

Earnings and Dividend Informativeness When Cash Flow Rights are Separated from Voting Rights

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We contrast the informativeness of earnings and dividends for firms with dual class and single class ownership structures. Results of both across-sample tests (which explicitly control for factors influencing ownership structure and informativeness) and within-sample tests (which implicitly control for factors associated with ownership structure) show that earnings are generally less informative, and dividends are at least as (if not more) informative, for dual class firms. We interpret these results as suggesting that the net effect of dual class structures is to reduce the credibility of earnings and to enhance the salience of dividends as measures of performance.

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1. Introduction

This paper compares the informativeness of earnings and dividends for firms with dual class equity structures with the informativeness of earnings and dividends for firms with single class equity structures. By informativeness we mean the slope coefficient relating returns to earnings or dividends, obtained both from regressions of annual returns on annual earnings or dividends, and from regressions of three-day abnormal returns on news conveyed by earnings or dividend announcements. We interpret differences in the slope coefficients between dual class and single class firms as providing evidence on differences in the credibility or quality of accounting information associated with the two ownership structures. Our analyses build on prior research examining factors affecting the credibility of earnings, as captured by the coefficient relating returns to earnings (e.g., Teoh and Wong [1993]; Imhoff and Lobo [1992]; Warfield, Wild and Wild [1995]; Subramanyam and Wild [1996]; Fan and Wong [2002]; Gul and Wah [2002]; Yeo, Tan, Ho and Chen [2002]).¹

Dual class firms are characterized both by high levels of management ownership (DeAngelo and DeAngelo [1985]) and by a marked separation of cash flow rights from voting rights, both of which have been shown to be associated with the credibility of accounting information. Our research links these two characteristics and identifies effects associated with the latter characteristic (the separation between cash flow rights and voting rights) as having the stronger influence on earnings informativeness, for our sample.

In terms of managerial ownership, prior research argues that high levels of ownership may increase or reduce earnings informativeness, depending on whether incentive effects or information effects dominate.

¹ As discussed in section 2, Teoh and Wong model a simplified version of Holthausen and Verrecchia's [1988] setting, and show that the coefficient relating returns to earnings is increasing in the credibility or precision of the earnings signal. An alternative measure of informativeness (not considered by Teoh and Wong or by us) is the explained variability of the returns-earnings, or returns-dividends, relation. We do not contrast the explained variability of these relations between dual class and single class firms for two reasons. First, we are not aware of a model which maps signal credibility into the explained variability of either relation. Second, for the reasons noted by Brown, Lo and Lys [1999] and Gu [2002], it is problematic to compare R^2 s across samples.

By incentive effects, we refer to Warfield, Wild and Wild's [1995] argument that high levels of managerial ownership enhance earnings informativeness by aligning managers' interests with shareholders', thereby reducing or eliminating managers' incentives to select or apply accounting rules and judgments in ways that lead to lower quality, or noisier, accounting information. By information effects, we refer to Fan and Wong's [2002] argument that high managerial ownership may, in part, be a response to a desire or need to operate in greater secrecy and with greater discretion. In such settings, managers will exercise tighter control over information, leading to greater information asymmetry between managers and shareholders and lower transparency of reported accounting information.

By separation of cash flow rights and voting rights, we mean that dual class structures allow controlling shareholders to escape the pro rata consequences of their decisions by creating a material difference between cash flow rights (i.e., claims on cash payouts) and voting rights (i.e., control – the ability to elect the board of directors and influence or dictate decisions that require shareholder approval). In a firm with a single class of common stock, cash flow rights and voting rights are equal and a controlling owner bears pro rata the shareholder wealth consequences of his decisions. In a dual class structure, one class of common stock typically has more votes per share (the “superior class”) than the other (the “inferior class”), but both classes have equal or similar cash flow rights per share.²

Fan and Wong argue that separating voting rights from cash flow rights, as is common in the East Asian countries they study, provides controlling shareholders with both the means and the incentives to take self-interested actions that reduce the credibility of accounting information. They predict that the credibility-reducing effects of entrenchment are increasing in the degree of divergence between the cash flow rights and voting rights. Also, since many East Asian companies are also characterized by high levels of managerial ownership, Fan and Wong predict that information effects will also contribute to lower credibility (moderated by the incentive alignment effects noted by Warfield et al.). Their results are

² As discussed in section 3, the most common way that superior shares achieve control is by means of a greater number of votes per share. It is not, however, the only way; superior shares could have equal (or even fewer) voting rights per share, but achieve control by virtue of some other right, such as the percentage of the board that can be elected.

consistent with both predictions: earnings informativeness is decreasing in the disparity between cash flow rights and voting rights and the extent of managerial ownership.

In order to focus on the implications of dual class ownership structures for earnings informativeness, we wish to control for, or abstract from, other effects on the informativeness-ownership relation. As discussed in section 2, we use two approaches to accomplish this. First, we estimate earnings informativeness and dividend informativeness relations for samples that combine dual class and single class firms, and include factors that have been shown by previous research *both* to differ between dual class and single class firms *and* to be related to earnings informativeness. This research design explicitly compares earnings informativeness between dual class and single class firms. Second, we use a within-sample research design which calibrates earnings informativeness relative to dividend informativeness separately for samples of dual class firms and single class firms, and therefore obviates the need to control for characteristics of either ownership structure that are associated with informativeness.

We compare a sample of 205 U.S. dual class firms over 1990-1999 with an industry- and year-matched sample of single class firms. The across-sample results indicate that the earnings of dual class firms are less informative than the earnings of single class firms, with these effects incremental to effects associated with other factors affecting informativeness (i.e., firm size, incidence of loss, market to book ratio, leverage and institutional holdings). Results that compare dividend informativeness between dual class and single class firms are mixed and potentially weakened by relatively little over-time variation in dividend payouts; however, we believe that the weight of the evidence indicates that dividends are at least as, and perhaps more, informative for dual class shareholders than for single class shareholders. The within-sample tests abstract from factors associated with the choice of ownership structure by examining the relative informativeness of earnings and dividends within each sample of dual class and single class stocks. Consistent with prior research, we find that for single class stocks, earnings informativeness exceeds dividend informativeness. However, consistent with the view that dividends are particularly salient and informative for non-controlling shareholders of dual class firms, we find no statistically reliable difference in the informativeness of dividends and earnings for dual class firms.

Finally, we disentangle the effects of concentrated management ownership from the effects of separating cash flow rights from voting rights by including measures of management ownership in across-sample tests of earnings and dividend informativeness. In contrast to previous research, we find no association between management ownership and earnings informativeness and a negative relation between management ownership and dividend informativeness. Our basic finding—that earnings are less informative for dual class firms than for single class firms—is not sensitive to the inclusion of management ownership.

Our results contribute to research on the relation between ownership structures and earnings informativeness in three ways. First, we address the endogeneity of ownership structures by controlling for factors that have been shown to be linked both to firms' choices of ownership structures and to earnings informativeness (i.e., market to book ratio, leverage, external monitoring and managerial ownership). Second, by testing dividend informativeness as well as earnings informativeness, we are able to draw stronger inferences than studies which consider only the latter. Third, our within-jurisdiction analysis complements cross-jurisdictional studies of the relation between reported earnings and governance arrangements (e.g., Ball, Kothari and Robin [2000]; Ali and Hwang [2000]). The within-jurisdiction design holds constant jurisdiction-specific arrangements that affect the informativeness of earnings, such as financial reporting rules, enforcement arrangements, and laws to protect minority shareholders. We show that even in the U.S. environment, characterized by relatively strong and stable shareholder protection and financial reporting arrangements, the separation of cash flow rights from voting rights affects the informativeness of earnings.

The rest of this paper proceeds as follows. Section 2 develops the hypotheses and places our paper in the context of related research. Section 3 describes the sample and compares dual class and single class firms on dimensions capturing consequences of the dual class ownership structure. Section 4 reports the results of tests of the informativeness of earnings and dividends. Section 5 considers the effects of management ownership of cash flow rights, and section 6 summarizes and concludes.

2. *Motivation, previous research and hypotheses*

Ownership structures separating voting rights from cash flow rights are common outside the U.S., less so in the U.S.³ We choose a U.S. setting for our analysis for several reasons. First, U.S. dual class structures are transparent relative to the pyramid and cross-holding structures commonly used to separate voting rights from cash flow rights in other countries;⁴ these structures involve multiple firms, so the identification of shares with inferior and superior voting rights is not straightforward. Second, the rights and obligations of each class of common shares in a dual class U.S. firm are spelled out in SEC filings, so investors can readily estimate the separation between cash flow rights and voting rights. Third, compared to many other jurisdictions, the U.S. is characterized by relatively strict securities laws, relatively stringent enforcement, greater transparency, and fewer concerns about quality of financial reporting generally. Therefore, our results are not affected by the possibility that some combination of relatively lax enforcement, relatively loose accounting rules and/or implementations, and relatively little emphasis on transparency systematically affect earnings informativeness.

The rest of this section summarizes research examining the implications of dual class structures for corporate decisions and accountability (section 2.1); derives two hypotheses by linking characteristics of dual class ownership structures to findings from previous research on the association between ownership structures and the informativeness of dividends and earnings (section 2.2); describes the two approaches we take to hypothesis testing (section 2.3); and examines the implications of research which documents other characteristics of dual class firms that are known to be associated with earnings informativeness (section 2.4).

³ See, for example, Faccio and Lang [2002; analysis of 13 Western European countries]; Nenova [2000; analysis of the value of voting rights in dual class structures in 18 countries]; La Porta, Lopez-de-Silanes and Shleifer [1999; analysis of voting rights in excess of cash flow rights in 27 countries]; Claessens, Djankov and Lang [2000; analysis of voting rights in excess of cash flow rights in nine East Asian countries].

⁴ Bebchuk et al. [2000] describe a two-company pyramid as one in which “a controlling minority shareholder holds a controlling stake in a holding company that, in turn, holds a controlling stake in an operating company” [p. 298] and a cross-ownership arrangement as one in which “companies...are linked by horizontal cross-holdings of shares that reinforce and entrench the power of central controllers” [p. 299]. In a cross-holding structure the voting rights are distributed over a group of companies whereas in a pyramid the voting rights are concentrated in the hands of a single controlling shareholder (which might be a person, group, or corporate entity).

2.1 Research on the implications of dual class structures for corporate decisions and accountability

Arguments that dual class structures foster entrenchment are premised on the view that controlling shareholders have incentives to expropriate private benefits and the means to obscure these activities. In this section, we summarize prior studies' conclusions about whether the existence of dual class structures and the actions of managers of dual class firms are consistent with such self-interested behavior.

Analytical research on dual class firms supports the view that the separation of cash flow and voting rights leads to lower accountability, which is consistent with entrenchment (Harris and Raviv [1988]; Grossman and Hart [1988]). Specifically, controlling shareholders in dual class firms can make decisions that provide them with private benefits while avoiding the proportionate cash flow consequences they would bear if their voting rights were equal to their cash flow rights. However, this low accountability is countered by incentives to induce non-controlling shareholders to buy the inferior class shares.

