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Dividend Guidance to Manage Analyst Dividend Expectations

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ABSTRACT

Using a sample of dividend payers from 12 European countries, we document that managers guide analyst dividend expectations to avoid reporting dividends below the consensus forecast. Specifically, we show that dividend guidance predicts (1) a substantial reduction in analyst dividend forecast optimism over the course of the fiscal year and (2) that a firm will meet or beat the consensus dividend forecast by a small margin. Managers guide analyst dividend expectations to avoid negative price reactions when reporting negative dividend surprises. Our results, which are robust to endogeneity and self-selection concerns and control for contemporaneous earnings guidance, highlight the important role dividend guidance plays in managing analyst dividend expectations.

Keywords: Dividend signaling; Dividend expectations management; Walkdown in analyst dividend forecasts; Managerial guidance.

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1. Introduction

The dividend signaling model of Bhattacharya (1979), John and Williams (1985) and Miller and Rock (1985) predicts that when investors are less informed, dividends convey information about firm prospects. Importantly, the model anticipates that negative dividend surprises associate with strong negative price reactions.[1] If investors penalize firms for missing dividend expectations, managers have the incentive to provide dividend guidance to avoid announcing disappointing dividend news, a premise we examine in this study. We focus on analyst dividend expectations because (1) past studies document that firms provide guidance specifically to influence analyst expectations (Richardson et al., 2004; Cotter et al., 2006; Feng and McVay, 2010) and (2) investors rely on analyst forecasts rather than time series estimates in forming expectations of firm results (Skinner and Sloan, 2002; Kasznik and McNichols, 2002; Bartov et al., 2002; Bilinski and Bradshaw, 2016).[2]

To answer the research question, we collect a sample of dividend payers from 12 European countries. We focus on Europe because the majority of European firms pay dividends (Hail et al., 2014; Fatemi and Bildik, 2012), hence European firms have the incentive to issue explicit dividend guidance.[3] To make cross-country comparisons meaningful, we focus on annualized analyst dividend forecasts because (1) most firms in Europe pay annual dividends (Ferris et al., 2010), (2) the majority of previous studies examine annual dividend

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[1] We use the terms "surprise" and "news" interchangeably to denote new information revealed at dividend or earnings announcements.

[2] Past studies frequently find no support for the dividend signaling model when dividend expectations are based on time-series forecasts (e.g., Lang and Litzenberger, 1989; Benartzi et al., 1997; Conroy et al., 2000; Fukuda, 2000; Abeyratna and Power, 2002; Andres et al., 2013). In contrast, when expectations are based on analyst dividend forecasts, Andres et al. (2013) and Bilinski and Bradshaw (2016) find support for the signaling role of dividends.

[3] Few firms in the U.S. pay dividends, and the number of U.S. dividend payers has significantly declined over time (Fama and French, 2001; DeAngelo et al., 2004, 2008). To illustrate, Fatemi and Bildik (2012) examine dividend payers in a sample of 33 countries over the period 1985–2006. They report that more than 61% of listed firms in Europe versus 28% in the U.S. paid dividends in 2006. This result suggests that dividends are important for the majority of listed European firms. The declining propensity to issue dividends suggests low incentives to provide dividend guidance. Consistently, we find that less than 0.01% of firm-years for U.S. dividend payers have management dividend guidance.

announcements (Lonie et al., 1996; DeAngelo and DeAngelo, 1990 and DeAngelo et al., 2004), and (3) the literature review in DeAngelo and DeAngelo (1990) highlights that the dividend policy is most often determined at fiscal year-end. As we focus on dividend announcements, our conclusions are unaffected by the frequency of subsequent dividend payments.

As a first test, we examine changes in the properties of analyst dividend forecasts that previous studies attribute to guidance (Matsumoto, 2002; Richardson et al., 2004; Cotter et al., 2006). Specifically, we look at walkdown in analyst dividend expectations, which we measure by changes in dividend forecast bias. We document that analysts tend to issue optimistic dividend forecasts early in the fiscal year and that managers walk down analyst dividend expectations over the course of the fiscal year. In particular, we find that the initial optimism in analyst dividend forecasts declines from 0.15% in the first fiscal quarter to 0.01% in the fourth quarter and that the majority of firms meet or beat the analyst consensus dividend forecast at dividend announcements. Furthermore, we report that the proportion of firms that meet or beat the consensus dividend forecast is higher than the proportion of firms that meet or beat the consensus earnings forecast. This result is consistent with the comparatively higher market penalty for reporting negative dividend than earnings news (Dielman and Oppenheimer, 1984; Kothari et al., 2009; Bilinski and Bradshaw, 2016). As an additional test, we document a discontinuity in dividend surprises around zero and that a disproportionate number of firms beat the consensus dividend forecast by a small margin. In particular, the proportion of firms that beat the consensus dividend forecast by a small margin is almost five times higher than the fraction of firms that beat the consensus earnings forecast by a small margin. This result echoes higher firms' incentives to meet analyst dividend than earnings expectations due to a higher penalty for failing to meet analyst dividend consensus. Jointly, our initial results are consistent with firms

endeavoring to meet or beat the consensus dividend forecast and avoid reporting negative dividend news.

To formalize the analysis and show a direct link between guidance and changes in the properties of analyst dividend forecasts, we define an indicator variable for whether a firm issued dividend guidance during a fiscal year. We document that management dividend forecasts are available for 58% of firm-years for firms that provide management forecasts. We then examine if dividend guidance helps walk down analyst dividend expectations. Specifically, we create an indicator variable for at least a 50% reduction in dividend forecast optimism in the fourth compared to the first quarter (*significant DPS reduction*) and an indicator variable for a firm meeting or beating the consensus dividend forecast by a small margin (*DPS barely beat*). Regression results show a statistically and economically significant association between *significant DPS reduction* and *DPS barely beat* and a dummy for whether the firm provided dividend guidance. Specifically, dividend guidance increases the likelihood of a significant reduction in analyst dividend forecast optimism by 6.9%, and it raises the probability a firm will meet or beat the analyst dividend consensus by a small margin by 13.2%. This evidence suggests that dividend guidance helps walk down analyst dividend expectations to beatable levels.

To address the concern our results capture cases when both dividend guidance and reduction in analyst dividend forecast optimism are driven by the same unobservable factors, we perform two tests. First, we use instrumental variables regression to address the endogeneity concern. As an instrument, we use the fraction of firms that provide dividend guidance in the company's industry in the previous fiscal year. We expect that a firm will be more likely to engage in dividend guidance when a larger proportion of its peers guide analyst forecasts. However, past peer guidance should not affect the magnitude of a reduction in analyst dividend

forecast optimism or the likelihood the firm will meet the analyst dividend consensus by a small margin. Thus, the instrument meets both the exclusion restriction and the relevance condition. Instrumental regression results produce evidence consistent with our main conclusions. The second test repeats our analysis after including firm effects. Firm effects capture unobserved firm-level characteristics that can correlate with changes in properties of analyst dividend forecasts and the dividend guidance indicator. Regression results with firm effects are qualitatively similar to our main results.

There is a concern that our conclusions are affected by selectivity in analyst stock coverage (Rajan and Servaes, 1997) because, on average, 62% of dividend payers in the Compustat Global universe have analyst coverage. We address this concern in two ways. First, we repeat the analysis for fiscal years 2010–2013, in which over 87% of dividend payers have analyst coverage and find consistent results. Second, we repeat the analysis for the quintile of stocks with the highest institutional ownership in which analyst coverage choices are constrained. The intuition for this test is that brokers routinely cover stocks with large institutional holdings because sell-side analysts are compensated out of trade commissions and commission fees increase with the size of institutional ownership (Irvine, 2004). Consistent with this prediction, 80% of stocks in the highest institutional ownership quintile are covered by analysts as opposed to a 28% coverage for the smallest quintile. Regression results for this subsample are consistent with our main results. Jointly, tests that address endogeneity and self-selection corroborate our conclusions.

To sharpen the analysis, we perform three robustness tests. First, our results may reflect a firm's general propensity to provide guidance, not specifically the issuance of management dividend forecasts. To exclude this alternative explanation, we control for whether the firm

provides earnings guidance. We do not find significant associations between earnings guidance and *significant DPS reduction* and *DPS barely beat*. This result suggests that managers provide divided guidance specifically to reduce optimism in analyst dividend forecasts and to beat the analyst dividend consensus. Second, we repeat the analysis when we use the median analyst dividend forecast to construct *significant DPS reduction* and *DPS barely beat* and find consistent evidence. This result suggests that our conclusions are unlikely to be driven by the way we create the dependent variables. Third, we relate *significant DPS reduction* and *DPS barely beat* to dividend guidance characteristics. We document that over 65% of management dividend forecasts are issued below the contemporaneous analyst dividend consensus forecast, a result consistent with firms downward guiding analyst dividend expectations. Furthermore, we report that the number of management dividend forecasts issued in a fiscal year, the magnitude of the implied consensus revision (i.e. the percentage difference between the analyst consensus dividend forecast and the managerial dividend forecast), and dividend guidance issued early in a fiscal year predict the likelihood a firm will meet or beat the consensus dividend forecast by a small margin. Jointly, these additional results confirm the important role dividend guidance plays in reducing optimisms in analyst dividend forecasts.

We recognize that two conditions are necessary for managers to provide dividend guidance. First, there is uncertainty about future dividend payments that guidance helps to resolve. In other words, dividend guidance influences analyst dividend expectations. Second, investors react negatively to disappointing dividend news. Managers care about the market penalty for reporting negative dividend surprises because low share price negatively affects (1) the value of their stock options and stock sales after the dividend announcement and (2) new equity issues (Richardson et al., 2004). Supplementary tests confirm that management dividend

forecasts influence revisions in analyst dividend forecasts and that investors react negatively to disappointing dividend news. These findings confirm that managers have the incentive to guide analyst dividend expectations if the firm is at risk of failing to meet the consensus forecast.[4]

This study will interest both academics and market participants. First, our research contributes to the literature on the interactions between management guidance and analyst forecasts. The bulk of previous studies focused on the walkdown in analyst earnings forecasts (Richardson et al., 2004; Cotter et al., 2006; Matsumoto, 2002; Bartov et al., 2002; Brown and Caylor, 2005; Feng and McVay, 2010) and the association between guidance and analyst following (Anantharaman and Zhang, 2011; Chatalova et al., 2016). The walkdown literature attributes declining optimism in analyst earnings forecasts to firms downward guiding analyst earnings expectations. We contribute to this literature by documenting how dividend guidance affects changes in analyst dividend expectations over the fiscal year. A distinct feature of our study is that we focus on explicit dividend guidance rather than trying to infer guidance from the sign of the earnings (or dividend) surprise, which is the most common approach used to capture guidance (e.g., Matsumoto 2002; Bartov et al., 2002; Richardson et al., 2004; Brown and Higgins, 2005). Hutton (2005) argues that just observing a declining optimism in analyst forecasts does not distinguish between guidance and no-guidance firms. We expect dividend guidance to increase in importance in the overall firm market communication because investors are increasingly turning to dividend paying stocks. To illustrate, Bases and Campos (2010) state that "[F]rustrated investors watching their incomes evaporate due to plunging bond yields have

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[4] Firms can manage dividends to avoid reporting disappointing dividend news. However, the cost of managing dividends is higher compared to dividend guidance because dividends have to be backed by cash flows. Zhang (2006) highlights that firms can manipulate cash flows through costly real activities management (Roychowdhury, 2006), such as lower price discounts and reduction in discretionary expenditures, e.g., advertising R&D expenses. Apart from being costly, cash flow management, such as selling receivables, transfers in and out of trading securities or decreasing working capital, are easier to detect than accrual management (Zhang, 2006), which further reduces firms' incentives to use cash flow management to beat analyst dividend forecasts. Consequently, we expect dividend guidance to be more important than cash flow management in achieving analyst dividend expectations.

turned to dividend-paying stocks, and they're being rewarded for it." Harris et al. (2015) report that some mutual funds pay a premium to purchase stocks before dividend payments to artificially increase their dividends and that investors reward these funds with higher net inflows.[5]

Second, we contribute novel results to the literature on analyst dividend forecasts. Only a handful of studies have examined the properties of analyst dividend forecasts (Brown et al., 2002; 2007; Bilinski and Bradshaw, 2016), with the main focus of these studies being on dividend forecast accuracy and the link between accuracy of earnings and dividend estimates. Our evidence on the impact dividend guidance has on dividend forecast optimism improves understanding of the factors shaping analyst dividend forecasts and the properties of analyst dividend estimates. Our study differs from Bilinski and Bradshaw (2016), who study how variability in reported dividends affects analyst propensity to report dividend estimates and the properties of analysts' dividend forecasts, such as accuracy and informativeness. Our study focuses on management dividend guidance and how it affects analyst dividend expectations and helps reduce the likelihood of negative dividend surprises. Our findings suggest it is essential to control for dividend guidance when studying properties of analyst dividend forecasts and dividend surprises, e.g., dividend surprise studies should consider the impact right-shift in the dividend surprise distribution has on inferences.

