Management Forecast Disaggregation and the Legal Environment: International Evidence

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Abstract

This study examines the impact of legal environment on incidence, extent, and informativeness of management forecast disaggregation (i.e., management forecasts containing projections of multiple key accounting performance measures) around the world and provides evidence on how incidence and informativeness of distinct forecasted performance measures vary with the investor protection in a country. Using a comprehensive dataset hand-collected from the original text of management forecasts from 30 countries, we find that managers are less (more) inclined to issue disaggregated forecasts and forecasts containing projections of future sales and performance measures reported on the upper part of the income statement in countries with a stronger (weaker) legal environment, even though such forecasts are (are not) perceived to be more informative by investors in these countries. Overall, our results suggest that while disaggregated forecasts and the choice of forecasted performance measures can significantly enhance the perceived credibility and informativeness of management forecasts, the resulting outcome and the incentives for issuing such forecasts are affected by both the costs and benefits associated with voluntary disclosure in different legal environments.

Keywords: *forecast disaggregation, institutional characteristics, credibility, legal environment*

Management Forecast Disaggregation and the Legal Environment: International Evidence

1. Introduction

Management forecast disaggregation (i.e., management forecasts containing projections of multiple key performance measures such as sales, EBITDA, operating income, and net income),[1] is an important management forecast characteristic through which managers can signal their credibility when they communicate forward-looking information to capital market participants (Hirst, Koonce, and Venkataraman 2007, Hirst, Koonce, and Venkataraman 2008). However, prior empirical evidence in the U.S. on the ability of forecast disaggregation to effectively enhance the credibility of voluntary disclosures, and management forecasts in particular, is mixed.[2]

Prior research suggests that differences in country-level legal environments could play an important role in influencing managers' voluntary disclosure decisions and also the ability of their disclosure to reduce information asymmetry between insiders and capital market participants (Baginski, Hassell, and Kimbrough 2002; Hirst et al. 2008; Beyer, Cohen, Lys, and Walther 2010).[3] However, the evidence to date is limited and inconclusive on

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[1] We use "forecast disaggregation" to refer to both whether a management forecast contains multiple performance items and the degree with which management forecasts are disaggregated, and "forecast items" to refer to the specific accounting performance measures forecasted in management forecasts throughout this paper.

[2] For example, Lansford, Lev, and Tucker (2013) find that forecast disaggregation leads to more timely analysts' forecast revisions and a larger reduction in analysts disagreement suggesting that forecast disaggregation enhances a firm's information environment. On the other hand, Chen, Doogar, Li, and Sougiannis (2009) find that disaggregated forecasts are no better, and sometimes could even be worse in information quality than aggregated earnings forecasts. Similarly, Han and Wild (1991) compare the stock market reaction to management earnings forecasts released together with revenue forecasts to stand-alone management earnings forecasts. They document that stand-alone earnings forecasts are more informative than those bundled with revenue forecasts suggesting that forecast disaggregation may not result in better quality information.

[3] For example, prior studies suggest that fear of potential legal liability deters managers from making management forecasts (Baginski et al. 2002, Hirst et al. 2008, Beyer et al. 2010).

whether and how various country-level institutional factors affect firms' voluntary disclosure decisions and their perceived informativeness. For example, using the CIFAR disclosure score as a measure of disclosure level, Francis, Khurana, and Pereira (2005) suggest that the incentives and effectiveness of firms' voluntary disclosure are independent from country-level institutional factors. Given the mixed findings in the U.S., and the limited empirical evidence on the effect of country-level institutional factors on voluntary disclosure, this study examines the impact of legal environment of a country on firms' voluntary disclosure in the context of managers' forecast disaggregation practices using an international setting. The international setting is especially interesting because the existence of variation in the legal systems across countries permits an examination of interactions between firm-level voluntary disclosure and country-level institutional environment.

We have two broad objectives in this paper. Our first broad objective is to examine the possible impact of legal environment of a country on the incidence, extent (i.e. level of disaggregation), and informativeness of management forecast disaggregation around the world after controlling for other firm- and industry-level determinants of issuing disaggregated forecasts. Our main proxies of country-level legal environment measure public enforcement of securities regulation, level of investor protection, and availability of class-action lawsuits.

Management forecasts vary not only in levels of disaggregation (i.e., the number of performance measure forecasted), but also in the choice of forecasted items (i.e., forecasting different performance measures). That is, while managers can issue a forecast containing only the bottom-line earnings, they can also issue a forecast which contains

the projection of future sales or any other key accounting performance measure. However, little is known about what determines the choices of performance items forecasted by managers and, more importantly, whether investors unequivocally assign similar credibility to different performance measures contained in management forecasts.[4] As such, our second broad research question deals with the effect of legal environment of a country on managers' choice to forecast distinct performance measures around the world. In addition, we also examine whether the perceived informativeness of a management forecast varies with the choice of forecast items included in a forecast. We conclude the examination of our second broad research question by exploring whether and how the perceived informativeness of different forecasted performance measures varies with country-level legal environment.

If forecast disaggregation and choice of forecast items affect the perceived credibility of a forecast, we hypothesize that a firm's incentive to enhance credibility through these practices and the effectiveness of such forecasts in enhancing credibility will be a function of country-level legal system. We answer these research questions using a comprehensive international dataset of 60,067 management forecasts issued by 8,560 unique firms domiciled in 30 countries around the world between years 2004 and 2009. We construct this dataset by hand-collecting detailed forecast disaggregation and forecast items information from the S&P Compustat-Capital IQ (CIQ) database.

After controlling for an array of firm- and industry-level variables that could explain firms' incentives to issue disaggregated forecasts, our results show that managers

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[4] In contrast to Barton, Hansen, and Pownall (2010) who examine the stock market response to different accounting performance measures reported on firms' financial statement, we examine stock market reactions associated with different performance measures forecasted by managers.

are less likely to issue disaggregated forecasts in countries with a stronger legal environment. In terms of perceived informativeness of management forecasts, consistent with the findings from prior studies (e.g. Hirst et al. 2007; Lansford et al. 2013), we find that disaggregated forecasts measured by both the incidence of providing disaggregated forecasts and the level of forecast disaggregation are associated with greater stock market reactions, measured by the absolute value of the two-day cumulative market-adjusted return surrounding the management forecast release date. We further document that the positive relationship between disaggregated forecasts and informativeness is driven by forecasts issued in countries with stronger legal environment. This evidence suggests that while disaggregated forecasts can significantly enhance the perceived credibility and informativeness of management forecasts especially in countries with strong legal protection of investors, managers appear less likely to provide disaggregated forecasts in these countries.

In addition, we find that while managers are less likely to forecast sales and other upper level income statement items in countries with stronger legal environment, they tend to be more likely to provide forecasts containing bottom-line earnings and other performance items (such as capital expenditures, expenses, and balance sheet items) in these countries. Moreover, our informativeness tests document that stock market reaction to management forecasts does vary with the choice of the items contained in the forecast. Specifically, management forecasts that contain projections of sales and other upper level income statement items (bottom-line earnings and other performance items) are associated with stronger (weaker) stock market reactions. We further find that the positive association between stock market reaction and forecasts containing sales or other

upper level income statement items exists only for management forecasts issued in countries with strong legal environment, i.e., where securities regulation enforcement is high, investor protection is strong, or class-action lawsuits are permitted.

In sum, our results suggest that management forecasts containing multiple performance measures and performance measures reported on the upper part of income statement are perceived by investors to be more informative.[5] More importantly, we provide evidence that both the incentives for, and effectiveness of, management forecast disaggregation and forecasted measures vary with country-level legal environment.

Our paper advances the literature in several ways. First, research into the information content of management forecasts has long held the view that legal liability, the existence of information intermediaries, and the quality of mandatory disclosure create incentives for credible management forecasting (King, Pownall, and Waymire 1990). Consistent with this view, Ball (2001), Bushman, Piotroski, and Smith (2004), and Bushman and Piotroski (2006) argue that differences in countries' institutional infrastructure play an important role in shaping firms' accounting and disclosure practices, suggesting that it is important to consider the effect of country-level institutional environment in examining the variation in firms' management forecast practices across countries and their subsequent consequences. Although a large body of research examines the determinants and market reactions to management forecasts in the U.S., limited empirical evidence exists regarding the management forecast practices and

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[5] Hirst et al. (2007) provide experimental evidence that disaggregated forecasts are perceived by investors to be more credible via its effect on perceived financial reporting quality. In an additional analysis we provide further support for their conclusions. In particular, we find disaggregated forecasts and forecasts containing sales projections have smaller management forecast errors, are more precise and timely, and include more explanations.

their consequences in an international setting (see Hirst et al. 2008 for a review of the management forecast literature).[6]

Given the importance of forecast disaggregation on investors' ability to assess the credibility of voluntary management forecasts (Hirst et al. 2007), in this study, we extend prior management forecast disaggregation studies conducted in the U.S. (e.g., Han and Wild 1991, Hirst et al. 2007, Chen et al. 2009, Lansford et al. 2013) to an international setting. By taking advantage of the cross-country differences in institutional features, our study sheds light on the heterogeneity in the incidence and effectiveness of forecast disaggregation across countries, which in turn could have important practical implications.[7]

The seemingly contradictory findings in our tests (i.e., managers tend to be less likely to provide disaggregated forecasts in countries with strong legal environment even though disaggregated forecasts are associated with greater stock market reaction in these countries) also suggest that there could be potential interdependencies between the various parts of the legal environment. For example, a potential interrelation could exist between earnings management, management's propensity to issue voluntary forecasts, and the informativeness of management forecasts (Beyer et al. 2010). In particular, while

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[6] A few notable exceptions include Baginski et al. (2002) who compare management forecasts between U.S. and Canadian firms, two otherwise similar business environments with different legal regimes and Kato, Skinner, and Kunimura (2009) who examine management forecasts in Japan where management forecasts are effectively mandated. However, neither of these studies examines the possible cross-country variations in investors' reactions to management forecasts disaggregation and different performance measures forecasted by managers, as we do.

[7] For example, our results suggest that while companies can use forecast disaggregation and the choice of forecast items as instruments to enhance the credibility of their forecasts and thus improve the effect of voluntary disclosure, the effectiveness of these practices hinges on the country-level legal environment. Thus, a better understanding of the variation in the credibility-enhancing effect of forecast disaggregation and forecast items in different countries can help managers make better forecast decisions that are more likely to optimize the value of their forecasts and help their firms reap capital market benefits.

a strong legal or investor protection regime that reduces firms' ability to manage earnings could simultaneously increase the informativeness of corporate disclosures (either mandatory or voluntary) in a country, it might also reduce managers' willingness to issue disaggregated management forecasts either because of higher legal liability associated with these forecasts or because there is less need to use such practices to enhance the credibility of their forecasts in this country. Thus, our study suggests that it is important to consider both the benefits and the costs associated with voluntary disclosures in countries with different institutional regimes in painting a more complete picture on the related incentives and consequences.

Second, we extend the literature examining the information content of different accounting line items or performance measures. Accounting research has long shown that bottom-line earnings are informative (Ball and Brown 1968; Beaver 1968), as are the various components that make up earnings (Fairfield, Sweeney, and Yohn 1996; Bartov and Mohanram 2014). Barton et al. (2010) extend this line of research by showing that the performance measure that investors value the most varies across countries. Our study complements Barton et al.'s study by examining which performance measure managers tend to forecast the most in different countries and to what extent the stock market reactions associated with different performance measures contained in a forecast vary with country-level institutional factors.