Dual class structures are created either through initial public offerings (IPOs) or recapitalizations. Those created through IPOs are viewed as explicitly defensive, in that they discourage hostile takeovers and proxy contests (Daines and Klausner [2001]; Field and Karpoff [2002]). Research on the post-IPO performance of dual class firms, relative to single class firms, yields mixed results: Mikkelsen and Partch [1994] document poorer operating performance for dual class firms, while Lehn, Netter and Poulsen [1990], Bohmer, Sanger and Varshney [1996] and Dimitrov and Jain [2001] find the opposite. Bohmer et al. and Dimitrov and Jain also find that dual class IPOs outperform size-matched single class IPOs in terms of stock returns over the three years following the IPO.

In a dual class recapitalization, a public firm creates a second class of stock, generally with more votes and often with restrictions on trading. As discussed by Bacon, Cornett and Davidson [1997], these recapitalizations are often undertaken to deter takeovers. In terms of whether the defensive aspects of dual class structures harm shareholders, research on the shareholder wealth effects of recapitalization announcements yields mixed results: Jarrell and Poulsen [1988] document negative consequences; Partch [1987] and Cornett and Vetsuypens [1989] show no effects; and Lehn, Netter and Poulsen [1990] show benefits.

Little research focuses on specific actions taken by dual class firms. An exception is Hanson and Song [1996], who compare acquisition activity between dual class bidders and size-matched single class bidders during 1981-1990. They argue that dual class managers select diversifying acquisitions to obtain private benefits such as greater job security and diversified human capital. Consistent with predictions, they find that dual class bidders are more likely to make (inefficient) diversifying acquisitions. In addition, they find that the greater the disparity between cash flow rights and voting rights, the more negative are the returns to those acquisitions.

Overall, research does not provide strong evidence that dual class structures either harm or benefit shareholders. One possible explanation for the mixed results is that some combination of incentives associated with high levels of managerial ownership and reputation effects limits dual class firms' incentives to engage in inefficient behaviors. For example, Bebchuk et al. [2000] note that a wish to raise equity capital creates the incentive to avoid a reputation for disadvantaging non-controlling shareholders.

2.2 Research on the relation between ownership structure and earnings and dividend informativeness

Studies of the effect of ownership structures on the informativeness of earnings start from the premise that one or more aspects of these structures influence the credibility of accounting reports, which in turn affects earnings informativeness. Two studies that bear directly on our research question are Warfield, Wild and Wild's [1995] investigation of the link between level of managerial ownership and earnings informativeness and Fan and Wong's [2002] analysis of earnings informativeness when concentrated managerial ownership is accompanied by the separation of cash flow rights from voting rights.

Warfield, Wild and Wild [1995] predict that low managerial ownership creates a demand for contracts that rely on accounting information to constrain managers' opportunistic behavior. Such contracts provide both incentives and opportunities for managers to exploit the judgments and estimates required by GAAP, so as to loosen the contractual constraints and capitalize on available means to achieve private benefits. However, reporting decisions made to exploit the discretion available in GAAP for private gain will likely reduce the ability of earnings to reflect economic substance, thereby impairing credibility. Warfield et al. posit that the demand for accounting-based constraints declines with greater

managerial ownership because of perceived incentive alignment between managers and other shareholders. Consistent with these predictions, they find that the slope coefficient from a regression of returns on earnings, and the correlation between returns and earnings, are generally increasing in the level of managerial ownership.⁵

Fan and Wong [2002] examine earnings informativeness during 1991-1995 for 977 East Asian firms characterized by concentrated ownership achieved by cross-holdings and stock pyramids. They posit that when voting rights and cash flow rights diverge, concentrated ownership is associated with lower credibility of earnings reports because of (1) an entrenchment effect, whereby the controlling shareholder has the ability and incentive to report out of self-interest rather than shareholders' interests; and (2) an information effect, where there are greater incentives (both to controlling and non-controlling shareholders) to publicly disclose as little proprietary information as possible. Fan and Wong note that at least two features of their sample firms may reduce, or eliminate, the negative effects of entrenchment and proprietary information on the credibility of accounting information. First, to counter a perception of low accountability and to entice investors to buy noncontrolling interests, controlling shareholders have incentives to provide more precise and transparent earnings. Second, and in the spirit of Warfield et al., high levels of management ownership may mitigate the entrenchment effect by better aligning managers' interests and incentives with those of shareholders. Fan and Wong's empirical results suggest that entrenchment and information effects dominate incentive effects, such that lower credibility results. Specifically, they find that the earnings informativeness of their sample of concentrated ownership firms is negatively related to the divergence of cash flow rights from voting rights (consistent with the entrenchment effect) and negatively related to the percent of total votes held by the largest ultimate owner (consistent with the information effect).

Because dual class firms are characterized by concentrated managerial ownership, Warfield et al.'s incentive alignment arguments, taken in isolation, support a prediction that earnings for such firms will be

⁵ Results in Warfield et al. (table 1), Gul and Wah [2002], and Yeo, Tan, Ho and Chen [2002] suggest that the relation between managerial ownership and earnings informativeness is not linear: earnings informativeness is increasing in small to medium levels of ownership, and is decreasing in high levels of ownership.

more informative, relative to the earnings of single class firms. However, this prediction abstracts from effects that derive from how the concentrated ownership is achieved, as analyzed by Fan and Wong. Because dual class firms feature concentrated ownership that is achieved by separating cash flow rights from voting rights, it is an empirical question which effect dominates.

Arguments that features of the dual class ownership structure make earnings of dual class firms less credible, hence less informative, raise the possibility that an alternative (to earnings) signal will be relatively more informative for such firms. Prior research suggests dividends as that alternative signal. Studies of dividend informativeness in the U.S., conducted on mostly single class firms, report that returns are generally more highly associated with earnings than with dividends. However, DeAngelo, DeAngelo and Skinner [1992] find that investors shift their valuation emphasis to dividends when they perceive current earnings to be an unreliable predictor of future earnings. Research on non-U.S. firms (e.g., LaPorta et al. [2000]; Faccio et al. [2001]; and Gugler and Yurtoglu [2001]) documents the role of dividend policy in jurisdictions in which minority shareholder expropriation is a common agency problem due to the concentrated ownership structure of many firms. That is, dividends represent a commitment (albeit not a legally binding one) to refrain from expropriation in the presence of ownership structures that both separate cash flow rights from voting rights and concentrate voting rights in the hands of controlling shareholders. Faccio et al. posit that adhering to a dividend payout policy facilitates access to capital by reassuring investors of management's intentions to distribute cash to inferior class shareholders and helps support the firm's stock market valuation.

Based on prior research, we predict that, relative to returns to shares of single class firms, returns to inferior class shares of dual class firms are more weakly associated with earnings and more strongly associated with dividends; in null form, the hypotheses are:

- H1: Earnings are equally informative for inferior class shares and for shares of single class firms.
- H2: Dividends are equally informative for inferior class shares and for shares of single class firms.

2.3 Tests of H1 and H2 controlling for characteristics of dual class firms that are known to affect informativeness.

Our research builds on Teoh and Wong's [1993] analysis which shows a positive relation between the credibility of accounting information and informativeness, measured as the coefficient relating returns to earnings.⁶ They present a simple analytical relation between share price responses to earnings and the precision of the earnings signal, based on Holthausen and Verrecchia's [1988] model of the determinants of the magnitude of the price response to an information release. Specifically, the share price response to earnings (that is, earnings informativeness) is an increasing function of the amount of prior uncertainty about firm value (ν) and a decreasing function of the noise (i.e., the lack of credibility) of the earnings signal (η). This relation abstracts from other factors that might influence earnings informativeness. In our setting, we posit the same analytical relation as Teoh and Wong; our hypotheses concern the relation between the credibility of the earnings signal and the combined incentive, information and entrenchment effects that arise from differences in ownership structure between dual class and single class firms.

To focus on this relation, we need to control for other differences between dual class and single class firms that also influence earnings informativeness. We identify two categories of such differences. The first category contains factors that differ between dual class and single class firms and that have been shown to be related to earnings informativeness, but would not be expected, based on prior research, to be causally linked to the choice of ownership structure. For our sample, this first category contains firm size and loss incidence. The second category of differences contains factors that may be related to earnings informativeness through ν (the amount of prior uncertainty about firm value), and which prior research links to dual class structures. As we discuss below, this category includes the market-to-book ratio, leverage and external monitoring. Given these controls, we assume that the only remaining influence on

⁶ Teoh and Wong test their model by examining investors' perceptions of the credibility of earnings resulting from the choice of auditor. Consistent with predictions, they find that the slope coefficient on earnings is positively related to the perceived quality of the auditor. Other research examining the role of monitoring on the credibility of earnings documents larger earnings slope coefficients for firms with greater institutional holdings (Jiambalvo, Rajgopal and Venkatachalam [2002]) and smaller dispersion in analysts' earnings forecasts (Imhoff and Lobo [1992]).

the difference in earnings informativeness between dual class and single class firms derives from incentive, entrenchment and information effects that are in turn due to differences in ownership structures. To the extent that these ownership-driven incentive effects influence earnings informativeness, we will observe differences in response coefficients between dual class and single class firms. We are not necessarily concerned if we have not captured all possible factors that differ between dual class and single class firms; such differences are of concern for our purposes only if the missing factors are also linked to informativeness.

One way to identify and control for differences between dual class firms and single class firms that are related to both ownership structure and earnings informativeness would involve first developing and testing a model that explains and predicts the choice of the dual class structure and then developing links between earnings informativeness and the explanatory variables from that model. We do not take this approach because our analysis of the dual class firms in our sample suggests that it is unlikely that a parsimonious set of variables will explain and predict their choice of a dual class ownership structure. One reason is the presence in our sample of quite distinct paths to a dual class structure. As discussed in section 2.1, some dual class structures are in place when the firm first goes public, while others are adopted long after the initial public offering, sometimes as patently defensive measures taken in response to takeover threats. In addition to the difficulties of developing a model which captures the causal factors for such disparate choices, we believe that attempting to develop a model which accurately predicts a dual class recapitalization as a defensive measure presents the same kinds of difficulties as attempting to develop a model which accurately predicts which firms will be takeover targets (Palepu [1986]).