Third, our results help explain why some studies (e.g., Lang and Litzenberger, 1989; Benartzi et al., 1997; Conroy et al., 2000; Fukuda, 2000; Abeyratna and Power, 2002; Andres et

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[5] Investors turning to dividend paying stocks can increase firms' propensity to pay dividends and, as a result, their incentive to provide dividend guidance. We address this concern by controlling for institutional ownership in our analysis. We focus on dividends rather than share repurchases because repurchases are used primarily for transitory, non-operating cash flows and thus represent less credible signals about future firm prospects and entail little incentive for guidance (Jagannathan et al., 2000). Specifically, there is little need for consistency in earning news and share repurchase signals because share repurchases are infrequent and not binding.

al., 2013) find weak or no support for the dividend signaling hypothesis when dividend news are measured by the time-series of dividend payments. First, our results suggest that investors form dividend expectations based on analyst forecasts, not random-walk forecasts. Second, firms actively guide analyst dividend expectation to beatable levels, which suggests that dividend surprises tend to be small and positive. Both factors contribute to low power of tests that attempt to find associations between dividend changes and stock prices.

2. Literature review and hypothesis

Our study builds on two literature streams to examine the association between management dividend guidance and optimism in analyst dividend forecasts: the earnings walkdown literature and the dividend signaling studies.

2.1 Earnings walkdown

A large body of literature documents a significant reduction in analyst earnings forecast optimism over the course of the fiscal year, a pattern commonly referred to as the earnings walkdown (Richardson et al., 2004; Cotter et al., 2006; Matsumoto, 2002; Bartov et al., 2002; Brown and Caylor, 2005; Feng and McVay, 2010; Chatalova et al., 2016). These studies attribute the walkdown pattern to management communication that guides analyst earnings forecast to beatable levels.[6] Managers can influence analyst earnings expectations because analysts depend on them for information and issuing forecasts contrary to guidance may reduce the analyst's access to the management (Francis and Philbrick, 1993; Lim, 2001).

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[6] Bartov and Cohen (2009) highlight that firms use earnings guidance more commonly than earnings management to meet analyst earnings expectations because the cost of the former is lower.

Richardson et al. (2004) argue that managers guide analyst earnings expectations to avoid negative price reactions to disappointing earnings news because low share prices negatively affect (1) the value of stock options and stock sales after the earnings announcement and (2) new equity issues. Specifically, Richardson et al. (2004, 889) argue that "in the majority of transactions, managerial and firm equity sales occur during a short window after earnings announcements" and that "managers who are about to sell shares on their personal account or on behalf of the firm after an earnings-announcement care about the firm's short-term post-announcement stock price level."[7] The survey evidence in Graham et al. (2005) confirms that CFOs view meeting analyst earnings benchmarks as an important means to build credibility in the capital market and to maintain or increase the firm's stock price. Furthermore, the market penalty for missing the analyst consensus earnings forecast tends to be higher than for beating the consensus (Skinner and Sloan, 2002; Kasznik and McNichols, 2002; Bartov et al., 2002). We expect that similar concerns about the negative price reaction to disappointing dividend news will incentivize managers to guide analyst dividend forecasts to beatable levels.

2.2 Dividend signaling

Eije and Megginson (2008) study payout policies of 15 European Union countries over the period 1989–2005. They report that the proportion of European dividend payers decreased from around 88% in 1989 to 51% in 2005. Their results echo Fama and French's (2001) findings for the U.S. and international evidence by Denis and Osobov (2008), LaPorta et al. (2000) and

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[7] Previous studies report that most firms announce dividends contemporaneously with earnings. Chen et al. (2002) report that firms in Commonwealth countries announce dividends at the same time as earnings. Similar evidence is available for firms in Austria (Gurgul et al., 2003) and Germany (Andres et al. 2013). Dividends and earnings are also announced jointly in Japan (Conroy et al., 2000), Hong Kong (Cheng et al., 2007), and Australia (Easton, 1991). Aharony and Swary (1980, 3) report that for U.S. stocks "[A] major difficulty [in assessing dividend information content] lies in the fact that quarterly earnings and dividend figures often are released to the public at approximately the same time."

Pinkowitz et al. (2006). Eije and Megginson (2008) find that contrary to the U.S., dividends remain the main way of distributing cash to shareholders, with only 17% of listed firms repurchasing stock in 2005.

The dividend signaling model (Bhattacharya, 1979; John and Williams, 1985, and Miller and Rock, 1985) predicts that dividend increases (cuts) signal higher (lower) future earnings and associate with positive (negative) price reactions at dividend announcements. If investors mark down prices of firms reporting negative dividend surprises, managers can guide dividend expectations to avoid reporting disappointing dividend news. Thus, dividends can serve an important signaling role.

Empirical support for the dividend signaling model is mixed. Using time-series of dividend payments to measure dividend news, early studies find significant correlations between dividend changes and stock prices. For example, Aharony and Swary (1980) document a positive association between quarterly dividend announcements and stock prices for NYSE listed stocks. Easton (1991) finds significant information content of dividend changes for a sample of contemporaneous dividend and earnings announcements in Australia. Empirical tests in Pettit (1972, 1976), Healey and Palepu (1988), and Ghosh and Woolridge (1991) also support the dividend signaling hypothesis. However, other studies, including Ang (1975), Gonedes (1978), Watts (1973), Lang and Litzenberger (1989) and Benartzi et al. (1997), find weak or no evidence that investors react to dividend announcements in the U.S., which questions the signaling role of dividends. Conroy et al. (2000) and Fukuda (2000) find no evidence on the signaling role of dividends for Japanese stocks.[8] Zuguang and Ahmed (2014) document that investors do not react negatively to dividend cuts for stocks listed on the Shanghai Stock

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[8] The Japanese institutional setting can explain results in Conroy et al. (2000) and Fukuda (2000). Specifically, investors can anticipate future dividends because Japanese firms are mandated to provide guidance on future dividends at current dividend announcements.

Exchange. Vieira (2011) finds that dividend changes do not elicit significant market reactions for French firms and only weak price reactions for Portuguese and UK firms.[9]

Previous studies measure dividend surprises as time-series dividend changes. In contrast, we measure the variance between the reported dividend and the analyst consensus dividend forecast. Our focus on analyst dividend expectations is motivated by evidence that investors rely on analyst forecasts, rather than time series estimates, in forming expectations of annual results (Skinner and Sloan, 2002; Kasznik and McNichols, 2002; Bartov et al., 2002; Bilinski and Bradshaw 2016). If investors penalize firms for missing analyst dividend expectations, managers have the incentive to guide analyst dividend expectations to avoid reporting disappointing dividend news. Thus, our main hypothesis is:

Hypothesis 1: Managers guide analyst dividend expectations to avoid reporting negative dividend surprises.

3. Data

We use I/B/E/S to collect analyst annualized dividend forecasts, actual dividends and managerial dividend guidance for dividend payers from 12 European countries for fiscal years 2006–2013. We start in 2006 because management dividend forecasts before 2006 are scarce. We collect information on whether the firm issued dividend guidance in a fiscal year and, when available, the value of guidance and the value of the analyst consensus dividend forecast at the time management guidance was issued. Accounting information is from Compustat Global, and we use Compustat Global Security Daily for market information. We use Factset to collect information on institutional ownership. A firm's actual and forecasted dividends are expressed in

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[9] The key prediction of the dividend signaling hypothesis is a positive association between current dividend changes and future earnings changes, a prediction Nissim and Ziv (2001) and Bilinski and Bradshaw (2016) confirm.

the default reporting currency assigned by I/B/E/S to every firm under coverage.[10] We exclude firms for which the default reporting currency is different from the currency in which the stock trades to ensure all measures, such as dividend forecast optimism, are computed on a consistent basis. The initial sample was comprised of 12,257 firm-years with at least one dividend forecast in a fiscal year. The final sample includes 5,869 firm-years with non-missing information for explanatory variables for regression analysis.

Table 1 reports descriptive statistics for the sample of 5,869 firm-years. Panel A documents that on average, over 12 analysts following a stock in a year issue dividend forecasts, with the mean number of dividend forecasts per year being close to 27. Jointly, these results suggest that analyst dividend forecasts are ubiquitous. Panel A also reports that in 60.7% of firm-years, reported dividends meet or beat the analyst consensus dividend forecast by at least 1% at the fiscal year-end. To put this number into context, firms meet or exceed the consensus earnings forecast at fiscal year-end by at least 1% in 46.2% of firm-years. Thus, a significant number of firms report dividends in line or higher than the consensus, evidence consistent with managerial guidance.[11]

Panel B examines the sign of the dividend surprise conditional on the sign of the earnings surprise. If dividends and earnings are linked by a constant payout ratio, dividend surprises will simply reflect earnings surprises and should not reveal new information. Such a result would suggest that managers have the incentive to manage analyst earnings, but not dividend expectations. We document that earnings and dividend surprises of the same sign do

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[10] The I/B/E/S detail history user guide specifies that all detailed estimates on I/B/E/S are provided in the default currency that I/B/E/S allocates to each firm. This is usually the firm's reporting currency. All estimates received in a currency other than the default currency are converted to the default firm currency using the exchange rate of the estimate's activation date.

[11] Higher proportion of firms that meet or beat the analyst dividend than earnings consensus forecast can reflect that dividends are comparatively easier to forecast. However, in untabulated results, we find that the percentage dividend forecast error is only marginally smaller than the percentage earnings forecast error (13.8% vs. 14.7%), which suggests analysts face a challenge in forecasting dividends.

not always coincide. To illustrate, for firms that exceed analyst earnings expectations in a year, 22.5% of firms also exceed analyst dividend forecasts. Furthermore, only 19.7% of firms with negative earnings news also report negative dividend surprises. These results suggest that dividend surprises can convey incremental information to earnings news. In sum, the results in Table 1 suggest that (1) analyst dividend forecasts are routinely available for dividend paying stocks, (2) the majority of firms meet or exceed analyst dividend expectations at fiscal year-end, and (3) dividend news does not simply mirror earnings news. These results suggest firms have an incentive to manage analyst dividend expectations.

