22*
ln(Sales)	-0.0056	-0.0062	-0.0068	-0.0006***	-0.0095*	-0.0362***
	-1.20	*-1.28*	*-1.36*	*2.69*	*-1.90*	*-4.02*
Q	0.0129***	0.0131***	0.0133***	0.0001*	0.0014	0.0062**
	7.48	*7.49*	*7.44*	*1.90*	*0.87*	*2.17*
Leverage	0.0082	0.0081	0.0100	0.0007	0.0277**	0.1051***
	0.75	*0.73*	*0.88*	*1.11*	*1.96*	*4.19*
Div. payout	0.0464	0.0379	-0.0111	-0.0065	0.8738	-0.8873*
	0.30	*0.24*	*-0.07*	*-0.19*	*0.99*	*-1.78*
Cash flow	0.0340***	0.0325**	0.0329**	0.0016**	-0.0253	0.0795***
	2.70	*2.56*	*2.54*	*2.03*	*-0.87*	*2.77*
Cash Balances	00148**	0.0149**	0.0130*	-0.0004	0.0076	-0.0267
	1.98	*1.99*	*1.69*	*0.96*	*0.97*	*1.32*
ln(Amihud's illiquidity)	0.0192***	0.0191***	0.0195***	0.0001	0.0004	-0.0001
	3.60	*3.56*	*3.54*	*1.30*	*0.25*	*-0.06*
Idiosyncratic volatility	-0.0017***	-0.0017***	-0.0017***	-0.0001	0.0002	0.0009*
	-5.33	*-5.30*	*-5.26*	*0.30*	*0.52*	*1.91*
Desired-Payout dispersion (DPS/Price)	-0.1223			-0.0232**		
	-1.54			*1.98*		
Desired-Payout dispersion (Div/Earnings)		0.0001			-0.0225***	
		0.01			*-3.16*	
Desired-Payout dispersion ((Div+Rep)/Earnings)			0.0007			-0.0068*
			0.64			*1.82*
N. Obs.	14620	14620	14620	14620	14620	14620
Hansen J-stat (p-value)	3.961 (0.1380)	1.915 (0.3838)	1.486 (0.4757)	3.510 (0.1729)	4.450 (0.1231)	6.414 (0.0931)

Table 4 Compliance and Payout Policy

The table reports the estimates of a model:

$$Payout_{it} = \alpha + \beta CI_{it-1} + \gamma' x_{it} + \varepsilon_{it}$$

The dependent variable is firm payout policy, defined as either *Div. payout* (common dividends (Compustat item 21) + preferred dividends (item 19) divided by lagged total assets (item 6)) or *Total payout* (common dividends (Compustat item 21) + preferred dividends (item 19) + repurchases (item 115) divided by lagged total assets (item 6)). *CI* is the compliance index, based on the *DPS/Price*, *Div/Earnings*, or *(Div+Rep)/Earnings*; *x* denotes a set of standard control variables. In panel A., the dependent variable is *Div. payout*; in Panel B., it is *Total payout*. In both panels, in columns (1), (4) and (7) the compliance index is based on *DPS/Price*; in columns (2), (5) and (8) on *Div/Earnings*; in columns (3), (6) and (9) on *(Div+Rep)/Earnings*. In both panels, in columns (1)-(3) the model is estimated using firm, industry and year fixed effects; in columns (4)-(6), we repeat the exercise using a Fama-MacBeth estimator with industry fixed effects; finally in columns (7)-(9) we repeat the exercise estimating the model with firm, industry and year fixed effects, using the investor fragmentation variables as instruments for the compliance index *CI*. Following Petersen (2009), the t-statistics are based on standard errors clustered around firms in columns (1)-(3) and (7)-(9); in columns (4)-(6), they are based on the conventional Fama-MacBeth standard errors. The sample consists of all nonfinancial, non-public utility firms appearing in the merged CRSP/Compustat dataset in the period 1980-2004; we exclude firms with book equity below $250,000 or assets below $500,000. We further require that all the variables and relevant lags are available for all observations. The symbols *, ** and *** denote statistical significance at the 10%, 5% and 1% levels respectively.

Panel A. Dependent variable: *Div. payout*

	Fixed-effects OLS			Fama-MacBeth			Fixed-effects IV		
	DPS/ Price	*Div/ Earnings*	*(Div+Rep)/ Earnings*	*DPS/ Price*	*Div/ Earnings*	*(Div+Rep)/ Earnings*	*DPS/ Price*	*Div/ Earnings*	*(Div+Rep)/ Earnings*
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
CI	-0.0297***	-0.0044***	-0.0003*	-0.3107***	-0.0294***	-0.0046***	-1.2201***	-0.0120***	-0.0104***
	-3.25	*-7.08*	*-1.78*	*-10.04*	*-13.16*	*-8.14*	*-2.08*	*-2.26*	*-3.43*
Div. Payer	0.0105***	0.0101***	0.0102***	0.0173***	0.0159***	0.0178***	0.0070***	0.0098***	0.0094***
	24.44	*23.85*	*22.25*	*47.71*	*35.68*	*63.52*	*4.18*	*19.94*	*18.13*
ln(Sales)	0.0005***	0.0005***	0.0005***	-0.0001	0.0001	0.0000	0.0004*	0.0006***	0.0007***
	2.79	*3.10*	*2.78*	*-0.66*	*1.17*	*0.26*	*1.75*	*3.27*	*3.20*
Q	0.0007***	0.0008***	0.0008***	0.0022***	0.0021***	0.0021***	0.0015***	0.0009***	0.0010***
	8.13	*8.19*	*7.75*	*7.51*	*8.09*	*7.57*	*3.81*	*8.24*	*8.46*
Leverage	-0.0104***	-0.0105***	-0.0107***	-0.0103***	-0.0082***	-0.0095***	-0.0127***	-0.0103***	-0.0106***
	-16.17	*-16.32*	*-15.83*	*-7.07*	*-6.97*	*-6.39*	*-7.67*	*-16.44*	*-15.26*
Cash flow	0.0016**	0.0018**	0.0014*	0.0096***	0.0110***	0.0083***	0.0063***	0.0024***	0.0032***
	2.42	*2.51*	*1.84*	*5.85*	*6.31*	*6.03*	*2.57*	*2.59*	*3.05*
Cash Balances	0.0001	-0.0002	0.0001	0.0096***	0.0110***	0.0083***	0.0004	-0.0002	0.0004
	0.22	*-0.48*	*0.18*	*5.85*	*6.31*	*6.03*	*0.73*	*-0.38*	*0.79*
ln(Amihud's illiquidity)	0.0002***	0.0002***	0.0002***	-0.0003***	-0.0002**	-0.0001**	-0.0005	0.0002***	0.0003***
	3.12	*4.08*	*3.80*	*-4.41*	*-2.40*	*-1.96*	*-1.42*	*3.57*	*3.63*
Idiosyncratic volatility	0.0000**	0.0000	0.0000*	-0.0002***	-0.0002***	-0.0003***	0.0000	0.0000	0.0000
	-1.89	*-1.09*	*-1.75*	*-4.22*	*-4.02*	*-4.66*	*0.00*	*-0.58*	*0.16*
N. obs.	49324	40021	39753	50818	41619	41352	41801	38948	37082
Industry fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes				Yes	Yes	Yes
N. years				23	23	23			
Hansen J-stat (p-value)							0.130 (0.9371)	3.341 (0.3420)	2.900 (0.4073)

