dividends is unsustainable for some other reason (e.g., a change in the competitive environment requiring it to retain more cash within the firm). Under these circumstances, should insiders release a statement to the market that they are reviewing the firm's dividend policy and indicating that there is a possibility of a dividend cut (in other words, "prepare the market")? Or should they wait until they, in fact, decide to cut their firm's dividends before making any announcement?[1]

While there have been several theoretical as well as empirical analyses of dividend signaling (see, e.g., Bhattacharya (1979), John and Williams (1985), and Miller and Rock (1985) for theoretical models), unfortunately, there has been no systematic empirical analysis so far in the literature that provides guidance to decision makers regarding the right way to communicate adverse private information to the equity market.[2] The objective of this paper is to fill this gap in the literature by providing the first empirical analysis of a firm's choice between preparing and not preparing the market before a dividend cut and the consequences of market preparation.

We address the above issue by examining several questions in this paper. First, we analyze the characteristics of firms that prepare the market before a dividend cut versus those that do not do such market preparation. Second, we examine the implications of a firm preparing or not preparing the market for the announcement effect on the market preparation days as well as on the day of the dividend cut announcement. Third, we analyze how a firm preparing or not preparing the market relates to its stock return volatility after the dividend cut. Finally, we examine how operating performance, dividend payment, institutional equity holdings, and stock returns after the dividend cut differ across prepared and non-prepared dividend cutters. The results of the above analyses help us to better understand how firms optimally choose to communicate negative private information to the equity market before a potential dividend cut.

In a recent paper, Chemmanur and Tian (2012) develop a signaling model that analyzes a firm's decision regarding whether to prepare the market before a dividend cut. They consider a setting in which there are three types of firms with only insiders observing firm types to begin with (i.e., firm insiders have private information about long-run intrinsic value). High intrinsic value firms have no significant chance of being in short-run financial difficulties and have high long-run growth prospects, medium intrinsic value firms have a significant chance of being in short-run financial difficulties (and, therefore, having to cut their dividends) but have high long-run growth prospects, and low intrinsic value firms

[1] A market preparation strategy seems to have been adopted by Gould Inc. (Chandler, AZ) when it cut its quarterly dividend from $0.43 to $0.17 per share on Dec. 6, 1983. Several months prior to the dividend cut, management released a statement announcing that it was reviewing the company's dividend policy to determine its consistency with the firm's new business strategy. On the other hand, when ITT Inc. (White Plains, NY) cut its dividend from $0.69 to $0.25 per share on July 10, 1984, it seems to have adopted a strategy of not preparing the market (i.e., not providing any information in advance of the actual dividend cut announcement). These two anecdotes of dividend cuts by Gould and ITT are provided by Woolridge and Ghosh (1985). Those authors, however, do not focus on firms preparing versus not preparing the market in their empirical analysis.

[2] An important theoretical analysis related to this paper is Allen, Bernardo, and Welch (2000), who analyze how ownership of equity in a firm by institutions taxed at a lower rate than individuals affects the firm's dividend policy and derive a signaling equilibrium driven by institutional equity ownership.

have a significant chance of being in short-run financial difficulties (and having to cut their dividends) and have low long-run growth prospects. In the above setting, Chemmanur and Tian show that, in equilibrium, high intrinsic value firms do not prepare the market for a dividend cut at all; medium intrinsic value firms prepare the market with a high probability; and low intrinsic value firms prepare the market with a significantly lower probability than medium intrinsic value firms. Note that preparing the market is the mechanism through which medium intrinsic value firms separate themselves from low intrinsic value firms in the event of a dividend cut: the signal is made credible due to the fact that market preparation separates them from high intrinsic value firms, causing them to suffer a negative stock market reaction on the market preparation day. We rely on the implications of Chemmanur and Tian primarily to generate hypotheses for our empirical tests. We will refer to the above theory as the "signaling through market preparation" theory.

While we are not aware of any formal model other than that of Chemmanur and Tian (2012) that analyzes market preparation by firms before dividend cuts, we propose an alternative to the above theory, which we will refer to as the "stock return volatility reduction" theory. The basic assumptions underlying this theory are that i) there is no difference in long-run intrinsic value between prepared and nonprepared dividend cutters, and ii) market preparation is simply a means adopted by some firms to split up the release of information over multiple days, in an attempt to reduce the firms' stock return volatility in the months immediately after a dividend cut. While some of the predictions of this alternative theory are similar to those of the signaling through market preparation theory, its other predictions are different from those of the signaling theory, allowing us to empirically distinguish between the above two theories (we discuss the implications of the two theories in Section III).

Using a hand-collected data set of dividend cutting firms, which allows us to distinguish between firms that prepared the market before a dividend cut and those that did not do so (we are also able to identify cases of firms that prepared the market multiple times), we test the hypotheses generated by the above two theories and develop a number of new findings. First, we find that firms with poorer current profitability but higher long-term growth opportunities are more likely to prepare the market before potential dividend cuts. We also find that firms are less likely to prepare the market during years of economic recessions when long-term growth prospects are poorer. These findings are consistent with the predictions of the signaling theory.

Second, we find a significantly negative cumulative abnormal return (CAR) for firms preparing the market on the first market preparation day. A firm preparing the market, on average, experiences a -3.2% CAR in the $[-1, +1]$ event window around the first market preparation day. However, we do not find significant CARs in the subsequent market preparation days. Meanwhile, the announcement effect of firms cutting dividends after market preparation is indeed less negative than that of firms cutting dividends without such market preparation. The announcement effect of a prepared dividend cutter is less negative by about 5.1% than that of a nonprepared cutter in the $[-1, +1]$ event window around the dividend cut announcement day. Even when combining the stock market reactions of

prepared dividend cutters (the sum of market reactions on all the market preparation days and the dividend cut announcement day) and comparing those with the announcement effects of nonprepared dividend cutters, prepared dividend cutters still experience a 3.4% less negative CAR than nonprepared dividend cutters in the $[-1, +1]$ event window, suggesting that prepared dividend cutters are not simply "splitting up" the negative news over separate event days. The first two findings above are consistent with the predictions of both the signaling theory and the volatility reduction theory. However, the last finding is consistent only with the signaling theory and not the volatility reduction theory.

Third, we find that the stock return volatility of prepared dividend cutters is lower than that of nonprepared dividend cutters in the quarters subsequent to a dividend cut. This finding is consistent with the predictions of both the signaling theory and the volatility reduction theory.

Fourth, we show that the long-term operating performance of prepared dividend cutters is significantly better than that of nonprepared dividend cutters. We also find that prepared dividend cutters increase dividends more than nonprepared cutters in the years following a dividend cut. Furthermore, in the years after a dividend cut, the percentage ownership by institutional investors in prepared dividend cutters is significantly larger than that in nonprepared dividend cutters, and the number of institutional investors investing in prepared dividend cutters is also greater than that in nonprepared cutters. Finally, we show that the long-term stock return performance of prepared dividend cutters is better than that of nonprepared dividend cutters. The above findings provide support for the signaling theory but not for the volatility reduction theory.

Overall, what do we learn from our empirical analysis about the right way for firms to communicate adverse private information to the equity market before a dividend cut? Our analysis suggests that it may be optimal for firms in temporary financial difficulties but with better long-term growth prospects to signal this to the equity market by preparing the market for a possible dividend cut. Furthermore, our comparison of long-term operating, dividend payment, institutional equity holdings, and stock return performance of prepared versus nonprepared dividend cutters after dividend cuts suggests that market preparation before a dividend cut is not really a good way for firms to reduce stock return volatility by splitting up adverse information over time.

This is the first paper in the literature that empirically examines a firm's strategy of market preparation before adverse corporate events in general, and a dividend cut in particular.[3] However, there is a small amount of empirical literature on the timing of dividend announcements, which is related to our paper (see, e.g., Kalay and Loewenstein (1986), who show that late announcements of dividends are disproportionately associated with bad news (dividend reductions)). Our paper is also distantly related to the large literature analyzing the relation between dividend changes and omissions and subsequent operating performance, as well as the literature on the information content of dividend changes

[3]There have been some practitioner-oriented papers suggesting that managers are concerned about the proper manner in which to release negative information about dividends to the equity market (see, e.g., Soter, Brigham, and Evanson (1996)).

(see, e.g., Watts (1973), Aharony and Swary (1980), Kalay (1980), Asquith and Mullins (1983), and Handjinicolaou and Kalay (1984)).

The rest of the paper is organized as follows: In Section II, we discuss our data and sample selection procedures. We discuss our testable hypotheses and empirical design in Section III. In Section IV, we present our empirical results. We discuss extensions of our empirical analysis and robustness tests in Section V. Section VI concludes.

II. Data and Sample Selection

The data used in this study come from several different databases. We collect a sample consisting of firms that reduced (or omitted) their cash dividends between 1982 and 2006 from the Center for Research in Security Prices (CRSP) database. The sample period ends in 2006 to allow for the availability of data about dividend cutting firms' stock return volatility, operating performance, dividend payout, stock return, and institutional ownership 4 years subsequent to a dividend cut from various databases. Each observation in the sample satisfies the following criteria: i) The firm's stock return as well as financial information is available from the CRSP database and Compustat files, ii) the distribution is a quarterly cash dividend in U.S. dollars, iii) the cash dividend change is greater than 12.5% to ensure that we include only economically significant dividend decreases, iv) the cash dividend is not paid out by financial institutions, v) the firm is publicly traded, and vi) there is at least an interval of 1 year between two successive dividend cuts by the same firm. The first five criteria are standard in the literature; the last criterion is required because we want to test the effects of market preparations for dividend cuts and need to have a long enough "window" to isolate the effect of any previous dividend cuts. The maximum dividend decrease in our sample is 100% (dividend omissions).