4. Do firms manage analyst dividend expectations?

We use two measures to examine if firms try to influence analyst dividend expectations to meet or beat the dividend consensus at dividend announcements. First, we examine if there is evidence of a walkdown in analyst dividend expectations over the course of the fiscal year. Second, we test whether firms report significantly higher proportion of small positive than small negative dividend surprises. Previous studies attribute small positive earnings surprises to managers' downward guiding analyst earnings expectations (Dreman and Berry, 1995; Degeorge et al., 1999; Burgstahler and Eames, 2006; Gore et al., 2007). We anticipate that an unusually high frequency of small positive dividend surprises reflects firms guiding analyst dividend forecasts to beatable levels.

4.1 Walkdown in analyst dividend forecasts

We test if firms walk down analyst dividend expectations by examining changes in optimism in analyst dividend estimates over the course of the fiscal year. We focus on changes in optimism

because the earnings walkdown literature documents optimism in analyst earnings expectations in the beginning of the fiscal year, which prompts earnings guidance (Richardson et al., 2004; Cotter et al., 2006; Matsumoto, 2002). Earnings guidance helps moderate optimism in analyst earnings forecasts, which in return facilitates meeting analyst earnings expectations at year-end. In parallel, we expect that managers will provide dividend guidance to reduce the initial optimism in analyst dividend forecasts helping the firm meet or beat the consensus dividend forecast at fiscal year-end.

For this test, we calculate the quarterly dividend forecast bias, *DPS bias*, which is the actual dividend less the analyst consensus dividend forecast calculated at the end of each fiscal-year quarter. We use the last analyst dividend forecast for a quarter to calculate the consensus forecast. We scale this difference by the share price, *price*, at the end of the previous fiscal year to make *DPS bias* comparable across stocks and multiply by −1 so that positive values reflect analyst optimism:

$$DPS\ bias = -1 \times \frac{(DPS_{actual} - DPS_{consensus})}{price}. \tag{1}$$

Figure 1a plots the mean dividend forecast bias for each quarter. We observe a significant reduction in dividend forecast optimism over the course of the fiscal year: the mean *DPS bias* of 0.15% in the first fiscal quarter declines to −0.001% in the fourth quarter. The difference in mean dividend forecast bias between quarters one and four is significant at the 1% level. For comparison, Figure 1a also plots the mean EPS forecast bias calculated similarly to the dividend forecast bias. Consistent with previous studies (e.g., Richardson et al., 2004; Cotter et al., 2006), we document a gradual reduction in analyst EPS forecast optimism over the fiscal year, and the

trend is similar to that for analyst dividend forecasts. Figure 1a provides early evidence that firms downward guide analyst dividend expectations.[12]

[Figure 1]

To complement the analysis, we repeat Figure 1a's result on dividend walkdown conditional on firms providing dividend guidance. We perform this test because Hutton (2005) argues that the earnings walkdown pattern for guidance and no-guidance firms is similar, so decreasing optimism in analyst dividend forecasts may not necessarily reflect managerial guidance. Figure 1b documents that the magnitude of a reduction in dividend forecast optimism is much higher for the sample of firms that issue dividend guidance. The mean *DPS bias* reduces by over 132% in quarter four compared to quarter one (from 0.19% to −0.06%) when firms provide dividend guidance, compared to a 83% reduction when they do not (from 0.14% to 0.02%). Furthermore, the mean *DPS bias* in the last fiscal quarter is negative for the sample of firms that provide dividend guidance, which suggests that these firms on average exceed the consensus. Without dividend guidance, the consensus dividend forecast is higher than the actual dividend at fiscal year-end. These results reinforce our conclusion that dividend guidance helps managers meet or beat the consensus forecast.

4.2 Discontinuity in dividend surprises around zero

Next, we investigate whether there is evidence of a discontinuity in dividend surprises around zero. Our motives for using this measure are twofold. First, the dividend signaling hypothesis predicts significant negative price reactions for firms failing to meet investor dividend

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[12] The reduction in dividend forecast optimism in Figure 1a does not reflect changes in cash flow forecast optimism. Givoly et al. (2009) document that analyst cash flows forecasts are equally optimistic in the beginning and at the end of the fiscal year (the mean cash flow bias calculated as in our equation (1) is 0.91% in the beginning of the fiscal year and 0.89% at the end of the fiscal year in their Table 6). Thus, the walkdown in analyst dividend forecasts is not because of a similar pattern in analyst cash flow forecasts.

expectations. Thus, we expect that managers will use dividend guidance to, at minimum, meet the dividend consensus forecast. This prediction is consistent with managerial incentives to provide earnings guidance. To illustrate, Matsumoto (2002) quotes a business article stating "[A]s is the custom late in a quarter, companies have been jawboning analysts' estimates down to be sure the companies at least meet or exceed the consensus figure" (Bleakley 1997). Second, we do not expect managers to use downward dividend guidance to secure a strong positive dividend surprise because this is costly. To illustrate, dividend guidance significantly below the contemporaneous analyst dividend consensus can lead to a significant downward stock price pressure and may discourage stock purchases by dividend-oriented investors (Hamm, Li and Ng 2012; Graham and Kumar 2006). Thus, discontinuity in small dividend surprises around zero is an intuitive indicator of managerial dividend guidance.

Figure 2 reports the frequencies of dividend surprises calculated as the actual dividend less the analyst consensus dividend forecast measured in the last fiscal quarter, *DPS actual – DPS consensus*, over a fifty cent range centered on zero.[13] As before, we use the last analyst forecast for the quarter to calculate the consensus dividend forecast. We observe that small positive dividend surprises (of 1 unit above the consensus) are more frequent than small negative dividend surprises (of 1 unit below the consensus). Furthermore, using the standardized difference statistic from Burgstahler and Dichev (1997) and Burgstahler and Eames (2003), we confirm higher than expected frequency of small positive dividend surprises (p-value = 0.000). The evidence from Figure 2 on discontinuity in dividend surprises around zero corroborates our conclusion from Figure 1.

[Figure 2]

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[13] Most countries in the sample use the Euro currency. For the UK, the range is expressed in pence, ore for Sweden and Denmark and rappen for Switzerland.

4.3 Firm guidance and optimism in analyst dividend forecasts

This section reports formal tests for the prediction that firms guide analyst dividend expectations towards levels they can beat. Specifically, we construct a variable *significant DPS reduction* equal to 1 if the consensus *DPS bias* in quarter four reduces by more than 50% compared to quarter one, and 0 otherwise. We expect that such a significant reduction in analyst dividend forecast optimism will be driven by dividend guidance. Furthermore, we create a variable *DPS barely beat* that equals 1 if the firm reports a zero or a one unit (e.g., one cent) dividend surprise, and 0 otherwise. Meeting or beating the consensus forecast by a small margin commonly associates with firms guiding analyst expectations to beatable levels (Burgstahler and Dichev, 1997; Burgstahler and Eames, 2003).

Next, we relate *significant DPS reduction* and *DPS barely beat* to managerial guidance. As a first-cut test, we examine if broadly defined guidance affects the two indicator variables. For this test, we estimate the following logit model predicting the likelihood of a significant reduction in dividend forecast optimism or of zero or small positive dividend surprises:

$P(significant\ DPS\ reduction_t\ or\ DPS\ barely\ beat_t)$

$$
\begin{aligned}
&= \gamma_0 + \gamma_1 Guidance_t + \gamma_2 Inst\ Ownership_{q4,t} + \gamma_3 Analyst\ following_{q4,t} \\
&\quad + \gamma_4 Dispersion_{q4,t} + \gamma_5 Total\ Accruals_{t-1} + \gamma_6 Earnings\ STD_{t-1} \\
&\quad + \gamma_7 B/M_{t-1} + \gamma_8 \ln MV_{t-1} + \gamma_9 Mom_{q4,t-1} + \gamma_{10} ROA_{t-1} \\
&\quad + \gamma_{11} past\ payout\ ratio_{t-1} + \gamma_{12} Dividend\ tax\ preference \\
&\quad + \gamma_{13} Loss\ avoidance + \gamma_{14} Earnings\ smoothing \\
&\quad + \gamma_{15} Financial\ transparency + \gamma_{16} Rule\ of\ Law_{t-1} \\
&\quad + \gamma_{17} Importance\ of\ equity\ market + \Psi Year\ effect \\
&\quad + \Theta Industry\ effect + u_t
\end{aligned}
\tag{2}
$$

where *Guidance* takes a value of 1 if a firm issued either earnings or dividend guidance in a fiscal year *t*, and 0 otherwise. To sharpen the analysis, we also disaggregate *Guidance* into earnings (*EPS guidance*) and dividend guidance (*DPS guidance*) and include the two indicator variables in Equation (2). *EPS guidance* takes a value of 1 if a firm issued earnings guidance in a fiscal year *t*, and 0 otherwise. *DPS guidance* takes a value of 1 if a firm issued dividend guidance in a fiscal year *t*, and 0 otherwise. We expect that strong reductions in initially optimistic analyst dividend forecasts and zero or small positive dividend surprises are more likely due to explicit dividend guidance.

4.3.1 Firm controls

The set of controls in Equation (2) is based on previous research (Brown 2001; Matsumoto 2002; Richardson et al., 2004; Cotter et al., 2006) and include percentage institutional ownership, *Inst Ownership*. Higher institutional ownership increases analysts' incentives to produce accurate forecasts, which should reduce average dividend forecast bias and the likelihood of a significant reduction in dividend forecast optimism (Ljungqvist et al., 2007; Ajinkya et al., 2004). We control for the number of analysts following a firm, *Analyst following*, and the heterogeneity in analyst dividend expectations, *Dispersion*, because reducing dividend forecast optimism may prove more challenging for stocks with high analyst coverage and when dispersion in dividend expectations is higher (Cotter et al., 2006). We include total accruals, *Total Accruals*, because analysts tend to be more optimistic about high accrual stocks (Bradshaw et al., 2001) and we expect stronger corrections in the initial optimism of dividend forecasts for these firms. High earnings volatility, *Earnings STD*, should reduce the precision of earnings news and increase the relative weight investors attach to dividend signals (Miller and Rock,

1985; Ertimur et al., 2003). Because importance of dividends to investors increases, analysts should have more incentives to issue unbiased dividend forecasts. This in turn should lead to more significant revisions in dividend forecast optimism over the course of the fiscal year.

Analyst dividend estimates may be initially more optimistic for larger firms and firms with fewer growth opportunities because few investment opportunities increase the incentive to distribute cash through dividends. Higher initial dividend forecast optimism for these stocks is more likely to correct over the course of the fiscal year. We use the book-to-market ratio, *B/M*, to capture the firm's investment opportunities and firm market capitalization, *MV*, to capture firm size. For comparability, we express market capitalization in Euro million using year-end exchange rates. We expect that beating the analyst dividend benchmark is less important for firms with high share price momentum, *Mom*, and for more profitable stocks, which we measure by return on assets, *ROA*. Asem (2009) reports that investors underreact to dividend cuts for high momentum stocks, which he attributes to a behavioral bias of momentum investors. Thus, we expect fewer significant reductions in dividend forecast optimism for high momentum and more profitable stocks. We also control for past payout ratios, *past payout ratio*, because larger past payouts may suggest higher future dividends leading to initially optimistic forecasts that correct over the fiscal year.