Panel B. Dependent variable: *Total payout*

	Fixed-effects OLS			Fama-MacBeth			Fixed-effects IV		
	DPS/ Price	*Div/ Earnings*	*(Div+Rep)/ Earnings*	*DPS/ Price*	*Div/ Earnings*	*(Div+Rep)/ Earnings*	*DPS/ Price*	*Div/ Earnings*	*(Div+Rep)/ Earnings*
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
CI	-0.0075	-0.0042***	-0.0043***	-0.3165***	-0.0314***	-0.0179***	-5.2610***	-0.0581***	-0.0562***
	-0.38	*-2.69*	*-6.39*	*-7.84*	*-10.58*	*-10.77*	*-3.33*	*-2.35*	*-3.58*
Div. Payer	0.0116***	0.0106***	0.0105***	0.0190***	0.0174***	0.0190***	-0.0064	0.0076***	0.0070***
	13.74	*12.02*	*11.95*	*40.87*	*31.74*	*31.62*	*-1.19*	*5.11*	*5.11*
ln(Sales)	0.0030***	0.0034***	0.0034***	0.0000	0.0003	0.0000	0.0037***	0.0037***	0.0041***
	7.39	*7.61*	*7.85*	*-0.21*	*1.32*	*0.12*	*3.45*	*6.81*	*8.29*
Q	0.0004***	0.0010***	0.0010***	0.0024***	0.0025***	0.0027***	0.0059***	0.0016***	0.0015***
	1.81	*3.75*	*3.63*	*8.45*	*9.17*	*9.57*	*4.18*	*4.52*	*4.59*
Leverage	-0.0323***	-0.0332***	-0.0323***	-0.0233***	-0.0211***	-0.0204***	-0.0488***	-0.0344***	-0.0321***
	-21.04	*-20.28*	*-19.78*	*-21.13*	*-20.64*	*-16.61*	*-9.46*	*-19.30*	*-19.33*
Cash flow	0.0061***	0.0066***	0.0075***	0.0319***	0.0341***	0.0343***	0.0311***	0.0128***	0.0173***
	3.81	*3.58*	*4.23*	*22.72*	*18.60*	*21.16*	*3.54*	*3.67*	*4.83*
Cash Balances	0.0075***	0.0076***	0.0092***	0.0319***	0.0341***	0.0343***	0.0121***	0.0096***	0.0113***
	5.82	*5.41*	*6.42*	*22.72*	*18.60*	*21.16*	*4.42*	*5.86*	*7.02*
ln(Amihud's illiquidity)	-0.0008***	-0.0005***	-0.0005***	-0.0012***	-0.0011***	-0.0010***	-0.0034***	-0.0006***	-0.0004***
	-5.52	*-3.48*	*-3.47*	*-8.54*	*-6.83*	*-6.14*	*-3.53*	*-3.30*	*-2.44*
Idiosyncratic volatility	-0.0002***	-0.0002***	-0.0002***	-0.0005***	-0.0005***	-0.0005***	-0.0002*	-0.0002***	-0.0001*
	-6.66	*-5.97*	*-5.47*	*-9.49*	*-9.37*	*-9.07*	*-1.88*	*-4.74*	*-1.72*
N. obs.	49165	39867	39670	50663	41459	41256	32760	35208	38841
Industry fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes				Yes	Yes	Yes
N. Years				23	23	23			
Hansen J-stat (p-value)							3.810 (0.5772)	0.700 (0.7048)	1.991 (0.7375)

Table 5 Impact of Compliance on Market Prices

The sample consists of all nonfinancial, non-public utility firms appearing in the merged CRSP/Compustat dataset in the period 1980-2004; we exclude firms with book equity below $250,000 or assets below $500,000. For each sample year *t,* we form portfolios by sorting companies into deciles based on the values of the percentage change in *CI* with respect to the previous year. We then measure the performance of a given portfolio over the preceding 12 months. Our measure of performance is the alpha from a Carhart (1997) four-factor model. We report the alphas of portfolios that are long in stocks in the highest *CI*-increase deciles and short in the lowest *CI*-increase deciles. Specifically, we focus on the alphas on three portfolios: one that is long in the top decile and short in the bottom decile (Top 10% - Bottom 10%), one long in the top two deciles and short in the bottom two deciles (Top 20% - Bottom 20%), and one long in the top three deciles and short in the bottom three deciles (Top 30% - Bottom 30%). We rebalance portfolios in December each year. We perform the exercise based on raw returns and net-of-industry returns. Each year, we assign firms to industries based on the Fama-French (1997) industry classification. A firm's net-of-industry return is the difference between the firm's return on a given month and the average return of its industry. We compute alphas for both equal- and value-weighted (by market value of equity) portfolios. The symbols *, ** and *** denote statistical significance at the 10%, 5% and 1% levels respectively.