Given these difficulties, we use two estimation approaches, each with its own limitations. The first approach is a type of reduced form estimation that includes, as control variables, factors that have been shown both to differ between dual class and single class firms and to be related to earnings informativeness. The adequacy of this approach is limited, because we have not developed a structural model that explains the use of dual class ownership structures. Instead, we rely on previous research (discussed in section 2.4) to identify control variables that are believed to be associated with both dual

class structures and earnings informativeness. To the extent our specification of these control variables is complete, differences in earnings informativeness between dual class and single class firms will be due to the information, incentive and entrenchment differences that arise from differences in ownership structure. The second estimation approach controls for factors affecting the choice of a dual class ownership structure by using within-sample estimations. Specifically, within each sample of dual class and single class firms, we test for the relative informativeness of dividends and earnings. Prior research strongly suggests that for single class firms, earnings will be relatively more informative. However, the prediction that earnings credibility, hence its informativeness, is weaker in dual class structures coupled with research documenting conditions under which dividends are particularly informative, suggests that investors in the inferior class shares of dual class firms will find dividends to be at least as informative as earnings for those firms. While this second estimation approach requires no controls for variables that capture causes or consequences of ownership structures, it provides an indirect test (as opposed to a direct test) of our two hypotheses.

2.4 Factors associated with both earnings informativeness and dual class ownership structures

Previous research indicates that dual class firms differ from single class firms in terms of several characteristics known to be associated with earnings informativeness: market-to-book ratios, leverage, and the extent of monitoring by equity analysts and institutional investors. We include these variables as separate control variables in our regressions to mitigate concerns that results for the dual class interaction terms are merely capturing the effects of these other variables.

Market-to-book ratio. Bebchuk, Kraakman and Triantis [2000] posit that agency costs of dual class structures motivate decisions that provide private benefits to the controlling shareholders; one consequence is inefficient investments. Hanson and Song [1996] likewise argue that dual class firms face less favorable investment opportunities due to low accountability for project selection. Claessens, Djankov, Fan and Lang [2002] find that the market-to-book ratio is negatively related to the separation between cash flow and voting rights; that is, the larger the separation between cash flow rights and voting rights, the greater is the market value discount. Given that the market-to-book ratio is a common proxy

for investment opportunities, these results are consistent with dual class firms having smaller investment opportunities than single class firms. Based on Collins and Kothari's [1989] finding that the market-to-book ratio is positively associated with earnings informativeness, we include the market-to-book ratio in our regressions to control for the effects of investment opportunities on informativeness.

Leverage. Grullon and Kantas [2001] report that their sample of 74 dual class firms is more highly levered than an industry peer sample. Dhaliwal, Lee and Fargher [1991] document that the coefficient relating earnings to returns is decreasing in financial leverage. We therefore predict that our sample dual class firms will have higher leverage, associated with lower earnings informativeness, and we condition on leverage in our tests of informativeness.

Monitoring. Prior research finds that monitoring by institutional investors (Jambalvo et al. [2002]) and sell-side analysts (Imhoff and Lobo [1992]) results in more reliable earnings and greater earnings informativeness. While there is anecdotal evidence that some institutional investors avoid dual class stocks,⁷ there is no systematic large sample evidence on this issue. In addition, Bhushan [1989] shows a positive relation between institutional holdings and analyst following. To the extent there is less monitoring by institutional investors and analysts, we expect that dual class firms have less informative earnings. To control for effects of external monitoring, we condition on this factor in our tests of informativeness.

3. *Sample and Data*

Our sample consists of 205 U.S. dual class firms over 1990-1999 (a total of 1,203 firm-years). Ten years of data are not available for each firm because some firms merged, were acquired, or otherwise delisted; and some firms initiated, or eliminated, their dual class structures during the sample period.⁸

⁷ In practice, some institutional investors view dual class structures as providing low managerial accountability, as illustrated by both TIAA-CREF's and CalPERS' public opposition to such structures. Osterland [2001] reports that some institutional investors refuse to invest in dual-class firms and that pressure from such investors has induced some firms to eliminate the dual class structure.

⁸ There are too few firms with a sufficient time-series of observations to investigate whether the informativeness of earnings and dividends changed following the creation or elimination of dual class structures.

We identify firms with two classes of common stock by text searches of SEC filings on Lexis-Nexis and EDGAR made from January 1, 1990 through December 31, 1999.⁹ For each firm-year observation, we read and code data from SEC filings on the number of shares of each class of stock outstanding and the rights of each share class; the most common right concerns votes per share, but others include the right to elect a disproportionate portion of the board of directors or the right to receive preference dividends. Because firms use different terminology to refer to the stock with more rights, we re-label the two classes of stock as superior class and inferior class for consistency. We define the superior class as the common stock with the larger voting rights per share; when the votes per share of the two classes are equal (24 firms, 50 firm-year observations), we define the superior class as the class with the right to elect a disproportionate portion of the board of directors.¹⁰

Descriptive data for the two classes of shares of the dual class sample are reported in Table 1. The median (mean) firm has 9.9 (20.0) million shares of inferior class stock outstanding, compared to 3.2 (10.9) million shares of superior class stock. The median (mean) inferior class shareholders control 73.4% (69.2%) of the cash flow rights, compared to 26.6% (30.8%) control of cash flow rights by the superior class shareholders. The median (mean) inferior class stock has 1 (0.8) vote per share, while the superior class stock has 10 (34.5) votes per share. The superior class has a median (mean) voting block of 83% (76.1%) compared to 17% (23.9%) for the inferior class stock. The ratio of cash flow rights to voting rights, a measure of the degree of separation between the two, shows that the inferior class controls a median (mean) of 3.4 (4.2) times the number of cash flow rights as they do voting rights. (For a single class firm, the ratio of cash flow rights to voting rights equals one). In contrast, the superior class shares control 0.37 (median) or 0.42 (mean) cash flow rights for each voting right.

We also collect data on a measure of explicit control, defined as the percentage of the board of directors elected by each class of shares, regardless of the relative numbers of votes. Table 1, Panel A

⁹ Our search used combinations of the words “dual class”, “class A” and “class B”. Firms with three or more classes of common shares are rare. We exclude such firms from our sample.

¹⁰ As a check on this identification of the superior class, we read the entire proxy statement and verify that, taken as a whole, all rights reported in the proxy filing indicate the same classification.

reports that for the median dual class firm disclosing explicit control, the inferior class elects 25%, and the superior class elects 75%, of the board seats. In the absence of explicit statements, we assume that both classes of shares elect the board in proportion to their voting power.

Our primary tests contrast the informativeness of earnings and dividends for inferior class stocks with a benchmark sample of single class stocks. We focus on inferior class stocks because all 205 inferior class shares trade on NYSE, AMSE or NASDAQ, while only 37 of the superior class shares are publicly traded. The benchmark sample includes all single class stocks in the same 3-digit SIC code as a dual class firm in year t ; this sample contains 5,764 firms and 23,921 firm-year observations over 1990-1999.¹¹

For each firm in the dual class and single class samples, we calculate the mean value of selected financial variables across the sample period. Table 2, Panel A reports the median values of the resulting firm-averages; results based on mean values yield similar inferences and are not reported. Panel A shows similar 12-month returns to inferior class stocks (11.9%) and single class stocks (10.3%). Relative to single class firms, dual class firms have higher earnings before extraordinary items (8.5% of market value versus 2.5% for the single class sample) and a lower incidence of losses (23.6% of firm-years versus 41.0% of firm-years for the single class sample); both differences are significant at the 0.0001 level. The year-to-year change in earnings is similar across the samples, with a median earnings change of 0.6%-0.7% of market value. Dual class firms are significantly (at the 0.0001 level) larger than single class firms, as measured by market capitalization computed as the price of the inferior class shares times the number of inferior class shares outstanding,¹² sales revenues, or total assets. In tests of earnings and dividend informativeness, we include variables for loss incidence and firm size, both because they differ between dual class and single class firms and because these variables are associated with the magnitude of

¹¹ We also compare dual class firms with a broader benchmark sample and with a narrower benchmark sample. The broader sample consists of all single class firm-year observations with CRSP and Compustat data (10,626 firms and 56,834 firm-year observations). The narrower sample consists of single class firms matched on industry, year and size-decile (1,488 firms and 3,480 firm-year observations), where size is measured by total sales revenue in year t . Results of comparisons using either of these alternative benchmark samples are similar to those based on the industry-year match sample and are not reported.

¹² For 168 of 205 dual class firms, price data for the superior class shares are not available because these shares do not trade on NYSE, AMSE or NASDAQ. Excluding the value of superior class shares from the calculation of the market capitalization of dual class firms understates the market values of these firms.

the coefficient relating returns to earnings.¹³ Specifically, Hayn [1995] shows that the coefficient is smaller for loss observations than for profit observations; Chaney and Jeter [1992] find the coefficient is increasing in firm size whereas Freeman [1987] finds it is negatively related to firm size.

Table 2, Panel B provides descriptive data on dividends. We expect dual class firms to be more likely to pay dividends than single class firms and to pay out larger dividends. That is, superior class shareholders, who have incentives to invest free cash flows in inefficient projects that generate private benefits, also have incentives to induce investors to buy the shares with inferior voting rights. As Bebchuk et al. note, adhering to a consistent dividend policy mitigates investor concerns about potentially inefficient investment decisions, and makes the inferior voting shares relatively more attractive. The data in Panel B indicate that 59.4% of dual class firms pay dividends, versus 28.4% of single class firms. Including nondividend paying firms as zero payouts, the median dividend yield (dividends as a percent of market value) for the dual class firms is 0.63% and zero for the single class firms. As a percent of earnings (deleting loss observations), the median dividend payout is 11.2% for dual class firms and zero for the single class sample. All differences are significant at the 0.0001 level or better. When we restrict the analysis to dividend-paying firms, single class firms have lower dividend yields than dual class firms (difference in medians significant at the 0.018 level), but have similar dividend payouts.

Based on these results, we conclude that dual class firms are more likely to pay dividends than single class firms. Conditional on paying dividends, dual class firms and single class firms have roughly similar dividend yields and payouts. Taken as a whole, these results are consistent with the view that controlling shareholders of dual class firms have an incentive to commit to paying dividends, to provide an accountability mechanism that does not depend on shareholder voting.

¹³ Because systematic risk has also been shown to affect earnings informativeness (Collins and Kothari [1989]; Easton and Zmijewski [1989]), in unreported tests we also examine whether estimated betas differ between dual class and single class firms. The beta for each sample is measured as the slope coefficient from a pooled cross-sectional, time-series regression of firm i 's raw annual return in year t on the value-weighted market return in year t . The estimated beta for dual class firms is 1.06 versus 1.21 for the single class sample, and the two estimates do not differ statistically. Because systematic risk is roughly similar for the two samples, we do not include beta as a control variable in subsequent tests.

Table 2, Panel C reports summary data on the control variables discussed in section 2.4: market-to-book ratio, leverage, analyst following, and institutional ownership. We present two measures of the market-to-book ratio. The first measure divides the market value of the inferior class shares (equal to the price of these shares times number of shares outstanding, measured at year-end) by the year-end book value of equity. This measure understates market-to-book ratios because the numerator (but not the denominator) excludes the value of the superior class shares. Given that market values of superior class shares are not generally available, we also calculate an adjusted market value of the firm by adding the imputed value of the superior class shares, estimated using the inferior class share price.¹⁴ For the typical dual class firm in our sample, this adjustment increases the market-to-book ratio by 36%. Consistent with a lower valued investment opportunity set, we find that median values of both measures of market-to-book ratios are significantly (at the .0001 level) smaller for dual class firms.