Finally, our study also adds to the literature examining the importance of firm-level transparency in an international setting. While Lang, Lins, and Maffett (2012) show that firm-level transparency matters more in countries where investor protection and

disclosure requirements are lower,[8] our results suggest that their findings may not be generalizable to firms' voluntary disclosures, such as management forecasts which are subject to higher self-serving or managerial opportunism concerns. Our results, together with the findings of Lang et al. (2012), suggest that the quantity of voluntary disclosures itself may be insufficient in improving stock market transparency. Rather, country-level institutions, legal environment in particular, indeed play important roles in enhancing the credibility of voluntary disclosures. In other words, absent strong management incentives to build a reputation for credible communication of forward-looking information and institutional factors to enhance its credibility, disaggregated management forecasts *per se* may have limited capital market consequences.

The remainder of the paper proceeds as follows. We review the literature and develop our hypotheses in Section 2. We describe our data and sample in Section 3. Section 4 discusses our research design. Section 5 presents the main empirical results and additional analyses. Finally, in Section 6 we summarize and conclude.

2. Literature Review and Hypotheses Development

Management forecasts can mitigate capital market resource misallocation by reducing information asymmetry between firm insiders and investors and represent an important form of corporate voluntary disclosure (Healy and Palepu 2001, Hirst et al. 2008, Beyer et al. 2010, Coller and Yohn 1997; Shroff, Sun, White, and Zhang 2013). Consequently, a growing body of empirical research examines the capital market consequence of management forecasts. For example, prior studies document that

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[8] Lang et al. (2012) measure firm-level transparency by less earnings management, better accounting standards, higher quality auditors, more analysts following, and higher analyst forecast accuracy.

management forecasts have the potential to affect stock prices (Pownall, Wasley, and Waymire 1993) and analysts' forecasts (Baginski and Hassell 1990), cost of capital (Frankel, McNichols, and Wilson 1995, Shroff et al. 2013), and firms' expected litigation costs (Skinner 1994, Kasznik and Lev 1995).

The existence and magnitude of the information asymmetry reduction effect of voluntary disclosures, however, depend on the perceived credibility of such disclosures (Jennings 1987; Mercer 2004; Gu and Li 2007). An important mechanism through which managers can signal and/or enhance the credibility of their voluntary management forecasts is forecast disaggregation. For example, Hirst et al. (2007) show that by issuing disaggregated forecasts that pre-commit managers to a specific path via which firms plan to achieve their earnings target, managers can mitigate investors' skepticism regarding their forecasts,[9,10] which in turn increases the perceived credibility of their forecasts. Similarly, Trueman (1986) argues that disaggregated forecasts that contain supplemental information may signal that managers have better information or superior forecasting ability.

In this study, we first investigate whether and how forecast disaggregation varies with country-level legal environment. Prior studies suggest that an optimal level of voluntary disclosure involves a trade-off between the benefits of providing such a disclosure in reducing information asymmetry (between the firm and its investors) which

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[9] Consistent with Hirst et al. (2007), Dutta and Gigler (2002) analytically show that managers pre-commit to lower earnings management when they constrain themselves in term of opportunities for subsequent earnings management.

[10] A 2003 survey by the Association for Investment Management and Research (formerly AIMR, now known as the CFA Institute) indicates that 69% of portfolio/fund managers and analysts believe that earnings guidance increases earnings management (AIMR 2003).

in turn helps the disclosing firm achieve its desired capital market outcomes, and the cost associated with providing such a disclosure (e.g., Hayes and Lundholm 1996).

On the one hand, in countries with strong legal environment, managers could have lower incentive to use forecast disaggregation as a mechanism to enhance the credibility of their forecasts either because of the existence of other credibility-enhancing mechanisms (such as higher quality mandatory disclosures and information intermediaries) or because of a potentially higher cost.[11] In addition, given that disclosure requirement and information environment are typically rich in countries with strong legal environment, commitments to an increased level of disclosure through forecast disaggregation are arguably bring limited capital market benefits to the firms (Bailey, Karolyi, and Salva 2006), thereby reducing firms' likelihood to issue disaggregated forecasts. Similarly, Rogers and Stocken (2005) argue that managers' likelihood of issuing self-serving forecasts could be moderated by investors' ability to detect misrepresentation suggesting a lower incentive of providing disaggregated forecasts in countries with strong legal regimes.

On the other hand, the same reasons discussed above can also predict an opposite outcome that managers could be more likely to provide disaggregated forecasts in countries with strong legal environment. For instance, a higher litigation cost associated with providing disaggregated forecasts in countries with strong legal regime could signal managers' greater commitment to credible voluntary disclosure. In addition, extant

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[11] Prior literature has long established that litigation cost concern can potentially reduce managers' incentives to provide voluntary disclosures (Graham, Harvey, and Rajgopal 2005; Rogers and Van Buskirk 2009). These cost concerns could involve other type of costs as well. For example, Lansford et al. (2013) show that disaggregated forecasts create additional targets which, if missed, are associated with higher stock market penalties than aggregated forecasts.

studies such as Lennox and Park (2006) suggest that more informative mandatory disclosure enhances the credibility of voluntary disclosure, which in turn could increase the incentives for voluntary disclosure. In the same vein, Ball, Jayaraman, and Shivakumar (2012) suggest that better quality financial reporting and voluntary disclosure are complementary (i.e., higher quality financial reporting can lend credibility to firms' voluntary disclosure), which again, suggests an increase in incentives to provide more voluntary disclosure.

In sum, whether and how the informativeness of disaggregated forecasts and managers' propensity to issue disaggregated forecasts vary across countries with different legal environments are the empirical questions that we examine in this study. Based on the above discussions, we develop our hypotheses, both in null form, as follows:

Hypothesis 1: *A country's legal environment has no effect on the likelihood of issuing disaggregated management forecasts in that country.*

Hypothesis 2: *A country's legal environment has no effect on the stock market reaction to disaggregated management forecasts in that country.*

The value relevance of various income statement line items has been extensively studied in the accounting literature (see, for example, Holthausen and Watts 2001 for a review).[12] In an examination of the informativeness of different earnings components, Swaminathan and Weintrop (1991) find that equity market participants react more strongly to revenue surprises than expense surprises during earnings announcement windows, potentially because revenue surprises are perceived to be more persistent or because revenue manipulation is easier to detect. Ertimur, Livnat, and Martikainen (2003)

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[12] For example, prior research examines the value relevance of earnings (Ball and Brown 1968), losses (Hayn 1995), accruals and cash flows (Sloan 1996, Barth, Beaver, Hand, and Landsman 1999), revenues (Swaminathan and Weintrop 1991, Ertimur et al. 2003), and depreciation (Kang and Zhao 2010).

also find similar evidence. However, in contrast to these studies which suggest revenues should be more value relevant, Barton et al. (2010) find that both revenues and net income have relatively less significant association with stock returns than performance measures near the center of the income statement in most countries.

We do not have much guidance from prior literature on how legal environment of a country could affect the incidence and informativeness of management forecasts containing different accounting performance measures. To the extent that sales manipulations are easier to detect ex-post and sales represents a less noisy performance measure (Ertimur et al. 2003), we expect management sales forecasts to be associated with greater stock market reaction than forecasts containing other accounting performance measures in countries with weak legal environment. However, the potentially higher litigation cost associated with voluntary disclosures in countries with stronger legal environment could also suggest that management sales forecasts may play a stronger role in signaling the credibility of firms' forecasts, which in turn, increase the informativeness of sales forecasts as compared to management forecasts of other performance measures in these countries.

Both Swaminathan and Weintrop (1991) and Ertimur et al. (2003) use U.S. data. Thus, it is also possible that the higher informativeness associated with sales could be a U.S. phenomenon and therefore performance measures other than sales could be more informative to equity holders in an international setting (Barton et al. 2010). In other words, management forecasts of items other than sales could be more informative in countries where country-level legal regimes tend to weaker due to usefulness of these forecasts in valuation and investment decisions.

Given the multiple possible predictions on the impact of legal environment on different forecasted items, we derive our next two hypotheses, both in null form, as follows:

Hypothesis 3: A country's legal environment has no effect on the likelihood of issuing management forecasts with different performance measures in that country.

Hypothesis 4: A country's legal environment has no effect on the stock market reaction to management forecasts with different performance measures in that country.

3. Sample and Descriptive Statistics

We obtain a comprehensive sample of management forecasts data from S&P Capital IQ (CIQ hereafter) that provides the original text of management forecasts for firms across a large number of countries/regions starting from year 2004 – the first year CIQ started providing a comprehensive coverage for international firms after its acquisition by S&P. According to CIQ, the raw text forecasts are extracted from various sources, such as newspapers, regulatory filings, subscriptions and announcements of transactions. We exclude all firm-year observations with missing firm-level control variables and also exclude countries missing country-level variables. We further exclude Japan because management forecasts in Japan are de facto mandatory (Kato et al. 2009). Our final sample consists of 30 countries during our sample period of 2004-2009, representing 8,560 unique firms issuing a total of 60,067 individual management forecasts.[13]

To obtain detailed information on forecast disaggregation and forecast items, we manually identify and collect all of the performance measures included in each forecast.

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[13] Since the data-collection process requires extensive resources and effort, our sample ends in 2009. Examples of disaggregated forecasts can be found in the Appendix.

We start with performance measures that are likely to be important to investors globally identified by Barton et al. (2010), namely (1) *SALES*, (2) *EBITDA* (operating earnings before interest, income taxes, depreciation, and amortization), (3) *OPINC* (operating income before income taxes), (4) *IBTAX* (income before income taxes), (5) *IBXIDO* (income before extraordinary items and discontinued operations), and (6) *NI* (net income). For completeness, we also identify and code several additional forecast items frequently included in management forecasts, which include capital expenditures, cash flows, expenses, and other balance sheet items (such as debt forecasts and forecasts of short- or long-term investments).[14] We then code the total number of unique performance measures included in each forecast as *NUM_ITEMS*, where a larger value indicates a more disaggregated forecast. We also code an indicator variable, *DISAG_IND*, taking the value of one for management forecasts with multiple performance measures, and zero otherwise.[15]

Panel A of Table 2 provides the descriptive statistics of our variables of interest by country. For our full sample, the average *NUM_ITEMS* is 1.56, suggesting that many management forecasts contain more than one performance measure. The worldwide average of *DISAG_IND* is 47.9 percent, indicating that nearly half of the management forecasts worldwide are disaggregated. From columns 1 and 2, we observe that 37,268 (3,543) forecasts (forecasting firms) are from the U.S. representing 62 percent (41

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[14] Our results (Table 2) show that there are indeed a non-trivial number of forecasts containing each of these items.

[15] Forecasts often include several related forecast items (e.g., earnings, earnings per share, and earnings growth). Because the underlying performance measure of such forecast items is the same (i.e., earnings), these are coded as one unique item. All of the forecast items are coded into one of 10 unique measures (sales, EBITDA, operating income, pre-tax earnings, earnings before extraordinary items and discontinued operations, net income, balance sheet items, capital expenditure, cash flow, and expenses).

percent) of the worldwide total.[16] Other well-represented countries in our sample include Germany (6.1 percent), Australia (5 percent), the U.K. (3.1 percent), France (3 percent), and Canada (2.5 percent). The average level of forecast disaggregation (*NUM_ITEMS* in column 3) in each country ranges from 1.11 (Hong Kong) to 1.77 (Greece) and the average percentage of forecasts that are disaggregated (*DISAG_IND* in column 4) ranges from 9.29 (Hong Kong) to 62.54 (Finland).