Panel A. Raw returns

	Equal-Weighted			Value-weighted		
	CI* based on *DPS/Price					
Portfolio	**Alpha**	**St.Error**	**t-stat**	**Alpha**	**St.Error**	**t-stat**
Top 10% - Bottom 10%	0.0033***	0.0009	3.7779	0.0053***	0.0010	5.3546
Top 20% - Bottom 20%	0.0040***	0.0007	5.3642	0.0059***	0.0009	6.7786
Top 30% - Bottom 30%	0.0035***	0.0007	5.0455	0.0055***	0.0009	6.1904
	CI* based on *Div/Earnings					
Portfolio	**Alpha**	**St.Error**	**t-stat**	**Alpha**	**St.Error**	**t-stat**
Top 10% - Bottom 10%	-0.0006	0.0008	-0.6880	0.0026***	0.0010	5.1626
Top 20% - Bottom 20%	0.0002	0.0007	0.2677	0.0013***	0.0010	5.8646
Top 30% - Bottom 30%	0.0004	0.0006	0.5709	0.0004***	0.0010	5.3055
	CI* based on *(Div+Rep)/Earnings					
Portfolio	**Alpha**	**St.Error**	**t-stat**	**Alpha**	**St.Error**	**t-stat**
Top 10% - Bottom 10%	0.0022**	0.0009	2.2260	0.0016***	0.0011	4.7675
Top 20% - Bottom 20%	0.0014*	0.0008	1.7692	0.0010***	0.0011	5.5090
Top 30% - Bottom 30%	0.0016**	0.0008	1.9764	0.0013***	0.0011	5.1310

Panel B. Net-of-industry returns

	Equal-Weighted			Value-weighted		
	CI* based on *DPS/Price					
Portfolio	**Alpha**	**St.Error**	**t-stat**	**Alpha**	**St.Error**	**t-stat**
Top 10% - Bottom 10%	0.0055***	0.0006	8.7111	0.0047***	0.0008	6.0620
Top 20% - Bottom 20%	0.0056***	0.0006	9.9942	0.0046***	0.0007	6.7027
Top 30% - Bottom 30%	0.0042***	0.0005	8.2640	0.0036***	0.0006	6.4107
	CI* based on *Div/Earnings					
Portfolio	**Alpha**	**St.Error**	**t-stat**	**Alpha**	**St.Error**	**t-stat**
Top 10% - Bottom 10%	0.0032***	0.0007	4.4917	0.0027***	0.0010	4.7392
Top 20% - Bottom 20%	0.0030***	0.0006	5.3116	0.0019***	0.0007	6.0928
Top 30% - Bottom 30%	0.0025***	0.0005	4.9786	0.0014***	0.0006	5.6151
	CI* based on *(Div+Rep)/Earnings					
Portfolio	**Alpha**	**St.Error**	**t-stat**	**Alpha**	**St.Error**	**t-stat**
Top 10% - Bottom 10%	0.0039***	0.0008	5.0390	0.0024***	0.0010	4.8846
Top 20% - Bottom 20%	0.0033***	0.0006	5.1648	0.0028***	0.0007	6.9646
Top 30% - Bottom 30%	0.0028***	0.0005	5.1929	0.0029***	0.0007	5.3579

Table 6 Compliance and the Market Reaction to Equity Issues

The table reports the estimates of a regression of the cumulative abnormal return (CAR) around SEO announcements on the compliance index *CI*, along with a set of standard control variables (*ln(Sales)*, *Tobin's Q*, *Cash flow*, *Leverage*, *Div. payout*, *Cash balances*, *ln(Amihud's illiquidity)*, *Idiosyncratic volatility*, log mutual fund holdings *FH*, *Offer size* of the SEO, stock return over the six months preceding the SEO *Prior 6-months return*, TNA of mutual funds in the same investment style as the firm (*$TNA own style*) and in the other styles (*$TNA other styles*); the estimates of the coefficients on *$TNA own style* and *$TNA other styles* are omitted from the table for convenient spacing). We compute abnormal returns as the residuals from a market model, and cumulate them over horizons covering days -1 to +1 and -1 to +3 around the announcement date. The sample of SEO announcements is retrieved from the Security Data Corporation's (SDC) New Issues dataset; in order to run our regressions, we average CAR's for firms that have more than one announcement in the same year, and match the announcement data to the CRSP/Compustat merged dataset. Due to potential endogeneity of the issuing decision, the regression is carried out via the Heckman two-stage procedure. Observations are weighted by weights proportional to the inverse of the variance of the CAR estimate. All RHS variables are measured as of December of the year preceding the announcement (i.e. they are beginning-of-the-year values), with the exception of *Offer Size* and *Prior 6-months return*. Panel A reports coefficient estimates and White heteroskedasticity-robust t-statistics corresponding to this procedure; in columns (1)-(3) the compliance index *CI* is based on *DPS/Price*; in columns (4)-(6) on *Div/Earnings*; in columns (7)-(9) on *(Div+Rep)/Earnings*. Panel B reports estimates of the same regressions, again using the Heckman two-stage procedure to account for potential endogeneity of the SEO decision, and instrumenting the compliance index by the same set of style fragmentation measures employed above. Again, in columns (1)-(3) *CI* is based on *DPS/Price*; in columns (4)-(6) on *Div/Earnings*; in columns (7)-(9) on *(Div+Rep)/Earnings*.

Panel A.