4.3.2 Country controls

A country's institutional setting is likely to affect how investors interpret dividend signals, thus the effort analysts put into producing unbiased dividend forecasts. Less optimistically biased dividend forecasts issued early in a fiscal year should reduce the likelihood of a significant reduction in dividend forecast optimism over the course of the year. Dividend clientele theories

(Grinstein and Michaely, 2005; Desai and Jin, 2011; Ferreira et al., 2010) predict that firms pay higher dividends when tax regimes favor dividend over capital gain income. Investors are also likely to attach comparatively more weight to dividend information in regimes favoring dividend income, which should increase the effort analysts put into producing unbiased dividend forecasts. Following Ferreira et al. (2010), our measure of investor dividend preference is the ratio of the after-tax yield from a USD of dividend income scaled by the after-tax yield from a dollar of long-term capital gain, assuming top marginal statutory tax rates, *Dividend tax preference*. Higher values of *Dividend tax preference* capture a higher preference for dividend compared to capital gain income.

We include two variables to capture country-level propensity to manage earnings because earnings management increases the relative usefulness of dividends compared to earnings as signals of firm value. Higher usefulness of dividend signals to investors should increase analyst effort to produce unbiased dividend forecasts. *Loss avoidance*, which is the country's ratio of small reported profits to small reported losses, captures the extent to which insiders manage earnings to avoid reporting losses. *Earnings smoothing* captures a country's correlation between changes in accounting accruals and operating cash flows. Leuz et al. (2003) highlight that accruals allow firms to conceal economic shocks to the firm's operating cash flow and create reserves to report higher future performance. *Loss avoidance* and *Earnings smoothing* are from Leuz et al. (2003).

We include the *Financial transparency* index for each country from Bushman et al. (2004), which captures the intensity and timeliness of financial disclosures by firms, analysts and the media. We expect that investors will attach less weight to dividend signals if alternative sources of information about future firm earnings exist. Dividend signals should be more

valuable in countries with the shareholder corporate governance system because dividends play an important role in reducing agency problems (La Porta et al., 2000; Faccio et al., 2001; Goergen et al., 2005).

We include the time-varying *Rule of law* measure from Kaufmann et al. (2009) to capture differences in governance across countries. Higher quality governance reduces the monitoring role of dividends (Djankov et al., 2008) and thus analysts' incentives to produce accurate dividend forecasts. Finally, we measure the importance of equity markets in a country because the dividend income may be more important in countries where equity markets play a more significant role. *Importance of equity market* is from Leuz et al. (2003) and is measured by a country's average rank based on (1) the ratio of the aggregate stock market value held by minority investors to gross national product; (2) the number of listed domestic stocks relative to the population; and, (3) the number of IPOs relative to the population. *Industry effects* are industry dummies based on Fama and French's 10 industry definitions. *Year effects* are year dummies for the fiscal year. We present detailed definitions of the variables in Appendix A.

Table 2 reports average values for the two variables *significant DPS reduction* and *DPS barely beat* from Equation (2) across our sample countries.[14] More than half of firm-years (55.4%) experience a significant reduction in the consensus dividend forecast optimism over the fiscal year. Furthermore, we document that 12.9% of firms either meet or barely beat the consensus dividend forecast. The last two columns of Table 2 report the frequency of firms providing managerial guidance (either earnings or dividend guidance) and explicit dividend guidance. For firms that issue management forecasts, dividend guidance is available on average for 56% of firm-years.

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[14] We only retain observations with non-missing values for control variables from equation (2), which leaves a sample of 5,869 observations.

[Table 2]

Table 3 presents descriptive statistics for the control variables in model (2). The average institutional ownership is close to 26%, and on average, over 17 analysts cover a stock. Mean dividend forecast volatility is 26.87%, total accruals are −0.047 of total assets and the average asset-scaled earnings volatility is 3.65%. The mean book-to-market ratio is 0.631, and average firm capitalization in the sample is close to Euro4.5billion.[15] Price return momentum is 3.22%, and average ROA is 5.76%. The mean payout ratio is 47.9%. On average, tax systems favor the capital gain over the dividend income. Loss avoidance, earnings smoothing, financial transparency, rule of law, and the importance of equity market indices are comparable with previous studies (La Porta et al., 2000; Leuz et al., 2003; Bushman et al., 2004; Kaufmann et al., 2009).

[Table 3]

4.4 Predicting significant reductions in the consensus dividend forecast optimism

Table 4 reports regression results for Equation (2). Column *Model (1)* reports results in which we include country fixed effects instead of country controls from Equation (2). The positive coefficient on *Guidance* is consistent with our prediction that a significant reduction in analyst dividend forecast optimism is more likely when firms provide guidance. The positive coefficient on *Guidance* is also present when we use the full specification of Equation (2) in column *Model (2)*.

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[15] Relatively high market capitalization reflects that dividend payers tend to be larger than non-payers (DeAngelo et al. 2004, 2006). For comparison, the mean market capitalization of dividend payers is USD4.8billion for U.S. dividend payers in Goldstein et al. (2015), Euro4–7billion in Andres et al. (2013), and DKK12billion in Raaballe and Hedensted (2008).

Next, we disaggregate guidance into earnings guidance and dividend guidance. Column Model (3) in Table 4 shows that only dividend guidance has a significant effect on reducing optimism in analyst dividend forecasts. This result suggests that the conclusion on a positive association between *Guidance* and *significant DPS reduction* is driven by explicit dividend guidance. In other words, earnings guidance on its own does not contain information that can significantly influence analyst dividend expectations, which is why managers provide explicit dividend forecasts. This result reflects that earnings are a noisy signal of dividends, consistent with the weak link between earnings and dividends reported by Skinner (2008) and survey evidence suggesting firms do not target specific payout ratios (Brav et al., 2005). The effect of dividend guidance is economically significant: dividend guidance increases the likelihood of a significant reduction in analyst dividend forecast optimism by 6.9%. Together, Table 4 results suggest that dividend guidance helps reduce analyst dividend forecast optimism, which in return should facilitate meeting or beating the analyst consensus dividend forecast at the dividend announcement.

Examining the control variables, we find that a significant reduction in analyst dividend forecast optimism is more likely for smaller, less profitable firms and in countries with higher rule of law. Analysts tend to issue more optimistic forecasts for smaller firms and firms that manage earnings (Das et al., 1998; Bradshaw et al., 2001), and these initially more optimistic forecasts are more likely to be revised downward during the fiscal year. Dividend signals are likely to be more important for less profitable firms (Nissim and Ziv, 2001), which can increase the effort analysts put to produce unbiased dividend forecasts. This in return will reduce the likelihood of a significant reduction in analyst dividend forecast optimism. Bonetti and Bozzolan (2002) report stronger earnings guidance in countries with higher rule of law because the penalty

for reporting disappointing earnings news is higher. This can entice analysts to more strongly

revise their forecasts to beatable levels.

[Table 4]

4.5 Predicting zero or small positive dividend surprises

To corroborate the evidence that firms guide analyst dividend forecasts to beat the analyst

dividend consensus, we also estimate a variation of Equation (2) where the dependent variable is

DPS barely beat, which captures instances when a firm meets or beats the analyst consensus

dividend forecast by a small margin. We expect that control variables from Equation (2) that

predict a reduction in dividend forecast optimism will also increase the likelihood a firm will

report a zero or a small positive dividend surprises. We report regression results for this model in

Table 5. We confirm that dividend guidance increases the likelihood a firm will meet or beat the

dividend consensus by a small margin and the economic effect of dividend guidance is

significant—dividend guidance increases the likelihood of zero or small positive dividend news

by 13.2%. We do not find evidence that earnings guidance impacts the likelihood of small

positive dividend surprises. This result mirrors evidence in Table 4 and explains why firms

provide explicit dividend guidance to avoid reporting negative dividend news.

[Table 5]

For control variables in Table 5, we find that firms are more likely to report small

positive dividend surprises when the importance of dividend news is higher. This includes

instances when earnings volatility is high and for firms with few investment opportunities

because agency costs for these firms are high. High earnings volatility reduces the signaling

value of earnings news, which should increase the relative weight investors attach to dividend

news and thus managerial incentives to avoid disappointing divided surprises (Miller and Rock, 1985; Ertimur et al., 2003). Dividends perform an important monitoring role for firms with high agency costs (Easton, 1991). Higher dividend forecast dispersion reduces the likelihood of small positive dividend surprises. This result reflects greater difficulty guiding heterogeneous analyst expectations. Smaller firms and firms with higher analyst coverage and lower profitability are more likely to meet or beat the analyst dividend consensus by a small margin; the penalty for reporting negative dividend news for these firms is higher (Ghosh and Woolridge, 1991; Andres et al. 2013). Finally, the coefficient on the past payout ratio is negative. Analysts are likely to issue more optimistic dividend forecasts for high payout stocks, and reducing dividend forecast optimism for these stocks may be more challenging, which increases the difficulty of meeting the dividend consensus. For country controls, we find that firms are more likely to meet or beat the dividend consensus by a small margin in countries with lower importance of equity markets, financial transparency and governance quality. Dividends play an important monitoring role in these countries (La Porta et al., 2000; Faccio et al., 2001; Goergen et al., 2005), which increases firms' incentives to avoid reporting negative dividend news.

5. Self-selection and endogeneity concerns

There is a concern our results may be affected by selectivity in analysts' stock coverage. Specifically, in untabulated results, we find that on average, analysts provide coverage for 62% of firm-years for Compustat Global dividend payers. This relatively high proportion reflects that dividend paying stocks tend to be larger, and larger stocks are frequently covered by analysts (Bhushan, 1989). To address the potential impact self-selection has on our results, we perform two tests. First, we repeat the analysis for fiscal years 2010–2013 in which over 87% of dividend

payers have analyst coverage and find consistent results. We report these results in column 2010–2013 in Panel A of Table 6.

Second, we repeat the analysis for the quintile of stocks with the highest institutional ownership when analyst coverage choices are constrained. The intuition for this test is that brokers routinely cover stocks with large institutional holdings because sell-side analysts are compensated out of trade commissions and commissions increase with the size of institutional ownership (Irvine, 2004). Consistent with this prediction, 80% of stocks in the highest institutional ownership quintile are covered by analysts as opposed to 28% coverage for the smallest quintile. Column Top IO quintile reports regression results for the top quintile of institutional ownership. We find that dividend guidance increases both the likelihood of a significant reduction in analyst dividend forecast optimism and of zero or small positive dividend surprises. Jointly, results reported in Panel A of Table 6 build confidence that our conclusions are not driven by the self-selection bias arising from the non-randomness in analyst stock coverage choices (Rajan and Servaes, 1997).

Our descriptive statistics show a relatively high mean market capitalization of dividend payers, consistent with past evidence that these tend to be larger stocks (DeAngelo et al., 2004, 2006; Goldstein et al., 2015; Andres et al., 2013; Raaballe and Hedensted 2008). However, if the likelihood of a significant reduction in analyst dividend forecast optimism and of zero or small positive dividend surprises correlates with unobserved firm characteristics that in return correlate with firm size, then our sample composition can affect our conclusions. We believe this is unlikely for three reasons. First, our regressions control for firm size, and the sign of the coefficient on ln *MV* is the opposite to that for *DPS guidance*. Second, as we show next, our conclusions are unchanged when we control for firm effects. Third, our conclusions are

unchanged when we partition the sample on firm size into relatively smaller and larger stocks and repeat the analysis for the former group. We tabulate this result in column Relatively smaller firms of Table 6, Panel A. We acknowledge that despite our best effort, we cannot preclude the possibility that sample selection affects our conclusions, although we believe these tests make it unlikely.