Similar to the methodology adopted by Dyck and Zingales (2003) and Bhattacharya, Galpin, Ray, and Yu (2009), we hand collect data about market preparations for dividend cuts by searching for news articles from 1 year to 30 days before the dividend cut announcement date from *Factiva* (formerly Dow Jones News Retrieval Service) using key strings of "dividend cuts," "restructuring," "financial strategy," "conserve cash," "dividend omissions," "spokesman (spokeswoman)," and "customer relations." We classify the firm as a prepared dividend cutter if there is any information released by firm insiders about a potential dividend cut at least 30 days before the formal dividend cut announcement date (but no formal dividend cut is actually announced); otherwise, the firm is classified as a nonprepared dividend cutter. We record the news release (public announcement) date available from *Factiva* and call it the "public preparation date." If the firm prepares the market multiple times through public announcements, we record all their public preparation dates.

Dividend cutting firms may also prepare the market through their filings with the Securities and Exchange Commission (SEC). To collect this information, we manually check all dividend cutting firms' 10-K and 10-Q statements from the Thomson One, SEC Electronic Data Gathering, Analysis, and Retrieval (EDGAR) system, and LexisNexis databases. For firms that cut dividends between

1982 and 1994, we collect their SEC filing data from Thomson One, which contains scanned paper versions of firms' SEC filings back to the 1970s. For firms that cut dividends between 1995 and 2006, we collect their SEC filings data from SEC EDGAR, which contains electronic versions of firms' SEC filings. For firms for which we cannot find SEC filings information from either Thomson One or SEC EDGAR, we search the LexisNexis database. We are able to identify 10 dividend cutting firms that release their intentions of cutting dividends in their 10-K or 10-Q filings with the SEC. We record their SEC form filing dates and call them "SEC preparation dates." We cross-check these 10 firms with the identities of dividend cutting firms that prepare the market through public announcements. We find that they all prepare the market (through public announcements) before their SEC filings in which they release their intentions of cutting dividends (i.e., their first public preparation dates are before their SEC preparation dates).

To ensure that our findings are not contaminated by announcements of other corporate events, we remove from our sample those firms that make other important announcements (e.g., earnings warnings, chief executive officer (CEO) turnover) 30 days before and after the public preparation date and the SEC preparation date, 30 days before the dividend cut announcement date, and anytime between the first market preparation date and the dividend cut announcement date. The resulting sample contains 401 announcements of dividend cuts. Out of these 401 announcements of dividend cuts, 93 are coded as prepared dividend cuts and the remaining 308 are coded as nonprepared dividend cuts. Dividend cuts with market preparation account for 23.2% of all dividend cuts in our sample period, which suggests that market preparation for dividend cuts is a fairly common phenomenon.

Panel A of Table 1 reports the distribution of the sample by dividend cutting year. The table presents the number of total and prepared dividend cuts, as well as the proportion of prepared dividend cuts. Compared to the number of dividend cuts across years reported in column 1, which is relatively volatile, the number of prepared dividend cuts reported in column 3 is quite stable over time. Column 5 highlights a generally increasing trend in market preparation for dividend cuts in the latter half of the sample: 100% of dividend cutting firms prepare the market in 2000, and 50% of dividend cutting firms prepare the market in 1995 and 2002; only 6% of dividend cutting firms prepare the market in 1982, and this ratio is 0 in 1984.[4] Column 6 reports the distribution of dividend cut preparations through SEC filings. It mainly concentrates on the period from 1994 to 2003 with no SEC preparations observed in other periods.

To examine whether dividend cuts are concentrated in a small sample of firms, Panel B of Table 1 presents the frequency distribution of repeated dividend cutting firms. The 401 dividend cuts are made by 342 unique dividend cutting firms. Column 1 shows that 288 firms cut dividends one time, 50 firms cut dividends two times, 3 firms cut dividends three times, and 1 firm cut dividends four

column 2, 77 prepared cutting firms cut dividends one time and 8 prepared cutting firms cut dividends two times.

Panel C of Table 1 reports the industry distribution of unique dividend cutting firms to examine whether dividend cuts are concentrated in certain industries. We classify firms into 1 of 12 Fama-French industries (http://mba.tuck.dartmouth.edu/pages/faculty/ken.french/Data_Library/det_12_ind_port.html). Since financial institutions are excluded from our sample based on the sample selection criteria described above, dividend cutting firms in the sample are distributed over the

TABLE 1

Summary Statistics of Dividend Cutters

Panel A of Table 1 reports the summary statistics for the sample of firms that reduced their dividends between 1982 and 2006. Column 1 presents the number of total dividend cuts in each year. Column 2 presents the percentage of dividend cuts in each year. Column 3 presents the number of dividend cuts with market preparation in each year. Column 4 presents the percentage of prepared dividend cuts in each year. Column 5 reports prepared dividend cuts as the percentage of total dividend cuts in each year. Column 6 reports the number of market preparation through SEC filings. The dividend data are obtained from CRSP. Market preparation and SEC preparation data are hand collected from Factiva, Thomson One, SEC EDGAR, and LexisNexis. Panel B reports the summary statistics for the frequency distribution of all dividend cutters as well as prepared dividend cutters who cut their dividends multiple times in the sample period. Panel C reports the summary statistics for the industry distribution of all dividend cutters as well as prepared dividend cutters in the sample period. Panel D reports the summary statistics for the frequency distribution of prepared dividend cutters' preparation through public announcements and SEC filings in the sample period.

TABLE 1 (continued)
Summary Statistics of Dividend Cutters

Panel C. Industry Distribution of Dividend Cutters

Industry	Dividend Cut Announcement 1	Unique Dividend Cutting 2	Prepared Dividend Cut 3	Unique Prepared Dividend Cutting 4
Consumer nondurables	37	32	3	3
Consumer durables				
Manufacturing 88	13	12		
Energy	25	22 7	7	
Chemicals	17	13	5	4
Business equipment	18	17	4	4
Telecommunications	8	6	4	2
Utilities	75	62	39	35
Retail	40	38	9	9
Healthcare	5	5	3	3
Finance (excluded)	0	0	0	0
Other	58	48 3	3	
Total	401	342	93	85

Panel D. Frequency Distribution of Market Preparations for Dividend Cuts

Frequency	Preparation Public Announcements Filings 1	Preparation 2
One59		
Two times	19	
Three	11	
Four	2	
Five times	2	
Total	93	10

remaining11 industries. For example, in the Chemicals industry, 17 dividend cut announcements are made by 13 unique dividend cuttingfi5Ds and 5 prepared dividend cut announcements are made by 4 unique prepared dividend cuttingfi5Ds. As reported in column 2, the 342 unique dividend cuttingfi5Ds are spread out across all 11 industries. Manufacturing, Utilities, and Retail are the top 3 industries to which di cuttingfi5Ds belong. Reprepared di cutting fi5Ds, column 4 shows that the above 3 industries remain the top industries to which prepared dividend cuttingfi5Ds belong, and 41.2% (35 out of 85) of prepared dividend cuttingfi5Ds are from the Utilities industry.

Since a few dividend cuttingfi5Ds prepare the market .through either public announcements or SEC filings) multiple times, Panel D of Table 1 reports the frequency distributionof market preparationfor these dividend cuts. Column 1 presents the frequency distributionof dividend cuts with multiple preparations through public announcements for a given dividend cut. While 63.4% (59 out of 93 dividend cuts) of dividend cuts prepare the market through public announcements one time, 19 prepare the market two times, 11 prepare the market three times, 2 prepare the market fourtimes, and 2 prepare the market fivetimes.Regardingmarket preparationthrough SEC filings, among10 prepared di cuts, 6 release their intentionof cuttingdividends throughone time and 4 do so two times.

We obtain informationonstockreturnsfrom the CRSP database, accounting informationfrom Compustat, analystforecastinformationfrom Institutional Brokers' Estimate System (IBES), institutional ownership data from the Thomson

Financial 13F database, and business cycle information from the National Bureau of Economic Research (NBER) Web site (http://www.nber.org/cycles.html). We construct variables for firms' profitability, size, growth opportunity, leverage, payout ratio, investment, asset tangibility, stock return volatility, information asymmetly, and institutional ownership following the standard procedures in the literature. The constructions and sources of variables used in this paper are discussed in the Appendix.

Table 2 reports the summaly statistics and univariate comparisons across the two categories of dividend cutters. Prepared dividend cutters, on average, prepare the malket 111 days prior to the formal dividend cut announcement. Prepared dividend cutters cut their dividend, on average, 6.8% more than nonprepared cutters, although the difference is not statistically significant. This finding suggests that our results from comparing prepared and nonprepared dividend cutters are unlikely due to those two groups of firms having systematically different magnitudes of dividend cuts. To further address this concern, we control for the percentage of dividend cuts in our multivariate regression analysis.

TABLE 2

Univariate Comparisons of Prepared and Nonprepared Dividend Cutters

Table 2 reports the univariate comparisons for the sample of firms that reduced their dividends between 1982 and 2006. Definitions of all variables are reported in the Appendix. Malket preparation and SEC preparation data are hand collected from Factiva, Thomson One, SEC EDGAR, and LexisNexis. ***, **, and * indicate the significance of *t*-statistics for the test of difference in means between two subsamples at the 1%, 5%, and 10% levels, respectively.