	CI based on *DPS/Price*		*CI* based on *Div/Earnings*		*CI* based on *(Div+Rep)/Earnings*	
	CAR [−1,+1]	CAR [−1,+3]	CAR [−1,+1]	CAR [−1,+3]	CAR [−1,+1]	CAR [−1,+3]
	(1)	(2)	(3)	(4)	(5)	(6)
CI	1.1188***	1.1314***	-0.0360	0.1082***	0.0309***	0.0367***
	3.91	*3.54*	*-1.47*	*4.20*	*3.45*	*3.62*
ln(Sales)	-0.0031	-0.0039*	0.0073***	-0.0032	-0.0042**	-0.0046**
	-1.62	*-1.81*	*3.51*	*-1.34*	*-2.22*	*-2.17*
Q	0.0181***	0.0218***	-0.0014	0.0220***	0.0191***	0.0243***
	9.62	*9.15*	*-0.41*	*9.60*	*10.45*	*11.59*
Leverage	0.1107***	0.1168***	-0.0245	0.1029***	0.1030***	0.1142***
	9.06	*8.32*	*-1.29*	*7.38*	*8.36*	*8.20*
Div. payout	-0.7645***	-0.9422***	0.1237	-0.9568***	-0.8542***	-1.0926***
	-3.90	*-4.16*	*0.58*	*-4.14*	*-4.53*	*-5.10*
Cash flow	0.0402**	0.0497***	0.0125	0.0690***	0.0584***	0.0745***
	2.49	*2.68*	*0.87*	*3.70*	*3.49*	*3.94*
Cash balances	0.0126	0.0097	0.0278***	0.0166	0.0018	0.0010
	1.03	*0.69*	*2.61*	*1.10*	*0.16*	*0.07*
ln(Amihud's illiquidity)	-0.0071***	-0.0071***	0.0035*	-0.0068***	-0.0080***	-0.0077***
	-4.85	*-4.16*	*1.92*	*-3.82*	*-5.40*	*-4.48*
Idiosyncratic volatility	0.0004	0.0005	0.0003	0.0007	0.0007	0.0007
	0.93	*0.96*	*0.74*	*1.52*	*1.50*	*1.46*
FH	0.1230***	0.1281***	0.0411*	0.1255***	0.1323***	0.1350***
	4.93	*4.41*	*1.76*	*4.20*	*5.23*	*4.60*
Offer Size	-0.0078	-0.0099*	0.0061	-0.0100	-0.0042	-0.0087
	-1.37	*-1.76*	*0.90*	*-1.50*	*-0.69*	*-1.51*
Prior 6-month return	-0.0002	-0.0008	-0.0012	-0.0015	-0.0002	-0.0010
	-0.17	*-0.61*	*-1.07*	*-1.17*	*-0.20*	*-0.74*
Inverse Mills ratio	-0.0009	-0.0013	-0.0009	-0.0013	-0.0011	-0.0013
	-0.55	*-0.87*	*-0.71*	*-0.76*	*-0.85*	*-0.76*
Control variables suppressed						
N. obs.	5455	5455	5455	5455	5455	5455
Industry fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Adj-R^2	0.0303	0.0071	0.0109	0.0090	0.0162	0.0086

Panel B.

	CI based on *DPS/Price*		*CI* based on *Div/Earnings*		*CI* based on *Div+Rep)/Earnings*	
	CAR [−1,+1]	CAR [−1,+3]	CAR [−1,+1]	CAR [−1,+3]	CAR [−1,+1]	CAR [−1,+3]
	(1)	(2)	(3)	(4)	(5)	(6)
CI	12.5517***	14.0458***	1.1374***	1.2682***	2.8701***	3.1011***
	8.38	*8.48*	*11.07*	*11.21*	*10.05*	*10.12*
ln(Sales)	0.0035*	0.0034	0.0059***	0.0062***	0.0070***	0.0071***
	1.80	*1.54*	*3.07*	*2.81*	*3.52*	*3.12*
Q	0.0090***	0.0117***	0.0006	0.0020	-0.0003	0.0015
	4.63	*5.01*	*0.28*	*0.86*	*-0.15*	*0.62*
Leverage	0.1359***	0.1475***	0.0417***	0.0404***	0.0914***	0.0960***
	10.02	*9.44*	*3.58*	*3.04*	*7.79*	*7.14*
Div. payout	1.4975***	1.5927***	2.1171***	2.2948***	6.7186***	7.1546***
	4.96	*4.64*	*6.84*	*6.69*	*8.91*	*8.81*
Cash flow	0.0020	0.0081	-0.0572***	-0.0587***	-0.1299***	-0.1333***
	0.12	*0.43*	*-3.21*	*-2.92*	*-5.55*	*-5.18*
Cash Balances	0.0222*	0.0203	-0.0251**	-0.0324**	-0.0268**	-0.0330**
	1.85	*1.46*	*-2.08*	*-2.29*	*-2.18*	*-2.28*
ln(Amihud's illiquidity)	0.0003	0.0011	-0.0057***	-0.0055***	0.0017	0.0025
	0.21	*0.63*	*-4.01*	*-3.34*	*1.09*	*1.37*
Idiosyncratic volatility	-0.0002	-0.0002	-0.0006	-0.0005	-0.0031***	-0.0033***
	-0.42	*-0.36*	*-1.27*	*-1.13*	*-5.55*	*-5.44*
FH	0.1209***	0.1285***	0.2089***	0.2248***	0.0929***	0.0972***
	4.89	*4.51*	*7.86*	*7.48*	*3.72*	*3.37*
Offer Size	-0.0060	-0.0066	-0.0182***	-0.0199***	-0.0212***	-0.0212***
	-0.93	*-1.01*	*-2.72*	*-2.79*	*-3.29*	*-3.18*
Prior 6-month return	0.0001	-0.0004	-0.0003	-0.0010	-0.0010	-0.0015
	0.12	*-0.34*	*-0.27*	*-0.81*	*-0.87*	*-1.15*
Inverse Mills' ratio	-0.0093	-0.0205	-0.0094	-0.0204	-0.0095	-0.0204
	-0.54	*-0.96*	*-0.54*	*-0.95*	*-0.56*	*-0.97*
Control variables suppressed						
N. obs.	5455	5455	5455	5455	5455	5455
Industry fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Hansen J-stat (p-value)	6.917 (0.1015)	5.172 (0.1596)	6.0608 (0.1941)	6.755 (0.1494)	4.545 (0.2083)	3.626 (0.3048)

Table 7 Compliance and the Long-Run Performance of SEO's

The table reports the long-run abnormal performance of portfolios of equity issuers, constructed conditional of the level of the compliance index *CI* prior to the issue announcement. We retrieve SEO announcement dates from the Security Data Corporation (SDC) New Issues dataset. We sort stocks based on the value of *CI* at the beginning of the announcement year, and form portfolios of firms with high compliance (above the 70^{th} percentile) and low compliance (below the 30^{th} percentile). We measure the long-run abnormal performance of portfolios that are long in the high-compliance stocks and short in low-compliance stocks. We measure abnormal performance by computing calendar-time alphas from a Carhart (1997) four-factor. We perform the exercise based on raw stock returns, as well as net-of-industry returns. Each year we assign a firm to one of industry bins based on the Fama and French (1997) industry classification; a firm's net-of-industry return is then the difference between the firm's return on a given month and the average return of its industry. We report the estimates of alphas for equal-weighted portfolios. The symbols *, ** and *** denote statistical significance at the 10%, 5% and 1% levels respectively.