[Table 6]

The conclusion on the positive association between dividend guidance and *significant DPS reduction* and *DPS barely beat* can capture cases when both dividend guidance and reduction in analyst dividend forecast optimism and small positive dividend surprises are driven by the same unobservable factors. To address the endogeneity concern, we perform two tests. First, we repeat the two logistic regressions using instrumental variables estimation. As the instrument, we use the fraction of firms that provide dividend guidance in the company's industry in the previous fiscal year. To control for cross-country differences, we calculate the measure separately for each country. We expect that a firm will be more likely to engage in dividend guidance when a larger proportion of its peers guide analyst dividend forecasts. However, past peer guidance should not affect the magnitude of a reduction in analyst dividend forecast optimism or the likelihood the firm will meet the analyst dividend consensus by a small margin. Thus, the instrument meets both the exclusion restriction and the relevance condition.

Panel B of Table 6 reports results from instrumental variables regressions. The first-stage results confirm a positive association between the firm's propensity to issue dividend guidance and the fraction of firms in the company's industry that issue dividend guidance. The second-stage regressions continue to show a positive association between dividend guidance and

significant DPS reduction and *DPS barely beat*, which suggests our results are robust to endogeneity.

Our second test repeats the two logistic regressions after we include firm effects. Firm effects capture unobserved firm-level characteristics that can correlate with changes in properties of analyst dividend forecasts and the dividend guidance indicator. The Hausman test suggests the random effects model is preferred. We report regression results in column Firm effects of Panel B. Regression results show a positive association between dividend guidance and *significant DPS reduction* and *DPS barely beat*, consistent with our earlier conclusions.

In unreported results, we repeated the two logistic regressions using the median analyst dividend forecast to construct *significant DPS reduction* and *DPS barely beat*. Regression results for the recalculated dependent variables are consistent with our main findings, which suggests our conclusions are unlikely to be driven by the way we create the dependent variables.

5.1 Characteristics of dividend guidance

In this section, we relate *significant DPS reduction* and *DPS barely beat* to dividend guidance characteristics. We examine four characteristics of dividend guidance. First, we count the number of management dividend forecasts issued during the fiscal year, *# of management DPS forecasts*. We expect that firms that issue more dividend forecasts will be more likely to significantly lower optimism in analyst dividend forecasts and beat the dividend consensus by a small margin. Second, we measure the implied analyst dividend forecast revision, *implied DPS revision*, which is defined as the percentage difference between the analyst consensus dividend forecast measured at the dividend guidance announcement and the value of the management dividend forecast. High *implied DPS revision* should induce a stronger revision in analyst

dividend expectations. The third measure is an indicator variable for whether the managerial dividend forecast is below the analyst consensus, *guidance below consensus*. Downward guidance should facilitate meeting the consensus dividend forecast and induce a significant reduction in the consensus optimism. The fourth characteristic is the guidance horizon, *guidance horizon*, measured as the number of months between the guidance issue date and the fiscal year-end. We expect that guidance provided earlier in a fiscal year will be more successful in guiding analyst dividend expectations to beatable levels because it lowers analyst dividend expectations early on. We average guidance characteristics for each firm-year to account for multiple forecasts.

Panel A of Table 7 reports descriptive statistics for the four measures of dividend guidance. On average, close to two management dividend forecasts are issued in a fiscal year, and the average implied revision is 47.14%. Average dividend guidance is issued around seven months before the fiscal year-end, and over 65% of managerial dividend forecasts are below the analyst dividend consensus. The latter result is consistent with managers' downward guiding analyst dividend expectations.

Panel B reports logit regressions for *significant DPS reduction* and *DPS barely beat* when we augment the set of variables in Equation (2) with dividend guidance characteristics. For firms that do not issue dividend guidance and when the value of management dividend forecasts is missing, we assume zero values for guidance characteristics. We believe this assumption should bias our tests against finding any significant associations. We document a positive association between *# of management DPS forecasts* and *DPS barely beat*, which is consistent with more frequent guidance having a stronger effect on analyst dividend forecasts, which facilitates meeting the consensus estimate. Smaller implied revisions in analyst dividend

forecasts and dividend guidance issued early in a fiscal year increase the likelihood a firm will meet or beat the consensus dividend forecast by a small margin. The former result likely reflects that large implied revisions signify a significant optimism in analyst forecasts, which may be more difficult to moderate. The latter result is consistent with earlier guidance being more successful in moderating analyst optimism to achieve zero or a small dividend surprise. Jointly, Table 7 results suggest that the way firms communicate dividend guidance to analysts matters when guiding analyst forecasts to beatable levels.

[Table 7]

6. Conditions necessary for dividend guidance

We recognize that two conditions are necessary for managers to provide dividend guidance. First, there is uncertainty about future dividend payments that dividend guidance helps resolve. In other words, dividend guidance can influence analyst dividend expectations. Second, dividend news conveys new information, and investors react negatively to disappointing dividend news. This section confirms these two conditions are present in our sample.

Our result on a positive association between dividend guidance and the likelihood of a significant reduction in analyst dividend forecast optimism is consistent with the prediction that analysts factor managerial dividend forecasts into their dividend expectations. However, to provide corroborating evidence, we also examine the sign and the magnitude of dividend forecast revisions in a two-month period before and after the issuance of management dividend guidance. In untabulated results, we document a significant negative mean revision of 2.4% in the period *after* managers issue dividend guidance, which compares to an average positive revision of 0.3% in the period before guidance. This result reinforces our conclusion that analysts consider firm

dividend guidance when forming dividend expectations.

Next, we confirm that investors react to dividend surprises that benchmark the actual dividend against the analyst dividend consensus. Specifically, we define a positive dividend surprise, *pos SUD,* which is an indicator variable that takes a value of 1 if the actual dividend-per-share is at least 1% higher than the analyst consensus dividend forecast, and 0 otherwise. A negative dividend surprise, *neg SUD*, equals 1 if the actual dividend per share is at least 1% lower than the analyst consensus dividend forecast, and 0 otherwise.[16] We calculate the analyst consensus dividend forecast as the mean of all dividend forecasts issued by analysts for a firm in the last fiscal quarter. To avoid using stale forecasts, we select the latest forecast for each analyst. We stop at fiscal year-end to avoid contaminating results by differences in reporting timeliness between countries and over time because delays anticipate bad news (Aubert, 2009; Bagnoli et al., 2002). However, the conclusions are the same when we (1) select the last forecast for each analyst before joint earnings and dividend announcements or (2) calculate the consensus dividend forecast as the mean of all dividend forecasts issued in the last fiscal quarter.

Because dividend announcements usually coincide with preliminary earnings announcements, we also calculate positive and negative earnings surprises (*pos SUE* and *neg SUE*) in a similar way to dividend surprises. We define positive and negative dividend and earnings surprises using percentage measures for two reasons. First, our international sample does not have uniform currencies (Euro, Pound, Swedish and Danish Kroner, Swiss Franc), which makes currency-based intervals (one cent/kroner/franc/pence) not comparable across countries. In other words, beating the analyst dividend consensus forecast by 1 kroner is comparatively easier than by 1 pence. Second, using percentages makes dividend and earnings

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[16] We use dummy variables rather than a continuous surprise measure because the indicator variable is easier to interpret when we compare positive and negative surprises. In unreported results, we also used 5% and 2.5% intervals to define the dividend surprise and find that our main conclusions are unchanged.

surprises comparable because, mechanically, firms can more easily beat earnings than dividend targets by one unit of a currency since DPS are smaller than EPS.

To capture the signaling effect of dividend announcements, for each firm-year, we calculate the three-day cumulative abnormal return centered on the joint earnings and dividend announcement date. We use the index of the stock's main listing exchange as the normal return benchmark. We then relate announcement day CARs to dividend and earnings surprises:

$$CAR_t = \beta_0 + \beta_1 pos\ SUE\ pos\ SUD_t + \beta_2 pos\ SUE\ neg\ SUD_t + \beta_3 neg\ SUE\ pos\ SUD_t \quad (3)$$

$$+ \beta_4 neg\ SUE\ neg\ SUD_t + \Phi Firm\ controls + \Phi Country\ controls$$

$$+ \Psi Industry\ effect + \Theta Year\ effect + e_t$$

where *Firm controls* include the average forecast horizon of analyst dividend estimates underlying the consensus dividend forecast and firm controls from Equation (2). *Country controls* include country variables from Equation (2). We expect to find a significant positive coefficient when the sign of earnings and dividend news is positive, $\beta_1 > 0$, and a negative coefficient on the negative earnings and dividend surprises, $\beta_4 < 0$. Furthermore, consistent with the dividend signaling model, the absolute magnitude of the price reaction should be higher when there is a consistent sign of earnings and dividend news as opposed to when the signs differ, i.e. $|\beta_1| > |\beta_2|$ and $|\beta_4| > |\beta_3|$. We dual-cluster standard errors on firm and fiscal year.

6.1 Price reactions to joint earnings and dividend announcements

Table 8 reports regression results for Equation (3).[17] Column Model (1) confirms that investors react more strongly when the positive sign of the earnings surprise is consistent with the sign of dividend news compared to when the signs differ. Specifically, the coefficient on

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[17] We lose 1,213 observations in Table 8 due to missing return information.

pos SUE pos SUD is 0.014 and significantly higher compared to the coefficient of 0.003 on *pos SUE neg SUD* (F-test = 12.66, p-value =0.000). For negative earnings surprises, the absolute magnitude of the coefficient on the indicator for negative dividend and earnings news is higher than when negative earnings news associates with positive dividend surprises (F-test = 14.76, p-value =0.000). These results jointly conform to the prediction of the dividend signaling hypothesis and suggest that (1) investors react negatively to disappointing dividend news and (2) dividend news provides new information that helps interpret the earnings surprise.

[Table 8]

Next, we examine if the time-series measure of dividend changes contains incremental information. Specifically, we create an indicator variable *Dividend increase*, which takes a value of 1 when the current fiscal-year dividend is higher than the previous year dividend, and 0 otherwise. We also create an indicator variable for dividend decreases, *Dividend reduction*, which takes a value of 1 for dividend reductions, and 0 otherwise. We then include *Dividend increase* and *Dividend reduction* in Equation (3). Furthermore, we include in Equation (3) interaction terms between non-zero earnings surprises and the zero dividend surprise (*pos SUE zero SUD* and *neg SUE zero SUD*) and between non-zero dividend surprises and the zero earnings surprise (*zero SUE pos SUD* and *zero SUE neg SUD*). We define a zero dividend (earnings) surprise if the actual dividend is in a 1% caliper of the dividend (earnings) consensus forecast. Column Model (2) in Table 8 reports results for the augmented Equation (3). We observe that dividend changes have no explanatory power controlling for dividend surprises based on analyst forecasts.[18] This result is consistent with the evidence in Andres et al. (2013) and Bilinski and Bradshaw (2016). Furthermore, we find that investors react negatively to zero

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[18] Our conclusion that dividend changes have no signaling value persists when we use changes in dividend-per-share to create the two indicator variables for dividend increases and reductions.

earnings surprises when these coincide with negative dividend surprises. Together, the results in Table 8 confirm that firms have incentives to meet or beat analyst dividend forecasts to avoid negative price reaction when reporting negative dividend news.