Columns 5 to 14 in Panel A of Table 2 show the likelihood with which each performance measure is included in a forecast in each country. Consistent with prior management forecasts studies, the results indicate that net income and sales are the two most commonly forecasted performance measures for firms around the world. Specifically, we find that on average, 68.8 percent of forecasts include net income (*NI* in column 10) and about 59.6 percent of forecasts include sales (*SALES* in column 5). Due to their low forecast frequency, we combine earnings before interest, taxes, depreciation, and amortization (*EBITDA*), operating income (*OPINC*), pre-tax income (*IBTAX*), and income before extraordinary items and discontinued operations (*IBXIDO*), i.e., the middle four items related to the income from continuing operation reported on firms' income statements, into a single measure called *MID4* and find that 18.1 percent of management forecasts include at least one of these items. Similarly, we combine the remaining items, which include balance sheet items (*BS*), capital expenditure (*CAPEX*), cash flows (*CASHFLOW*), and expenses (*EXPENSE*) into a summary measure labeled *OTHERS* and find that 8.1 percent of management forecasts include at least one of these performance

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[16] Our conclusions remain the same if we exclude U.S. firms from the sample.

measures.[17] In column 15 of Table 2 Panel A, we report the country average management forecast informativeness, measured as the absolute value of the cumulative market-adjusted stock market return over the two-day window including the forecast date and the day after. Forecast informativeness ranges from about 2.5 percent (Spain) to about 7.0 percent (Norway) suggesting a large variation in the informativeness of management forecasts across countries.

Panel B of Table 2 reports the descriptive statistics of major forecast variables by industry. The Computers industry is heavily represented with 10,397 forecasts (17.4 percent) and with the highest average level of forecast disaggregation measured by the number of items included in each forecasts (each forecast contains 1.73 items on average). This finding is consistent with Gu and Li (2007) who suggest that investors have more credibility concerns regarding the voluntary disclosures made by high-tech firms. Other well-represented industries include Services (8.7 percent) and Transportation (6.9 percent).

The variation in the likelihood that various performance measures are included in a forecast across industries is also notable. While approximately 86.7 percent of forecasts from firms in the Computers industry include sales (*SALES*) projections, only 13.5 and 19.5 percent of such forecasts are issued by firms in the Utilities and Financial industries, respectively. More than half of firms from all industries tend to forecast net income (*NI*), with firms from the Financial and Utilities industries most likely do so (88.6 percent and 83.8 percent, respectively). Firms in the Extractive industry have the lowest likelihood of

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[17] These overall statistics are in line with those documented by extant studies. For example, Hirst et al. (2007, page 814, footnote 2) show that about 71 percent of forecasts contain earnings and revenue forecasts and 29 percent of forecasts contain forecasts of other line items in the U.S.

forecasting either sales (28.2 percent) or net income (50.1 percent), but have the highest likelihood of forecasting capital expenditures (28.8 percent) and cash flows (6.8 percent).

Forecast informativeness also varies according to industry classification. Management forecasts made by firms in the Utilities industry are associated with a 2.9 percent stock market return while those made by firms in the Computers, Miscellaneous Manufacturing, and Electrical Equipment Manufacturing industries are all associated with approximately 7.4 percent stock market return.

We report descriptive statistics for our variables of interest, forecast related controls, and other control variables in Table 3. In our sample, approximately five percent of forecasts project a loss (*FLOSS*). The majority of forecasts are imprecise, containing only a minimum or maximum forecast rather than a range or point forecast. Nine percent of forecasts include an external or internal attribution. We include descriptive statistics for forecast error (*FERR*), calculated as the scaled absolute percentage difference between forecasted performance and actual performance, but note that this measure requires the forecast to be a point or closed-range estimate. As a result, inclusion of *FERR* as an additional control variable reduces the sample size to 35,064 observations, representing 58.4 percent of our full sample.[18] On average, forecasts are issued half a year in advance (178 days) and about half (48%) of all forecasts contain "good" news, i.e., associated with a positive stock market response over the two-day forecast window. Our sample firms have 889 million USD of total assets, are followed by 13 analysts, are audited by Big4 firms 74 percent of the time, and almost half of their shares are owned by institutional investors, suggesting that our sample firms are large.

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[18] We discuss robustness tests including *FERR* in section 5.5.2.

Table 4 provides correlations among our variables of interest. The significant negative correlation between sales and net income forecasts (-0.22 for both Pearson and Spearman) in Table 4 suggests that many firms tend to forecast either sales or net income. The larger correlation between *NUM_ITEMS* (*DISAG_IND*) and *SALES* than the correlation between *NUM_ITEMS* (*DISAG_IND*) and *NI* also suggests that the level of forecast disaggregation (the likelihood of issuing disaggregated forecasts) tends to be more positively associated with sales forecasts than with net income forecasts. On average, the level of forecast disaggregation is positively associated with the absolute value of market-adjusted return (*ABSCAR*) over the two-day forecast window, indicating that disaggregated forecasts are informative to investors in general. In addition, the significantly positive (negative) correlation between sales (net income) forecasts and *ABSCAR* provides preliminary evidence that investors value sales forecasts more than net income forecasts.

4. Research Design

4.1 Country-Level Legal Environment and Forecast Disaggregation

To test our first hypothesis (H1), we examine whether the legal environment of a country is associated with firms' decision to issue disaggregated forecasts by estimating the following regression model:

$$Forecast\ Disaggregation = \\ \beta_0 + \beta_1 Legal\ Environment + Control\ Variables + \\ Year\ and\ Industry\ Indicators\ + error \quad\quad\quad (1)$$

In Equation (1), β_1 is our coefficient of interest estimating the relation between a country's legal environment and firms' forecast disaggregation decision. We use two

proxies for forecast disaggregation. Specifically, forecast disaggregation is measured as either *DISAG_IND*, an indicator variable that takes the value of one if a forecast includes multiple performance measures, and zero otherwise, or *NUM_ITEMS*, a count variable for how many performance items are included in each forecast. Models with *DISAG_IND* (*NUM_ITEMS*) as the dependent variable are estimated using logistic (Poisson) regressions. We use three proxies for a country's legal environment: *H_ENFORCE*, an indicator variable that takes the value of one if the level of public enforcement of securities regulation is above the country-level median, and zero otherwise (La Porta, Lopez-De-Silanes, and Shleifer 2006); *H_INVPRO*, an indicator variable that takes the value of one if the level of investor protection is above the country-level median, and zero otherwise (La Porta et al. 2006); and *CLASSACT*, an indicator variable that takes the value of one if a country permits class-action lawsuits, and zero otherwise (Leuz 2010).[19]

We control for other variables that potentially influence management forecast disaggregation decision identified from prior studies, including the log of total assets to control for firm size (*LNASSET),* the number of analysts following a firm to control for overall information environment (*ANALYST*), whether a firm has a Big 4 auditor to control for audit quality (*BIG4*), the percentage holding of institutional investors (*IO*), whether a firm is in the high tech industry (*HITECH),* whether a firm reports a loss (*LOSS*), the number of exchanges on which a stock is listed (*STKEXCH*), whether a firm is cross-listed in the U.S. as an ADR (*ADR*), the standard deviation of reported earnings per share scaled by the average total assets to control for earnings volatility (*EARNVOL*), the level of a firm's asset-scaled total accruals to control for financial opacity

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[19] All the three country-level legal environment proxies used in our study are highly correlated and statistically significant, with Pearson coefficients range from 0.49 to 0.80.

(*ACCRUAL*), whether a forecast is associated with a positive stock market response to control for forecasts containing good news (*GOODNEWS*), the level of capital expenditures less operating cash flow to control for dependence on external financing (*EXTDEP*), the industry average likelihood of issuing disaggregated forecasts to control for industry-level demand for disaggregated information (*LIKELIHOOD*), and the sales-based Herfindahl index multiplied by negative one to control for industry-level competition (*COMPETITION*). We provide detailed definitions of these variables in Table 1.

We estimate Equation (1) both at the forecast- and country-level. When the unit of analysis is at the forecast-level, we also include year and industry indicators in the model and cluster all standard errors by both firm and year.[20] When the unit of analysis is at the country-level, we obtain the country-level mean of each variable, and remove year and industry indicators.

4.2 Country-level Legal Environment and the Stock Market Reaction to Forecast Disaggregation

To test our second hypothesis (H2) and examine whether, and to what extent, country-level legal environment influences the stock market reaction to forecast disaggregation, we estimate the following model:

$$ABSCAR =$$
$$\beta_0 + \beta_1 Forecast\ Disaggregation + \beta_2 Forecast\ Disaggregation *$$
$$Legal\ Environment + \beta_3 Legal\ Environment +$$
$$Other\ Forecast\ Properties + Control\ Variables + INVMILLS + error \quad (2)$$

In Equation (2), *ABSCAR* is the absolute value of the two-day cumulative market-adjusted return including the forecast date and the day following. As in Equation (1), we

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[20] For robustness, we also cluster the standard errors by both country and year, or by both industry and year. In all these settings, the results are quantitatively similar.

use *DISAG_IND* and *NUM_ITEMS* as proxies for *Forecast Disaggregation*. Because this model is conducted at the forecast-level (i.e., we conduct the test on all the forecasts in our sample), it is important to control for the forecast attributes of each forecast. As a result, we include several forecast attributes in Equation 2 to control for differences in forecast characteristics including whether a forecast predicts a loss (*LOSS*), the degree of forecast precision (*FPREC*), whether a forecast contains either an internal or external attribution (*FATTR*), and the timeliness of a forecast (*FTIME*). We also add a variable estimating the one-year percentage change in EPS to control for the magnitude of earnings surprise (*SURPRISE*). Furthermore, we follow the Heckman (1979) two-stage approach to control for potential selection bias for which firms choose to issue disaggregated forecasts by including the inverse Mills ratio generated from a probit estimation of Equation (1) in Equation (2)[21]. Other control variables are the same as in Equation (1).

4.3 Country-level Legal Environment and Forecast Item Choice

To test our third hypothesis (H3), we investigate whether, and how, a country's legal environment affects firms' choice to forecast specific accounting performance items. Specifically, we estimate the following regression model:

$$Forecast\ Item = \beta_0 + \beta_1 Legal\ Environment + Control\ Variables +$$
$$Year\ and\ Industry\ Indicators\ +\ error \qquad (3)$$

In Equation (3), *Forecast Item* is alternately measured by one of four forecast items/categories: 1) whether a forecast contains sales (*SALES*); 2) whether a forecast contains one of four items located near the middle of the income statement (*MID4*), including earnings before interest, taxes, depreciation, and amortization, operating

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[21] In this two-stage model, we treat *EARNVOL*, *GOODNEWS*, *EXTDEP, LIKELIHOOD*, and *COMPETITION* in Equation (1) as instrumental variables.

income, income before tax, and income before extraordinary items and discontinued operations; 3) whether a forecast contains net income (*NI*); and 4) whether a forecast contains other performance items (*OTHERS*), including capital expenditures, cash flows, expenses, or balance sheet items. In addition to the control variables included in Equation (1), we also add *NUM_ITEMS* as an additional control variable to control for the level of forecast disaggregation in examining forecast item choice. All other variables are as defined in Equation (1).

4.4 Country-level Legal Environment and the Stock Market Reaction to Forecast Item Choice

To test our fourth hypothesis (H4), we investigate whether, and how, a country's legal environment affects the stock market reactions associated with forecasts containing specific accounting performance items. Specifically, we estimate the following regression model:

$$
\begin{aligned}
ABSCAR = {} & \beta_0 + \beta_1 SALES + \beta_2 SALES * Legal\ Environment + \beta_3 MID4 + \\
& \beta_4 MID4 * Legal\ Environment + \beta_5 NI + \beta_6 NI * Legal\ Environment + \\
& \beta_7 Legal\ Environment + Other\ Forecast\ Properties + \\
& Control\ Variables\ + INVMILLS\ + \ error
\end{aligned}
\tag{4}
$$

In Equation (4), we augment Equation (2) by replacing *Forecast Disaggregation* with indicator variables for whether a forecast includes *SALES*, *MID4*, and *NI* and their interaction with country-level legal environment. A positive coefficient on β_2 (β_4 or β_6) indicates that the stock market response is stronger when a forecast contains *SALES* (*MID4* or *NI*) in country with strong legal environment relative to forecasts containing *OTHER* performance items (i.e., capital expenditure, cash flows, expenses, or balance sheet items). All other variables are defined as in Equation (2), including the inverse

Mills ratio to control for potential selection bias in the firms that choose to forecast specific items.