	Raw returns			Net-of-industry returns		
	CI based on:			*CI* based on:		
Holding period	*DPS/Price*	*Div/Earnings*	*(Div+Rep)/ Earnings*	*DPS/Price*	*Div/Earnings*	*(Div+Rep)/ Earnings*
12 months	0.0070***	0.0060***	0.0013	0.0072***	0.0055***	0.0008
	3.48	*3.04*	*0.71*	*3.89*	*2.83*	*0.44*
24 months	0.0057***	0.0059***	0.0021	0.0058***	0.0051***	0.0018
	2.97	*2.91*	*1.22*	*3.27*	*2.64*	*0.97*
36 months	0.0052***	0.0058***	0.0014	0.0053***	0.0058***	0.0010
	2.90	*3.23*	*0.87*	*3.17*	*3.23*	*0.57*
48 months	0.0047***	0.0057***	0.0013	0.0047***	0.0051***	0.0010
	2.70	*3.35*	*0.81*	*2.90*	*3.08*	*0.64*

Table 8 Compliance and the Market Reaction to Dividend Continuations

The table reports the estimates of a regression of the cumulative abnormal return (CAR) around dividend continuation announcements on the compliance index *CI*, along with a set of standard control variables. We focus on ordinary quarterly, taxable cash dividends (CRSP distribution code 1232) paid in US dollars; we exclude financial companies (SIC codes 6000-6999) and regulated utilities (SIC codes 4900-4999), American trust components, closed-end funds, and REIT's. We further focus on dividend continuations, i.e. we exclude dividend increases and decreases. Finally, we require that there is no announcement of other distributions in a 30-day window around the announcement date. We compute abnormal returns as the residuals from a market model, and cumulate them over windows covering days -1 to +1 and -1 to +3 around the announcement date. Panel A reports estimates based on simple OLS; in columns (1)-(2) the compliance index *CI* is based on *DPS/Price*; in columns (3)-(4) on *Div/Earnings*; in columns (5)-(7) on *(Div+Rep)/Earnings*. Panel B reports estimates of the same regressions, where *CI* is instrumented by the style fragmentation measures employed in the previous regressions. Again, in columns (1)-(2) the compliance index is based on *DPS/Price*; in columns (3)-(4) on *Div/Earnings*; in columns (5)-(7) on *(Div+Rep)/Earnings*. The symbols *, ** and *** denote statistical significance at the 10%, 5% and 1% levels respectively.

Panel A.

	CI based on *DPS/Price*		*CI* based on *Div/Earnings*		*CI* based on *(Div+Rep)/Earnings*	
	CAR [−1,+1]	CAR [−1,+3]	CAR [−1,+1]	CAR [−1,+3]	CAR [−1,+1]	CAR [−1,+3]
	(1)	(2)	(3)	(4)	(5)	(6)
CI	0.1063***	0.1156***	0.0059**	0.0078**	0.0024	0.0027**
	3.23	*3.02*	*2.07*	*2.15*	*1.09*	*2.12*
ln(Sales)	0.0007*	0.0016***	0.0009**	0.0018***	0.0006	0.0015***
	1.72	*3.45*	*2.25*	*3.54*	*1.22*	*3.06*
Q	0.0009	-0.0028	-0.0010	-0.0042*	-0.0014	-0.0051**
	0.44	*-1.29*	*-0.50*	*-1.85*	*-0.65*	*-2.22*
Leverage	0.0012	-0.0003	0.0023	0.0009	0.0016	0.0029
	0.61	*-0.12*	*1.06*	*0.35*	*0.67*	*1.17*
Div. payout	-0.0294	0.0010	-0.0098	-0.0007	0.0085	0.0798*
	-0.71	*0.02*	*-0.23*	*-0.01*	*0.19*	*1.74*
Cash flow	0.0063	0.0004	0.0048	0.0113	0.0031	0.0037
	0.91	*0.05*	*0.60*	*1.17*	*0.34*	*0.41*
Cash Balances	-0.0012	-0.0038	0.0011	-0.0056	0.0025	-0.0016
	-0.31	*-0.90*	*0.30*	*-1.20*	*0.59*	*-0.34*
ln(Amihud's illiquidity)	0.0007***	0.0011***	0.0012***	0.0015***	0.0008**	0.0013***
	2.61	*3.33*	*3.85*	*4.11*	*2.44*	*3.58*
Idiosyncratic volatility	0.0006***	0.0011***	0.0008***	0.0011***	0.0008***	0.0011***
	4.44	*7.88*	*6.41*	*7.46*	*5.47*	*7.27*
Log(MF Hold)	0.0064	0.0098*	0.0078	0.0089	0.0055	0.0099
	1.24	*1.72*	*1.53*	*1.43*	*0.94*	*1.59*
Div. Amount	-0.0067**	-0.0123***	-0.0066**	-0.0092***	-0.0091***	-0.0105***
	-2.23	*-3.53*	*-2.24*	*-2.66*	*-2.72*	*-2.80*
N. Obs.	16847	16847	13855	13855	14088	14088
Industry fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Adj.-R^2	0.0461	0.0896	0.0796	0.0874	0.0728	0.0896

Panel B.

	CI based on *DPS/Price*		*CI* based on *Div/Earnings*		*CI* based on *(Div+Rep)/Earnings*	
	CAR [−1,+1]	CAR [−1,+3]	CAR [−1,+1]	CAR [−1,+3]	CAR [−1,+1]	CAR [−1,+3]
	(1)	(2)	(3)	(4)	(5)	(6)
CI	0.4701**	0.7745**	0.1490**	0.2327**	0.0855*	0.1146**
	2.19	*2.23*	*2.51*	*2.30*	*1.85*	*2.05*
ln(Sales)	0.0005	0.0012**	0.0016**	0.0028***	0.0005	0.0015**
	1.64	*2.23*	*2.37*	*3.05*	*0.77*	*1.98*
Q	0.0075*	0.0079	0.0007	-0.0033	-0.0016	-0.0053*
	1.78	*1.15*	*0.28*	*-1.01*	*-0.60*	*-1.69*
Leverage	-0.0046*	-0.0109**	0.0187**	0.0247**	0.0074	0.0082
	-1.72	*-2.55*	*2.51*	*2.16*	*1.37*	*1.26*
Div. payout	-0.2748**	-0.4193*	-0.7432**	-1.0737	-0.2308	-0.2914
	-2.01	*-1.83*	*-2.40*	*-2.18*	*-1.59*	*-1.63*
Cash flow	0.0093	0.0098	0.1640**	0.2468**	0.0692*	0.0867*
	1.12	*0.70*	*2.43*	*2.26*	*1.77*	*1.83*
Cash Balances	0.0013	-0.0009	0.0031	-0.0001	0.0015	-0.0010
	0.48	*-0.20*	*0.62*	*-0.02*	*0.30*	*-0.15*
ln(Amihud's illiquidity)	0.0001	-0.0001	0.0012***	0.0014***	0.0006	0.0010*
	0.57	*-0.03*	*2.89*	*2.66*	*1.17*	*1.72*
Idiosyncratic volatility	0.0002	0.0002	0.0007***	0.0010***	0.0001	0.0003
	0.29	*1.15*	*4.19*	*4.02*	*0.44*	*1.28*
FH	0.0036	0.0051	-0.0051	-0.0079	0.0013	0.0028
	0.95	*0.83*	*-0.63*	*-0.68*	*0.19*	*0.32*
Div. Amount	-0.0059**	-0.0074*	0.0021	0.0048	0.0030	0.0022
	-2.45	*-1.90*	*0.37*	*0.55*	*0.66*	*0.41*
N. Obs.	16847	16847	14088	14088	13855	13855
Industry fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Hansen J-stat (p-value)	6.204 (0.1121)	5.880 (0.1176)	2.192 (0.3343)	6.647 (0.0841)	0.446 (0.8002)	0.332 (0.8511)