7. Conclusions

This study documents that managers guide analyst dividend forecasts to avoid reporting negative dividend surprises. Specifically, we find that dividend guidance predicts (1) a substantial reduction in dividend forecast optimism over the course of the fiscal year and (2) the likelihood a firm will report a small dividend surprise. To ensure the validity of our results, we subject them to a battery of sensitivity tests, including tests that address endogeneity and self-selection concerns. Furthermore, we document that investors react negatively to disappointing dividend news, which shows that managers have the incentive to guide analyst dividend expectations if the firm is at risk of failing to meet the analyst consensus dividend forecast. Jointly, our results contribute novel evidence on the guidance game played between the firm and analysts.

Appendix A. Definitions of variables used in the study

Variable name	Definition
significant DPS reduction	*An indicator variable equal to 1 if the analyst consensus DPS bias in quarter four reduces by more than 50% compared to quarter one, and 0 otherwise.*
DPS barely beat	*An indicator variable that equals 1 if a firm reports a zero or a one unit (e.g. one cent) dividend surprise relative to the analyst dividend consensus forecast, and 0 zero otherwise.*
Guidance	*An indicator variable that takes a value of 1 if a firm issued either earnings or dividend guidance in a fiscal year, and 0 otherwise.*
DPS guidance	*An indicator variable that takes a value of 1 if a firm issued dividend guidance in a fiscal year, and 0 otherwise.*
EPS guidance	*An indicator variable that which takes a value of 1 if a firm issued earnings guidance in a fiscal year, and 0 otherwise.*
Inst Ownership	*Percentage institutional ownership of the stock measured at the end of the previous quarter.*
Analyst following	*The number of analysts following a firm measured over a 90-day period before the end of the fiscal year.*
Dispersion	*Standard deviation of analyst DPS forecasts scaled by the actual DPS measured over a 90-day period before the end of the fiscal year.*
Total Accruals	*Total accruals calculated as the difference between earnings before extraordinary items and cash from operations from the cash flow statement. The ratio is scaled by total assets and measured at the end of the previous fiscal year-end.*
Earnings STD	*Earnings volatility calculated as the standard deviation of earnings before extraordinary items scaled by total assets for the previous five fiscal years. The ratio is measured at the end of the previous fiscal year-end.*
B/M	*The book-to-market ratio, which is the book value of common equity scaled by firm market capitalization. The ratio is measured at the end of the previous fiscal year-end.*
MV	*Firm market capitalization measured at the end of the previous fiscal year-end.*
Mom	*Stock price momentum calculated as the buy-and-hold return over 90 days before the previous fiscal year-end.*
ROA	*The ratio of earnings before extraordinary items scaled by total assets.*
past payout ratio	*Past payout ratio, which is the ratio of dividends to earnings calculated for the previous fiscal year.*
Dividend tax preference	*Investor dividend preference, which is the ratio of income that an investor receives from a dollar of dividend scaled by the net income that the same investor would have received from a dollar of long-term capital gain, assuming top marginal statutory tax rates. The measure is from Ferreira et al. (2010).*
Loss avoidance	*Loss avoidance, which is the country's ratio of small reported profits to small reported losses, captures the extent to which insiders manage earnings to avoid reporting losses. A firm-year observation is classified as a small profit if net earnings (scaled by lagged total assets) are in the range [0,0.01]. A firm-year observation is classified as a small loss if net earnings (scaled by lagged total assets) are in the range [0.01,0]. The measure is from Leuz et al. (2003).*
Earnings smoothing	*Earnings smoothing, which is the country's Spearman correlation between the change in accruals and the change in cash flow from operations (both scaled by lagged total assets). The measure is from Leuz et al. (2003).*
Financial transparency	*The intensity and timeliness of financial disclosures by firms, analysts and the media. The index is developed from (1) the average ranking regarding disclosure of research and development, capital expenditure, subsidiaries, product segmentation, geographic segmentation, and accounting policy; (2) the average ranking regarding frequency of reports, count of disclosed items and consolidation of interim reports; (3) the number of analysts following the 30 largest companies in each country; and (4) the average ranking of the country's media development. The measure is from Bushman et al. (2004).*

Rule of law	*Rule of law, which "captures perceptions of the extent to which agents have confidence in and abide by the rules of society, and in particular the quality of contract enforcement, property rights, the police, and the courts, as well as the likelihood of crime and violence.". The measure is collected from http://info.worldbank.org/governance/WGI/#home and measured at the end of the previous fiscal year.*
Importance of equity market	*Importance of equity market, which is measured by a country's average rank based on: (1) the ratio of the aggregate stock market held by minorities to the gross national product; (2) the number of listed domestic stocks relative to the population; and, (3) the number of IPOs relative to the population. The measure is from Leuz et al. (2004).*
Industry effects	*Industry dummies based on Fama and French's ten industry definitions.*
Year effects	*Year dummies for the fiscal year.*
Country effects	*Country dummies based on the firm's country of domicile.*
pos SUD	*Positive dividend surprise, which is an indicator variable that takes a value of 1 if the actual dividend-per-share (DPS) is larger by 1% or more compared to the analyst consensus dividend forecast calculated in the last quarter of the fiscal year, and 0 otherwise.*
neg SUD	*Negative dividend surprise, which is an indicator variable that takes a value of 1 if the actual DPS is lower by 1% or more compared to the analyst consensus dividend forecast calculated in the last quarter of the fiscal year, and 0 otherwise.*
zero SUD	*Dividends that meet analyst expectations, which is an indicator variable that takes a value of 1 if the actual DPS is within 1% caliper of the analyst consensus dividend forecast calculated in the last quarter of the fiscal year, and 0 otherwise.*
pos SUE	*Positive earnings surprise, which is an indicator variable that takes a the value of 1 if the actual earnings-per-share (EPS) is higher by 1% or more than the analyst consensus EPS forecast calculated in the last quarter of the fiscal year, and 0 otherwise.*
neg SUE	*Negative earnings surprise, which is an indicator variable that takes a the value of 1 if the actual EPS is lower by 1% or more than the analyst consensus EPS forecast calculated in the last quarter of the fiscal year, and 0 otherwise.*
zero SUE	*Earnings that meet analyst expectations, which is an indicator variable that takes a value of 1 if the actual EPS is within 1% caliper of the analyst consensus EPS forecast calculated in the last quarter of the fiscal year, and 0 otherwise.*
pos SUE pos SUD	*An indicator variable equal to 1 when pos SUE=1 and pos SUD=1, and 0 otherwise.*
pos SUE neg SUD	*An indicator variable equal to 1 when pos SUE=1 and neg SUD=1, and 0 otherwise.*
neg SUE pos SUD	*An indicator variable equal to 1 when neg SUE=1 and pos SUD=1, and 0 otherwise.*
neg SUE neg SUD	*An indicator variable equal to 1 when neg SUE=1 and neg SUD=1, and 0 otherwise.*
CAR	*Three-day cumulative abnormal return centered on the joint preliminary earnings and dividend announcement date.*

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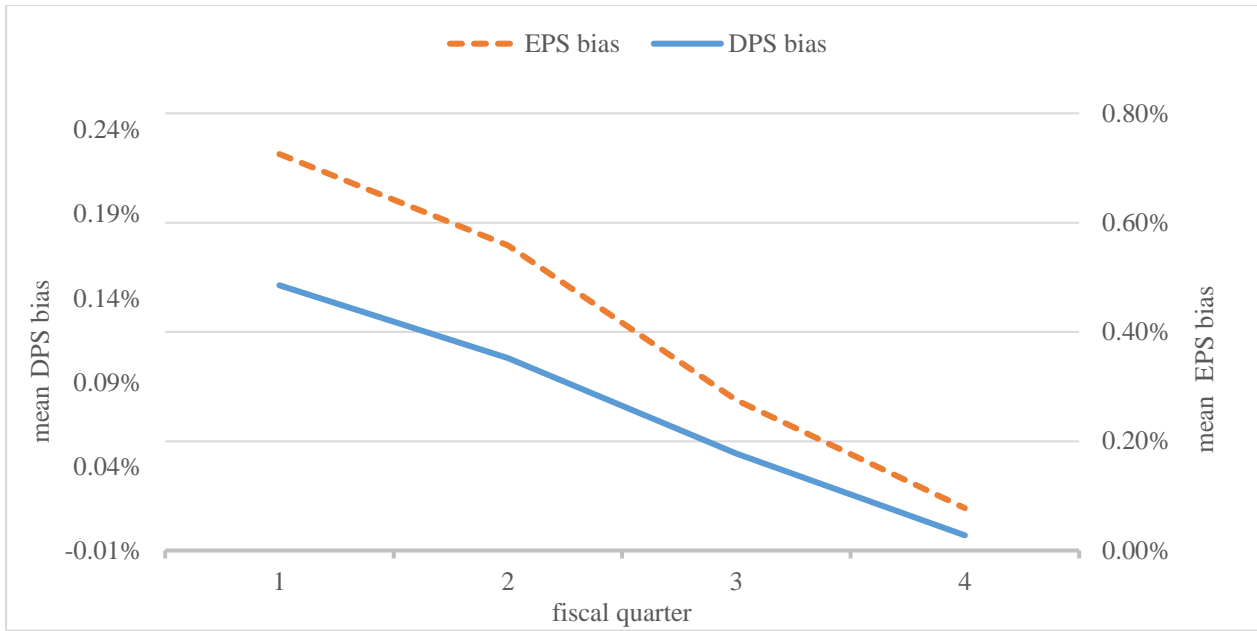
Figure 1a. Mean quarterly analyst EPS and DPS forecast bias.
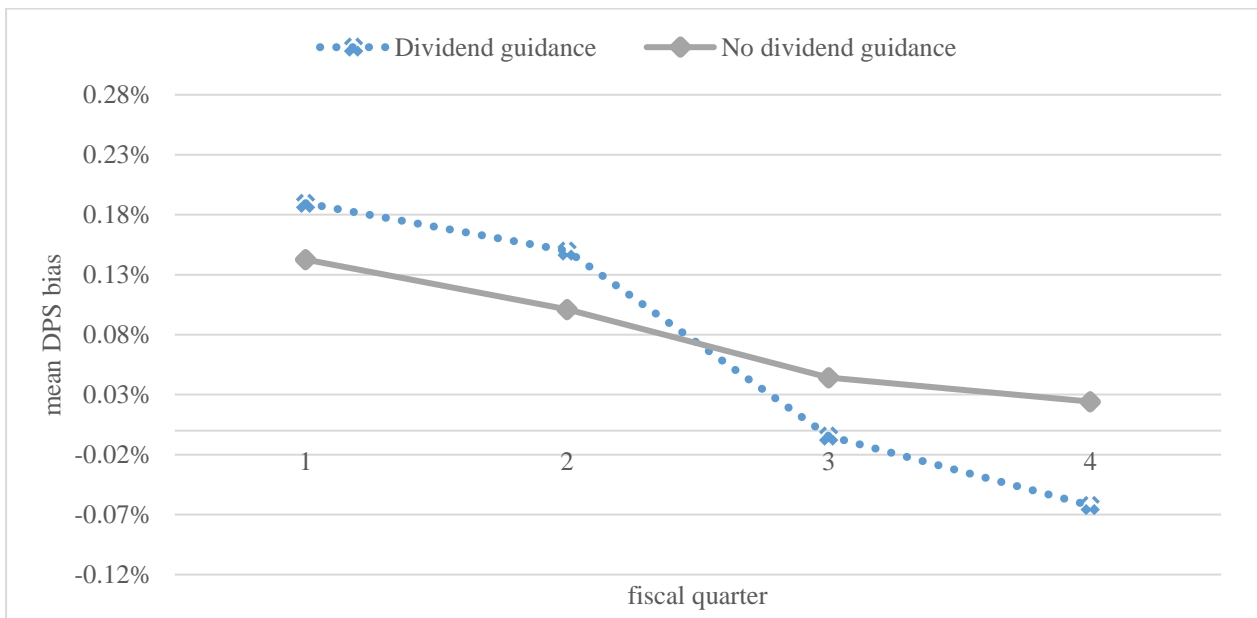
Figure 1b. Mean quarterly analyst DPS forecast bias split by firms that provide and do not provide dividend guidance.