Turning to leverage, the evidence in Panel C is consistent with prior research, showing that dual class firms are more highly levered than single class firms. Specifically, the median ratio of long term debt to book value of assets of the dual class sample is 21.2%, significantly different (at the .0001 level) from 11.1% for the single class sample.

We consider two forms of monitoring, analyst following and institutional ownership. For firm-year observations with at least one analyst earnings forecast on the Zacks database, Panel C reports that dual class firms have similar median following as the single class sample (4.28 versus 4.00, p-value for the difference is 0.5639). Because the dual class firms are larger than the single class firms and because larger firms have greater analyst coverage (Bhushan [1989]), we interpret these tests as indicating that analyst monitoring of dual class firms is, on balance, less extensive than the monitoring provided for single class firms. We measure institutional ownership as number of investing institutions and percent of outstanding shares held by institutions. The former parallels the analyst following measures as an indicator of extent of monitoring and the latter is a rough indicator of monitoring intensity. Data on both

¹⁴ We base our assumption that superior class shares are of equivalent value to inferior class shares on the fact that many dual class firms permit conversion of superior class to inferior class shares on a one for one basis.

variables are taken from the Spectrum database and are measured at year end. Contrary to the anecdotal evidence cited in section 2.4, dual class firms have larger median values for both measures (differences are significant at the .0001 level or better); that is, institutional ownership is greater for dual class than for single class firms.

On the whole, the descriptive evidence in Table 2, Panel C on market-to-book ratios, leverage, and analyst following is consistent with the discussion in section 2.4 that suggests lower informativeness of earnings for dual class firms. However, the results on institutional monitoring suggest increased earnings informativeness. In the next section, we report our main tests of earnings informativeness and dividend informativeness.

4. Empirical Results

4.1. Tests of earnings informativeness (H1)

We begin our analysis of the differential informativeness of earnings for single class and dual class stocks by examining the slope coefficients from regressions of annual returns on annual earnings. Following Easton and Harris [1991], we report tests for both the level of, and the level and change in, earnings.¹⁵ We include control variables for losses and firm size, as well as market to book ratio, leverage and external monitoring because they have been shown to influence earnings informativeness in broad samples and because the descriptive evidence (Table 2) shows reliable difference in these variables between the dual class and single class samples. As an additional control, we include interactions between earnings and dividends because we expect that the informativeness of earnings declines as dividends increase. The main regressions we estimate are given by equations (1a) and (1b):

$$R_{j,t} = \alpha_0 + \alpha_1 EARN_{j,t} + \alpha_2 EARN_{j,t} * IC_{j,t} + \sum_{k=1}^6 \beta_k EARN_{j,t} * X_{j,t}^k + \varepsilon_{j,t} \quad (1a)$$

¹⁵ Following Easton and Harris, we delete observations with *EARN* greater than 1.5 in absolute value and we winsorize the values of the control variables ($X_{j,t}^k$) to the 1% and 99% values of these variables. The results are not sensitive to the treatment of outliers. In unreported tests, we also draw similar inferences from estimating a specification that includes only the change in earnings.

$$\begin{aligned}
R_{j,t} = & \alpha_0 + \alpha_1 EARN_{j,t} + \alpha_2 EARN_{j,t} * IC_{j,t} + \alpha_3 \Delta EARN_{j,t} + \alpha_4 \Delta EARN_{j,t} * IC_{j,t} \\
& + \sum_{k=1}^6 \beta_k EARN_{j,t} * X_{j,t}^k + \sum_{k=1}^6 \gamma_k \Delta EARN_{j,t} * X_{j,t}^k + \nu_{j,t}
\end{aligned} \tag{1b}$$

where $R_{j,t}$ = firm j's 12-month cumulative raw return for fiscal year t. For dual class firms, the return is to the inferior class shares. The 12-month interval begins three months following the end of fiscal year t-1 and ends three months after the end of fiscal year t. We obtain similar results (not reported) if we cumulate returns over the 15-month period beginning at the end of year t-1.

$EARN_{j,t}$ = firm j's earnings (before extraordinary items) for fiscal year t, scaled by market value of equity at the end of fiscal year t-1.

$\Delta EARN_{j,t}$ = change in $EARN_{j,t}$ between year t-1 and t, scaled by market value of equity at the end of fiscal year t-1.

$IC_{j,t} = 1 - \frac{VotingRights_{j,t}}{CashflowRights_{j,t}}$, where $VotingRights_{j,t}$ = the percentage of total votes held by

inferior class shareholders, equal to the number of votes per inferior share times the number of inferior shares (inferior votes), divided by the sum of inferior votes and superior votes (the number of votes per superior share times the number of superior shares); $CashflowRights_{j,t}$ = the percentage of total cash flow rights held by inferior class shareholders, equal to the number of inferior class shares divided by the sum of inferior class and superior class shares. IC is bounded below by zero (for single class firms, where voting and cash flow rights are equal), and above by one (for dual class firms where inferior class shareholders have no voting rights, the most extreme separation of voting and cash flow rights). $IC \in (0,1)$ corresponds to dual class firms where inferior class shareholders have some voting rights, where IC is increasing in the degree of cash flow and voting rights separation. We generally draw similar inferences if we define $IC_{j,t} = 1$ if stock j is an Inferior Class stock, 0 otherwise (i.e., a single class stock). Except where the results differ, results for this alternative specification are not reported.¹⁶

$X_{j,t}^k$ = vector of control variables, $k=1-6$:

$X_{j,t}^1 = LOSS_{j,t} = 1$ if $EARN_{j,t} < 0$, 0 otherwise.

$X_{j,t}^2 = SIZE_{j,t} = \log$ of firm j's sales in year t-1.

$X_{j,t}^3 = MB_{j,t} =$ firm j's market to book ratio in year t-1.

$X_{j,t}^4 = LEVG_{j,t} =$ firm j's leverage (measured as the ratio of long term debt to total assets) in year t-1.

¹⁶ Tests using the indicator form of IC are based on the entire sample of 205 dual class firms (1,203 firm-year observations), along with their industry- and year- matched single class firms. Tests using the continuous form of IC exclude the 24 dual class firms (50 firm-year observations) where cash flow rights per share and voting rights per share are equal. Results are similar (not reported) if we include these observations and set $IC =$ one minus the fraction of board seats the inferior class is permitted to elect, or set $IC=0$ (causing these firms to appear like single class firms).

$X_{j,t}^5 = \%INSTIT_{j,t}$ = percent of firm j's shares held by institutions in year t-1.¹⁷

$X_{j,t}^6 = DIV_{j,t}$ = total common stock dividends paid by firm j in year t, scaled by market value of equity at the end of fiscal year t-1. For dual class firms, DIV equals the total dividends paid to inferior class shareholders in year t, scaled by market value at the end of year t-1. Results are not sensitive to including or excluding dividends paid to superior class shareholders (which are generally the same as dividends paid to inferior class shareholders).

For equation (1a), our test of relative earnings informativeness for dual class stocks centers on the sign of α_2 . Under the null hypothesis H1, $\alpha_2 = 0$; less earnings informativeness implies $\alpha_2 < 0$, while greater earnings informativeness implies $\alpha_2 > 0$. For equation (1b), under the null hypothesis H1, $\alpha_2 + \alpha_4 = 0$; less earnings informativeness implies $\alpha_2 + \alpha_4 < 0$ and greater earnings informativeness implies $\alpha_2 + \alpha_4 > 0$.

We estimate equations (1a) and (1b) using both annual regressions and pooled regressions; for the annual tests, we report the mean of the coefficient estimates across the 10 sample years and assess statistical inference using the time-series of the standard errors of the coefficients (Fama and MacBeth [1973]). The advantage of the annual estimations is they avoid overstating significance levels when there is cross-sectional correlation in the residuals; their disadvantage is they have low power since our sample contains only 10 years. Given these tradeoffs, we report results for both approaches in Panel A, Table 3. We note that, in general, results based on the annual regressions are weaker than results based on the pooled estimations.

Consistent with prior research, both the annual and pooled regressions show positive coefficients relating stock returns to the level and change in earnings (the p-values for $\hat{\alpha}_1$ and $\hat{\alpha}_3$ are significant at the 0.02 level or better). Consistent with Hayn [1995], the coefficients are smaller for loss observations, as evidenced by negative values for $\hat{\beta}_1$ and $\hat{\gamma}_1$ (p-values are 0.004 or better). Consistent with Freeman [1987], we find a negative association between informativeness and firm size for the pooled regressions

¹⁷ Because the three measures of external monitoring (analyst following, percent institutional holdings and number of institutions holding shares) are correlated at about the 0.60 level, we include only one measure (percent institutional holdings, $\%INSTIT$) in our tests. Results are not sensitive to this choice.

($\hat{\beta}_2 = -0.0211$, p-value = 0.0131), but find no significant association with size in the annual regressions.

We generally find smaller coefficients on *EARN* for firms with higher dividend yields ($\hat{\beta}_6 < 0$),

suggesting that investors place smaller weights on earnings when the firm pays more dividends.

Consistent with Collins and Kothari [1989], we find that the coefficient estimates for interactions between earnings and the market-to-book ratio are positive (significance levels range from about 0.13 to 0.00); we find weaker evidence that the coefficient relating earnings to returns is decreasing in financial leverage (in most cases, the interactions between *EARN* and *LEVG* are insignificantly different from zero). Finally, results for the monitoring control variable (*%INSTIT*) show mixed evidence on whether monitoring by institutional investors increases or decreases earnings informativeness; for our sample, the coefficient estimate on *EARN*%INSTIT* is generally negative, but the coefficient estimate on $\Delta EARN*%INSTIT$ is generally positive.

With respect to the main variables of interest, *EARN*IC* and $\Delta EARN*IC$, the estimate of $\hat{\alpha}_2$ in equation (1a) is -0.5596 (p-value = 0.0230) for the annual regressions; for equation (1b), the estimate of $\hat{\alpha}_2 + \hat{\alpha}_4$ is -0.4188 (p-value = 0.0244). Individual year results (not reported) show that $\hat{\alpha}_2 < 0$ in eight of the 10 sample years, while $\hat{\alpha}_2 + \hat{\alpha}_4 < 0$ in seven of 10 years. Results for the pooled estimation are similar ($\hat{\alpha}_2 = -0.3681$, p-value = 0.0107, and $\hat{\alpha}_2 + \hat{\alpha}_4 = -0.5470$, p-value = 0.0050). Taken as a whole, these results are consistent with dual class firms having lower earnings informativeness. In terms of the magnitude of the effects, the ratio of $\hat{\alpha}_2$ to $\hat{\alpha}_1$ in equation (1a), or the ratio of $\hat{\alpha}_2 + \hat{\alpha}_4$ to $\hat{\alpha}_1 + \hat{\alpha}_3$ in equation (1b), suggests that dual class stocks' earnings are about 26-54% less informative based on annual regressions ($-0.5596/1.0416 = -54\%$; $-0.4188/1.5875 = -26\%$) and about 34-37% less based on pooled regressions ($-0.3681/1.0791 = -34\%$; $-0.5470/1.4836 = -37\%$).