	Prepared Cutters			Nonprepared Cutters			
Variable	Mean	Median	Standard Deviation	Mean	Median	Standard Deviation	Difference in Means
No. of preparation days	110.70	83.00	82.10	—	—	—	—
Dividend cut (%)	44.97	48.57	33.80	38.14	50.00	38.08	6.83
Sales growth (%)	7.55	3.02	29.48	0.92	1.12	18.68	6.62**
ROA (%)	8.75	8.68	7.17	8.31	8.65	7.09	0.44
Recession dummy	0.04	0.00	0.20	0.16	0.00	0.37	–0.12***
Assets (billion)	10.64	3.10	27.69	4.27	0.58	20.20	6.37**
Payout ratio (%)	30.27	32.84	126.10	31.45	18.99	125.50	–1.19
Dividend yield (%)	7.17	5.45	5.85	4.93	3.96	4.49	2.25***
Asset tangibility (%)	87.84	81.27	54.63	79.86	79.23	39.24	7.98
Malket-to-book ratio	1.08	0.95	0.43	1.09	0.97	0.42	–0.01
R&D (%)	0.90	0.00	2.30	0.95	0.00	2.55	–0.05
Leverage (%)	37.23	39.15	18.18	30.77	30.46	18.11	6.46***
Capital expenditure (%)	6.04	4.67	5.64	6.14	4.84	5.32	–0.10
No. of analysts	8.46	6.00	8.63	5.78	3.00	7.10	2.68
Forecast error	0.59	0.09	1.12	0.97	0.14	2.02	–0.38
Standard deviation	0.15	0.05	0.29	0.18	0.03	0.44	–0.02
No. of institutional investors	111.67	59.00	146.67	71.08	30.00	98.85	40.58***
Institutional ownership (%)	31.53	30.95	27.60	31.03	30.53	25.97	0.49
Past sales growth (%)	–1.94	–2.16	31.69	–1.62	–1.39	22.64	–0.32
EBIT/Assets	0.02	0.03	0.08	0.02	0.03	0.08	–0.00
Profit Malgin	0.17	0.15	0.18	0.16	0.12	0.13	0.01

The results in Table 2 also suggest that prepared dividend cutters are larger firms with a higher dividend yield, a higher subsequent growth rate of sales, and a higher leverage level. Prepared dividend cutters also have a larger number of institutional investors compared to their counterparts. While we observe that 4% of prepared dividend cutters cut dividends in the years during an economic recession, a larger proportion of nonprepared dividend cutters (i.e., 16%) cut dividends in the years during an economic recession. However, these two groups of

firms do not appear to be different in other characteristics (e.g., profitability, asset tangibility, degrees of information asymmetry, and investments in tangible as well as intangible assets).

III. Hypotheses and Empirical Design

A. Hypothesis Development

Chemmanur and Tian (2012) develop a signaling model that analyzes a firm's decision regarding whether to prepare the market before a dividend cut. They show that, in equilibrium, high intrinsic value firms do not prepare the market for a dividend cut at all, medium intrinsic value firms prepare the market with a high probability, and low intrinsic value firms prepare the market with a significantly lower probability than medium intrinsic value firms. Based on the implications of their model, we formulate the following testable hypotheses:

Hypothesis 1. Propensity to Prepare the Market. Firms with poorer current profitability but greater future growth opportunities are more likely to prepare the market. Firms are less likely to prepare the market during recessions, since long-term growth prospects will be poorer during recessions.

Hypothesis 2. Announcement Effect on Market Preparation Days. The announcement effect on the first market preparation day will be negative. The announcement effect on subsequent market preparation days will be 0.

Hypothesis 3. Announcement Effect on Dividend Cut Announcement Days. While the announcement effect will be negative for both prepared and nonprepared dividend cutters, the announcement effect for prepared dividend cutters will be less negative compared to that of nonprepared dividend cutters.

Hypothesis 4. The Combined Announcement Effect on Market Preparation Days and the Dividend Cut Announcement Day. The combined announcement effect for prepared dividend cutters will be less negative than the dividend cut announcement effect for nonprepared dividend cutters.

Hypothesis 5. Stock Return Volatility Subsequent to Dividend Cuts. The stock return volatility in the short and medium term subsequent to a dividend cut will be lower for prepared dividend cutters than for nonprepared dividend cutters.

Hypothesis 6. Long-Term Operating Performance, Dividend Payment, and Institutional Ownership. The long-term operating performance and dividend payment of firms subsequent to a dividend cut will be better for prepared dividend cutters than nonprepared cutters. If we add the additional assumption that institutional investors are better at detecting higher long-run intrinsic value firms than retail investors (Allen et al. (2000)), equity holdings by institutional investors will be greater for prepared cutters than that for nonprepared cutters after a dividend cut.

Hypothesis 7. Long-Term Stock Return Performance. The long-term stock return performance subsequent to a dividend cut will be better for prepared than for nonprepared dividend cutters.[5]

[5]The usual caveats common to predictions about long-term stock return apply here. If we assume that all investors are fully rational, and instantly infer firm insiders' private information from their

While we are not aware of any formal alternative model to Chemmanur and Tian (2012) that explains market preparation by dividend cutting firms, we now

for prepared dividend cutters than for nonprepared cutters. Thus, the above three predictions are similar under both the volatility reduction theory and the signaling theory.

There are, however, two important predictions that are different across the signaling theory and the volatility reduction theory, which allow us to conduct empirical tests to distinguish between the above two theories. First, while the signaling theory predicts that the combined announcement effect over the market preparation days and the dividend cut day will be lower for prepared than for nonprepared dividend cutters, the volatility reduction theory predicts that it will be similar for prepared versus nonprepared dividend cutters. This is because, under the volatility reduction theory, there is no difference in long-run intrinsic value between prepared and nonprepared dividend cutters (since there is no strategic motive underlying market preparation), and the only objective of market preparation is the release of adverse information to the equity market over time to reduce stock return volatility at the time of the dividend cut (and immediately after). The next prediction relates to the long-term operating performance, dividend payment, institutional holdings, and stock return performance. One would not expect to see any difference in the above four variables across prepared and nonprepared dividend cutters under the volatility reduction theory. This is because, under this theory, firm management is driven purely by a desire to reduce the volatility in shareholder wealth when they prepare the market and not by any private information they have about their firm's long-run future performance.

B. Empirical Design

We now discuss our empirical methods and models that we estimate in Section IV. We first test Hypothesis 1 by running a linear probability model with the market preparation dummy, *Market Preparation*, as the dependent variable. *Market Preparation* equals 1 for a prepared dividend cut and 0 for a nonprepared dividend cut. We are interested in how a firm's growth opportunity, current profitability, and general business cycle affect its propensity to prepare the market. Therefore, we construct three variables to capture them. First, we use the 3-year average growth in sales subsequent to a dividend cut, *Sales growth*, as a proxy for a firm's future growth opportunity. Second, we use a firm's return on assets, *ROA*, during the dividend cut year as a proxy for its current profitability. Third, we construct a recession dummy, *Recession dummy*, that equals 1 if the dividend cut occurs in a year when the economy is in a recession according to the NBER definition and 0 otherwise to capture general macroeconomic conditions.

We include a vector of control variables, *Control*, that controls for various other firm characteristics including firm size, leverage, market-to-book ratio, asset tangibility, payout ratio, investment in tangible and intangible assets, stock return volatility, information asymmetry, and institutional ownership. We include year fixed effects to account for variations over time associated with market movements that may influence a firm's propensity to prepare the market. Since about 40% (113 out of 401) of dividend cuts are from repeated dividend cutters, we have unbalanced panel data and a dividend cutting firm may appear in the sample multiple times. Therefore, we include firm fixed effects to absorb any time-invariant

firm unobservable characteristics that may potentially bias our estimation. We cluster standard errors by dividend cutting firms, as the residuals could be correlated across observations of the same firm. In summary, we estimate the following model with various specifications:

$$\begin{aligned}(1)\qquad \textit{Market Preparation}_{i,t} &= \beta_0 + \beta_1 \textit{Sales Growth}_{i,t} + \beta_2 \textit{ROA}_{i,t} \\ &\quad + \beta_3 \textit{Recession dummy}_t + \delta' \textit{Control}_{i,t} \\ &\quad + \textit{Year}_t + \textit{Firm}_i + \varepsilon_{i,t},\end{aligned}$$

where *i* indexes firm and *t* indexes time. If Hypothesis 1 is supported, we expect to observe a positive coefficient estimate of β_1 and negative coefficient estimates of β_2 and β_3.

Next, we test Hypotheses 2–4 by studying equity market reactions to market preparations for dividend cuts and the announcement effect of dividend cuts. The equity market reactions for each dividend cut are computed as the CARs for a particular window around the event day (market preparation day or dividend cut announcement day). Daily abnormal returns are computed using the market model for both equal-weighted and value-weighted CRSP indices. Market model parameters are estimated over 255 trading days ending 46 trading days before the market preparation with at least 100 nonmissing daily returns in the estimation period. Equity market price reactions are calculated for four different event windows, $[-1, 0]$, $[-1, +1]$, $[-3, 0]$, and $[-3, +3]$, for each market index ranging from 3 days before to 3 days after the event day. The market preparation date is taken to be all the dates when either firms prepare the market through a public announcement or firms release their intentions to cut dividends in their SEC filings.

Finally, we further test and distinguish between the predictions of the signaling theory and the volatility reduction theory by examining the long-term performance of prepared and nonprepared dividend cutters subsequent to a dividend cut. Specifically, we test Hypotheses 5 and 6 by estimating the following model using ordinary least squares (OLS) regressions:

$$\begin{aligned}(2)\qquad \textit{Performance}_{i,t} &= \beta_0 + \beta_1 \textit{Market Preparation}_{i,t} + \delta' \textit{Control}_{i,t} \\ &\quad + \textit{Year}_t + \textit{Industry}_j + \varepsilon_{i,t},\end{aligned}$$

where *i* indexes firm, *t* indexes time, and *j* indexes industry. The dependent variable, *Performance*, can be one of the following long-term performance variables: stock return volatility, operating performance, dividend payout, or institutional ownership. The key variable of interest is *Market Preparation*, which is the same as we defined before. Notice that the coefficient estimate of *Market Preparation* should not be interpreted as a causal effect of preparing the market for a possible dividend cut on firm subsequent performance. Instead, it captures the expected differences (due to unobservable firm characteristics) in the long-term performance between prepared and nonprepared dividend cutting firms. We cluster standard errors by dividend cutting firms.

We will discuss the empirical methodology testing Hypothesis 7 regarding the long-term stock return performance of prepared versus nonprepared dividend cutters in more detail in Section IV.D.

IV. Empirical Results

A. Propensity to Prepare the Market

We first study the dividend cutting firm's propensity to prepare the market before the dividend cut and test Hypothesis 1. The hypothesis argues that firms with greater future growth opportunities are more likely to prepare the market before cutting dividends, while those with higher current profitability are less likely to prepare the market. It also argues that firms are less likely to prepare the market in years of economic recession.

Table 3 reports the linear probability regression results. Column 1 presents how a firm's growth opportunity and current profitability affect its propensity to

TABLE 3

Dividend Cutters' Propensity to Prepare the Market

Table 3 presents the linear probability regression results estimating equation (1) with the market preparation dummy as the dependent variable. Definitions of all variables are reported in the Appendix. Year and firm fixed effects are included. Robust standard errors clustered by dividend cutting firms are reported in parentheses. ***, **, and * indicate significance at the 1%, 5%, and 10% levels, respectively.