5. Empirical Results

5.1 Country-Level Legal Environment and Forecast Disaggregation

5.1.1 Univariate Results

Panel A of Table 5 presents univariate analysis of the relation between country-level legal environment variables and forecast disaggregation. In particular, it tabulates the country-level average number of items included within a forecast (*NUM_ITEMS*) and the likelihood of forecasts that include more than one forecast item (*DISAG_IND*) by whether the countries exhibit a high or low level of legal environment, and the high minus low difference. Results show that across all three legal environment proxies (*ENFORCE, INVPRO,* and *CLASSACT*), firms are less likely to issue disaggregated forecasts (lower likelihood of *DISAG_IND*) and issue less disaggregated forecasts (fewer *NUM_ITEMS*) in countries with stronger legal environment. The differences in *NUM_ITEMS* and *DISAG_IND* across the high and low legal environment samples are statistically significant at conventional levels. Thus, the univariate results provide preliminary evidence that strong legal environments deter firms from providing disaggregated forecasts.

5.1.2 Regression Results

Panel B of Table 5 reports regression estimates of Equation (1) to formally test H1. Our results consistently show firms' likelihood of issuing disaggregated forecasts (*DISAG_IND*) and the degree of forecast disaggregation (*NUM_ITEMS*) are negative and

significantly related to our proxies for legal environment. In terms of economic significance, our results from Panel B of Table 5 suggest that a strong legal environment reduces firms' likelihood of issuing a disaggregated forecast by between 26.5 percent and 41.9 percent depending on which variable is used to proxy legal environment of a country. Similarly, firms in countries with a strong legal environment are 7.7 percent to 13 percent less likely to include an additional item in their forecasts.[22]

The estimated effect of several other control variables on *DISAG_IND* and *NUM_ITEMS* are also worth noting. First, firm size (*LNASSET*), the number of stock exchanges on which a company is listed (*STKEXCH*), and whether a firm has an ADR program (*ADR*) are all significant and negative and firms that report a loss (*LOSS*), firms with larger accruals (*ACCRUAL*), and forecasts containing good news (*GOODNEWS*) are all positive and significant. These results suggest that firms with richer information environments tend to issue disaggregated forecasts less, but firms with higher incentives to enhance the credibility of their forecasts are more likely to issue disaggregated forecasts or issue forecasts with higher level of disaggregation. These findings are consistent with Lansford et al. (2013) who find that forecast disaggregation is associated with enhancing the credibility of good news forecasts.

In Panel C of Table 5, we re-estimate Equation (1) at the country-level. To conduct country-level analysis, we convert the dependent variables used in Equation (1) including *DISAG_IND* and *NUM_ITEMS* into the average percent of firms with *DISAG_IND* =1 across sample years and average *NUM_ITEMS* in each country, respectively. We also obtain the average value of each of independent variables for each

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[22] Economic significance is estimated by exponentiating our coefficients of interest and subtracting one, which estimates the change in likelihood with which firms issue a disaggregated forecast (forecast an additional forecast item) from the logistic (Poisson) models.

country and include them as the country specific controls. Even though our sample size is reduced to only 30 countries, we continue to find that two of our three legal environment variables are negative and significantly related to the likelihood and level of forecast disaggregation suggesting that firms in countries characterized with stronger legal environment tend to issue less disaggregated forecasts.

5.2 Country-Level Legal Environment and the Stock Market Response to Forecast Disaggregation

5.2.1 Preliminary Analysis

Our second hypothesis (H2) examines whether the stock market reaction associated with management forecasts varies with forecast disaggregation and also the legal environment of a country. Before examining the cross-sectional variation of stock market reaction and forecast disaggregation, we conduct preliminary analysis to examine whether and how the stock market reacts to level of forecast disaggregation in general, without regard to the legal environment.

We start by first tabulating the mean *ABSCAR* of management forecasts by whether a forecast is disaggregated (*DISAG_IND*) and by how many items are included in a forecast (*NUM_ITEMS*) in Panel A of Table 6. We separately report these statistics for our full sample, the subsample with standalone forecasts (i.e., when the issuance of management forecasts is not bundled with earnings announcement), and subsample of non-U.S. forecasts. We also report the difference in *ABSCAR* between aggregated (*DISAG_IND*=0) and disaggregated forecasts and indicate whether such differences are significant (based on a t-test of the difference in means) across the two groups. Results from Table 6 Panel A1 indicate that disaggregated forecasts have stronger stock market

reaction than forecasts that are not. Furthermore, Table 6 Panel A2 further shows that the informativeness of a forecast increases with the number of items included in a forecast.

Next, we investigate the relation between *DISAG_IND* (*NUM_ITEMS*) and *ABSCAR* using multivariate regressions. Consistent with the argument that forecast disaggregation enhances the perceived credibility of forecasts (Hirst et al. 2007), we find a consistently positive coefficient on forecast disaggregation after controlling for other forecast attributes and the inverse Mills ratio to address firms' self-selection in forecast disaggregation. We document that issuing a disaggregated forecast (forecasting an additional item) increases *ABSCAR* by between 17.8 to 38.6 percent (15.5 to 33.5 percent) which is equivalent to a market-adjusted return of approximately 1.1 to 2.3 (0.9 to 2.0) percentage points on average.

The stock market response associated with other forecast properties is generally consistent with our expectations. For example, loss forecasts (*FLOSS*), more precise forecasts (*FPREC*), and forecasts containing either an external or internal attribution (*FATTR*) are positively and significantly associated with *ABSCAR*, although the timeliness of a forecast (*FTIME*) is positive and significant only for standalone forecasts. Together, our results suggest that disaggregated management forecasts are associated with greater perceived informativeness.

5.2.2 Cross-Sectional Regression Analysis

We next formally test our second hypothesis (H2) by estimating Equation (2). These results are tabulated in Panel C of Table 6. Across all three proxies of country-level legal environment, we find a consistent positive coefficient on the interaction term between forecast disaggregation (*DISAG_IND*) and the legal environment. Interestingly,

the main effect on our *DISAG_IND* variable is insignificant for two legal environment proxies, suggesting that disaggregation by itself does not increase forecast informativeness in countries with weak legal environment. As such, our finding supports the argument that a strong legal environment could play an important role in the credibility-enhancing effect of the disaggregated forecasts.[23]

5.3 Country-level Legal Environment and Forecast Item Choice

5.3.1 Univariate Analysis

Our third hypothesis (H3) examines whether a country's legal environment affects the choices of forecast items. Univariate statistics are presented in Panel A of Table 7 where we tabulate the likelihood of forecasts containing *SALES*, *MID4*, *NI*, and *OTHER* across countries with high versus low legal environment. Our univariate results indicate that while legal environment does not have a significant influence on whether firms include *SALES* or *NI* in their forecasts, it has a negative (positive) effect on the likelihood that firms include *MID4* (*OTHERS*) in their forecasts.

5.3.2 Regression Analysis

Our formal test of hypothesis 3 (H3) examines the relation between legal environment and the likelihood that firms forecast *SALES*, *MID4*, *NI*, or *OTHERS* by estimating Equation (3). These results are presented in Panel B of Table 7. Our forecast-level results, using investor protection as the proxy for legal enforcement, show that when legal enforcement is strong, firms are less (more) likely to include *SALES* and *MID4* (*NI* and *OTHERS*) in their forecasts. Country-level results continue to show that

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[23] In robustness tests, we also examine the association between *ABSCAR* and forecast disaggregation on two sub-samples partitioned based on country-level legal environment and find results consistent with the findings on the interaction variable. For example, the estimated coefficient on *DISAG_IND* is 0.535 (with t-value = 7.75) for countries with high *ENFORCE*, while it is -0.070 (with t-value = -0.71) for countries with low *ENFORCE*.

strong legal protection is negatively (positively) associated with the percentage of firms that include *SALES* (*NI*) in their forecasts. Together, these results reject hypothesis 3 and suggest that strong legal enforcement deters managers from making *SALES* forecasts, but encourages them to make *NI* forecasts.[24]

5.4 Country-Level Legal Environment and the Stock Market Response to Forecast Item Choice

5.4.1 Univariate Analysis

Our fourth hypothesis (H4) predicts that a country's legal environment does not have an effect on the stock market reaction to forecasts containing different performance items. Before examining H4, we start by tabulating the univariate difference in *ABSCAR* by whether forecasts include *SALES*, *MID4*, *NI*, or *OTHERS* in Panel A of Table 8. These results indicate that forecasts containing *SALES*, *MID4*, and *OTHERS* (*NI*) are consistently positively (negatively) associated with *ABSCAR*, suggesting that management forecasts containing items other than *NI* tend to be associated with higher informativeness.

5.4.2 Regression Analysis

We next tabulate regression estimates of the relation between inclusion of *SALES*, *MID4*, and *NI* on *ABSCAR*. These results, tabulated in Panel B of Table 8, are consistent with the conclusion from univariate analysis above and indicating that management forecasts including *SALES* and *MID4* are generally more positively associated with *ABSCAR*. We don't find any evidence that including *NI* in management forecasts impact stock market reaction to management forecasts.

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[24] Results using our other two legal environment proxies (*ENFORCE* and *CLASSACT*) yield similar results, but are not tabulated for brevity.

To formally test whether a country's legal environment affects the stock market reaction to different forecast items, we estimate Equation (4). These results are tabulated in Panel C of Table 8. While Panel B of Table 8 shows that *SALES* and *MID4* are positively related to *ABSCAR*, when these variables are interacted with country-level legal enforcement, we find that the main effect on *SALES* (*MID4*) becomes negative (insignificant), but the interaction term between legal environment and *SALES* and *MID4* are mostly significantly positive. However, the coefficients on *NI* and its interaction term with legal environment are mostly insignificant. Together, our results suggest that management forecasts containing sales or performance measures reported on the upper part of the income statement appear to enhance the credibility of forecasts only when they are made in countries with strong legal environment.

5.5 Additional Analysis and Robustness Tests

5.5.1 Single Item Forecasts

Our tests of H3 on the relation between legal enforcement and management forecasts including various accounting performance items reported in Table 7 Panel B include our full forecast sample with a control for the level of forecast disaggregation (*NUM_ITEMS*). However, it is possible that controlling for *NUM_ITEMS* does not fully account for the fact that some forecasts could be more likely to be issued with higher level of disaggregation simply because they include certain forecast items, e.g., *SALES*. In other words, disaggregated forecasts and *SALES* forecast could be positively correlated and are hard to be disentangled. In order to address this possibility, we also estimate Equation (3) on the subsample of forecasts that only include a single forecast item (n=31,325). By keeping a constant level of forecast disaggregation, we believe that any

observed difference between different forecasted items are more likely attributable to differences in the forecast measures themselves rather than any other unobserved characteristics.

These results, untabulated, are consistent with Panel B of Table 7. More specifically, we find that the coefficients on *H_INVPRO* when the dependent variable is *SALES* and *MID4* are both negative and significant (p-value<0.01) and that the coefficients on *NI* and *OTHERS* are both positive and significant (p-value<0.01). These results support our primary analysis, suggesting that strong legal environment of a country deters managers from issuing *SALES* and *MID4* forecasts but encourages *NI* and *OTHERS* forecasts.