We probe the sensitivity of these results to the inclusion of firms that pay dividends by repeating our tests on the sub-sample of non-dividend-paying observations (n=589 dual class firm-year observations and n=17,217 single class firm-years). For these tests, we exclude *EARN*DIV* (and $\Delta EARN*DIV$) from

the regressions. Results, reported in Panel B, Table 3, are similar to the results reported in Panel A for the full sample. Specifically, we continue to find smaller coefficients relating returns to earnings for dual class firms; for the annual regressions, $\hat{\alpha}_2 = -0.9318$ (p-value = 0.0083, and significant in eight of 10 years) and $\hat{\alpha}_2 + \hat{\alpha}_4 = -0.3758$ (p-value = 0.0904, and significant in seven of 10 years); for the pooled regressions, $\hat{\alpha}_2 = -0.7509$ and $\hat{\alpha}_2 + \hat{\alpha}_4 = -0.4948$, both significant at the 0.05 level or better.

Our second test of H1 examines the market reactions of dual class and single class stocks to the earnings news in quarterly earnings announcements. Using Compustat announcement dates and CRSP beta-adjusted abnormal returns, we calculate the three-day cumulative abnormal return for all quarterly earnings announcements during 1990-1999 made by firms in the dual class and single class samples, 3,980 and 67,649 announcements, respectively. We measure unexpected earnings using a seasonal random walk model. We test the differential sensitivity of returns to unexpected earnings for dual and single class stocks by estimating regression (2), where the null hypothesis H1 predicts $\phi_2 = 0$:

$$CAR_{j,q,t} = \phi_0 + \phi_1 UE_{j,q,t} + \phi_2 UE_{j,q,t} * IC_{j,t} + \xi_{j,q,t} \quad (2)$$

where $CAR_{j,q,t}$ = cumulative abnormal return over the 3-days centered on firm j's announcement of quarter q earnings for year t.

$UE_{j,q,t}$ = unexpected earnings conveyed in firm j's announcement of quarter q earnings for year t, measured as the difference between reported earnings for quarter q of year t and reported earnings for quarter q of year t-1, scaled by market value 30-days prior to the announcement.¹⁸

The results of estimating equation (2) are reported in Panel C of Table 3. Consistent with prior research, we find significant (at the 0.0001 level) positive values of $\hat{\phi}_1$. While annual regressions show no reliably differential response to earnings news for dual class firms, pooled tests show that dual class investors respond less to a unit of unexpected earning than do single class investors ($\hat{\phi}_2 = -0.1071$, p-value = 0.0622). We note that the short window tests are sensitive to the specification of the variable capturing the dual class structure. When we replace $IC =$ one minus the ratio of voting rights to cash flow

¹⁸ If no share price is available on this date, we use the share price at the end of the prior fiscal quarter. The results are not sensitive to when we measure share price.

rights with an indicator variable ($IC = 1$ for dual class firms and 0 otherwise), the estimated value of $\hat{\phi}_2$ is negative for both the annual estimations (p-value = 0.0975, and $\hat{\phi}_2 < 0$ in eight of 10 years) and the pooled regression (p-value = 0.0006).

Overall, the results in Table 3 suggest that as the disparity between the cash flow and voting rights of the controlling shareholders increases, the inferior class shareholders decrease the valuation weight on earnings. The results are generally robust to the use of yearly or pooled estimation procedures, to the inclusion or exclusion of dividend-paying firms, to the research design (annual returns-earnings association tests or short window event study), and to the inclusion of factors that affect the returns-earnings relation and that differ between dual class and single class firms. The inference we draw from is that while the control variables account for some of the difference in earnings informativeness between dual class and single class firms, a significant portion of the difference is unexplained by these factors. We attribute the residual difference in informativeness to investor perceptions that controlling insiders influence the reporting process in ways that reduce the credibility of earnings signals.

4.2. Tests of dividend informativeness (H2)

Our tests of dividend informativeness compare the dividend valuation coefficients of dividend-paying dual class firms with those of dividend-paying single class firms.¹⁹ As shown in Table 2, 59% of the dual class firms pay dividends (714 firm-year observations) compared to 28% of single class firms (6,794 firm-year observations). Our tests of H2 focus on the coefficients interacting IC with DIV (and ΔDIV) in equations (3a) and (3b). If dual class and single class stock returns are equally sensitive to dividends, we expect $\delta_2 = 0$ in equation (3a), and $\delta_2 + \delta_4 = 0$ in equation (3b):

$$R_{j,t} = \delta_0 + \delta_1 DIV_{j,t} + \delta_2 DIV_{j,t} * IC_{j,t} + \sum_{k=1}^5 \beta_k DIV_{j,t} * X_{j,t}^k + \tau_{j,t} \quad (3a)$$

$$R_{j,t} = \delta_0 + \delta_1 DIV_{j,t} + \delta_2 DIV_{j,t} * IC_{j,t} + \delta_3 \Delta DIV_{j,t} + \delta_4 \Delta DIV_{j,t} * IC_{j,t} + \sum_{k=1}^5 \beta_k DIV_{j,t} * X_{j,t}^k + \sum_{k=1}^5 \gamma_k \Delta DIV_{j,t} * X_{j,t}^k + \zeta_{j,t} \quad (3b)$$

¹⁹ We draw similar inferences from results based on samples that include non-dividend paying firms (not reported).

Results of annual and pooled regressions are reported in Table 4, Panel A. We note first that for most specifications, the coefficient estimates on the level or change in dividends, or their sum, are not reliably different from zero. Of the control variables, the most significant in explaining the relation between returns and dividends is *LOSS*, where we generally observe reliably negative coefficients for *DIV*LOSS* and reliably positive coefficients for Δ *DIV*LOSS* (p-values of 0.03 or better). In terms of the other control variables, we note that previous research does not provide a basis for predictions about the effects of size, market-to-book ratio, leverage, and institutional holdings on dividend informativeness; results indicate that, with the exception of institutional holdings, none of these variables enters with reliably non-zero coefficients. Institutional holdings are important in explaining the coefficient relating returns to dividends, as evidenced by a positive coefficient on *%INSTIT* interacted with the level of dividends (significant at the 0.09-0.17 levels for the annual regression, and at the 0.005 level or better for the pooled regressions).

Turning to the main test variables, results of the annual regressions show no evidence that dividend informativeness differs materially between dual class and single class stocks. Consistent with the annual results for equation (3a), pooled results also show that $\hat{\delta}_2$ is not reliably different from zero. In contrast, the pooled regression of equation (3b) shows that dual class stocks have higher dividend informativeness, as indicated by a significantly positive (at the 0.008 level) value of $\hat{\delta}_2 + \hat{\delta}_4 = 1.627$.

To provide further evidence on dividend informativeness, we examine short window responses to dividend announcements (analogous to the analysis of the response coefficients to the news in dual class and single class firms' quarterly earnings announcements). Specifically, we search *PR Newswire* and *Business Wire* for dividend announcements made during 1990-1999 by the dual class firms and by 205 randomly-selected single class firms that paid dividends. We exclude dividend announcements made concurrently with other events, such as earnings announcements, share repurchases, or stock splits, leaving 3,692 uncontaminated dividend announcements (2,243 by dual class firms and 1,449 by single class firms). Eighty-eight percent (3,230) announced no change in dividends relative to the prior

quarter's dividend payment, and 12% (n=461, or 260 single class firms and 201 dual class firms) announced dividend increases.²⁰ The mean (median) increment in quarterly dividends, for firms announcing an increase, is \$0.05 (\$0.015) per share, or about 0.23% (0.05%) of share price.

We test the differential sensitivity of abnormal returns to unexpected dividends for dual and single class stocks by estimating the following regression, where the null hypothesis H2 predicts $\rho_2 = 0$:

$$CAR_{j,q,t} = \rho_0 + \rho_1 UD_{j,q,t} + \rho_2 UD_{j,q,t} * IC_{j,t} + \xi_{j,q,t} \quad (4)$$

where $CAR_{j,q,t}$ = cumulative abnormal return over the 3-days centered on firm j's announcement of quarter q dividends for year t.

$UD_{j,q,t}$ = unexpected dividends, defined as the difference between announced dividends and the prior quarter's dividend per share, scaled by share price 30 days prior to the announcement.

The results of estimating equation (4) for the pooled sample of announcements with non-zero changes in dividends are reported in Panel B of Table 4;²¹ we obtain similar results including dividend announcements with $UD = 0$ (not reported). The results show, on average, no reaction to dividend changes by single class firms (ρ_1 is indistinguishable from zero). However, the incremental response associated with dividend changes announced by dual class firms, ρ_2 , is positive and significant at the 0.0001 level. This result indicates that dual class investors respond more to a unit of unexpected dividends than do single class investors, with the magnitude of the increase linked to the disparity between cash flow and voting rights. (We draw similar inferences when we replace the continuous specification of the IC variable with an indicator variable that equals one for dual class firms and zero otherwise.) This finding is consistent with Gugler and Yurtoglu [2001] who show that market reactions to dividend changes announced by German firms with material separations of cash flow and voting rights (obtained by stock pyramids and cross-holdings) are significantly larger than reactions to dividend changes announced by German firms with greater alignment of cash flow and voting rights.

²⁰ We exclude one disclosure (made by a single class firm) of a decreased dividend.

²¹ We do not report the results of annual regressions because the number of announcements of non-zero dividend changes is quite small in several years (fewer than 35).

In summary, while the results in Table 4 are not consistent across all specifications, on the whole they suggest equal or greater dividend informativeness for dual class firms relative to single class firms. Importantly, we find no evidence that dividends are less informative for dual class firms.