	Dependent Variable: Market Preparation Dummy		
	Linear Probability		
Variable	1	2	3
Sales growth	0.305**		0.314***
	(0.120)		(0.119)
ROA	–0.728*		–0.768**
	(0.386)		(0.382)
Recession dummy		–0.240**	–0.276**
		(0.125)	(0.122)
ln(Assets)	0.050***	0.045***	0.050***
	(0.014)	(0.012)	(0.014)
Payout ratio	0.000	–0.000	0.000
	(0.001)	(0.001)	(0.001)
Dividend yield	0.024***	0.027***	0.024***
	(0.007)	(0.008)	(0.007)
Asset tangibility	–0.002	0.000	–0.009
	(0.121)	(0.103)	(0.116)
Market-to-book ratio	–0.062	–0.027	–0.056
	(0.094)	(0.075)	(0.094)
R&D	0.693	0.369	0.690
	(0.594)	(0.716)	(0.596)
Leverage	–0.038	–0.002	–0.027
	(0.120)	(0.113)	(0.120)
Capital expenditure	0.318	0.050	0.296
	(0.452)	(0.384)	(0.444)
Return volatility	–4.211*	–3.814*	–4.139*
	(2.359)	(2.262)	(2.371)
ln(No. of analysts)	0.039	0.044	0.033
	(0.046)	(0.033)	(0.044)
Forecast error	–0.012	–0.016**	–0.013
	(0.009)	(0.007)	(0.008)
Standard deviation	–0.024	–0.022	–0.023
	(0.062)	(0.047)	(0.063)
ln(No. of institutional investors)	–0.002	–0.007	–0.000
	(0.025)	(0.020)	(0.024)
Constant	–0.205	–0.039	0.077
	(0.189)	(0.165)	(0.170)
Year fixed effects	Yes	Yes	Yes
Firm fixed effects	Yes	Yes	Yes
No. of obs.	334	364	334
R^2	0.410	0.383	0.414

prepare the market before a dividend cut. The coefficient estimate of β_1 is positive and significant at the 5% level, suggesting that the higher a firm's future growth opportunity, as captured by its subsequent sales growth rate, the higher its propensity to prepare the market. The coefficient estimate of β_2 is negative and significant at the 10% level, suggesting that the lower the firm's current profitability, the higher the firm's propensity to prepare the market. Column 2 reports the regression results that examine how business cycles affect a firm's propensity to prepare the market. The coefficient estimate of β_3 is negative and significant at the 5% level, suggesting that firms are 24% less likely to prepare the market if the general economy is in a recession. In column 3, we include all three variables of interest together and continue to observe both quantitatively and qualitatively similar results.

As a robustness check, in an untabulated analysis, we use a logit model with the same specification except that we replace firm fixed effects with industry fixed effects.[8] We obtain qualitatively similar results. Overall, our findings are consistent with Hypothesis 1.

B. Announcement Effect

In this section, we examine equity market reactions to market preparations for dividend cuts and the announcement effect of dividend cuts. We test three hypotheses: Hypothesis 2 states that the stock price of a firm drops upon the first market preparation for a dividend cut but does not drop upon subsequent market preparations. Hypothesis 3 states that the announcement effect of a prepared dividend cut will be more favorable (less negative) than a nonprepared dividend cut. Hypothesis 4 states that the combined announcement effect of a prepared dividend cut on all market preparation days and the dividend cut announcement day will be less negative than the dividend cut announcement effect for a nonprepared dividend cut.

Table 4 reports the CAR results on the market preparation days. Since dividend cutting firms prepare the market up to five times through public announcements and up to two times through SEC filings before a dividend cut, we report CARs separately for each of these market preparation days. Panel A reports the results with the equal-weighted CRSP index as the benchmark. We observe that the stock price drops significantly upon the first market preparation for a dividend cut. On average, the CARs are -3.2% in the $[-1, +1]$ event window and -3.7% in the $[-3, +3]$ event window. However, the CARs have mixed signs on the second through fifth market preparation days. Although the sample size dramatically shrinks as fewer firms prepare the market multiple times for a given dividend cut and it is hard to draw meaningful statistical inferences from small samples, the magnitudes of CARs are much lower and appear to be indistinguishable from 0 in later market preparations. In the last two columns of Table 4, we report CARs on the SEC preparation days. Because all firms in our sample prepare the

[8] As logit is a nonlinear model, it is difficult to include the maximum likelihood estimation converged with firm fixed effects. Therefore, we replace firm fixed effects with Fama-French 49 industry (http://mba.tuck.dartmouth.edu/pages/faculty/ken.french/Data_Library/det_49_ind_port.html) fixed effects in the logit model regressions.

TABLE 4

Abnormal Stock Returns on Market Preparation Days

Table 4 reports the equity market price reactions of prepared dividend cutters when they prepare the equity market. The equity market price reaction for each market preparation is computed as the CARs for a particular window around the market preparation day. Daily abnormal returns are computed using the market model for two market indices: equal-weighted and value-weighted CRSP indices. Market model parameters are estimated over 255 trading days ending 46 trading days before the market preparation day with at least 100 nonmissing daily returns in the estimation period. Market preparation day is denoted as day 0. Market preparation and SEC preparation data are hand collected from Factiva, Thomson One, SEC EDGAR, and LexisNexis. ***, **, and * indicate significance at the 1%, 5%, and 10% levels, respectively.

		Market Preparation					SEC Filings	
Window	Statistics	1st	2nd	3rd	4th	5th	1st	2nd
Panel A. Equal-Weighted CARs (%)								
−1 to 0	Mean	−2.69***	−0.46	0.10	0.02	0.03	−0.22	−0.06
	Median	−1.90***	0.01	−0.64	0.02	0.03	−0.01	−0.02
−1 to +1	Mean	−3.16***	−1.26	−1.42	0.06	0.01	−0.44	−0.05
	Median	−2.22***	−0.19	−1.83	0.06	0.01	−0.17	−0.01
−3 to 0	Mean	−2.68***	0.17	−0.60	−0.10	−0.01	−0.96	−0.05
	Median	−1.63**	−0.50	−0.32	−0.23	−0.01	−0.29	−0.02
−3 to +3	Mean	−3.74***	−0.29	−0.02	0.04	0.01	−1.35	−0.04
	Median	−3.20**	0.02	−0.04	0.02	0.01	−0.91	0.00
Panel B. Value-Weighted CARs (%)								
−1 to 0	Mean	−2.77***	−0.61	0.20	0.03	0.03	−0.19	−0.06
	Median	−1.99***	−0.07	−0.27	0.03	−0.00	0.24	−0.03
−1 to +1	Mean	−3.27***	−1.38	−1.23	0.07	0.01	−0.37	−0.06
	Median	−2.32***	−0.53	−0.67	0.07	0.01	−0.35	−0.02
−3 to 0	Mean	−2.88***	0.01	−0.57	0.01	−0.01	−1.02	−0.05
	Median	−2.38***	−0.56	−0.55	0.01	−0.01	−0.53	−0.03
−3 to +3	Mean	−4.09***	−0.49	−0.02	0.06	0.04	−1.55	−0.04
	Median	−3.63***	0.01	−0.04	0.04	0.04	−1.05	−0.00
N		93	34	15	4	2	10	4

market through SEC filings after their first public market announcement (i.e., all SEC preparation dates are after their corresponding firms' first public preparation dates), it is not surprising to observe that the CARs on the SEC preparation days are all indistinguishable from 0.[9] In Panel B, we replace the benchmark for CARs with the value-weighted CRSP index. We find both quantitatively and qualitatively similar results. Overall, the evidence reported in Table 4 supports Hypothesis 2.[10]

To test Hypothesis 3, we run multivariable regressions with CARs on the dividend cut announcement day as the dependent variable and report the results in Table 5. The CARs are calculated based on a value-weighted market index. The main variable of interest is *Market Preparation*. We control for the size of the dividend cut, *Dividend cut percentage*, and other firm characteristics that are shown to affect CARs on the dividend announcement day. The coefficient estimates of *Market Preparation* are positive and significant at the 1% level in all four event windows, suggesting that prepared dividend cutters have more favorable (less negative) announcement effects than nonprepared cutters on the

[9]Once again, because the sample sizes are small, we cannot draw meaningful statistical inferences.

[10]In an unreported analysis, we run regressions to examine the effects of firm characteristics on the CARs on the first market preparation day. Firms with lower ROA, higher market-to-book ratio, and higher dividend yield fects more negative market reactions. We also include the actual ivicentage dividend cut in the regressions to examine whether the market correctly anticipates the size of the dividend cut and find its coefficients are not statistically significant.

TABLE 5

Announcement Effects of Dividend Cuts

Table 5 reports the regression results of abnormal stock returns upon the announcement of dividend cuts. Abnormal returns for each dividend cut are computed as the CARs for a particular window around the announcement day of the dividend cut. Daily abnormal returns are computed using the market model for a value-weighted CRSP index. Market model parameters are estimated over 255 trading days ending 46 trading days before the dividend cut announcement with at least 100 nonmissing daily returns in the estimation period. Announcement day is denoted as day 0. Definitions of other variables are reported in the Appendix. Year and Fama-French 49 industry

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While the volatility reduction theory argues that firms prepare the market to simply "split up" the bad news over time to reduce stock return volatility at the time of the dividend cut (and immediately after), the signaling theory suggests that medium intrinsic value firms prepare the market to convey their more favorable private information to the equity market. To distinguish between these two theories, we test Hypothesis 4. The signaling theory predicts that the combined announcement effects on all market preparation days and the dividend cut day for prepared cutters will be less negative than the announcement effect for nonprepared cutters on the dividend cut announcement day. If, however, the prediction of the volatility reduction theory is supported, we should not observe a statistically significant difference between them. We calculate the combined stock market reactions, that is, the sum of market reactions on all market preparation days (both public preparation days and SEC preparation days) and the dividend cut announcement day, for prepared dividend cutters and compare those with the stock market reactions of nonprepared dividend cutters on the dividend cut announcement day.