Fig. 1. Mean analyst dividend and earnings forecast bias by quarter. DPS forecast bias is the difference between the actual dividend less the analyst consensus dividend forecast calculated at each fiscal quarter. We scale this difference by the share price measured at the end of the previous fiscal year and multiply by −1 so that positive values reflect analyst optimism. EPS forecast bias is calculated in a similar way to the DPS forecast bias.
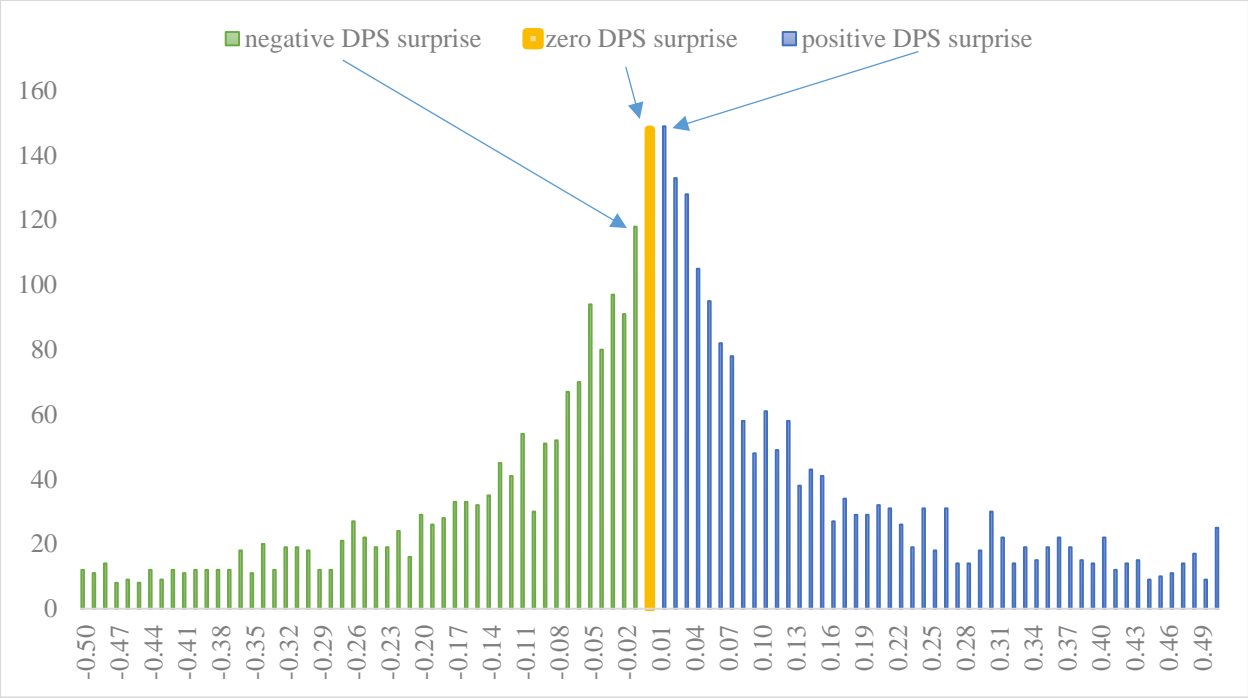
Fig. 2. The frequency of positive, zero and negative dividend surprises. The figure reports the frequency of dividend surprises within a 50 unit range (e.g. a 50 cent range) centered on a zero dividend surprise. The dividend surprise is calculated as the difference between the actual dividend-per-share and the analyst consensus dividend forecast measured at fiscal year-end.

Table 1

Descriptive statistics. Panel A reports the proportion of dividend paying stocks that have analyst coverage and dividend forecasts. We also report the proportion of firms that meet or beat the analyst consensus dividend and earnings forecast. Panel B reports the proportion of positive, zero and negative dividend surprises conditional on the sign of the earnings surprise. *Average* reports the averages across the sample countries.

	# of firm-years with analyst DPS forecasts	mean # of analysts issuing DPS forecasts	mean # of analyst DPS forecasts	% of firms that meet or beat the consensus DPS forecast	% of firms that meet or beat the consensus EPS forecast
Panel A: Descriptive statistics					
Austria	91	10.42	20.57	69.3%	49.3%
Belgium	175	11.96	23.17	56.9%	53.8%
Denmark	143	10.57	27.19	50.8%	55.6%
Finland	518	11.72	27.44	61.8%	46.3%
France	808	14.62	31.66	60.2%	48.5%
Germany	669	17.03	33.87	56.8%	49.7%
Italy	232	12.72	24.28	58.5%	37.2%
Netherlands	277	13.52	29.31	58.3%	48.0%
Spain	200	16.47	32.07	52.8%	47.2%
Sweden	490	10.77	24.56	62.7%	46.2%
Switzerland	352	12.14	28.55	66.8%	55.0%
United Kingdom	1914	10.64	20.47	73.0%	59.3%
Average		12.71	26.93	60.7%	49.7%

	Sign of the dividend surprise	% of all dividend surprises in each earnings surprise group	% of dividend surprises within each earnings surprise group
Panel B: Dividend surprises conditional on the sign of the earnings surprise			
pos SUE	*pos SUD*	22.5%	52.3%
	zero SUD	7.4%	17.3%
	neg SUD	13.1%	30.5%
zero SUE	*pos SUD*	4.2%	46.3%
	zero SUD	1.9%	21.4%
	neg SUD	2.9%	32.3%
neg SUE	*pos SUD*	19.2%	40.0%
	zero SUD	9.1%	18.9%
	neg SUD	19.7%	41.1%
Total		100%	

Table 2

Measures of analyst dividend expectations management. The table reports the frequency of significant reductions in the optimism of analyst consensus dividend forecast over the course of the fiscal year, *significant DPS reduction*. We also report the proportion of firms that meet the analyst consensus dividend forecast by a small margin, *DPS barely beat*. The last columns report the proportion of firms that provide managerial guidance, *Guidance*, and explicit dividend guidance, *DPS guidance*.

	N	*significant DPS reduction*	*DPS barely beat*	*Guidance*	*DPS guidance*
Austria	91	65.9%	17.6%	4.4%	4.3%
Belgium	175	55.4%	10.3%	5.1%	2.3%
Denmark	143	47.6%	10.5%	2.8%	2.7%
Finland	518	55.2%	12.0%	0.8%	0.1%
France	808	54.6%	8.7%	3.8%	2.6%
Germany	669	55.8%	10.3%	6.4%	2.5%
Italy	232	49.6%	22.4%	2.2%	1.3%
Netherlands	277	59.6%	10.5%	7.2%	3.6%
Spain	200	53.0%	20.0%	1.5%	1.0%
Sweden	490	59.0%	13.5%	1.4%	1.0%
Switzerland	352	50.3%	6.3%	1.7%	0.3%
United Kingdom	1914	59.1%	13.3%	3.0%	1.6%
Average		55.4%	12.9%	3.4%	1.9%

Table 3

Descriptive statistics for regression variables. The table reports the mean, median and standard deviation of the control variables from equation (2). Detailed variable definitions are in Appendix A.

	Mean	Median	STD
Inst Ownership	25.93%	24.96%	13.88%
Analyst following	17.093	15.167	10.529
Dispersion	26.87%	4.81%	377.07%
Total Accruals	−0.047	−0.043	0.064
Earnings STD	3.65%	2.34%	4.80%
B/M	0.631	0.500	0.678
MV (Euro million)	4491	1354	9415
Mom	3.22%	3.14%	19.90%
ROA	5.76%	5.09%	6.76%
past payout ratio	47.90%	38.92%	202.69%
Dividend tax preference	0.930	0.987	0.123
Loss avoidance	0.438	0.376	0.106
Earnings smoothing	−0.833	−0.831	0.037
Financial transparency	0.933	0.801	0.362
Rule of law	1.658	1.719	0.322
Importance of equity market	16.440	16.700	7.771

Table 4
Predicting a significant reduction in the consensus dividend forecast optimism. The table reports regression results for equation (2) predicting a significant reduction in the analyst consensus dividend forecast optimism. Detailed definitions of variables are in Appendix A. *p* are the p-values based on dual-clustered standard errors on firm and year. *ME* stands for marginal effects.

	Model (1)		Model (2)		Model (3)		
	Coeff.	*p*	*Coeff.*	*p*	*Coeff.*	*ME*	*p*
Intercept	1.328	0.000	3.377	0.013	3.369		0.013
Guidance	0.267	0.098	0.287	0.076			
DPS guidance					0.525	6.9%	0.024
EPS guidance					0.061	0.8%	0.780
Inst Ownership	−0.280	0.238	−0.170	0.475	−0.173	−2.4%	0.466
Analyst following	0.007	0.153	0.007	0.126	0.007	7.7%	0.128
Dispersion	−0.013	0.630	−0.013	0.634	−0.013	−5.0%	0.634
Total Accruals	0.711	0.115	0.678	0.133	0.678	4.3%	0.133
Earnings STD	0.341	0.612	0.344	0.598	0.365	1.8%	0.577
B/M	−0.004	0.928	−0.008	0.865	−0.008	−0.5%	0.873
ln MV	−0.084	0.011	−0.094	0.004	−0.093	−14.7%	0.004
Mom	−0.199	0.197	−0.201	0.192	−0.199	−4.0%	0.197
ROA	−1.971	0.000	−1.964	0.000	−1.946	−13.2%	0.000
past payout ratio	−0.008	0.546	−0.008	0.523	−0.009	−1.7%	0.518
Dividend tax preference			−0.291	0.350	−1.946	−13.2%	0.000
Loss avoidance			−0.330	0.324	−0.009	−1.7%	0.518
Earnings smoothing			2.129	0.096	−0.296	−3.7%	0.343
Financial transparency			−0.026	0.803	−0.310	−3.3%	0.355
Rule of law			0.084	0.464	2.164	8.0%	0.090
Importance of equity market			−0.001	0.851	−0.001	−0.8%	0.859
Country effects	Yes		No		No		
Year effect	Yes		Yes		Yes		
Industry effect	Yes		Yes		Yes		
N	5,869		5,869		5,869		
Chi²	87.60		73.50		76.20		
P(Chi²)	0.000		0.000		0.000		
Pseudo R²	1.18%		1.01%		1.05%		

Table 5
Predicting zero or small positive dividend surprises. The table reports regression results for a logit model predicting that the firm will meet or beat the analyst consensus dividend forecast by a small margin. Detailed definitions of variables are in Appendix A. *p* are the p-values based on dual-clustered standard errors on firm and year. *ME* stands for marginal effects.