4.3. Within-sample tests of earnings and dividend informativeness

So far, our tests have compared the regression slope coefficients on earnings, and separately on dividends, *between* dual class and single class firms. In this section, we compare the slope coefficients on earnings and dividends *within* each sample; because these tests use the firm as its own control, we exclude variables previously argued to be linked to ownership structures and which affect earnings informativeness (i.e., leverage, market to book ratio, and external monitoring).²² Specifically, we compare the slope coefficients on earnings and dividends from the following pooled regression equations, estimated for *each* sample:

$$R_{j,t} = \psi_0 + \omega_1 EARN_{j,t} + \omega_3 DIV_{j,t} + \sum_{k=1}^2 \beta_k EARN_{j,t} * X_{j,t}^k + \sum_{k=1}^2 \kappa_k DIV_{j,t} * X_{j,t}^k + \zeta_{j,t} \quad (5a)$$

$$R_{j,t} = \omega_0 + \omega_1 EARN_{j,t} + \omega_2 \Delta EARN_{j,t} + \omega_3 DIV_{j,t} + \omega_4 \Delta DIV_{j,t} + \sum_{k=1}^2 \beta_k EARN_{j,t} * X_{j,t}^k + \sum_{k=1}^2 \gamma_k \Delta EARN_{j,t} * X_{j,t}^k + \sum_{k=1}^2 \kappa_k DIV_{j,t} * X_{j,t}^k + \sum_{k=1}^2 \phi_k \Delta DIV_{j,t} * X_{j,t}^k + \zeta_{j,t} \quad (5b)$$

If neither earnings nor dividends dominates the other, we expect $\omega_1 = \omega_3$ and $\omega_1 + \omega_2 = \omega_3 + \omega_4$. The results of estimating equations (5a) and (5b) are shown in Table 5, for the sub-sample of firms that pay dividends; for these tests, we estimate only pooled regressions because the number of observations per year for the dual class sample is small (in some cases, less than n=50). For brevity (and because their inclusion has no effect on our inferences about the other variables) we do not report or discuss the coefficient estimates and p-values on the size and loss variables. For the single class sample of dividend-paying firms (n=6,794 observations), the coefficient on earnings is significantly larger (at the 0.0001 level) than the coefficient on dividends. For example, F-tests for single class stocks show that

²² We continue to include controls for firm size and loss incidence; however, we obtain similar results excluding these variables.

$\hat{\omega}_1 = 1.1881$ differs significantly (at the .0001 level) from $\hat{\omega}_3 = -0.3085$; also $\hat{\omega}_1 + \hat{\omega}_2 = 1.6065$ differs significantly (at the .0001 level) from $\hat{\omega}_3 + \hat{\omega}_4 = -0.1660$. In contrast, for the dual class firms F-tests do not reject the equality of $\hat{\omega}_1 = 0.2063$ and $\hat{\omega}_3 = -0.0734$ (F-statistic = 0.45, p-value = 0.5036) nor do they reject the equality of $\hat{\omega}_1 + \hat{\omega}_2 = 0.9296$ and $\hat{\omega}_3 + \hat{\omega}_4 = 0.9163$ (F-statistic = 0.00, p-value = 0.9790).

Overall, the within-sample results for single class firms are consistent with prior research in that they show that earnings are more informative than dividends for these firms. However, for dual class firms, we find that dividends and earnings are equally informative. Together with the evidence in section 4.2, we interpret these results as demonstrating the relative importance of dividends in dual class structures, where earnings are more likely to be perceived as a relatively poor indicator of future payouts.

4.4. Additional sensitivity checks

Taken as a whole, the results in Tables 3-5 indicate that earnings are relatively less informative, and dividends relatively more informative, for dual class firms compared to single class firms. These results are robust to several sensitivity checks. In addition to the model variations and specification checks previously discussed, we estimated fixed year effects pooled regressions; results are similar and are not reported. Results based on samples which exclude financial firms are similar and are not reported. We also repeat the across-sample tests of dividend informativeness (Table 4, Panel A) and within-sample comparisons of earnings and dividend informativeness (Table 5) including non-dividend-paying firms; results are similar and are not reported. Finally, we repeat the tests in Tables 3-5 using an indicator variable (as opposed to the ratio of cash flow rights to voting rights) to capture the effects of dual class equity structures; results do not vary except as discussed in the context of Panel C, Table 3.

5. Distinguishing the Effects of Management Ownership of Cash Flow Rights from the Effects of Separating Voting Rights from Cash Flow Rights.

Our final analysis investigates the sensitivity of our results to managerial ownership. As discussed in the introduction and in section 2, dual class structures are characterized by both separation of cash flow

rights from voting rights and concentrated managerial ownership. With respect to the latter, Warfield et al. show that concentrated holdings by management increase the informativeness of earnings. In contrast, Fan and Wong find that concentrated ownership, obtained by cross-holding and pyramid structures that separate cash flow rights from voting rights, reduce earnings informativeness. We attempt to disentangle the effects of concentrated managerial ownership from the effects of separating cash flow rights from voting rights by re-estimating regressions (1b) and (3b) after including variables that capture managerial ownership. We measure management ownership as the percent of total cash flow rights held by management, *MgmtOwn*.²³ We collect data on percentage holdings from proxy statements, available on *EDGAR* for 1994-1999, for all 205 dual class firms (569 firm-year observations) and for the 205 randomly-selected, dividend-paying, industry- and year-matched single class firms used in the dividend announcement tests described in section 4.2 (678 firm-year observations).

Summary statistics on the distribution of *MgmtOwn* are reported in Panel B of Table 1. The mean and median percent management ownership for single class firms, 18% and 11.5%, are similar to the mean (17%) and median (7%) values reported by Warfield et al. Management ownership of dual class firms is substantially higher, with mean and median ownership of about 30% for both variables. These values are similar to the 24-28% management ownership percentages reported by DeAngelo and DeAngelo [1985] for their sample of dual class firms.

Table 6, Panel A reports the results of pooled estimations of the returns-earnings regression given by (1b), augmented by the inclusion of variables that interact *EARN* and $\Delta EARN$ with *MgmtOwn*_{*j,t*}; Panel B reports similar information for the returns-dividends regression given by (3b).²⁴ For brevity, and because their inclusion does not affect our inferences about the test variables, we do not table or discuss the coefficient estimates on the other control variables in these regressions. We find no evidence that management ownership affects earnings informativeness for our sample. Specifically, neither of the

²³ For single class firms, managerial ownership of cash flow rights equals their ownership of control rights. However, in a dual class firm the two are not typically equal, because of the separation of cash flow rights from voting rights for inferior class shares.

²⁴ We do not estimate annual regressions because of the relatively small sizes of the yearly samples.

coefficients on $EARN*MgmtOwn$ and $\Delta EARN*MgmtOwn$, nor their sum, is reliably different from zero at conventional levels. This result differs from Warfield et al. (who find a positive relation between managerial ownership and earnings informativeness) and from Fan and Wong (who find a negative relation between ownership and earnings informativeness for their sample of East Asian firms with concentrated ownership).²⁵ In contrast, results in Panel B show that higher management ownership reduces dividend informativeness, as suggested by a reliably (at the 0.0868 level) negative sum of coefficients on $DIV*MgmtOwn$ and $\Delta DIV*MgmtOwn$. Importantly, turning to the separation of cash flow and voting rights (IC), the results controlling for management ownership continue to show lower informativeness of earnings ($\hat{\alpha}_2 + \hat{\alpha}_4 = -1.1498$, $p = 0.0728$) and higher informativeness of dividends ($\hat{\delta}_2 + \hat{\delta}_4 = 1.6978$, $p\text{-value} = 0.0937$).

Overall, these results indicate that the effects on earnings and dividend informativeness of separating cash flow rights from voting rights are distinct from the incentive effects of management ownership. This conclusion is similar to that reached by Claessens, Djankov, Fan and Lang [2002], who attempt to disentangle incentive and entrenchment effects for a sample of East Asian firms.

6. Summary and Conclusions

Dual class ownership structures are characterized by both a separation of cash flow and voting rights and concentrated managerial ownership. Prior research indicates that the former characteristic creates an entrenchment effect and an information effect, which together reduce the credibility, and thereby also the informativeness, of earnings. Offsetting these effects are the incentive effects of concentrated managerial ownership, which should increase the credibility and therefore the informativeness of earnings. For a

²⁵ A possible explanation for this null result that is consistent with both Warfield et al.'s and Fan and Wong's findings is that managerial ownership affects earnings informativeness differently for single class firms versus firms where there is a separation of cash flow and voting rights. We test this conjecture by allowing $EARN*MgmtOwn$ and $\Delta EARN*MgmtOwn$ to differ between dual class and single class firms. Results (not reported) show insignificant negative relations between managerial ownership and earnings informativeness for both sub-samples.

sample of 205 dual class firms matched by year and industry with 5,764 single class firms, we investigate which of these effects dominates.

Controlling for other factors known to affect earnings informativeness, we find that the coefficient on earnings in returns-earnings regressions is significantly smaller for dual class stocks than for single class stocks, with the extent of this decrease increasing in the separation between cash flow rights and voting rights. Results also indicate that dividends are no less informative for dual class stocks than for single class stocks – and in some cases are more informative – consistent with the view that dividends are particularly salient for non-controlling shareholders when cash flow rights are separated from voting rights. Finally, within-sample tests show that while earnings are significantly more informative than dividends for single class stocks, the same is not true for dual class stocks: for these firms, earnings and dividends are equally informative.

Our findings confirm and extend Fan and Wong's [2002] finding that concentrated ownership, achieved by pyramids and cross-holdings which separate cash flow rights from voting rights, is associated with lower earnings informativeness in East Asian firms. Fan and Wong refer to important weaknesses in financial reporting and governance in Asian jurisdictions as contributors to their results. We show that even in the U.S. environment, characterized by relatively strong and stable shareholder protection and financial reporting arrangements, the separation of cash flow rights from voting rights affects the informativeness of earnings, and this effect is incremental to effects associated with concentrated ownership.

Table 1
Descriptive Information on the Cash Flow Rights and Voting Rights and
Managerial Ownership of Sample Firms

Panel A: Voting and cash flow rights of the sample dual class firms, 1990-1999^a

	<u>Mean</u>	<u>Std. Dev.</u>	<u>25%</u>	<u>Median</u>	<u>75%</u>
Inferior shares (in 000s)	19,984	31,991	4,645	9,949	20,000
Superior shares (in 000s)	10,884	29,073	1,341	3,248	8,292
Inferior cash flow rights (%)	69.2%	20.1%	55.8%	73.4%	84.4%
Superior cash flow rights (%)	30.8%	20.1%	15.6%	26.6%	44.2%
Inferior voting rights per share	0.80	0.40	0	1	1
Superior voting rights per share	34.50	509.38	1	10	10
Inferior voting rights (%)	23.9%	25.2%	4.8%	17.0%	32.4%
Superior voting rights (%)	76.1%	25.2%	67.6%	83.0%	95.3%
Inferior cash flow rights to voting rights	4.19	6.90	2.06	3.39	4.89
Superior cash flow rights to voting rights	0.42	0.24	0.25	0.37	0.53
Inferior voting rights to cash flow rights	0.31	0.27	0.15	0.25	0.41
Superior voting rights to cash flow rights	10.30	58.13	1.87	2.69	4.00
Inferior explicit control (n=296) ^a	27.3%	6.2%	25.0%	25.0%	30.0%
Superior explicit control (n=316) ^a	71.4%	9.2%	67.0%	75.0%	75.0%

Panel B: Management ownership of cash flow rights of single and dual class firms^b

<i>MgmtOwn</i> (single class firms)	18.0%	18.3%	3.5%	11.5%	27.1%
<i>MgmtOwn</i> (dual class firms)	31.6%	20.0%	15.8%	29.8%	46.8%

Variable definitions: Inferior (superior) refers to the inferior class (superior class); shares = number of shares outstanding; cash flow rights (%) = shares for that class divided by total shares for both classes of stock; voting rights (per share) = votes each per share for noted class of stock; voting rights (%) = number of class's total votes (equal to their votes per share times number of shares) divided by the total votes; cash flow to voting rights = ratio of cash flow rights (%) to voting rights (%), where observations with 0% voting rights are set to missing; voting rights to cash flow rights = ratio of voting rights (%) to cash flow rights (%); explicit control = percent of board seats that class is explicitly permitted to elect; *MgmtOwn* = the percent of total cash flow rights held by management.