Table 9 Compliance and the Probability of an Equity Issue Announcement

The table reports the estimates of a probit model for the probability of an SEO announcement, conditional on the compliance index *CI* and a set of standard control variables. The dependent variable is a dummy variable equal to 1 if in year *t* firm *i* announces an SEO. We retrieve announcement dates from the Security Data Corporation's (SDC) New Issues dataset. We experiment with two alternative specifications, replacing the change in Spread with Sentiment in the second specification in columns (4)-(6). In columns (1) and (4), the compliance index *CI* is based on *DPS/Price*; in columns (2) and (5), on *Div/Earnings*; in columns (3) and (6), on *(Div+Rep)/Earnings*. Following Petersen (2009), in all specifications the t-statistics are based on standard errors clustered around firms. The symbols *, ** and *** denote statistical significance at the 10%, 5% and 1% levels respectively.

	CI based on:					
	DPS/ Price	*Div/ Earnings*	*(Div+Rep)/ Earnings*	*DPS/ Price*	*Div/ Earnings*	*(Div+Rep)/ Earnings*
	(1)	(2)	(3)	(4)	(5)	(6)
CI	7.7325***	0.7977***	0.3202***	6.6470***	0.6734***	0.2377***
	5.25	*6.53*	*6.82*	*3.54*	*4.78*	*4.44*
ln(Sales)	-0.0443***	-0.0395***	-0.0408***	-0.0708***	-0.0633***	-0.0680***
	-4.59	*-3.76*	*-3.85*	*-6.00*	*-4.92*	*-5.29*
Q	0.1103***	0.1123***	0.1074***	0.1151***	0.1177***	0.1144***
	13.45	*11.99*	*11.30*	*11.06*	*10.04*	*9.57*
Leverage	-8.8413***	-8.7661***	-9.7106***	-7.5759***	-7.6508***	-8.2530***
	-9.69	*-8.41*	*-9.76*	*-6.69*	*-5.82*	*-6.68*
Div. payout	0.0030	0.0178	0.0233	-0.0463	-0.0604	-0.0428
	0.06	*0.30*	*0.40*	*-0.68*	*-0.79*	*-0.56*
Cash flow	0.1398*	0.1966***	0.2511***	0.2261***	0.2516***	0.3167***
	1.78	*2.20*	*2.83*	*2.23*	*2.18*	*2.78*
Cash Balances	0.7351***	0.6898***	0.6915***	0.8914***	0.8262***	0.8466***
	15.01	*12.82*	*12.63*	*14.93*	*12.52*	*12.70*
ln(Amihud's illiquidity)	-0.0163***	-0.0134*	-0.0148**	-0.0333***	-0.0303***	-0.0333***
	-2.49	*-1.87*	*-2.06*	*-4.18*	*-3.49*	*-3.84*
Idiosyncratic volatility	0.0026	0.0028	0.0034	0.0060***	0.0071***	0.0080***
	1.37	*1.34*	*1.61*	*2.65*	*2.89*	*3.22*
$ TNA own style	0.4456***	0.4543***	0.4698***	0.2854***	0.2845***	0.3185***
	7.00	*6.41*	*6.55*	*3.87*	*3.47*	*3.85*
$ TNA other styles	-0.0383	-0.0226	0.1344	-1.8864***	-1.8038***	-1.5748***
	-0.11	*-0.06*	*0.35*	*-4.88*	*-4.20*	*-3.66*
FH	0.6378***	0.5678***	0.6315***	0.6266***	0.5795***	0.6298***
	5.25	*4.25*	*4.71*	*4.37*	*3.67*	*4.00*
Spread	11.8387***	10.4897***	10.3684***	3.2155**	2.8923	3.1034*
	8.64	*6.81*	*6.82*	*2.05*	*1.64*	*1.78*
ΔSpread	-2.3844*	-2.3835	-2.6570*			
	-1.65	*-1.51*	*-1.66*			
Sentiment				3.2260***	3.1777***	3.4333***
				3.96	*3.52*	*3.85*
N. Obs.	50069	41055	40817	39173	32226	40817
Industry fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Style fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Pseudo R^2	0.0871	0.0887	0.0888	0.0835	0.0853	0.0888

Table 10 Compliance and Leverage

The table reports the estimates of a model:

$$Leverage_{it} = \alpha + \beta CI_{it-1} + \gamma' x_{it} + \varepsilon_{it}$$

The dependent variable is *Leverage* minus the median leverage of each firm's Fama-French (1997) industry grouping; *CI* is the compliance index (based on *DPS/Price*, *Div/Earnings*, and *(Div+Rep)/Earnings*); *x* is a set of standard control variables, including firm, industry and year fixed effects. In panel A., we estimate the model with a conventional OLS-fixed effects estimator; in panel B., we re-estimate the model, instrumenting the compliance index *CI* with our style fragmentation variables. In both panels, in columns (1) and (4) *CI* is based on *DPS/Price*; in columns (2) and (5) on *Div/Earnings*; in columns (3) and (6) on *(Div+Rep)/Earnings*. Columns (4) through (6) report the estimates of an alternative specification, where the external-financing weighted average *Tobin's Q* of Baker and Wurgler (2002a) Q_{EFWAt} is replaced by *Tobin's Q*. Following Petersen (2009), standard errors are clustered around firms in all specifications. The symbols *, ** and *** denote statistical significance at the 10%, 5% and 1% levels respectively.