	Model (1)		Model (2)		Model (3)		
	Coeff.	*p*	*Coeff.*	*p*	*Coeff.*	*ME*	*p*
Intercept	0.422	0.358	3.064	0.210	3.031		0.215
Guidance	0.533	0.026	0.525	0.028			
DPS guidance					1.007	13.2%	0.000
EPS guidance					−0.081	−1.1%	0.804
Inst Ownership	−0.663	0.087	−0.572	0.135	−0.604	−8.4%	0.116
Analyst following	0.019	0.028	0.021	0.013	0.021	22.2%	0.013
Dispersion	−8.941	0.000	−8.931	0.000	−8.901	−3357%	0.000
Total Accruals	1.138	0.156	1.209	0.128	1.238	7.9%	0.120
Earnings STD	1.548	0.034	1.766	0.014	1.851	8.9%	0.012
B/M	0.124	0.016	0.111	0.028	0.112	7.6%	0.028
ln MV	−0.244	0.000	−0.266	0.000	−0.266	−41.8%	0.000
Mom	−0.379	0.157	−0.345	0.191	−0.346	−6.9%	0.193
ROA	−3.966	0.000	−4.030	0.000	−4.018	−27.2%	0.000
past payout ratio	−0.063	0.035	−0.063	0.037	−0.063	−12.7%	0.038
Dividend tax preference			0.562	0.299	0.547	6.8%	0.309
Loss avoidance			0.841	0.133	0.894	9.5%	0.110
Earnings smoothing			1.382	0.537	1.449	5.4%	0.518
Financial transparency			−0.490	0.001	−0.487	−17.7%	0.001
Rule of law			−0.709	0.000	−0.716	−23.1%	0.000
Importance of equity market			−0.022	0.012	−0.021	−16.6%	0.014
Country effects	Yes		No		No		
Year effect	Yes		Yes		Yes		
Industry effect	Yes		Yes		Yes		
N	5,869		5,869		5,869		
Chi2	326.75		306.75		312.87		
P(Chi2)	0.000		0.000		0.000		
Pseudo R²	13.80%		13.42%		13.58%		

Table 6

Sensitivity tests: self-selection and endogeneity. Panel A reports results from sensitivity tests where we address the concern selection bias arising from the non-randomness in analyst stock coverage choices affects our results. Column "2010–2013" reports results for regressions estimated for fiscal years 2010–2013. Column "Top IO quintile" reports results for regressions estimated for the quintile of stocks with the highest institutional ownership. Column "Relatively smaller firms" reports results for regressions estimated for stocks with relatively smaller size. *Firm controls* and *Country controls* are firm and country controls from equation (2). Panel B reports results from instrumental variables regressions and logit models with firm effects. *Fraction of DPS guidance at the industry* is the fraction of DPS guidance at the industry level measured over the previous fiscal year. Detailed definitions of other variables are in Appendix A.

	2010-2013				Top IO quintile				Relatively smaller firms			
	significant DPS reduction		DPS barely beat		significant DPS reduction		DPS barely beat		significant DPS reduction		DPS barely beat	
	Coeff.	p	Coeff.	p	Coeff.	p	Coeff.	p	Coeff.	p	Coeff.	p
Panel A: Robustness tests: addressing self-selection concerns												
Intercept	3.674	0.061	−1.608	0.661	−0.150	0.969	−1.366	0.860	1.843	0.489	12.851	0.022
DPS guidance	0.449	0.073	0.960	0.002	1.062	0.018	1.334	0.012	0.949	0.100	1.182	0.045
EPS guidance	0.045	0.857	−0.002	0.995	0.657	0.136	0.805	0.178	0.258	0.573	−0.426	0.414
Firm controls	Yes		Yes		Yes		Yes		Yes		Yes	
Country controls	Yes		Yes		Yes		Yes		Yes		Yes	
Year effect	Yes		Yes		Yes		Yes		Yes		Yes	
Industry effect	Yes		Yes		Yes		Yes		Yes		Yes	
N	3,600		3,600		1,172		1,172		2,933		2,933	
Chi^2	49.12		147.85		103.35		137.16		60.54		149.94	
P(Chi^2)	0.000		0.000		0.000		0.000		0.000		0.000	
Pseudo R^2	1.60%		11.86%		5.66%		21.87%		1.85%		10.36%	

	First stage		Second stage				Firm effects			
	P(DPS guidance)		significant DPS reduction		DPS barely beat		significant DPS reduction		DPS barely beat	
	Coeff.	p	Coeff.	p	Coeff.	p	Coeff.	p	Coeff.	p
Panel B: Instrumental variables and firm effect regressions										
Intercept	−0.022	0.807	2.147	0.010	1.655	0.200	1.073	0.000	0.519	0.149
Fraction of DPS guidance at the industry	0.990	0.000								
DPS guidance			0.960	0.002	0.803	0.037	0.564	0.011	1.093	0.000
EPS guidance	0.082	0.011	−0.018	0.900	−0.082	0.643	0.045	0.827	−0.228	0.549
Inst Ownership	0.007	0.629	−0.127	0.392	−0.374	0.070	0.054	0.798	−1.491	0.000
Analyst following	0.001	0.016	0.004	0.180	0.010	0.034	0.007	0.136	0.023	0.004
Dispersion	0.000	0.955	−0.006	0.415	−3.509	0.000	−0.013	0.220	−8.475	0.000
Total Accruals	−0.028	0.308	0.435	0.118	0.743	0.081	0.486	0.300	1.319	0.082
EPS STD	−0.034	0.384	0.241	0.547	1.136	0.010	0.446	0.450	1.934	0.017
B/M	−0.001	0.574	−0.004	0.891	0.054	0.095	−0.010	0.831	0.098	0.077
ln MV	0.002	0.451	−0.059	0.003	−0.152	0.000	−0.092	0.003	−0.259	0.000
Mom	−0.005	0.446	−0.117	0.221	−0.202	0.145	−0.220	0.153	−0.367	0.132
ROA	−0.022	0.381	−1.193	0.000	−2.215	0.000	−1.794	0.000	−4.339	0.000
past Payout Ratio	0.000	0.872	−0.005	0.519	−0.032	0.091	−0.007	0.592	−0.058	0.140
Dividend tax preference	0.006	0.767	−0.203	0.291	0.270	0.348				
Loss avoidance	0.001	0.979	−0.145	0.485	0.542	0.071				
Earnings smoothing	0.010	0.910	1.471	0.062	0.861	0.466				
Financial transparency	−0.008	0.443	−0.022	0.744	−0.253	0.001				
Rule of law	−0.002	0.758	0.040	0.583	−0.410	0.000				
Importance of equity market	0.000	0.705	−0.001	0.824	−0.011	0.025				
Year effect	Yes		Yes		Yes		No		No	
Industry effect	Yes		Yes		Yes		No		No	
Firm effect	No		No		No		Yes		Yes	
N			5,467		5,467		5,869		5,869	
Chi²			84.72		299.65		61.49		330.55	
P(Chi²)			0.000		0.000		0.000		0.000	

Table 7

Controlling for characteristics of dividend guidance. Panel A reports descriptive statistics for the characteristics of management dividend guidance. *# of management DPS forecasts* is the number of management dividend forecasts issued during the fiscal year. *implied DPS revision* is the average percentage difference between the analyst consensus dividend forecast and the management dividend guidance where the dividend consensus is measured at the time dividend guidance was issued. *guidance horizon* (months) is the average number of months between the fiscal year-end and the dividend guidance issue date. *guidance below consensus* is the percentage of management dividend forecasts issued below the consensus. Panel B reports regressions results predicting a significant reduction in the consensus dividend forecast optimism and that the firm will meet or beat the consensus dividend forecast by a small margin when we control for characteristics of management guidance. Detailed definitions of other variables are in Appendix A. *ME* stands for marginal effects.

	Mean	Median	STD
Panel A: Descriptive statistics (N=102)			
# of management DPS forecasts	1.892	1.000	1.694
avg implied DPS revision	47.14%	0.00%	491.19%
avg guidance horizon (months)	7.001	8.000	4.995
% guidance below consensus	65.56%	100.00%	44.54%

	significant DPS reduction			*DPS barely beat*		
	Coeff.	*ME*	*p*	*Coeff.*	*ME*	*p*
Panel B: Regression results						
Intercept	3.402		0.012	3.087		0.210
DPS guidance	0.328	17.88%	0.517	1.783	23.31%	0.003
EPS guidance	0.031	1.70%	0.888	−0.195	−2.59%	0.590
# of management DPS forecasts	0.191	10.41%	0.241	0.242	8.06%	0.088
implied DPS revision	0.080	4.38%	0.186	−3.789	−245%	0.010
guidance below consensus	0.364	19.87%	0.481	−0.239	−2.48%	0.686
guidance horizon	0.002	0.09%	0.304	0.006	20.26%	0.024
Firm controls	Yes			Yes		
Country controls	Yes			Yes		
Year effect	Yes			Yes		
Industry effect	Yes			Yes		
N	5,869			5,869		
Chi²	79.15			330.02		
P(Chi²)	0.000			0.000		
Pseudo R²	1.09%			13.83%		

Table 8

Price reactions to joint dividend and earnings announcements. The table reports regression results for equation (3), which examines the price reaction at joint dividend and earnings announcements. *pos SUE pos SUD* is indicator variable equal to 1 when *pos SUE*=1 and *pos SUD*=1, and 0 otherwise. *pos SUE neg SUD* is an indicator variable equal to 1 when *pos SUE*=1 and *neg SUD*=1, and 0 otherwise. *neg SUE pos SUD* is an indicator variable equal to 1 when *neg SUE*=1 and *pos SUD*=1, and 0 otherwise. *neg SUE neg SUD* is an indicator variable equal to 1 when *neg SUE*=1 and *neg SUD*=1, and 0 otherwise. *Dividend increase* is a dummy variable equal to 1 when the current fiscal-year dividend is higher than the previous year dividend, and 0 otherwise. *Dividend reduction* equals 1 when the current fiscal-year dividend is higher than the previous year dividend, and 0 otherwise. *Firm controls* include the average forecast horizon of dividend estimates underlying the consensus dividend forecast and firm controls from equation (2). *Country controls* are firm and country controls from equation (2). *p* are the p-values based on dual-clustered standard errors on firm and year. *ME* stands for marginal effects where all variables are standardized to have a mean of zero and a standard deviation of one.

	Model (1)		Model (2)		
	Coeff.	*p*	*Coeff.*	ME	*p*
Intercept	0.038	0.472	0.057		0.239
pos SUE pos SUD	0.014	0.000	0.009	6.31%	0.082
pos SUE neg SUD	0.003	0.283	0.000	0.25%	0.939
neg SUE pos SUD	0.007	0.005	0.003	1.96%	0.577
neg SUE neg SUD	−0.006	0.072	−0.009	−5.73%	0.100
Dividend increase			0.004	2.95%	0.140
Dividend reduction			−0.004	−2.72%	0.276
pos SUE zero SUD			0.001	0.53%	0.860
neg SUE zero SUD			−0.006	−2.71%	0.366
zero SUE pos SUD			0.002	0.69%	0.787
zero SUE neg SUD			−0.013	−3.75%	0.028
Firm controls	Yes		Yes		
Country controls	Yes		Yes		
Industry effects	Yes		Yes		
Year effects	Yes		Yes		
N	4,656		4,656		
F-test	4.48		4.07		
p(F-test)	0.000		0.000		
R²	3.13%		4.47%		