^a In Panel A, the dual class sample contains 1,203 firm-year observations, representing 205 firms over t=1990-1999. The number of firm-year observations where proxy filings indicated explicit control features, as measured by statements permitting the inferior (superior) class to elect a stated percentage of board seats, is 296 (316).

^b In Panel B, the dual class sample contains 569 firm-year observations, representing 205 firms over 1994-1999 with ownership data. The single class sample contains industry- and year-matched 678 firm-year observations, representing 205 firms over 1994-1999 with ownership data.

Table 2
 Comparison of Dividend Payment Policies of Single Class versus Dual Class Firms, 1990-1999^a

	Dual Class Sample	Industry-Year Match Sample	Test of difference
Panel A: Median values of selected financial variables			
12-month stock return	0.1194	0.1034	0.9724
Earnings as % market value	0.0846	0.0252	0.0001
Δ Earnings as % market value	0.0070	0.0061	0.4648
% Earnings < 0	23.57%	41.00%	0.0001
Market value (\$mil)	129.04	69.79	0.0001
Sales (\$mil)	280.29	56.89	0.0001
Assets (\$mil)	256.79	73.40	0.0001
Panel B: Dividend payment policies			
<u>All firms</u>			
% firms paying dividends	59.35%	28.40%	0.0001
Dividend as % market value	0.63%	0.00%	0.0001
Dividend as % earnings	11.21%	0.00%	0.0001
<u>Dividend paying firms</u>			
Dividend as % market value	2.93%	2.63%	0.0176
Dividend as % earnings	34.64%	35.40%	0.9964
Panel C: Firm characteristics			
<u>Investment opportunities</u>			
Market-to-book ratio	1.09	2.17	0.0001
Adjusted market-to-book ratio	1.59	2.17	0.0003
<u>Financial leverage</u>	0.2112	0.1106	0.0001
<u>Monitoring</u>			
Analyst following	4.28	4.00	0.5639
Number of institutions	33.33	18.43	0.0001
Institutional holdings (%)	41.20%	22.16%	0.0001

Variable definitions: 12-month stock return is the firm's stock return over the period beginning 3 months following the end of fiscal year t-1 and ending 3 months after fiscal year t (for the dual class firms, the return is for the Inferior Class shares); Earnings as % market value = firm j's earnings before extraordinary items in year t scaled by its market value of equity at the end of year t-1; Δ Earnings as % market value = firm j's earnings in year t minus earnings in year t-1, scaled by market value of equity at the end of year t-1; Sales = firm j's sales revenues in year t; Assets = firm j's total assets at the end of year t. Dividend as % market value = firm j's common stock dividends declared in year t, scaled by market value of equity at the end of year t-1; Dividend as % earnings = firm j's common stock dividends declared in year t, scaled by earnings in year t (set to missing if there is a loss in year t); % firms paying dividends = the fraction of firms with positive common stock dividends in year t. Market-to-book ratio ($MB_{j,t}$) = the ratio of firm j's market value of the Inferior Class common equity to their book value of equity at the end of year; Adjusted market-to-book ratio = market-to-book ratio adjusted for the percent of cash flow rights held by the Inferior Class; Leverage ($LEV_{j,t}$) = the ratio of firm j's long term debt to total book value of assets at the end

of year $t-1$; Analyst following ($ANALYST_{j,t}$) = number of analysts with at least one annual forecast on Zacks about firm j in year t ; Number of institutions ($NUMINST_{j,t}$) = number of institutions holding shares of firm j in year t ; Percent institutional holdings ($\%INST_{j,t}$) = percent of firm j 's outstanding shares held by institutions in year t .

^a The Dual Class sample contains 1,203 firm-year observations, representing 205 firms over $t=1990-1999$. The Industry-Year Match Single Class sample contains 23,921 firm-year observations (5,764 firms) with available CRSP and Compustat data and which are in the same industry and year as a dual class firm. For each firm, we calculate the mean value of each variable over the sample period. We report median values of the firm-means, and tests of differences in the median values between the dual class and matched single class sample. The columns labeled "Test of difference" show the p -values for the Wilcoxon test of whether the median value of each variable differs between the dual class sample and the matched single class sample.

Table 3
 Tests of the Earnings Informativeness of Inferior Class vs Single Class Stocks 1990-1999

Panel A: Annual returns-earnings regressions (with controls) for all firms^a

<u>Independent variable</u>	<u>Fama-MacBeth Regressions</u>				<u>Pooled Regressions</u>			
	<u>mean</u>	<u>p-value</u>	<u>mean</u>	<u>p-value</u>	<u>coef. est.</u>	<u>p-value</u>	<u>coef. est.</u>	<u>p-value</u>
<i>EARN</i>	1.0416	0.0007	0.6794	0.0159	1.0791	0.0001	0.7795	0.0001
$\Delta EARN$			0.9081	0.0038			0.7041	0.0001
<i>EARN*IC</i>	-0.5596	0.0230	-0.4331	0.0791	-0.3681	0.0107	-0.2903	0.0407
$\Delta EARN *IC$			0.0143	0.9555			-0.2568	0.1347
<i>EARN*LOSS</i>	-0.6199	0.0016	-0.4101	0.0045	-0.4936	0.0001	-0.3876	0.0001
$\Delta EARN *LOSS$			-0.5149	0.0003			-0.4228	0.0001
<i>EARN*SIZE</i>	0.0056	0.8614	0.0061	0.8775	-0.0211	0.0131	-0.0196	0.0472
$\Delta EARN *SIZE$			-0.0082	0.8021			0.0208	0.0919
<i>EARN*MB</i>	0.0242	0.0652	0.0261	0.1062	0.0132	0.0017	0.0090	0.0400
$\Delta EARN*MB$			0.0336	0.1309			0.0171	0.0041
<i>EARN*LEVG</i>	0.0489	0.7731	0.1487	0.3337	-0.1463	0.0442	0.0325	0.6937
$\Delta EARN*LEVG$			-0.6405	0.0033			-0.6183	0.0001
<i>EARN*%INSTIT</i>	-0.0028	0.2402	-0.0056	0.1081	-0.0015	0.0407	-0.0030	0.0008
$\Delta EARN*%INSTIT$			0.0062	0.0669			0.0035	0.0022
<i>EARN*DIV</i>	-0.4108	0.0115	-0.1969	0.2045	-0.2673	0.0001	-0.1310	0.0217
$\Delta EARN*DIV$			0.0529	0.4773			0.1617	0.0234
Adjusted R ²	0.1089	0.0001	0.1587	0.0004	0.0659	0.0001	0.0997	0.0001
<i>EARN*IC</i> + $\Delta EARN*IC$			-0.4188	0.0244			-0.5470	0.0050
# years <i>EARN*IC</i> < 0	8							
# years <i>EARN*IC</i> + $\Delta EARN*IC$ < 0			7					

Panel B: Annual returns-earnings regressions (with controls) for all non-dividend paying firms^b

<u>Independent variable</u>	<u>Fama-MacBeth Regressions</u>				<u>Pooled Regressions</u>			
	<u>mean</u>	<u>p-value</u>	<u>mean</u>	<u>p-value</u>	<u>coef. est.</u>	<u>p-value</u>	<u>coef. est.</u>	<u>p-value</u>
<i>EARN</i>	1.0956	0.0011	0.6449	0.0503	1.1208	0.0001	0.7629	0.0001
$\Delta EARN$			0.8405	0.0016			0.7049	0.0001
<i>EARN*IC</i>	-0.9318	0.0083	-0.5854	0.1107	-0.7509	0.0005	-0.5809	0.0221
$\Delta EARN*IC$			0.2096	0.4174			0.0861	0.7878
<i>Control variables</i>								
Adjusted R ²	0.1131	0.0002	0.1543	0.0000	0.0638	0.0001	0.0928	0.0001
<i>EARN*IC</i> + $\Delta EARN*IC$			-0.3758	0.0904			-0.4948	0.0494
# years <i>EARN*IC</i> < 0	8							
# years <i>EARN*IC</i> + $\Delta EARN*IC$ < 0			7					

Panel C: Market reactions to quarterly earnings announcements^c

<u>Independent variable</u>	<u>IC = 1 - (CF/Total)</u>				<u>IC = 1 if Inferior Class, 0 otherwise</u>			
	<u>Fama-MacBeth</u>		<u>Pooled</u>		<u>Fama-MacBeth</u>		<u>Pooled</u>	
	<u>mean</u>	<u>p-value</u>	<u>coef.est</u>	<u>p-value</u>	<u>mean</u>	<u>p-value</u>	<u>coef.est</u>	<u>p-value</u>
<i>UE</i>	0.1201	0.0001	0.1217	0.0001	0.1220	0.0001	0.1231	0.0001
<i>UE*IC</i>	-0.0528	0.4634	-0.1071	0.0622	-0.0341	0.0975	-0.0606	0.0006
Adjusted R ²	0.0150	0.0001	0.0145	0.0001	0.0152	0.0001	0.0146	0.0001
# years <i>UE*IC</i> < 0	7				8			

Variable definitions: $IC_{j,t}$ = one minus the ratio of voting rights to cash flow rights; $EARN_{j,t}$ = firm j's earnings before extraordinary items in year t scaled by its market value of equity at the end of year t-1; $\Delta EARN_{j,t}$ = firm j's earnings in year t minus their earnings in year t-1, scaled by market value of equity at the end of year t-1; $DIV_{j,t}$ = firm j's common stock dividends in year t, scaled by market value of equity at the end of year t-1; $LOSS_{j,t}$ = 1 if $EARN_{j,t} < 0$, 0 otherwise; $SIZE_{j,t}$ = the log of firm j's sales revenues in year t-1. $UE_{j,t}$ = the unexpected earnings in firm j's quarter q, year t earnings announcement, measured as reported earnings for quarter q, year t minus reported earnings for quarter q, year t-1, divided by market value of equity 30 days prior to the announcement.