Table 6 reports the regression results with the combined CARs based on a value-weighted CRSP index as the dependent variable. The magnitudes of the coefficient estimates for *Market Preparation* are smaller than those in Table 5, which is not surprising, as prepared dividend cutters suffered significant negative abnormal returns when they prepared the market, as reported in Table 4. However, more importantly, the coefficient estimates of *Market Preparation* are

TABLE 6

Combined Stock Market Reactions of Market Preparations, SEC Filings, and Dividend Cuts

Table 6 reports the regression results of the combined abnormal returns upon the market preparation for dividend cuts and the announcement of dividend cuts. Abnormal returns for each dividend cut are computed as the CARs for a particular window around the market preparation day and the dividend cut announcement day. When there are multiple market preparations through either public announcements or SEC filings, the CAR on the market preparation day is the combined CARs across various market preparations. Daily abnormal returns are computed using the market model for a value-weighted CRSP index. Market model parameters are estimated over 255 trading days ending 46 trading days before the event day with at least 100 nonmissing daily returns in the estimation period. Announcement day is denoted as day 0. Definitions of other variables are reported in the Appendix. Year and Fama-French 49 industry fixed effects are included. Robust standard errors clustered by firm are reported in parentheses. Market preparation and SEC preparation data are hand collected from Factiva, Thomson One, SEC EDGAR, and LexisNexis. ***, **, and * indicate significance at the 1%, 5%, and 10% levels, respectively.

	Dependent Variable: Combined CARs			
Variable	[–1, 0]	[–1, +1]	[–3, 0]	[–3, +3]
Market preparation dummy	0.025**	0.034**	0.027**	0.040**
	(0.012)	(0.016)	(0.013)	(0.017)
Dividend cut percentage	–0.074***	–0.105***	–0.073**	–0.099**
	(0.028)	(0.036)	(0.029)	(0.039)
ROA	0.097	0.032	0.156*	0.123
	(0.081)	(0.103)	(0.084)	(0.114)
Market-to-book ratio	–0.001	0.009	0.010	0.025
	(0.014)	(0.019)	(0.015)	(0.020)
Sales growth	–0.001	0.014	–0.007	0.024
	(0.021)	(0.027)	(0.022)	(0.030)
ln(Assets)	–0.002	–0.001	0.000	0.001
	(0.003)	(0.004)	(0.003)	(0.004)
Payout ratio	–0.000	–0.000	–0.000	–0.000
	(0.000)	(0.000)	(0.000)	(0.000)

(continued on next page)

TABLE 6 (continued)

Combined Stock Market Reactions of Market Preparations, SEC Filings, and Dividend Cuts

	Dependent Variable: Combined CARs			
Variable	[–1, 0]	[–1, +1]	[–3, 0]	[–3, +3]
Dividend yield	–0.003**	–0.005***	–0.005***	–0.007***
	(0.001)	(0.002)	(0.001)	(0.002)
Leverage	0.016	0.021	0.000	0.034
	(0.032)	(0.042)	(0.034)	(0.046)
Asset tangibility	0.024	0.028	0.046***	0.051**
	(0.015)	(0.020)	(0.016)	(0.022)
Constant	0.006	0.008	–0.027	–0.044
	(0.035)	(0.045)	(0.037)	(0.050)
Year fixed effects	Yes	Yes	Yes	Yes
Industry fixed effects	Yes	Yes	Yes	Yes
No. of obs.	374	374	374	374
R^2	0.226	0.233	0.297	0.289

still positive and significant in all four event windows. After controlling for firm characteristics, on average, prepared dividend cutters still experience 2.5%–4% smaller (combined) negative CARs than nonprepared dividend cutters. In an unreported analysis, we perform robustness tests by running all regressions with CARs based on an equal-weighted CRSP index and continue to find both qualitatively and quantitatively similar results. The findings suggest that, even though prepared dividend cutters suffer negative market reactions on the first market preparation day, they still enjoy more favorable (less negative) combined market reactions than nonprepared dividend cutters. The evidence is consistent with Hypothesis 4, the prediction of the signaling theory, but is inconsistent with the prediction of the volatility reduction theory.

C. Long-Term Performance Subsequent to the Dividend Cut

In this section, we further distinguish between the predictions of the signaling theory and those of the volatility reduction theory. We examine the long-term stock return volatility, operating performance, dividend payment, institutional equity holdings, and stock returns of prepared versus nonprepared dividend cutters subsequent to a dividend cut.

1. Stock Return Volatility

Both the signaling theory and the volatility reduction theory predict that stock return volatility should be reduced subsequent to a dividend cut. In this section, we test this hypothesis, Hypothesis 5, by comparing the stock return volatility of prepared and nonprepared dividend cutters after a dividend cut.

We obtain daily stock return data from CRSP and calculate average stock return volatility based on four event windows: the dividend cut day to 3 months after the dividend cut day [0, +3], to 6 months after the dividend cut day [0, +6], to 9 months after the dividend cut day [0, +9], and to 12 months after the dividend cut day [0, +12].

We estimate equation (2) with stock return volatility variables as the dependent variable and report the results in Table 7. The coefficient estimates of *Market Preparation* are negative and significant at the 5% or 10% level in all columns, suggesting that prepared dividend cutters have a 0.4% lower stock return volatility compared to nonprepared dividend cutters in the first four quarters after a dividend cut. The evidence supports Hypothesis 5 and is consistent with the predictions of both the signaling theory and the volatility reduction theory.

TABLE 7

Comparisons of Stock Return Volatilities

Table 7 reports the OLS regression results estimating equation (2) with stock return volatility up to four quarters after a dividend cut as the dependent variable. Robust standard errors clustered by individual cutting firms are reported in parentheses. Definitions of variables are reported in the Appendix. ***, **, and * indicate significance at the 1%, 5%, and 10% levels, respectively.

	Dependent Variable: Stock Return Volatility			
	[0, +3]	[0, +6]	[0, +9]	[0, +12]
Variable	1	2	3	4
Market preparation dummy	–0.004*	–0.004**	–0.004**	–0.004**
	(0.002)	(0.002)	(0.002)	(0.002)
ln(Assets)	–0.003***	–0.003***	–0.003***	–0.003***
	(0.001)	(0.001)	(0.001)	(0.001)
Payout ratio	–0.000	–0.000*	–0.000	–0.000
	(0.000)	(0.000)	(0.000)	(0.000)
Dividend yield	0.001***	0.001***	0.001***	0.001***
	(0.000)	(0.000)	(0.000)	(0.000)
Asset tangibility	0.000	0.001	0.001	0.002
	(0.003)	(0.003)	(0.002)	(0.003)
Market-to-book ratio	–0.004	–0.004*	–0.005**	–0.005**
	(0.003)	(0.002)	(0.002)	(0.002)
R&D	0.063	0.063	0.057	0.059
	(0.048)	(0.043)	(0.038)	(0.037)
Leverage	0.007	0.005	0.003	0.002
	(0.006)	(0.005)	(0.005)	(0.005)
Capital expenditure	–0.006	–0.004	0.001	0.009
	(0.019)	(0.017)	(0.017)	(0.018)
ln(No. of analysts)	0.004***	0.004***	0.003**	0.003*
	(0.001)	(0.001)	(0.001)	(0.001)
Forecast error	–0.000	–0.000	–0.000	–0.000
	(0.000)	(0.000)	(0.000)	(0.000)
Standard deviation	0.001	0.002	0.002	0.002
	(0.002)	(0.001)	(0.001)	(0.001)
ln(No. of institutional investors)	–0.001	–0.001	–0.001	–0.001
	(0.001)	(0.001)	(0.001)	(0.001)
Constant	0.031***	0.032***	0.031***	0.030***
	(0.006)	(0.006)	(0.006)	(0.006)
Industry fixed effects	Yes	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes	Yes
No. of obs.	315	314	313	304
R^2	0.474	0.547	0.563	0.544

2. Long-Term Operating Performance, Dividend Payout, and Institutional Ownership

In this section, to distinguish between the predictions of the signaling theory and the volatility reduction theory and to test Hypothesis 6, we explore the long-term operating performance, dividend payout, and institutional ownership of prepared versus nonprepared dividend cutters subsequent to a dividend cut.

The volatility reduction theory suggests that there will not be any differences between the two groups of firms regarding their operating performance, dividend payout, and institutional equity holdings after a dividend cut. This is because, under this theory, managers' market preparation is purely driven by a desire to reduce their firm's stock return volatility and managers of firms preparing the market do not have more favorable private information about their firm's intrinsic value. However, the signaling theory suggests that the operating, dividend payout, and institutional equity holdings of prepared dividend cutters after a dividend cut will be better than those of nonprepared cutters, since market preparation is a signal sent by managers who privately observe that their firms have higher intrinsic value than nonprepared dividend cutters. Therefore, their long-term performance after a dividend cut will be better than that of nonprepared dividend cutters.

We start by examining the long-term operating performance. Table 8 reports the results from estimating equation (2) with 3-year postdividend cut operating

TABLE 8

Long-Term Operating Performance

Table 8 reports the OLS regression results estimating equation (2) with the operating performance measure at the third year after a dividend cut as the dependent variable. Robust standard errors clustered by individual cutting firms are reported in parentheses. The operating performance variables are ROA, EBIT/Assets, and Profit Margin. Definitions of variables are reported in the Appendix. ***, **, and * indicate significance at the 1%, 5%, and 10% levels, respectively.