5.5.2 Controlling for Forecast Error

In all our tests examining the informativeness of forecast disaggregation (Equation (2)) and various forecast items (Equation (4)), we control for several important forecast characteristics including *FLOSS*, *FPREC*, *FATTR*, and *FTIME*. However, in both of these models, another important forecast characteristics which we do not control is the forecast error. This is because the estimation of forecast error requires either a point or closed range forecast which significantly reduces the sample from 60,067 to 35,064 observations. Nevertheless, in additional robustness tests, we include forecast error (*FERR*) – calculated as the absolute percentage difference between forecasted and actual performance of an item – as an additional control. All of our inferences remain the same after controlling for *FERR*, despite reduced sample size.

5.5.3 Market-adjusted Trading Volume

Our primary analyses (H2 and H4) examine the relation between *ABSCAR* and forecast disaggregation and various forecast items. For robustness, we re-estimate our main results by replacing *ABSCAR* with market-adjusted trading volume (*ABNVOL*), defined as the average trading volume during the two-day forecast window [0,1] scaled by the average trading volume over the 100-day trading window of [-120,-21] and find our conclusions generally unchanged. For example, in untabulated results, we find that market-adjusted trading volume around the forecast date is higher when forecasts are more disaggregated, and also increases monotonically with the number of items included in the forecast. We also find that forecasts of *SALES*, *MID4*, and *NI* are all positively associated with market-adjusted volume with *SALES* (*NI*) forecasts exhibiting the highest (lowest) association with market-adjusted volume.

5.5.4 Removing the Effect of the U.S.

Our descriptive statistics by country (Table 2 Panel A) shows that a majority of our management forecasts are made by U.S. firms. Since the U.S. has a strong legal environment, our classification of legal environment at the country-level median creates an imbalance between the numbers of management forecasts made by firms in high and low legal environment countries.[25] We address this issue by repeating our analysis while excluding forecasts made by U.S. firms. This results in a more balanced sample of 12,463 forecasts from countries with high *ENFORCE* against 10,336 forecasts from low *ENFORCE* countries. Our conclusions remain unchanged with this alternate classification.

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[25] For example, of the 60,067 sample forecasts, 49,731 are from countries with an above-median level of *ENFORCE* while 10,336 are from countries at or below the median level.

6. Conclusion

Prior studies suggest that management forecast disaggregation could have a credibility-enhancing effect on management forecasts, and therefore have the potential to alter investors' judgments. However, the credibility-enhancing effect of forecast disaggregation is unlikely to hold in all countries, especially given the large variations in country-level legal environments. Consistent with this argument, in their recent review, Hirst et al. (2008) call for additional research on the interaction between forecast characteristics and forecast determinants.[26]

In this study, we examine the stock market reaction to management forecast disaggregation using an international setting and find that disaggregated forecasts are associated with greater stock market reaction, especially in countries with stronger legal environment. Additionally, we also examine the possible differences in stock market reaction to different forecasted performance items and find that sales forecasts or forecasts containing performance measures reported in the upper portion of income statement elicit stronger stock market reaction in countries with stronger legal regime. However, surprisingly, we find that managers appear to be less inclined in issuing disaggregated forecasts in countries with strong legal environment, even though such forecasts are perceived to be more informative by investors. Finally, we also find that strong legal environment appears to deter managers from issuing sales forecasts or forecasts containing performance measures reported in the upper portion of income statement.

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[26] Specifically, Hirst et al. (2008, page 317) state that "Because main effect results are unlikely to hold under all conditions, we argue that researchers should identify and test possible interactions among antecedents or characteristics. Given the large number of studies looking at main effects, interaction tests will push forward our knowledge and understanding of such forecasts."

Understanding the variation in forecast disaggregation practices and the determinants of this variation is important because it not only improves our understanding of factors that affect the credibility of voluntary disclosures, such as management forecasts, but also has important implications for managers and regulators given the important role which voluntary disclosure plays in global capital markets. Our findings suggest that a country's legal environment could play dual-roles for voluntary disclosure. Specifically, while a stronger legal environment may enhance the informativeness of disaggregated management forecasts, it could also reduce the incentives to provide such forecasts at the same time. As a result, one needs to be careful when interpreting findings from prior management forecasts studies conducted in a single country setting where the legal environment is kept constant across all firms.

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Appendix 1: Examples of Disaggregated Management Forecast

The following two examples include the original text of management forecasts extracted from Capital IQ. We read and code the items included in the forecast and use such data to determine if a forecast is disaggregated (*DISAG_IND*) and the level of disaggregation (*NUM_ITEMS*). The emphasis is added to highlight our coding procedure.

Example 1 includes a forecast of sales revenue and net profit after tax, so *SALES* and *NI* are each coded as 1. Furthermore, since it contains two forecast items, it is considered a disaggregated forecast with *NUM_ITEMS* coded as 2 and *DISAG_IND* coded as 1.

Example 2 also includes a forecast of sales revenue and net income, so the coding is the same as in Example 1. Note that revenues and sales are both coded as *SALES*. Furthermore, the example includes a statement that *EBITDA* is PHP 330 million, but this does not appear to be a projection of future *EBITDA*, so *EBITDA* is not coded as 1 and *NUM_ITEMS* is coded as 2 and not 3.

Example 1
- Company Name: Ausenco Limited (ASX:AAX)
- Date: May 19, 2009
- Source: PR Newswire
- Ausenco Limited provided earnings guidance for the year ending December 31, 2009. Following a review of business in hand and expected contract awards through the balance of the year to 31 December 2009, Ausenco is expecting <u>2009 **sales revenue** between AUD 475 and AUD 525 million</u> and **net profit after tax** <u>between AUD 40 and AUD 43 million</u>.

Example 2
- Company Name: Max's Group, Inc. (PSE:MAXS)
- Date: July 2, 2008
- Source: PR Newswire
- Max's Group, Inc. has provided earnings guidance for the year 2008. The company <u>expects that **net income** may hit PHP 60 million to PHP 90 million</u>, or almost 43% over a year ago with <u>consolidated **revenues** reaching PHP 1.8 to PHP 2.1 billion</u>, or 31.25% higher year on year. System-wide <u>**sales** would reach PHP 2.2 billion to PHP 2.6 billion</u> by year-end. The company has earnings before interest, taxes, depreciation and amortization of PHP 330 million.

Appendix 2: Country-level Legal Environment Variables

	Country	*ENFORCE*	*INVPRO*	*CLASSACT*
1	Australia	0.90	0.78	1
2	Austria	0.17	0.10	0
3	Belgium	0.15	0.07	0
4	Brazil	0.58	0.44	1
5	Canada	0.80	0.96	1
6	Denmark	0.37	0.36	0
7	Finland	0.32	0.47	0
8	France	0.77	0.47	1
9	Germany	0.22	0.00	0
10	Greece	0.32	0.32	0
11	Hong Kong	0.87	0.85	0
12	Indonesia	0.62	0.51	0
13	Ireland	0.37	0.48	0
14	Israel	0.63	0.59	1
15	Italy	0.48	0.20	0
16	Malaysia	0.77	0.73	1
17	Netherlands	0.47	0.54	1
18	New Zealand	0.33	0.46	1
19	Norway	0.32	0.44	0
20	Philippines	0.83	0.81	1
21	Singapore	0.87	0.77	0
22	South Africa	0.25	0.60	0
23	South Korea	0.25	0.36	0
24	Spain	0.33	0.55	1
25	Sweden	0.50	0.39	0
26	Switzerland	0.33	0.30	0
27	Taiwan	0.52	0.55	1
28	Thailand	0.72	0.37	0
29	United Kingdom	0.68	0.78	1
30	United States	0.90	1.00	1

Table 1 Variable Definitions

Variable	Definition
Test Variables	
NUM_ITEMS	The total number of unique performance measures contained in a forecast.
DISAG_IND	An indicator variable equal to 1 if a forecast contains multiple performance measures, and zero otherwise.
SALES	An indicator variable equal to 1 if a forecast contains sales, and zero otherwise.
MID4	An indicator variable equal to 1 if a forecast contains any of the four performance measures disclosed in the middle portion of an income statement (i.e. performance measures related to operating income (i.e., *EBITDA* =1, *OPINC* =1, *IBTAX* =1 or *IBXIDO*=1), and zero otherwise.
NI	An indicator variable equal to 1 if a forecast contains net income, and zero otherwise.
OTHERS	An indicator variable equal to 1 if a forecast contains all other forecast items, including Capital Expenditure, Cash Flow, Expense, or Balance Sheet item, and zero otherwise.
ABSCAR	The absolute value of the two-day market-adjusted cumulative return during the [0, +1] window where day 0 is the forecast date.
ABNVOL	Average trading volume during the firm's earnings forecast announcement window [0, 1], scaled by the average trading volume over the 100-day trading window from [-120, -21].
Other Forecast Characteristics	
FLOSS	An indicator variable equal to 1 if a firm issues a loss forecast in a given year, and zero otherwise.
FPREC	A precision score of 1, 2, 3, and 4 assigned to a qualitative, min or max, range and point forecast, respectively.
FATTR	An indicator variable equal to 1 if any management forecast issued by a firm in a year is accompanied by either an internal or external attribution (i.e. providing further explanation in terms of controllable or uncontrollable reasons for their expected performance outcome), or otherwise zero.
FERR	Forecast error - the absolute difference between the forecasts and the actual performance of the item forecasted divided by the actual performance (in percentage).
FTIME	Forecast timeliness - the difference in days between the forecast date and the actual annual report filing date.
Legal Environment Variables	
ENFORCE	Public enforcement is a summary index of several sub-indices on public enforcement of securities regulation (supervisor characteristics index, rule-making power index, investigative powers index, orders index, and criminal index). It is taken from La Porta et al. (2006). *H_ENFORCE* equals 1 if a country's public enforcement index is greater than the median of all countries, and zero otherwise.
INVPRO	Investor protection index is the principal component of disclosure, liability standards, and anti-director rights. It is taken from La Porta et al. (2006). *H_INVPRO* equals 1 if a country's investor protection index is greater than the median of all countries, and zero otherwise.
CLASSACT	Class-action suit availability takes a value of 1 if class-action suit is available in a country and a value of zero otherwise. It is taken from Leuz (2010).

Other Control Variables

LNASSET	The natural logarithm of total assets, in U.S. dollars, at the beginning of the fiscal year.
ANALYST	The number of analysts following in each year.
BIG4	An indicator variable equal to 1 if the auditor of the firm is a Big 4 Auditor, and zero otherwise.
IO	Percentage of shares (end-of-year) held by institutional investors.
HITECH	An indicator variable equal to 1 if the firm is in a high-tech industry (SIC 2833-2836, 8731-8734, 7371-7379, 3570-3577, and 3600-3674), and zero otherwise.
LOSS	An indicator variable equal to 1 if the firm reports a loss in the current period, and zero otherwise.
STKEXCH	The total number of actively traded stock exchanges on which a firm is listed in each year during the sample period (including the primary stock exchange).
ADR	An indicator variable equal to 1 if a firm is cross-listed on any stock exchanges in the U.S., and zero otherwise.
EARNVOL	The standard deviation of annual EPS over the sample period divided by the average total assets of the sample period.
ACCRUAL	A measure of firm-level financial opacity measured by country-, industry- and year-adjusted total scaled accruals based on Bhattacharya et al. (2003). Scaled accruals are computed using balance sheet and income statement information: $ACCRUAL = (\Delta CA - \Delta CL - \Delta CASH + \Delta STD - DEP + \Delta TP)/lag(TA)$, where ΔCA is the change in total current assets; ΔCL is the change in total current liabilities; $\Delta CASH$ is the change in cash; ΔSTD is the change in the current portion of long-term debt included in total current liabilities; *DEP* is depreciation and amortization expense; ΔTP is the change in income taxes payable; and *lag(TA)* is total assets at the end of the previous year.
GOODNEWS	An indicator variable equal to 1 if a firm issues a good news forecast in a given year, and zero otherwise. A forecast is defined as a good news forecast if the two-day market-adjusted cumulative return, during [0, +1] with day 0 equal to the forecast date, is greater than zero.
SURPRISE	Earnings surprise is defined as the absolute difference in EPS from year t-1 to t divided by the absolute value of EPS in year t-1.
EXTDEP	Dependence on external finance is defined as total capital expenditures minus cash flow from operations for each year scaled by the total capital expenditures of that year. Higher values of *EXTDEP* indicate greater external financing dependence.
LIKELIHOOD	The average percentage of firms providing disaggregated forecasts within each two-digit SIC industry for each country year.
COMPETITION	A measure of competition defined as Herfindahl index $\times$ (-1), where the Herfindahl index is calculated as the sum of the squares of fractional market shares of firms within each two-digit SIC industry for each country year.