Panel A.

	CI based on:					
	DPS/ Price	*Div/ Earnings*	*(Div+Rep)/ Earnings*	*DPS/ Price*	*Div/ Earnings*	*(Div+Rep)/ Earnings*
	(1)	(2)	(3)	(4)	(5)	(6)
CI	-0.6882***	-0.0287***	-0.0063**	-0.7360***	-0.0314***	-0.0072**
	-5.93	*-3.45*	*-2.21*	*-6.44*	*-3.84*	*-2.59*
ln(Sales)	0.0321***	0.0320***	0.0316***	0.0352***	0.0345***	0.0339***
	10.04	*9.23*	*8.97*	*11.55*	*10.38*	*10.08*
Q_{EFWA}	-0.0018	-0.0016	-0.0011			
	-1.53	*-1.27*	*-0.82*			
Q				-0.0047***	-0.0061***	-0.0053***
				-3.89	*-4.40*	*-3.84*
Div. payout	-1.1262***	-1.2955***	-1.1680***	-1.1774***	-1.3125***	-1.1988***
	-6.96	*-6.81*	*-6.54*	*-7.69*	*-7.20*	*-7.02*
Cash flow	-0.2192***	-0.2305***	-0.2393***	-0.2018***	-0.2144***	-0.2225***
	-17.14	*-15.43*	*-15.94*	*-16.85*	*-15.11*	*-15.63*
Cash Balances	-0.0718***	-0.0745***	-0.0777***	-0.0752***	-0.0766***	-0.0807***
	-9.57	*-8.58*	*-8.71*	*-10.41*	*-9.17*	*-9.39*
ln(Amihud's Illiquidity)	0.0058***	0.0066***	0.0067***	0.0051***	0.0057***	0.0059***
	5.67	*5.86*	*5.99*	*5.09*	*5.10*	*5.30*
Idiosyncratic Volatility	0.0011***	0.0012***	0.0010***	0.0011***	0.0012***	0.0010***
	5.80	*5.50*	*4.74*	*5.47*	*5.36*	*4.79*
N. Obs.	44403	36147	35879	48452	39314	39042
Year and Industry fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Adj.-R^2	0.1745	0.1781	0.1800	0.1674	0.1717	0.1727

Panel B.

	CI based on:					
	DPS/ Price	*Div/ Earnings*	*(Div+Rep)/ Earnings*	*DPS/ Price*	*Div/ Earnings*	*(Div+Rep)/ Earnings*
	(1)	(2)	(3)	(4)	(5)	(6)
CI	-4.5502**	-0.2650**	-0.4115***	-4.6717**	-0.2562**	-0.4355***
	-2.10	*-1.99*	*-3.91*	*-2.20*	*-1.97*	*-3.56*
ln(Sales)	0.0320***	0.0333***	0.0342***	0.0356***	0.0358***	0.0383***
	9.90	*9.46*	*7.62*	*11.66*	*10.59*	*8.75*
Q_{EFWA}	-0.0018	-0.0014	-0.0004			
	-1.55	*-1.13*	*-0.23*			
Q				-0.0024	-0.0050***	0.0004
				-1.37	*-3.36*	*0.16*
Div. payout	-1.6806***	-1.8452***	-2.0480***	-1.7308***	-1.8096***	-2.1429***
	-4.50	*-4.73*	*-5.78*	*-4.80*	*-4.91*	*-5.48*
Cash flow	-0.19167***	-0.1987***	-0.1338***	-0.1799***	-0.1888***	-0.1300***
	-9.66	*-8.50*	*-3.95*	*-10.84*	*-9.14*	*-3.96*
Cash Balances	-0.0665***	-0.0728***	-0.0610***	-0.0708***	-0.0745***	-0.0629***
	-8.55	*-8.31*	*-4.91*	*-9.61*	*-8.87*	*-5.21*
ln(Amihud's illiquidity)	0.0036***	0.0062***	0.0073***	0.0034**	0.0055***	0.0078***
	1.93	*5.12*	*5.18*	*2.25*	*4.82*	*5.33*
Idiosyncratic volatility	0.0012***	0.0013***	0.0020***	0.0011***	0.0013***	0.0020***
	5.82	*5.53*	*5.08*	*5.54*	*5.35*	*4.85*
N. Obs.	43445	35330	31137	47489	38491	33881
Year and Industry fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Hansen J-stat (p-value)	1.190 (0.8797)	0.207 (0.9018)	7.628 (0.2014)	3.588 (0.2626)	1.059 (0.5889)	6.428 (0.2667)

Table 11 Compliance and Investment

The table reports estimates of a model where we regress investment on the compliance index *CI*, along with a series of standard control variables. In panel A., investment is measured as the difference between the firm's *Capex* and the median of its Fama-French industry group. In columns (1)-(3) we use a conventional fixed effects estimator, including firm, industry and year fixed effects, and cluster standard errors around firm following Petersen (2009); in columns (4)-(6), we use a Fama-MacBeth estimator including industry dummies; in columns (7)-(9), we use a fixed effects estimator with firm, industry and year fixed effects, and instrument the compliance index *CI* with our measures of style fragmentation; again, we cluster standard errors around firms following Petersen (2009). In panel B., investment is the count of *M&A initiations* in a given year; we use Poisson regressions to account for the discrete nature of the dependent variable. In columns (1)-(3), we use a panel Poisson regression estimator, including firm, industry and year fixed effects, and cluster standard errors around firms following Petersen (2009). In columns (4)-(6) we run Poisson regressions *à la* Fama-MacBeth: for each year, we run a cross-sectional Poisson regression; then we use the mean and standard deviation of the cross-sectional estimates to draw statistical inference. In columns (7)-(9), we use again a panel Poisson regression estimator, including firm, industry and year fixed effects, and instrument the compliance index *CI* with our style fragmentation measures; in order to account for the generated regressor problem here we bootstrap standard errors (in order to facilitate the convergence of the estimation algorithm, variables have been rescaled in these specifications). In both panels, in columns (1), (4) and (7) *CI* is based on *DPS/Price*; in columns (2), (5) and (8) on *Div/Earnings*; in columns (3), (6) and (9), on *(Div+Rep)/Earnings*. The symbols *, ** and *** denote statistical significance at the 10%, 5% and 1% levels respectively.