	Dependent Variable: Operating Performance in 3 Years		
	ROA	EBIT/Assets	Profit Margin
Variable	1	2	3
Market preparation dummy	0.039**	0.032**	0.040**
	(0.015)	(0.014)	(0.019)
ln(Assets)	0.008**	0.010**	0.019***
	(0.004)	(0.004)	(0.005)
Payout ratio	0.000	–0.000	0.001**
	(0.000)	(0.000)	(0.000)
Dividend yield	0.001	0.001	–0.002
	(0.002)	(0.002)	(0.002)
Asset tangibility	0.018	0.016	0.044
	(0.020)	(0.024)	(0.027)
Market-to-book ratio	0.031	0.088***	0.022
	(0.020)	(0.027)	(0.022)
R&D	–0.804**	–0.399	–0.539*
	(0.335)	(0.293)	(0.323)
Leverage	0.040	–0.035	0.103**
	(0.039)	(0.051)	(0.051)
Capital expenditure	0.125	–0.398	0.150
	(0.148)	(0.303)	(0.240)
ln(No. of analysts)	–0.007	–0.000	–0.022
	(0.009)	(0.012)	(0.015)
Forecast error	0.002	0.000	–0.002
	(0.002)	(0.002)	(0.004)
Standard deviation	–0.017	–0.000	–0.013
	(0.012)	(0.015)	(0.022)
ln(No. of institutional investors)	0.004	0.003	0.010
	(0.005)	(0.007)	(0.009)
Constant	–0.043	–0.069	–0.084
	(0.045)	(0.048)	(0.055)
Industry fixed effects	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes
No. of obs.	243	243	243
R^2	0.488	0.609	0.677

performance measures as the dependent variable. We consider three operating performance measures: ROA, earnings before interest and taxes (EBIT) over book value of firm assets, and profit margin. The coefficient estimates of *Market Preparation* are positive and significant at the 5% level in all columns. The economic significance is large: the coefficient estimate of *Market Preparation* in column 1 suggests that prepared dividend cutters have a 3.9% higher ROA than nonprepared cutters 3 years after the cut. These findings suggest that, compared to nonprepared dividend cutters, prepared dividend cutters have better operating performance in the years after a dividend cut.

Next, we study how prepared dividend cutters' dividend payout patterns differ from those of nonprepared cutters after a dividend cut. We examine the dividend payout performance up to 4 years after a dividend cut. For each year, we calculate the average dividend change rate. Our calculation of the dividend change rate is based only on ordinary quarterly cash dividends. The average dividend change rate is calculated as the average quarterly dividend change rate within the calendar year after a dividend cut as

$$\Delta \text{DIV}_i = \frac{1}{4}\sum_{i=1}^{4} \frac{((\text{DIV}_{i,t} - \text{DIV}_{i,t-1})}{\text{DIV}_{i,t-1})}.$$

We then compute the differences between the average dividend change rate of these two groups of dividend cutters.

Table 9 reports the long-term dividend payout results from estimating equation (2) with firms' average dividend change rate as the dependent variable. The coefficient estimate of *Market Preparation* is positive and insignificant in column 1, suggesting that there is no significant difference in payout performance between the firms in the first year after a dividend cut. However, the coefficient estimates of *Market Preparation* are positive and significant at the 1% or 5% level in columns 2–4, suggesting that prepared dividend cutters perform better

TABLE 9

Long-Term Dividend Payout Performance

Table 9 reports the OLS regression results estimating equation (2) with the average dividend payout rate up to 4 years after a dividend cut as the dependent variable. Robust standard errors clustered by individual cutting firms are reported in parentheses. Definitions of variables are reported in the Appendix. ***, **, and * indicate significance at the 1%, 5%, and 10% levels, respectively.

	Dependent Variable: Dividend Payout Performance			
	Year			
Variable	1	2	3	4
Market preparation dummy	0.003	0.116***	0.114**	0.091**
	(0.035)	(0.032)	(0.052)	(0.045)
ln(Assets)	–0.007	–0.010	–0.022	0.000
	(0.016)	(0.011)	(0.018)	(0.010)
Payout ratio	0.000	–0.000	0.000	–0.000
	(0.000)	(0.000)	(0.000)	(0.001)
Dividend yield	0.002	–0.002	–0.003	0.026
	(0.011)	(0.005)	(0.005)	(0.019)
Asset tangibility	–0.005	0.031	–0.039	0.017
	(0.042)	(0.048)	(0.053)	(0.060)
Market-to-book ratio	–0.064	–0.056	0.019	0.056
	(0.045)	(0.040)	(0.048)	(0.050)
R&D	0.436	–0.737*	–1.382*	–1.846*
	(0.509)	(0.422)	(0.760)	(1.119)
Leverage	–0.147	–0.030	0.069	0.083
	(0.140)	(0.133)	(0.142)	(0.153)
Capital expenditure	0.682	0.090	–0.502	0.671
	(0.827)	(0.455)	(0.454)	(0.876)
ln(No. of analysts)	–0.043	0.011	0.003	0.062
	(0.028)	(0.023)	(0.030)	(0.050)
Forecast error	0.029*	–0.011	0.014	–0.002
	(0.015)	(0.014)	(0.015)	(0.018)
Standard deviation	0.031*	–0.006	–0.011	–0.020
	(0.019)	(0.016)	(0.052)	(0.053)
ln(No. of institutional investors)	0.027	–0.001	–0.008	–0.030
	(0.017)	(0.014)	(0.014)	(0.025)
Constant	–0.042	0.061	0.092	–0.454*
	(0.140)	(0.103)	(0.133)	(0.253)
Industry fixed effects	Yes	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes	Yes
No. of obs.	299	260	235	210
R^2	0.358	0.318	0.544	0.609

Table 10 reports the results on institutional investors from estimating equation (2) up to 4 years after the dividend cut year (years 1–4). Panel A presents institutional investors' equity holdings. The coefficient estimates of *Market Preparation* are all positive and significant at the 1% or 5% level. The coefficient estimate in column 1 suggests that institutional investors hold 48.9% more shares of prepared cutters than nonprepared cutters. In Panel B, we report the results for the number of institutional investors investing in the dividend cutting firms. The coefficient estimates of *Market Preparation* are all positive and significant at the 5% or 10% level, suggesting that there are a larger number of institutional investors investing in prepared dividend cutters than in nonprepared cutters in all four years (years 1–4) after a dividend cut.

Overall, we compare the long-term operation, dividend payout, and institutional equity holdings of prepared versus nonprepared dividend cutters to

distinguish between the predictions of the signaling theory and those of the volatility reduction theory. We find that prepared dividend cutters have better long-term operating performance, increase dividends more, and have larger institutional equity ownership. The evidence is consistent with the predictions of the signaling theory but is inconsistent with those of the volatility reduction theory.

3. Diagnostic Tests

In Sections IV.C.1 and IV.C.2, we estimate equation (2) and interpret the coefficient estimate of *Market Preparation*, β_1, as the effect of market preparation on firms' long-term performance after a dividend cut. However, a key assumption for the above interpretation is that the set of control variables, *Control*, in equation (2) includes all relevant (to the long-term performance subsequent to

TABLE 10

Long-Term Institutional Investors' Equity Holdings

Table 10 reports the OLS regression results estimating equation (2) with the institutional ownership variables up to 4 years after a dividend cut as the dependent variable. Robust standard errors clustered by individual cutting firms are reported in parentheses. Panel A presents the subsequent percentage of institutional holdings. Panel B presents the number of institutional investors investing in the prepared dividend and nonprepared dividend cutters. Definitions of variables are reported in the Appendix. ***, **, and * indicate significance at the 1%, 5%, and 10% levels, respectively.

Panel A. Percentages of Institutional Investors

	Dependent Variable: ln(Institutional Ownership)			
	Year			
Variable	1	2	3	4
Market preparation dummy	0.489**	0.532***	0.595**	0.570**
	(0.207)	(0.203)	(0.230)	(0.237)
ln(Assets)	–0.075	–0.057	–0.025	–0.025
	(0.057)	(0.058)	(0.068)	(0.068)
Payout ratio	0.008***	0.007***	0.007***	0.007***
	(0.002)	(0.002)	(0.002)	(0.002)
Dividend yield	–0.004	–0.012	–0.019	–0.023
	(0.019)	(0.018)	(0.018)	(0.018)
Asset tangibility	0.003	–0.006	0.076	0.071
	(0.286)	(0.280)	(0.290)	(0.291)
Market-to-book ratio	0.083	0.093	0.137	0.091
	(0.273)	(0.266)	(0.271)	(0.280)
R&D	–4.860	–4.652	–4.589	–4.280
	(5.739)	(5.717)	(5.567)	(5.920)
Leverage	–0.033	–0.147	–0.361	–0.360
	(0.550)	(0.549)	(0.575)	(0.580)
Capital expenditure	–0.949	–1.016	–1.370	–0.809
	(2.071)	(2.048)	(2.247)	(2.199)
ln(No. of analysts)	1.093***	1.059***	0.953***	0.932***
	(0.085)	(0.088)	(0.103)	(0.105)
Forecast error	0.021	0.024	0.031	0.022
	(0.057)	(0.056)	(0.056)	(0.056)
Standard deviation	0.124	0.113	0.109	0.157
	(0.225)	(0.225)	(0.222)	(0.222)
Constant	0.945	0.977*	1.038*	1.067*
	(0.582)	(0.579)	(0.610)	(0.607)
Industry fixed effects	Yes	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes	Yes
No. of obs.	320	260	235	210
R^2	0.541	0.550	0.520	0.513

(continued on next page)

TABLE 10 (continued)
Long-Term Institutional Investors' Equity Holdings

Panel B. Number of Institutional Investors

	Dependent Variable: ln(No. of Institutional Investors)			
	Year			
Variable	1	2	3	4
Market preparation dummy	0.036*	0.055**	0.048*	0.055**
	(0.021)	(0.027)	(0.024)	(0.025)
ln(Assets)	–0.001	0.005	0.033***	0.035***
	(0.008)	(0.010)	(0.010)	(0.009)
Payout ratio	–0.000	–0.000	0.000	0.000
	(0.002)	(0.002)	(0.002)	(0.002)
Dividend yield	–0.001	–0.006*	–0.007**	–0.009***
	(0.003)	(0.003)	(0.003)	(0.003)
Asset tangibility	–0.058**	–0.059*	–0.057*	–0.048
	(0.029)	(0.034)	(0.031)	(0.030)
Market-to-book ratio	–0.016	–0.014	0.016	0.025
	(0.024)	(0.035)	(0.031)	(0.032)
R&D	–0.783*	–0.826	–0.734	–0.806
	(0.450)	(0.595)	(0.485)	(0.511)
Leverage	–0.028	–0.009	–0.076	–0.058
	(0.057)	(0.083)	(0.069)	(0.072)
Capital expenditure	0.096	0.069	0.053	–0.087
	(0.187)	(0.239)	(0.225)	(0.232)
ln(No. of analysts)	0.073***	0.082***	0.036**	0.024*
	(0.013)	(0.017)	(0.015)	(0.014)
Forecast error	–0.002	–0.002	–0.002	–0.002
	(0.004)	(0.005)	(0.006)	(0.005)
Standard deviation	–0.002	–0.006	–0.013	–0.016
	(0.014)	(0.018)	(0.016)	(0.015)
Constant	0.144**	0.155*	0.101	0.076
	(0.066)	(0.084)	(0.078)	(0.080)
Industry fixed effects	Yes	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes	Yes
No. of obs.	320	260	235	210
R^2	0.498	0.491	0.499	0.501

the dividend cut and the decision to prepare the market) observable firm characteristics. Hence, β_1 captures the expected differences (due to unobservable firm characteristics) of the long-term performance between prepared and nonprepared dividend cutting firms. To test the above assumption and to provide evidence that *Control* indeed includes all observable firm characteristics that are important for firms' decision to prepare the market, we perform two diagnostic tests below.