TABLE 2 Forecast Disaggregation and Forecast Item Detailed Statistics

Panel A: Statistics by Country

		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
							MID4					*OTHERS*				
	Country	No. of Forecasts	No. of Firms	NUM_ITEMS	DISAG_IND	SALES	EBITDA	OPINC	IBTAX	IBXIDO	NI	BS	CAPEX	CASH FLOW	EXPENSE	ABSCAR
					%	%	%	%	%	%	%	%	%	%	%	%
1	Australia	3,022	540	1.31	25.98	25.08	13.10	10.69	2.45	0.17	75.84	0.33	1.13	0.93	0.33	6.19
2	Austria	385	57	1.49	43.90	53.51	6.23	27.53	3.64	0.52	52.73	0.26	1.04	1.82	0.52	3.28
3	Belgium	301	64	1.54	44.19	66.11	17.94	21.93	0.66	0.66	41.86	1.66	2.66	0.00	0.00	4.55
4	Brazil	97	52	1.40	34.02	61.86	20.62	4.12	0.00	0.00	40.21	1.03	9.28	0.00	0.00	2.98
5	Canada	1,521	363	1.57	46.55	63.05	11.05	4.54	0.92	0.33	52.07	1.05	14.00	8.15	0.85	5.83
6	Denmark	1,235	128	1.67	54.98	54.41	6.56	25.18	14.25	1.13	60.49	0.89	0.97	1.78	0.57	4.69
7	Finland	985	105	1.70	62.54	76.65	3.96	30.25	1.93	0.81	50.36	0.51	2.54	2.23	0.41	5.04
8	France	1,823	302	1.38	34.01	68.73	5.49	21.72	0.27	0.27	37.90	0.27	0.55	1.59	0.11	3.76
9	Germany	3,690	459	1.65	56.75	70.19	9.32	29.27	5.09	0.30	48.86	0.19	0.11	0.54	0.24	4.12
10	Greece	153	60	1.77	60.13	58.17	17.65	7.84	9.80	0.00	78.43	0.00	0.00	0.65	0.65	2.85
11	Hong Kong	700	418	1.11	9.29	18.43	0.43	1.57	0.57	0.00	83.14	0.14	5.29	0.14	0.00	5.59
12	Indonesia	384	107	1.29	25.78	49.22	1.04	3.13	0.52	0.00	71.88	0.00	2.60	0.00	0.26	3.15
13	Ireland	205	23	1.17	15.12	11.22	1.95	20.49	2.93	0.00	77.07	0.49	0.00	0.00	1.46	5.72
14	Israel	119	34	1.60	53.78	66.39	1.68	4.20	0.84	0.00	82.35	0.00	0.84	2.52	0.84	3.92
15	Italy	624	134	1.68	50.80	61.54	28.21	19.87	0.80	0.00	53.04	2.24	0.00	0.48	0.00	2.94
16	Malaysia	444	248	1.29	27.48	56.31	2.03	0.90	0.68	0.00	66.67	0.23	1.13	0.45	0.00	2.94
17	Netherlands	457	65	1.35	32.39	44.86	10.50	16.85	0.66	0.00	60.18	0.44	0.88	0.66	0.22	4.82
18	New Zealand	357	70	1.29	24.37	19.33	14.85	7.00	2.52	0.28	81.23	0.56	2.52	0.00	0.28	4.25
19	Norway	166	64	1.39	33.73	59.64	30.12	10.84	2.41	0.00	28.31	0.00	4.22	0.60	1.20	6.95
20	Philippines	261	75	1.17	16.09	23.75	0.38	0.00	0.00	2.30	83.91	0.38	4.98	0.00	0.00	3.48
21	Singapore	315	172	1.29	27.62	37.46	1.27	2.86	1.59	0.00	83.81	0.00	0.95	0.32	0.32	4.86
22	South Africa	283	122	1.16	14.13	13.43	2.47	2.47	0.00	1.77	90.81	0.00	2.83	1.06	0.00	3.63
23	South Korea	419	103	1.58	52.03	83.53	1.67	14.32	0.24	0.48	57.04	0.24	0.48	0.00	0.00	3.16
24	Spain	312	78	1.63	47.44	56.73	31.73	7.37	0.32	0.64	64.42	0.32	0.64	0.32	0.00	2.48
25	Sweden	328	101	1.34	31.10	52.74	5.49	18.29	3.05	0.00	49.09	0.00	2.13	1.22	0.30	5.02
26	Switzerland	764	147	1.60	51.31	67.80	6.81	28.66	0.39	0.00	52.75	0.39	0.39	0.92	0.26	4.35
27	Taiwan	436	96	1.38	33.26	66.28	1.61	7.57	5.50	0.00	55.73	0.00	1.38	0.00	0.00	2.56
28	Thailand	1,180	222	1.36	33.47	54.24	1.27	3.64	0.00	0.00	75.25	0.17	0.51	0.08	0.34	2.58
29	United Kingdom	1,833	608	1.33	28.21	45.44	5.56	7.97	6.16	0.98	58.48	2.62	2.78	1.53	0.22	6.83
30	United States	37,268	3,543	1.62	52.96	63.48	6.25	5.41	0.33	0.36	74.41	0.31	5.70	2.96	1.34	6.70
		60,067	**8,560**	**1.56**	**47.85**	**59.64**	**7.06**	**9.32**	**1.37**	**0.36**	**68.82**	**0.42**	**4.36**	**2.35**	**0.95**	**5.92**

(Table 2 cont'd)
Panel B: Statistics by Industry

		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
								MID4					OTHERS			
	Industry	No. of Forecasts	No. of Firms	NUM_ITEMS	DISAG_IND	SALES	EBITDA	OPINC	IBTAX	IBXIDO	NI	BS	CAPEX	CASH FLOW	EXPENSE	ABSCAR
					%	%	%	%	%	%	%	%	%	%	%	%
1	Mining/Construction	2,032	403	1.42	36.22	45.28	7.04	6.74	2.36	0.34	69.44	0.54	7.23	1.62	0.89	5.13
2	Food	1,767	280	1.49	40.12	44.43	6.11	11.94	1.08	0.85	75.72	0.51	5.32	1.81	0.40	4.57
3	Textiles/Print/Publish	2,867	420	1.57	49.25	57.87	5.79	9.14	1.53	0.38	72.34	0.45	5.79	2.58	0.87	6.06
4	Chemicals	1,808	251	1.53	46.52	51.05	8.46	10.40	1.49	0.28	71.79	0.28	5.37	2.65	0.50	5.23
5	Pharmaceuticals	2,478	346	1.58	51.41	69.94	3.75	7.79	0.73	0.12	67.96	1.05	2.02	2.42	1.61	5.30
6	Extractive	1,214	325	1.32	26.69	28.17	9.80	4.78	0.16	0.00	50.08	1.15	28.83	6.75	0.74	5.11
7	Manf: Rubber/glass/etc.	1,413	221	1.61	54.49	64.47	7.64	7.86	1.42	0.50	71.48	0.71	4.18	1.63	1.06	5.85
8	Manf: Metal	1,632	266	1.46	39.89	47.00	6.07	11.52	1.59	0.18	69.18	0.74	5.64	2.45	0.92	5.69
9	Manf: Machinery	2,405	304	1.62	53.97	68.11	3.83	14.39	2.00	0.12	66.32	0.12	4.41	1.46	0.62	5.72
10	Manf: Electrical	2,597	336	1.62	54.87	77.63	3.31	12.75	1.12	0.27	61.03	0.23	2.04	1.96	1.08	7.40
11	Manf: Transport	1,713	199	1.57	47.64	68.07	3.04	12.73	1.23	0.23	62.05	0.58	3.68	3.15	0.64	4.59
12	Manf: Instruments	3,386	352	1.72	64.50	81.66	3.28	10.66	0.83	0.18	70.32	0.47	1.59	1.68	0.74	6.57
13	Manf: Misc.	558	70	1.64	55.73	71.33	6.45	8.78	2.33	0.00	69.00	0.18	3.05	2.15	0.54	7.46
14	Computers	10,397	1,229	1.73	63.44	86.73	6.41	12.39	0.82	0.29	59.67	0.16	1.90	1.91	1.16	7.37
15	Transportation	4,166	576	1.50	39.63	51.13	17.52	9.34	1.75	0.43	56.82	0.38	7.15	2.88	0.96	4.88
16	Utilities	2,215	235	1.21	17.11	13.54	9.75	4.20	0.45	0.32	83.79	0.36	5.06	2.48	0.14	2.94
17	Retail: Wholesale	1,937	307	1.55	47.13	56.07	5.89	7.69	1.65	0.46	75.17	0.52	4.29	2.32	0.57	6.26
18	Retail: Misc.	3,857	378	1.51	43.14	48.17	5.44	5.29	1.22	0.36	77.44	0.36	6.40	2.20	1.09	6.21
19	Retail: Restaurant	829	68	1.60	50.78	56.21	3.38	5.19	1.33	0.36	79.01	0.24	6.76	1.81	1.45	6.20
20	Financial	3,318	641	1.25	21.34	19.50	1.45	6.45	2.47	0.45	88.55	0.48	0.69	1.15	1.36	4.86
21	Insurance/Real Estate	1,235	333	1.39	31.42	37.49	8.02	4.86	2.75	0.40	72.47	0.40	1.62	7.04	1.30	4.59
22	Services	5,219	747	1.69	55.82	64.59	13.72	8.12	1.67	0.80	70.78	0.48	3.89	2.74	1.07	6.53
23	Others	1,024	273	1.39	34.96	45.12	4.79	8.20	2.05	0.49	71.09	0.59	2.83	2.54	0.29	5.45
		60,067	**8,560**	**1.56**	**47.85**	**59.64**	**7.06**	**9.32**	**1.37**	**0.36**	**68.82**	**0.42**	**4.36**	**2.35**	**0.95**	**5.92**

Table 2 reports the detailed statistics of our forecast disaggregation and forecast item variables for our full sample of 60,067 forecasts. Panel A (Panel B) reports these statistics by Country (Industry). Variable definitions are provided in Table 1.

TABLE 3 Descriptive Statistics

Full sample (N=60,067)

Variable	Mean	Std.	25%	50%	75%
Test Variables					
NUM_ITEMS	1.56	0.66	1.00	1.00	2.00
DISAG_IND	0.48	0.50	0.00	0.00	1.00
SALES	0.60	0.49	0.00	1.00	1.00
MID4	0.17	0.38	0.00	0.00	0.00
NI	0.69	0.46	0.00	1.00	1.00
OTHERS	0.07	0.26	0.00	0.00	0.00
ABSCAR	5.92	6.64	1.50	3.71	7.88
Other Forecast Characteristics					
FLOSS	0.05	0.23	0.00	0.00	0.00
FPREC	2.56	1.39	1.00	2.00	3.00
FATTR	0.09	0.29	0.00	0.00	0.00
FERR (N=35,064)	17.80	30.25	3.64	7.14	16.88
FTIME	178.08	101.19	75.00	161.00	255.00
Other Control Variables					
LNASSET	6.79	2.30	5.26	6.74	8.26
ANALYST	12.70	13.77	2.00	9.00	19.00
BIG4	0.74	0.44	0.00	1.00	1.00
IO	46.36	33.51	12.72	47.17	84.64
HITECH	0.22	0.41	0.00	0.00	0.00
LOSS	0.14	0.34	0.00	0.00	0.00
STKEXCH	1.85	1.25	1.00	1.00	2.00
ADR	0.02	0.13	0.00	0.00	0.00
EARNVOL	0.37	0.73	0.02	0.08	0.29
ACCRUAL	0.05	0.14	-0.02	0.03	0.11
GOODNEWS	0.48	0.50	0.00	0.00	1.00
SURPRISE	1.56	4.16	0.17	0.45	1.10
EXTDEP	-1.84	16.34	-3.72	-1.14	0.13

Table 3 reports the descriptive statistics for our variables of interest and control variables.