^a Panel A shows results for the full sample (firms that do and do not pay dividends). For this sample, we include terms interacting the earnings variables with *DIV* to control for the effects of dividends on earnings informativeness. The columns labeled Fama-MacBeth Regressions show the mean of coefficient estimates obtained from estimating equations (1a) and (1b) on each yearly sample, t=1990-1999. The dependent variable in these regressions is $R_{j,t}$ = firm j's stock return over the period beginning 3 months following the end of fiscal year t-1 and ending 3 months after fiscal year t. The reported p-values are the significance levels associated with the time-series standard errors of the coefficient estimates. We also report the number of years (out of 10) that the coefficients on the *IC* variables interacted with *EARN* (or $\Delta EARN$) are negative. The columns labeled Pooled Regressions show the coefficient estimates and p-values of estimating equations (1a) and (1b) for the pooled sample of dual class and single class observations. For equation (1b), we also report the sum of the coefficients on $EARN*IC + \Delta EARN*IC$, along with the p-value for the F-test of whether that sum differs from zero.

^b Panel B is similar to Panel A except we report results of estimating regressions for the sub-sample of non-dividend-paying firms: 589 dual class firm-year observations and the 17,217 industry- and year matched single class observations. These regressions exclude $EARN*DIV$ (and $\Delta EARN*DIV$) as independent variables.

^c In Panel C, the dual class sample contains 3,980 quarterly earnings announcements over t=1990-1999; the industry- and year-matched single class sample contains 67,649 quarterly earnings announcements. The columns labeled Fama-MacBeth Regressions show the mean of coefficient estimates obtained from estimating equation (2) on each yearly sample, t=1990-1999. The reported p-values are the significance levels associated with the time-series standard errors of the coefficient estimates. We also report the number of years (out of 10) that the coefficient on $UE*IC$ is negative. The columns labeled Pooled Regressions show the coefficient estimates and p-values of estimating equation (2) for the pooled sample of dual class and single class sample observations.

Table 4
Tests of the Dividend Informativeness of Inferior Class vs Single Class Stocks, 1990-1999

Panel A: Annual returns-dividends regressions (with controls) for all dividend paying firms^a

<u>Independent var</u>	<u>Fama-MacBeth Regressions</u>				<u>Pooled Regressions</u>			
	<u>mean</u>	<u>p-value</u>	<u>mean</u>	<u>p-value</u>	<u>coef. est.</u>	<u>p-value</u>	<u>coef. est.</u>	<u>p-value</u>
<i>DIV</i>	0.1849	0.6432	0.4382	0.4108	0.1816	0.1815	0.0641	0.3474
Δ <i>DIV</i>			-0.5947	0.2164			0.4481	0.0227
<i>DIV*IC</i>	0.1282	0.8078	0.0871	0.8943	0.1524	0.7106	0.0215	0.4793
Δ <i>DIV*IC</i>			-0.3550	0.8404			1.6055	0.0027
<i>DIV*LOSS</i>	-2.3687	0.0113	-2.8413	0.0110	-0.4950	0.0007	-0.6545	0.0001
Δ <i>DIV*LOSS</i>			2.0773	0.0308			0.4728	0.0075
<i>DIV*SIZE</i>	-0.0192	0.6524	-0.0447	0.3815	-0.0183	0.2243	-0.0090	0.6196
Δ <i>DIV*SIZE</i>			0.1010	0.3164			-0.0365	0.2906
<i>DIV*MB</i>	0.0456	0.6376	0.0522	0.7196	-0.0096	0.7929	-0.0153	0.6781
Δ <i>DIV*MB</i>			0.0375	0.8184			0.0125	0.3195
<i>DIV*LEVG</i>	-0.1958	0.5305	-0.5047	0.3184	-0.3113	0.1889	-0.2973	0.2223
Δ <i>DIV*LEVG</i>			-0.6713	0.3137			0.1607	0.6599
<i>DIV*%INSTIT</i>	0.0021	0.0892	0.0020	0.1702	0.0028	0.0051	0.0034	0.0022
Δ <i>DIV*%INSTIT</i>			0.0053	0.9512			-0.0055	0.0416
Adjusted R ²	0.0294	0.0009	0.0437	0.0002	0.0026	0.0006	0.0060	0.0001
<i>DIV*IC</i> + Δ <i>DIV*IC</i>			0.1742	0.4471			1.6270	0.0077
# years <i>DIV*IC</i> > 0	6							
# years <i>DIV*IC</i> + Δ <i>DIV*IC</i> > 0			5					

Panel B: Market reactions to quarterly dividend announcements^b

<u>Independent variable</u>	<u>IC = 1 - (CF/Total)</u>		<u>IC = 1 if Inferior Class, 0 otherwise</u>	
	<u>coef.est</u>	<u>p-value</u>	<u>coef.est</u>	<u>p-value</u>
<i>UD</i>	-0.0316	0.5575	-0.0244	0.6366
<i>UD*IC</i>	1.8508	0.0001	0.5899	0.0001
Adjusted R ²	0.0709	0.0001	0.0581	0.0001

Variable definitions: See Table 3. Also: $DIV_{j,t}$ = firm j's common stock dividends in year t, scaled by market value of equity at the end of year t-1; $\Delta DIV_{j,t}$ = firm j's common stock dividends in year t minus common stock dividends in year t-1, scaled by market value of equity at the end of year t-1; $UD_{j,t}$ = the unexpected news in dividends equal to the difference between announced dividends and the prior quarter's dividend, scaled by share price 30 days prior to the announcement.

^a The Panel A sample consists of dividend paying firms: 714 dual class firm-year observations, and 6,794 industry- and year- matched single-class observations. The columns labeled Fama-MacBeth Regressions show the mean of coefficient estimates obtained from estimating equations (3a) and (3b) on each yearly sample, t=1990-1999. The dependent variable in these regression is $R_{j,t}$ = firm j's stock return over the period beginning 3 months following the end of fiscal year t-1 and ending 3 months after fiscal year t. The reported p-values are the significance levels associated with the time-series standard errors of the coefficient estimates. We also report the number of years (out of 10) that the coefficients on the *IC* variables interacted with *DIV* (or Δ *DIV*) are negative. The columns labeled Pooled Regressions show the coefficient estimates and p-values of estimating equations (3a) and (3b) for the pooled

sample. For equation (3b), we also report the sum of the coefficients on $DIV*IC+\Delta DIV*IC$, along with the p-value for the F-test of whether that sum differs from zero.

^b In Panel B, the dual class sample contains 201 quarterly dividend announcements, over t=1990-1999, with non-zero dividend changes; the industry- and year-matched single class sample contains 260 quarterly dividend announcements. We report the coefficient estimates and p-values of estimating equation (4) for the pooled sample of dual class and single class sample observations.

Table 5
 Within-Sample Test of the Informativeness of Earnings versus Dividends,
 for Dividend-Paying Dual Class and Single Class Stocks, 1990-1999^a

<u>Independent variable</u>	<u>Single Class Returns</u>				<u>Dual Class Returns</u>			
	<u>coef. est.</u>	<u>p-value</u>	<u>coef. est.</u>	<u>p-value</u>	<u>coef. est.</u>	<u>p-value</u>	<u>coef. est.</u>	<u>p-value</u>
<i>EARN</i>	1.1881	0.0001	0.8474	0.0001	0.2063	0.3991	0.3582	0.1503
$\Delta EARN$			0.7591	0.0001			0.5714	0.0001
<i>DIV</i>	-0.3085	0.0001	-0.2633	0.0004	-0.0734	0.8287	0.1767	0.3143
ΔDIV			0.0973	0.2508			0.7396	0.0089
Adjusted R ²	0.0597	0.0001	0.0975	0.0001	0.0361	0.0001	0.0877	0.0001
<i>EARN=DIV</i>	163.55	0.0001			0.45	0.5036		
<i>EARN</i> + $\Delta EARN$			1.6065	0.0001			0.9296	0.0005
<i>DIV</i> + ΔDIV			-0.1660	0.0267			0.9163	0.0389
<i>EARN</i> + $\Delta EARN=DIV$ + ΔDIV			179.34	0.0001			0.00	0.9790

See Tables 3 and 4 for variable definitions.

^a We report the coefficient estimates and p-values of pooled regressions of equations (5a) and (5b) for the dual class and single class samples. The dependent variable in these regressions is the firm's stock return over the period beginning 3 months following the end of fiscal year t-1 and ending 3 months after fiscal year t. Regressions are estimated on the sample of dividend-paying observations: 714 observations for the dual class sample and 6,794 for the industry- and year-matched single class sample. We also report the F-statistic and p-value of the tests of the equality of the noted coefficient estimates.

Table 6
The Effects of Management Ownership on the Earnings and Dividend Informativeness
of Inferior Class and Single Class Stock Returns, 1990-1999^a

Panel A: Conditional tests of earnings informativeness^b

<u>Independent variable</u>	<u>coef. est.</u>	<u>p-value</u>
<i>EARN</i>	-0.2095	0.6795
$\Delta EARN$	3.2527	0.0001
<i>EARN*IC</i>	-1.5780	0.0006
$\Delta EARN*IC$	0.4282	0.5759
<i>EARN*MgmtOwn</i>	0.5193	0.3995
$\Delta EARN*MgmtOwn$	-1.0083	0.2937
<i>Control variables</i>	Not reported	
Adjusted R ²	0.1063	0.0001
<i>EARN*IC</i> + $\Delta EARN*IC$	-1.1498	0.0728
<i>EARN*MgmtOwn</i> + $\Delta EARN*MgmtOwn$	-0.4890	0.5780

Panel B: Conditional tests of dividend informativeness^c

<u>Independent variable</u>	<u>coef. est.</u>	<u>p-value</u>
<i>DIV</i>	-3.4031	0.0255
ΔDIV	0.0914	0.9421
<i>DIV*IC</i>	-1.2071	0.3095
$\Delta DIV*IC$	2.9048	0.0093
<i>DIV*MgmtOwn</i>	-2.8320	0.0339
$\Delta DIV*MgmtOwn$	0.2114	0.8809
<i>Control variables</i>	Not reported	
Adjusted R ²	0.0655	0.0001
<i>DIV*IC</i> + $\Delta DIV*IC$	1.6978	0.0937
<i>DIV*MgmtOwn</i> + $\Delta DIV*MgmtOwn$	-2.6206	0.0868

Variable definitions: See Tables 3 and 4. Also: *MgmtOwn* = percent of total cash flow rights held by management.

^a The Dual Class sample contains 569 firm-year observations, representing 205 firms over t=1994-1999. The Single Class sample contains 678 firm-year observations for 205 randomly-selected dividend-paying, single class firms, matched on industry and year with the dual class firms.

^b Panel A shows results for pooled regressions of returns on the level and change in earnings, controlling for losses, firm size, dividends, and management ownership. For brevity, and with the exception of *MgmtOwn*, we do not table the coefficient estimates on the control variables. We also report the p-values whether the sum of the noted coefficients differ from zero.

^c Panel B shows the results of pooled regressions of returns on the level and change in dividends, controlling for losses, firm size, and management ownership. We also report the p-values whether the sum of the noted coefficients differ from zero.

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