First, we run a logit regression estimating equation (1) in the full sample of dividend cutting firms with two important exceptions. i) Instead of using the 3-year average growth in sales subsequent to the dividend cut, we use *Past sales growth*, the sales growth rate that equals the change rate of sales over the year before the first market preparation year, in the regression. Doing this ensures that our comparison is based on firms' current observable characteristics so that any future differences in performance variables can be attributed to differences in firm unobservables. ii) We include Fama-French 49 industry fixed effects instead of firm fixed effects. Including industry fixed effects allows us to compare firms

within the same industry, which controls for any effects of industry heterogeneity on firms' long-term performance after the dividend cut.

We present the logit regression estimates in column 1 of Table 11.[12] The results show that the logit regression captures a significant amount of variation in the choice variable, *Market Preparation*, as indicated by a pseudo-R^2 of 30.6% and a p-value from the χ^2 test of the overall model fitness well below 0.001.

The second diagnostic test is based on a matched sample that uses the predicted probabilities, or propensity scores, obtained from the coefficients estimated

TABLE 11

Diagnostic Tests

Table 11 reports the diagnostic tests. Column 1 presents the parameter estimates from the logit model regressions based on the entire dividend cutting firm sample. Column 2 presents the parameter estimates of the logit model based on the subsample of prepared and matched nonprepared dividend cutters. Besides all independent variables in column 1, column 2 includes the lagged variables of all independent variables in column 1. Robust standard errors clustered by firm are reported in parentheses. Definitions of variables are reported in the Appendix. ***, **, and * indicate significance at the 1%, 5%, and 10% levels, respectively.

	Dependent Variable: Market Preparation Dummy	
	Logit	
Variable	1	2
Past sales growth	2.352**	0.021
	(1.066)	(0.108)
ROA	–6.133	–0.587
	(4.308)	(3.585)
Recession dummy	–1.518*	0.065
	(0.855)	(0.408)
ln(Assets)	0.468***	0.307
	(0.091)	(1.871)
Payout ratio	–0.022	0.012
	(0.036)	(0.076)
Dividend yield	0.219***	0.004
	(0.050)	(0.022)
Asset tangibility	–0.007	–0.058
	(1.126)	(0.313)
Market-to-book ratio	–0.256	0.154
	(0.576)	(0.903)
R&D	6.676	2.718
	(5.569)	(15.060)
Leverage	–0.277	0.858
	(1.062)	(5.106)
Capital expenditure	1.715	–1.897
	(7.354)	(11.382)
Return volatility	–41.658**	–2.571
	(19.385)	(15.251)
ln(No. of analysts)	0.088	–0.026
	(0.277)	(0.148)
Forecast error	–0.043	–0.032
	(0.061)	(0.193)
Standard deviation	–0.102	0.048
	(0.355)	(0.292)
ln(No. of institutional investors)	0.100	0.089
	(0.139)	(0.536)

(continued on next page)

[12]Compared to column 3 of Table 3 in which the linear probability model is used to estimate equation (1), column 1 of Table 11 has 22 fewer observations as they are dropped in the logit regression due to collinearity.

TABLE 11 (continued)
Diagnostic Tests

Variable	Dependent Variable: Market Preparation Dummy	
	Logit	
	1	2
Constant	–2.890*	–0.385
	(1.575)	(2.286)
Lags of independent variables	No	Yes
Industry and year fixed effects	Yes	Yes
No. of obs.	312	164
p-value of χ^2 for all independent variables	<0.001	0.491
p-value of χ^2 for all lagged variables	—	0.899
Pseudo-R^2	0.306	0.074

from the previous logit regression and performs nearest-neighbor propensity-score matching. Specifically, we match each prepared dividend cutter with a nonprepared cutter with the closest propensity score without replacement. We are able to obtain 82 unique pairs of matched firms.

After obtaining a sample of matched firms, to check whether the set of control variables, *Control*, in equation (2) includes all observable firm characteristics that are relevant to the decision to prepare the market before a dividend cut, we conduct a diagnostic test by rerunning the logit regression restricted to the matched sample (i.e., 164 observations from 82 pairs of unique matches). In addition to all matching variables used in the first logit regression, in the spirit of a test of overidentified restrictions, we include lagged variables of these firm characteristics in the diagnostic regression. We suppress the coefficient estimates of these lagged variables for brevity. We report the postmatch logit estimates in column 2 of Table 11. We observe that none of the matching variables and their lagged terms is statistically significant. Also, none of the year dummies and industry dummies is statistically significant in the postmatch logit regression, whereas a majority of them are statistically significant in the prematch regression reported in column 1.[13] In addition, the pseudo-R^2 drops dramatically from 30.6% prior to the matching to 7.4% after the matching, and the χ^2 test for overall model fitness suggests that we cannot reject the null hypothesis that all of the coefficient estimates of independent variables are 0 (with a *p*-value of 0.49).

Overall, the above two diagnostic tests suggest that equation (2) includes all relevant observable firm characteristics that are important for firms' decision to prepare the market. Therefore, the estimated coefficient of *Market Preparation* captures the expected difference of the long-term performance of two groups of firms that are likely to cut dividends: the ones that prepare the market for the possible dividend cut and those that do not prepare the market.

4. Stock Returns

Finally, we test Hypothesis 7 by examining the long-term stock returns of prepared versus nonprepared dividend cutters after a dividend cut, based on a

[13] We suppress the coefficients of year and industry dummies to save space.

sample of prepared dividend cutters with matched nonprepared cutters selected from the procedure described in Section IV.C.3.[14] We use the standard calendar-time portfolio approach advocated by Fama (1998), which avoids potential biases for long-term CARs. We compare the intercepts (α) of the Fama and French (1993) 3-factor model augmented by a momentum factor (Carhart (1997)) based on the calendar-time monthly portfolio returns of these two groups of firms. Factor returns are obtained from Kenneth French's data library available from the following Web site: http://mba.tuck.dartmouth.edu/pages/faculty/ken.french/. We construct the calendar-time portfolio returns by averaging monthly returns of firms that cut dividends within 48 months of the dividend cut date. We present the results for both equal- and event-weighted calendar periods and for both equal- and value-weighted return portfolios.

Panel A of Table 12 reports stock return results for prepared and nonprepared dividend cutters with equal-weighted portfolios using the OLS regressions. The alphas are not statistically significant for either group, although prepared dividend cutters have a positive α while nonprepared cutters have a negative α. Panel B reports the results with equal-weighted portfolios using the weighted least squares (WLS) regressions based on the number of dividend cuts in the monthly portfolio. While the α of prepared cutters is still positive and insignificant, that of nonprepared cutters is negative and significant at the 5% level. The results suggest that a nonprepared dividend cutter portfolio underperforms the market by 0.7% on a monthly basis. Panel C reports the results with value-weighted portfolios using the OLS regressions, and Panel D reports the results with value-weighted portfolios using the WLS regressions. In both cases, the α of prepared cutters is positive and significant while that of nonprepared cutters is negative and statistically insignificant. Overall, the evidence suggests that prepared dividend cutters enjoy higher long-term stock returns compared to nonprepared dividend cutters after a dividend cut, consistent with Hypothesis 7.[15]

In summary, in Section IV.C, we find that long-term stock return volatility, operating performance, dividend payout, institutional ownership, and stock return performance of prepared dividend cutters subsequent to a dividend cut are better than those of nonprepared dividend cutters. The evidence is consistent with the implication of the signaling theory but is inconsistent with that of the volatility reduction theory.[16]

[14]We choose not to perform the long-term stock return analysis in the linear regression framework laid out in equation (2) as we do for other long-term performance tests, since we wish to use the standard Fama-French-Carhart 4-factor model for our analysis of stock returns. To the best of our knowledge, we are not aware of any empirical studies that use the linear regression framework with firm characteristics (instead of well-documented risk factors such as Fama-French (1993) risk factors) as controls to explain firm stock returns. Therefore, we conduct our analysis based on the matched sample obtained from the propensity score matching in Section IV.C.3.

[15]In an unreported analysis, we also examine the stock returns of all nonprepared dividend cutters that include both firms that are matched to prepared dividend cutters and those that are not matched to prepared dividend cutters. We observe that the stock returns of all nonprepared dividend cutters underperform those of prepared dividend cutters.

[16]In an unreported analysis, we repeat all our long-term performance analyses based on a sample of matched firms in which prepared dividend cutters are matched to nonprepared dividend cutters based on the matching algorithm suggested by Loughran and Ritter (1997). We obtain qualitatively similar findings from this analysis. These results are available from the authors to interested readers.