TABLE 4 Correlations (Pearson\Spearman)

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
1 *ABSCAR*		0.10	0.10	0.12	0.01	-0.02	0.04	0.04	0.10	0.02	-0.02	0.00	0.04	-0.20	-0.10	-0.05	0.05	0.10	0.06	-0.09	-0.03	0.22	0.062	0.10	-0.01
2 *NUM_ITEMS*	0.08		0.97	0.61	0.37	0.27	0.11	0.02	0.17	0.03	-0.10	0.01	0.01	-0.12	0.01	-0.01	0.08	0.13	0.06	-0.04	-0.03	0.17	0.085	0.02	-0.07
3 *DISAG_IND*	0.09	0.89		0.62	0.30	0.27	0.05	0.02	0.17	0.02	-0.10	0.01	0.01	-0.14	0.00	-0.01	0.08	0.14	0.06	-0.04	-0.03	0.18	0.088	0.02	-0.07
4 *SALES*	0.11	0.56	0.62		0.06	-0.22	-0.15	-0.06	0.10	0.00	-0.08	0.03	0.00	-0.27	-0.06	-0.12	-0.02	0.25	0.09	-0.06	-0.03	0.29	0.085	0.06	-0.02
5 *MID4*	0.01	0.42	0.30	0.06		-0.32	0.01	-0.04	0.01	0.01	0.02	-0.02	0.00	-0.02	-0.01	-0.03	-0.10	0.01	-0.03	0.07	0.04	0.07	-0.02	0.05	0.01
6 *NI*	-0.03	0.25	0.27	-0.22	-0.32		-0.21	0.13	0.12	0.02	-0.12	0.02	0.01	0.11	0.09	0.11	0.15	-0.08	0.05	-0.06	-0.02	-0.14	0.042	-0.10	-0.08
7 *OTHERS*	0.04	0.19	0.05	-0.15	0.01	-0.21		-0.01	-0.01	0.01	0.05	-0.05	0.02	0.07	-0.02	0.05	0.09	-0.04	-0.09	0.26	-0.03	-0.01	-0.005	0.05	-0.02
8 *FLOSS*	0.05	0.02	0.02	-0.06	-0.04	0.13	-0.01		0.00	0.04	0.08	0.01	-0.06	-0.11	-0.07	-0.03	-0.07	0.06	0.26	-0.03	-0.01	0.10	-0.02	0.11	0.14
9 *FPREC*	0.07	0.17	0.17	0.10	0.01	0.12	-0.01	0.00		0.02	-0.08	0.00	0.01	0.00	0.05	0.10	0.19	0.07	0.06	-0.06	-0.04	0.08	0.09	-0.01	-0.06
10 *FATTR*	0.02	0.03	0.02	0.00	0.01	0.02	0.01	0.04	0.02		0.01	-0.01	-0.02	0.00	-0.01	0.00	0.00	-0.02	0.00	0.00	0.00	-0.02	-0.01	0.01	0.01
11 *FERR*	-0.02	-0.03	-0.03	0.01	0.02	-0.09	0.02	0.05	-0.07	0.00		0.03	-0.04	0.00	0.04	-0.03	-0.08	-0.01	0.04	0.07	0.02	0.02	-0.13	0.07	0.13
12 *FTIME*	0.00	0.00	0.01	0.03	-0.02	0.02	-0.05	0.01	-0.01	-0.01	0.00		0.02	-0.02	0.00	0.00	-0.01	0.01	0.01	-0.02	-0.01	0.01	0.0046	0.03	-0.01
13 *GOODNEWS*	0.02	0.01	0.01	0.00	0.00	0.01	0.02	-0.06	0.01	-0.02	-0.02	0.02		0.04	0.02	0.03	0.06	0.00	-0.05	0.01	0.01	-0.02	0.04	-0.02	-0.07
14 *LNASSET*	-0.21	-0.10	-0.13	-0.27	-0.02	0.11	0.06	-0.10	0.00	0.00	0.00	-0.02	0.04		0.59	0.39	0.35	-0.18	-0.18	0.46	0.09	-0.69	-0.03	-0.14	-0.14
15 *ANALYST*	-0.14	-0.02	-0.02	-0.04	0.00	0.04	-0.05	-0.07	-0.01	-0.02	0.04	0.00	0.01	0.59		0.46	0.33	0.06	-0.09	0.38	0.06	-0.41	0.018	-0.11	-0.12
16 *BIG4*	-0.08	0.00	-0.01	-0.12	-0.03	0.11	0.05	-0.03	0.10	0.00	-0.03	0.00	0.03	0.40	0.35		0.34	0.04	-0.03	0.20	0.02	-0.23	0.022	-0.06	-0.11
17 *IO*	0.00	0.08	0.08	-0.02	-0.11	0.16	0.10	-0.07	0.20	0.00	-0.08	-0.01	0.06	0.34	0.20	0.35		0.01	-0.06	0.12	-0.04	-0.15	0.16	-0.08	-0.22
18 *HITECH*	0.09	0.11	0.14	0.25	0.01	-0.08	-0.04	0.06	0.07	-0.02	-0.01	0.01	0.00	-0.17	0.07	0.04	0.02		0.11	0.06	-0.02	0.19	0.142	0.08	-0.06
19 *LOSS*	0.07	0.04	0.06	0.09	-0.03	0.05	-0.09	0.26	0.05	0.00	0.04	0.01	-0.05	-0.17	-0.09	-0.03	-0.05	0.11		-0.09	-0.02	0.21	0.037	0.17	0.17
20 *STKEXCH*	-0.11	-0.05	-0.07	-0.07	0.07	-0.07	0.01	-0.03	-0.08	0.00	0.07	-0.02	0.01	0.52	0.50	0.16	0.04	0.03	-0.10		0.19	-0.32	-0.06	-0.04	-0.04
21 *ADR*	-0.02	-0.03	-0.03	-0.03	0.04	-0.02	-0.03	-0.01	-0.04	0.00	0.02	-0.01	0.01	0.09	0.07	0.02	-0.05	-0.02	-0.02	0.22		-0.07	-0.04	-0.02	0.01
22 *EARNVOL*	0.14	0.06	0.06	0.18	0.05	-0.13	-0.02	0.10	0.01	-0.01	0.01	0.01	-0.03	-0.46	-0.27	-0.22	-0.24	0.15	0.18	-0.17	-0.04		0.068	0.20	0.12
23 *ACCRUAL*	0.05	0.08	0.09	0.09	-0.01	0.03	0.00	-0.01	0.07	-0.01	-0.07	0.00	0.04	-0.05	-0.02	0.02	0.14	0.15	0.05	-0.06	-0.04	0.03		0.00	-0.09
24 *SURPRISE*	0.07	0.02	0.01	0.03	0.03	-0.05	0.02	0.08	0.00	0.01	0.02	0.00	-0.02	-0.07	-0.07	-0.04	-0.05	0.04	0.11	-0.04	-0.01	0.07	-0.01		0.06
25 *EXTDEP*	0.01	-0.03	-0.03	0.02	-0.01	-0.05	-0.01	0.08	-0.02	0.00	0.02	0.00	-0.03	-0.10	-0.04	-0.06	-0.10	0.03	0.09	-0.01	0.00	0.15	-0.01	0.01	

Table 4 reports the Pearson (Spearman) correlation matrices for our variables of interest and control variables. Numbers in bold indicate that the correlation is statistically different from zero with a p-value less than 10%.

TABLE 5 Country-level Determinants of Forecast Disaggregation

Panel A - Univariate analysis (N = 30 countries)

		ENFORCE			INVPRO			CLASSACT		
		High	Low	diff	High	Low	diff	High	Low	diff
		N =15	N = 15	(High - Low)	N =15	N = 15	(High - Low)	N =13	N = 17	(High - Low)
Forecast Disaggregation										
NUM_ITEMS	(Average)	1.361	1.511	-0.150**	1.350	1.522	-0.172**	1.410	1.457	-0.047**
DISAG_IND	(Likelihood)	0.320	0.429	-0.109**	0.304	0.445	-0.141**	0.351	0.392	-0.041**

(Table 5 cont'd)

Panel B - Forecast-level Regressions: Legal Environment on Forecast Disaggregation Likelihood (*DISAG_IND*) and Level (*NUM_ITEMS*)

	1		2		3		4		5		6	
Dep Var =	*DISAG_IND*						*NUM_ITEMS*					
Model	Logistic		Logistic		Logistic		Poisson		Poisson		Poisson	
N (Total Obs.)	60,067		60,067		60,067		60,067		60,067		60,067	
N (Dep. Var =1)	28,742		28,742		28,742							
Pseudo/ Adj. R^2 %	15.76		15.37		15.21		9.61		9.27		9.20	
	Coef	*P Value*	*Coef*	*P Value*	*Coef*	*P Value*	*Coef*	*P Value*	*Coef*	*P Value*	*Coef*	*P Value*
Intercept	-0.962***	0.00	-1.145***	0.00	-1.242***	0.00	1.275***	62.96	1.221***	61.09	1.199***	60.50
H_ENFORCE	**-0.543***	**0.00**					**-0.139***	**-22.29**				
H_INVPRO			**-0.383***	**0.00**					**-0.095***	**-15.68**		
CLASSACT					**-0.308***	**0.00**					**-0.080***	**-13.25**
LNASSET	-0.064***	0.00	-0.061***	0.00	-0.060***	0.00	-0.014***	-9.17	-0.013***	-8.67	-0.013***	-8.48
ANALYST	0.006***	0.00	0.006***	0.00	0.007***	0.00	0.001***	6.67	0.001***	6.00	0.002***	7.59
BIG4	-0.017	0.47	-0.017	0.47	-0.014	0.55	-0.007	-1.31	-0.008	-1.42	-0.006	-1.15
IO	0.008***	0.00	0.007***	0.00	0.007***	0.00	0.002***	27.59	0.002***	26.60	0.002***	25.66
HITECH	0.057	0.20	0.052	0.24	0.053	0.24	0.036***	3.31	0.037***	3.42	0.038***	3.47
LOSS	0.333***	0.00	0.330***	0.00	0.319***	0.00	0.086***	13.02	0.083***	12.64	0.082***	12.40
STKEXCH	-0.103***	0.00	-0.093***	0.00	-0.086***	0.00	-0.027***	-12.18	-0.025***	-11.11	-0.024***	-10.80
ADR	-0.137***	0.06	-0.125*	0.08	-0.125*	0.08	-0.022	-1.34	-0.018	-1.08	-0.018	-1.06
EARNVOL	0.012	0.40	0.019	0.16	0.027**	0.05	0.006*	1.75	0.008**	2.39	0.010***	3.04
ACCRUAL	0.594***	0.00	0.571***	0.00	0.547***	0.00	0.197***	12.41	0.194***	12.19	0.190***	11.95
GOODNEWS	0.035**	0.04	0.036**	0.04	0.039**	0.03	0.010**	2.37	0.010***	2.48	0.010**	2.44
EXTDEP	-0.005***	0.00	-0.005***	0.00	-0.005***	0.00	-0.001***	-8.99	-0.001***	-8.54	-0.001***	-8.81
LIKELIHOOD	0.040***	0.00	0.040***	0.00	0.040***	0.00	0.010***	40.91	0.010***	40.83	0.010***	41.00
COMPETITION	0.002	0.61	0.001	0.77	0.001	0.74	0.001	1.11	0.001	0.83	0.001	0.87
Year Indicators	Yes		Yes		Yes		Yes		Yes		Yes	
Industry Indicators	Yes		Yes		Yes		Yes		Yes		Yes	
S/E Clustering	Firm & Year		Firm & Year		Firm & Year		Firm & Year		Firm & Year		Firm & Year	