Panel A. Compliance and Investment (*Capex*)

	Fixed-effects OLS			Fama-MacBeth			Fixed-effects IV		
	DPS/ Price	*Div/ Earnings*	*(Div+Rep)/ Earnings*	*DPS/ Price*	*Div/ Earnings*	*(Div+Rep)/ Earnings*	*DPS/ Price*	*Div/ Earnings*	*(Div+Rep)/ Earnings*
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
CI	0.2654***	0.0129***	0.0029***	0.2330***	0.0198***	0.0110***	5.6833***	0.5776***	0.0580**
	7.48	*4.62*	*2.81*	*4.62*	*6.04*	*8.14*	*4.00*	*5.84*	*2.41*
Cash flow	0.0823***	0.0888***	0.0884***	0.1858***	0.1920***	0.1946***	0.0635***	0.0610***	0.0887***
	19.17	*17.95*	*17.98*	*12.79*	*13.09*	*12.69*	*8.00*	*7.10*	*13.55*
Q	0.0115***	0.0122***	0.0120***	0.0089***	0.0088***	0.0083***	0.0085***	0.0066***	0.0109***
	19.01	*17.07*	*16.77*	*7.89*	*7.02*	*7.07*	*7.57*	*5.18*	*10.92*
KZ	-0.0178***	-0.0195***	-0.0185***	0.0014	0.0006	0.0009	-0.0224***	-0.0247***	-0.0192***
	-17.53	*-17.21*	*-16.13*	*1.52*	*0.57*	*1.06*	*-13.68*	*-12.78*	*-14.83*
*KZ*Q*	0.0043***	0.0047***	0.0046***	0.0032***	0.0035***	0.0035***	0.0051***	0.0043***	0.0049***
	9.99	*9.21*	*8.81*	*6.96*	*6.77*	*6.10*	*8.66*	*6.58*	*8.64*
ln(Sales)	-0.0102***	-0.0114***	-0.0113***	-0.0071***	-0.0076***	-0.0080***	-0.0088***	-0.0120***	-0.0116***
	-9.58	*-9.24*	*-9.20*	*-16.2*	*-16.63*	*-16.90*	*-5.86*	*-6.21*	*-7.10*
Idiosyncratic volatility	-0.0003***	-0.0004***	-0.0004***	-0.0002	-0.0001	-0.0001***	-0.0005***	0.0007	-0.0005***
	-4.55	*-4.51*	*-4.95*	*-1.44*	*-0.88*	*-0.77*	*-4.43*	*0.91*	*-4.44*
ln(Amihud's illiquidity)	-0.0015***	-0.0018***	-0.0020***	-0.0049***	-0.0053***	-0.0057***	0.0020**	-0.0007***	-0.0021***
	-4.47	*-4.75*	*-5.13*	*-9.55*	*-9.54*	*-10.10*	*1.95*	*-4.68*	*-4.32*
N. Obs.	47053	38250	37961	48481	39777	39476	36415	29807	25554
Industry fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes				Yes	Yes	Yes
N. years				23	23	23			
Hansen J-stat (p-value)							3.568 (0.3120)	0.835 (0.8410)	5.511 (0.2387)

Panel B. Compliance and Investment (*M&A initiations*)

	Fixed-effects Poisson			Fama-MacBeth Poisson			Fixed-effects IV Poisson		
	DPS/ Price	*Div/ Earnings*	*(Div+Rep)/ Earnings*	*DPS/ Price*	*Div/ Earnings*	*(Div+Rep)/ Earnings*	*DPS/ Price*	*Div/ Earnings*	*(Div+Rep)/ Earnings*
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
CI	4.1982***	0.1722**	0.014	15.0631***	0.6672***	0.0306	0.3428***	0.1024	0.1103
	4.10	*2.39*	*0.56*	*7.45*	*5.89*	*1.05*	*8.20*	*1.29*	*1.12*
ln(Sales)	0.0285*	0.0255	0.0319	0.011	0.0188	0.01	0.3947***	0.4177***	0.3929***
	1.67	*1.34*	*1.64*	*0.76*	*1.12*	*0.55*	*3.34*	*3.44*	*3.00*
Q	0.0414***	0.0421***	0.0475***	-0.0995***	-0.0842***	-0.0908***	0.0006	0.0471***	0.0609***
	5.24	*4.54*	*4.96*	*-5.22*	*-4.99*	*-5.08*	*0.04*	*3.05*	*4.02*
Leverage	-1.0942***	-1.1060***	-1.0827***	0.1931***	0.0958	0.1800***	-0.2392***	-0.2780***	-0.2707***
	-20.79	*-19.08*	*-18.29*	*2.99*	*1.51*	*3.10*	*-18.09*	*-22.75*	*-20.58*
Div. payout	0.5106	-0.3435	0.0198	-0.5996	-1.8426**	-2.9006***	0.0306***	0.0164	-0.0073
	0.58	*-0.33*	*0.02*	*-0.93*	*-2.11*	*-3.48*	*2.91*	*0.88*	*-0.68*
Cash flow	1.0347***	1.1191***	1.0817***	1.1388***	1.1920***	1.3797***	0.0892***	0.0639***	0.0625***
	11.83	*10.85*	*10.33*	*7.96*	*6.04*	*8.50*	*6.57*	*3.65*	*4.32*
Cash Balances	0.4868***	0.5078***	0.5300***	0.0796	0.0303	0.0501	0.0747***	0.0944***	0.0820***
	10.25	*9.26*	*9.30*	*1.05*	*0.37*	*0.49*	*9.61*	*13.52*	*12.67*
ln(Amihud's Illiquidity)	-0.0834***	-0.0884***	-0.0925***	-0.1977***	-0.1977***	-0.1999***	-0.3190***	-0.3861***	-0.3850***
	-11.71	*-11.08*	*-11.34*	*-17.54*	*-17.01*	*-17.85*	*-7.10*	*-9.85*	*-11.22*
Idiosyncratic Volatility	-0.0129***	-0.0128***	-0.0125***	-0.0229***	-0.0252***	-0.0246***	-0.2805***	-0.2545***	-0.2704***
	-7.54	*-6.60*	*-6.28*	*-7.42*	*-9.22*	*-8.25*	*-10.83*	*-9.71*	*-9.39*
N. obs.	39739	32200	31898	39739	32200	31898	39739	32200	31898
Industry fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes				Yes	Yes	Yes
N. years				23	23	23			
N. bootstrap replications							100	100	100