TABLE 12

Long-Term Stock Return Performance

Table 12 reports the time-series regression of postdividend monthly percentage returns of prepared and matched nonprepared dividend cutters using the Fama-French (1993) 3-factor model augmented by a momentum factor:

$$R_{pt} - R_{ft} = \alpha + \beta(R_{mt} - R_{ft}) + s\text{SMB}_t + h\text{HML}_t + u\text{UMD}_t + \varepsilon_t,$$

where R_{pt} is the return on the portfolio of sample firms in month t; R_{mt} is the return on the value-weighted index of New York Stock Exchange, American Stock Exchange, and NASDAQ stocks in month t; R_{ft} is the 1-month T-bill yield in month t; and SMB_t, HML_t, and UMD_t are factors described in Fama and French (1993) and Carhart (1997). The sample period is Jan. 1982 to Dec. 2006 (300 months), and sample firm returns are included in a particular monthly portfolio if the firm's dividend cut date occurred within the last 48 months. Panel A reports results from equal-weighted returns using the OLS. Panel B reports results from value-weighted returns (with value measured as the sample firms' month-end market capitalization in the month prior to the portfolio formation) using the WLS based on the number of dividend cuts in the monthly portfolio. Panel C reports results from value-weighted returns using the OLS. Panel D reports results from value-weighted returns using the WLS. Parameter estimates are presented with standard errors in parentheses. ***, **, and * indicate significance at the 1%, 5%, and 10% levels, respectively.

Variable	α	β	s	h	u
Panel A. Equal-Weighted Portfolios with OLS					
Prepared Cutters	0.001	0.989***	0.758***	0.753***	–0.224
	(0.004)	(0.078)	(0.178)	(0.279)	(0.234)
Nonprepared Cutters	–0.003	0.753***	0.389***	0.628***	–0.220
	(0.004)	(0.091)	(0.122)	(0.190)	(0.158)
Panel B. Equal-Weighted Portfolios with WLS					
Prepared Cutters	0.002	0.755***	0.413***	–0.018	–0.620***
	(0.006)	(0.129)	(0.140)	(0.281)	(0.180)
Nonprepared Cutters	–0.007**	0.956***	0.756***	0.692***	0.061
	(0.003)	(0.072)	(0.102)	(0.197)	(0.155)
Panel C. Value-Weighted Portfolios with OLS					
Prepared Cutters	0.012**	0.909***	0.335*	0.454**	–0.359
	(0.005)	(0.109)	(0.201)	(0.216)	(0.232)
Nonprepared Cutters	–0.005	0.686***	0.125	0.509**	–0.113
	(0.005)	(0.107)	(0.135)	(0.197)	(0.137)
Panel D. Value-Weighted Portfolios with WLS					
Prepared Cutters	0.007*	0.940***	0.131	0.172	–0.146
	(0.004)	(0.093)	(0.124)	(0.149)	(0.115)
Nonprepared Cutters	–0.002	0.764***	0.210	0.005	–0.356*
	(0.007)	(0.170)	(0.174)	(0.315)	(–0.194)

V. Extensions and Robustness

In this section, we discuss extensions to our empirical analysis by examining prepared nondividend cutters. We also check whether any potential survivorship bias drives our results.

A. Prepared Nondividend Cutters

We now briefly discuss firms that prepare the market for a possible dividend cut but eventually do not cut the dividend ("prepared nondividend cutters" from now on). Since, in the model of Chemmanur and Tian (2012), prepared nondividend cutters are more likely to be the medium intrinsic value firms than are the prepared dividend cutters, the model makes two clear predictions about this type of firm. First, it predicts that these firms will have a negative announcement effect on the market preparation days (similar to prepared dividend cutters). Second, it predicts that the long-term operating performance of prepared nondividend cutters will be better than that of the prepared dividend cutters (which, in turn,

will be better than that of the nonprepared dividend cutters, as we have already established empirically).

Obviously, the data collection strategy we have adopted to compare the performance of prepared and nonprepared dividend cutters, namely, starting with dividend cutting firms and looking backward and searching for news articles and SEC filings to determine whether they prepared the market, will not help us to create a sample of prepared nondividend cutters. This is because, in this case, there is no conditioning event such as a dividend cut to reduce to a manageable number the sample of firms that we have to search for news articles and SEC filings. Therefore, we are unable to undertake a systematic empirical analysis comparing prepared nondividend cutters to prepared dividend cutters. However, as a case study, we identified 11 firms as prepared nondividend cutters through a random search of the universe of firms. As our sample of prepared nondividend cutters is small, we cannot conclude any meaningful inferences if we conduct univariate or multivariate analyses based on the above sample. However, it is worth reporting that, as expected, the announcement effects on the first market preparation day of prepared nondividend cutters are indeed all negative and their operating performance is considerably better than that of prepared dividend cutters, in the year of market preparation as well as in subsequent years. We now present two illustrations of firms that prepared the market for a dividend cut but, in fact, did not cut their dividends.

AT&T: AT&T (American Telephone & Telegraph (Dallas, TX))) prepared the market for a possible dividend cut on March 21, 1984. Mr. Charles Brown, Chairman of AT&T, said that "... announcement of a 30-cent dividend for the first quarter of 1984 is the fulfillment of a commitment rather than a declaration of future dividend policies and I am obliged to be clear about that to our investors. ... We do not expect to earn at this dividend level in the first quarter." However, AT&T neither prepared the market again nor cut the dividend subsequently. AT&T experienced a negative market reaction on the market preparation day. AT&T's CAR was −6.4% in the [−1, +1] event window based on a value-weighted market index. However, AT&T's operating performance in the subsequent 5 years was much better than even the best performing prepared dividend cutters. For example, AT&T's ROA in subsequent years was in the range of 40%–47%, while the highest ROA of prepared dividend cutters was 28% and the ROA for the average prepared dividend cutter was only about 10%–12%, as reported in Table 9.

Entergy Corporation: Entergy (New Orleans, LA) prepared the market on Dec. 4, 1995 as management indicated "a possible dividend cut," but it neither prepared the market again nor cut the dividend subsequently. The equity market reaction upon Entergy's announcement was negative: It experienced a CAR of −5.8% in the [−1, +1] event window based on a value-weighted market index. However, Entergy's average profit margin in subsequent years was 28.9%, which was higher than that of the average prepared dividend cutters (i.e., 24%), as reported in Table 9.

B. Survivorship Bias

A common criticism of long-term performance research is that the study is subject to potential survivorship bias. About 10% of firms disappear in a single

year in the CRSP/Compustat databases (Welch (2008)). Since many of our tests focus on dividend cutters' long-term performance after a dividend cut, we examine whether our sample is subject to survivorship bias. We first identify a group of nonsurviving dividend cutting firms in our sample. A dividend cutter is defined as a nonsurviving firm if it is delisted within 4 years after a dividend cut for reasons due to liquidation (CRSP delisting code DLSTCD between 400 and 499 or between 520 and 600).[17] There are 14 dividend cutting firms in our sample that were delisted due to liquidation within 4 years. Since only a total of 4.1% (14 out of 342 dividend cutting firms) of dividend cutters are nonsurviving firms in our sample across a span of 25 years, compared with 10% of firms delisted in a single year in the CRSP/Compustat databases, survivorship bias is unlikely to be a significant concern in our study.

VI. Conclusion

This paper has presented the first empirical analysis of the choice of firms regarding whether to release private information (i.e., preparing the market) to the equity market in advance of a possible dividend cut and the consequences of such a release. We use a hand-collected data set of dividend cutting firms that allows us to distinguish between prepared and nonprepared dividend cutting firms and to test the implications of two alternative theories: the signaling through market preparation theory and the stock return volatility reduction theory. Our empirical analysis provides a number of new findings.

We first show that firms that have poorer current profitability but higher long-term growth opportunities are more likely to prepare the market prior to dividend cuts. Second, the abnormal stock returns of firms preparing the market for a dividend cut are negative on the first market preparation day but are insignificant on subsequent market preparation days. The abnormal stock returns upon the announcement of a dividend cut are less negative for prepared than for nonprepared dividend cutters. Even though we combine the market reactions of prepared dividend cutters on all market preparation days and the dividend cut announcement day and compare those with the announcement effects of nonprepared dividend cutters, prepared dividend cutters still experience a less negative market reaction than nonprepared dividend cutters. Third, prepared dividend cutters experience a larger reduction in stock return volatility than nonprepared dividend cutters subsequent to a dividend cut. Finally, the long-term operating performance, dividend payout, institutional equity holdings, and stock return performance of prepared dividend cutters are better than those of nonprepared dividend cutters.

While our empirical analysis is conducted only in the context of dividend cuts, it has potential implications for communicating adverse information to the equity market in the context of other corporate events as well, such as firms issuing earnings warnings in the face of negative earnings surprises.

[17] We choose a window of 4 years as all our long-term performance analyses are truncated at the fourth year after the dividend cut.

Appendix. Variable Definitions and Data Sources

Market Preparation, Dividend Cuts, and Macroeconomic Conditions (data source: CRSP)
Market preparation dummy: A dummy that equals 1 if the dividend cutting firm prepares the market before the dividend cut announcement, and 0 otherwise.
No. of preparation days: Number of days between the firm's first market preparation date and the dividend cut announcement date.
Dividend cut percentage: Firm's percentage change in dividends.
Recession dummy: A dummy that equals 1 if the economy is in a recession according to the NBER definition, and 0 otherwise (source: NBER).

Firm Financial Characteristics (data source: Compustat)
Sales growth: Average 3-year growth rate in sales subsequent to a dividend cut.
ROA: Operating income before depreciation divided by book value of firm assets.
Assets (billion): Book value of firm assets in billions.
Payout ratio: Cash dividend divided by net income before extraordinary items.
Dividend yield: Cash dividend divided by market value of equity.
Asset tangibility: Plant, property, and equipment divided by book value of firm assets.
Market-to-book ratio: Aggregate market value of the firm divided by aggregate book value.
R&D: Research and development (R&D) expenditure divided by book value of firm assets.
Leverage: Book value of long-term debt plus book value of short-term debt plus notes payable divided by market value of firm assets.
Capital expenditure: Capital expenditure divided by book value of firm assets.
Past sales growth: Growth rate of sales over the year before the first market preparation day.
EBIT/Assets: Earnings before interest and taxes divided by book value of firm assets.
Profit margin: Operating income before depreciation divided by sales.

Other Firm Characteristics (data source: CRSP, IBES, and Thomson Financial 13F)
Return volatility: [illegible]

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