(Table 5 cont'd)

Panel C - Country-level Regressions: Legal Environment on Forecast Disaggregation Likelihood (*% of Firms with DISAG_IND=1*) and Level (*Average NUM_ITEMS*)

	4		5		6		4		5		6	
Dep Var =	*Average DISAG_IND*						*Average NUM_ITEMS*					
Model =	*OLS*		*OLS*		*OLS*		*OLS*		*OLS*		*OLS*	
N (Total Obs.)	30		30		30		30		30		30	
Pseudo/Adj. R^2 %	65.19		57.81		45.41		58.14		46.79		35.96	
	Coef	t Value	Coef	t Value	Coef	t Value	Coef	t Value	Coef	t Value	Coef	t Value
Intercept	-46.733	-1.23	-100.445***	-4.45	-114.116***	-3.91	0.190	0.62	-0.251	-0.72	-0.079	-0.16
H_ENFORCE	**-13.966***	**-2.87**					**-0.164***	**-3.88**				
H_INVPRO			**-11.533***	**-3.62**					**-0.142***	**-2.90**		
CLASSACT					**-3.208**	**-0.68**					**-0.057**	**-0.80**
LNASSET	0.949	0.30	1.857	0.93	0.206	0.08	0.028	1.04	0.033	1.06	0.031	0.77
ANALYST	0.553	1.50	0.283	1.04	0.619*	1.90	0.014***	3.49	0.004	0.95	0.006	1.20
BIG4	-0.167	-1.57	-0.112*	-1.83	-0.083	-1.01	-0.002***	-2.66	-0.001	-1.27	-0.001	-1.11
IO	-0.182	-0.97	0.031	0.20	-0.360	-1.68	-0.007**	-2.15	0.001	0.03	-0.002	-0.72
HITECH	-0.113	-0.35	-0.399**	-2.19	-0.735**	-2.54	-0.003	-1.33	-0.005	-1.73	-0.004	-0.88
LOSS	0.881	1.24	2.372***	4.51	2.165***	3.32	0.025***	3.85	0.029***	3.53	0.017	1.41
STKEXCH	-14.012**	-2.30	-8.397*	-2.13	-12.888**	-2.60	-0.172***	-2.87	-0.118*	-1.95	-0.140	-1.77
ADR	1.157	1.09	-0.133	-0.19	1.856	1.68	0.011	1.30	0.001	0.01	0.008	0.58
EARNVOL	7.215	0.50	2.037	0.22	14.048	1.33	-0.013	-0.11	0.062	0.45	0.215	1.28
ACCRUAL	1.500	0.95	-1.610	-1.23	-0.237	-0.15	0.033	1.40	-0.017	-0.86	0.003	0.11
GOODNEWS	1.605**	2.35	2.372***	5.39	2.525***	4.44	0.018***	2.95	0.029***	4.21	0.021**	2.28
EXTDEP	1.985**	2.11	2.130***	3.52	2.861***	3.51	0.032***	3.73	0.024**	2.59	0.027*	2.12
LIKELIHOOD	1.176**	2.23	0.921**	2.65	1.510***	3.54	0.016***	3.70	0.010*	1.83	0.015**	2.29
COMPETITION	0.152*	1.77	0.077	1.37	0.136*	1.92	0.001	0.55	0.001	0.77	0.001	0.93
Year Indicators	No		No		No		No		No		No	
Industry Indicators	No		No		No		No		No		No	
S/E Clustering	No		No		No		No		No		No	

Table 5 reports the univariate (Panel A) and regression (Panels B and C) estimates of the relation between legal environment and forecast disaggregation. Panel A reports the country-level mean of *NUM_ITEMS* and *DISAG_IND* across whether a country has a high or low level of *ENFORCE*, *INVPRO*, or *CLASSACT*, as well as the difference between high and low countries and whether this difference is significant. ***, **, * indicate that a difference is significant at the 1%, 5%, and 10% levels, respectively. Panels B and C report regression estimates based on Equation (1): $Forecast\ Disaggregation = \beta_0 + \beta_1 Legal\ Environment + Control\ Variables + \varepsilon$. Variables are defined in Table 1.

TABLE 6 Forecast Disaggregation and Stock Market Reactions

Panel A1 – Univariate Analysis: *ABSCAR* by Forecast Disaggregation Likelihood (*DISAG_IND*)

DISAG_IND	All Forecasts			Standalone Forecasts			Non-US Forecasts		
	N	%	ABSCAR	N	%	ABSCAR	N	%	ABSCAR
=0	31,325	52.15	5.38	12,811	59.91	5.44	13,795	60.51	4.52
=1	28,742	47.85	6.51	8,572	40.09	6.64	9,004	39.49	4.83
	60,067	100.00	diff=1.13***	21,383	100.00	diff=1.20***	22,799	100.00	diff=0.31***

Panel A2 – Univariate Analysis: *ABSCAR* by Forecast Disaggregation Level (*NUM_ITEMS*)

NUM_ITEMS	All Forecasts			Standalone Forecasts			Non-US Forecasts		
	N	%	ABSCAR	N	%	ABSCAR	N	%	ABSCAR
=1	31,325	52.15	5.38	12,811	59.91	5.44	13,795	60.51	4.52
=2	24,549	40.87	6.48	7,402	34.62	6.61	7,683	33.70	4.81
=3	3,628	6.04	6.63	1,043	4.88	6.64	1,191	5.22	4.92
≥4	565	0.94	7.08	127	0.59	9.51	130	0.57	5.84
	60,067	100.00		21,383	100.00		22,799	100.00	

(Table 6 cont'd)

Panel B – Forecast-level Regressions: Forecast Disaggregation Likelihood (*DISAG_IND*) and Level (*NUM_ITEMS*) on *ABSCAR*

	1		2		3		4		5		6	
Dep Var =	*ABSCAR*						*ABSCAR*					
Sample =	All Forecasts		Standalone Forecasts		Non-US Forecasts		All Forecasts		Standalone Forecasts		Non-US Forecasts	
N (Total Obs.)	60,067		21,383		22,799		60,067		21,383		22,799	
R^2 %	11.48		14.34		10.56		11.48		14.36		10.56	
	Coef	*t Value*	*Coef*	*t Value*	*Coef*	*t Value*	*Coef*	*t Value*	*Coef*	*t Value*	*Coef*	*t Value*
Intercept	9.871***	27.48	10.501***	19.56	8.712***	18.31	9.676***	26.42	10.176***	18.40	8.566***	17.78
DISAG_IND	**0.331*****	**5.59**	**0.386*****	**3.68**	**0.178****	**2.20**						
NUM_ITEMS							**0.247*****	**5.39**	**0.335*****	**3.96**	**0.151****	**2.33**
FLOSS	0.482***	3.03	0.157	0.60	0.711***	2.97	0.487***	3.06	0.162	0.63	0.713***	2.98
FPREC	0.099***	4.78	0.248***	6.83	0.158***	4.99	0.099***	4.78	0.247***	6.79	0.158***	4.99
FATTR	0.374***	3.91	0.525***	3.31	0.395***	2.94	0.373***	3.90	0.522***	3.29	0.393***	2.93
FTIME	-0.001	-0.42	0.001***	3.18	0.001	1.18	-0.001	-0.37	0.001***	3.20	0.001	1.19
LNASSET	-0.540***	-21.35	-0.600***	-14.38	-0.322***	-9.53	-0.542***	-21.42	-0.601***	-14.41	-0.322***	-9.54
ANALYST	0.010***	3.40	-0.005	-1.10	0.011***	3.25	0.010***	3.39	-0.005	-1.11	0.011***	3.23
BIG4	-0.228***	-2.63	-0.154	-1.05	-0.378***	-3.36	-0.230***	-2.66	-0.153	-1.04	-0.378***	-3.36
IO	-0.009***	-6.05	-0.014***	-5.46	-0.009***	-3.71	-0.009***	-6.04	-0.014***	-5.44	-0.009***	-3.72
HITECH	0.080	0.43	0.072	0.20	0.898***	3.61	0.077	0.41	0.070	0.20	0.900***	3.61
LOSS	0.247***	2.50	0.942***	3.57	0.304*	1.79	0.242***	2.45	0.937***	3.55	0.301*	1.78
STKEXCH	0.203***	6.84	0.204***	4.67	0.110***	3.03	0.205***	6.88	0.206***	4.71	0.110***	3.03
ADR	0.349*	1.70	0.149	0.52	0.281	1.37	0.349*	1.70	0.150	0.52	0.281	1.37
ACCRUAL	-0.439*	-1.72	-0.673	-1.60	-0.354	-0.94	-0.438*	-1.71	-0.660	-1.57	-0.349	-0.93
SURPRISE	0.060***	6.58	0.059***	4.09	0.028***	2.54	0.059***	6.56	0.059***	4.09	0.028***	2.54
INVMILLS	-0.638***	-3.20	-0.706**	-2.26	-0.873***	-3.48	-0.652***	-3.28	-0.702**	-2.25	-0.869***	-3.46
Country Indicators	Yes		Yes		Yes		Yes		Yes		Yes	
Year Indicators	Yes		Yes		Yes		Yes		Yes		Yes	
Industry Indicators	Yes		Yes		Yes		Yes		Yes		Yes	
S/E Clustering	Firm and Year		Firm and Year		Firm and Year		Firm and Year		Firm and Year		Firm and Year	

(Table 6 cont'd)

Panel C – Forecast-level Regressions: Interaction between Forecast Disaggregation Likelihood (*DISAG_IND*) and Legal Environment on *ABSCAR*

	1		2		3	
Dep Var =	*ABSCAR*					
Sample =	**All Forecasts**					
LEGENV =	**H_ENFORCE**		**H_INVPRO**		**CLASSACT**	
N (Total Obs.)	60,067		60,067		60,067	
R^2 %	10.58		11.27		11.27	
	Coef	*t Value*	*Coef*	*t Value*	*Coef*	*t Value*
Intercept	7.028***	16.74	6.305***	18.66	6.307***	18.65
DISAG_IND	**-0.227****	**-2.29**	**-0.135**	**-1.57**	**-0.138**	**-1.49**
DISAG_IND * LEGENV	**0.723****	**6.13**	**0.604****	**5.53**	**0.594****	**5.23**
LEGENV	**1.428****	**5.56**	**3.364****	**22.15**	**3.370****	**22.13**
FLOSS	0.457***	2.86	0.442***	2.77	0.440***	2.76
FPREC	0.147***	7.19	0.108***	5.27	0.108***	5.28
FATTR	0.271***	2.81	0.342***	3.58	0.344***	3.60
FTIME	-0.001	-0.64	-0.001	-0.48	-0.001	-0.47
LNASSET	-0.557***	-22.52	-0.571***	-23.04	-0.571***	-23.04
ANALYST	0.006**	2.22	0.011***	3.96	0.011***	4.02
BIG4	-0.200**	-2.32	-0.110	-1.30	-0.111	-1.30
IO	-0.002	-1.39	-0.008***	-5.43	-0.008***	-5.45
HITECH	0.309*	1.66	0.308*	1.66	0.311*	1.68
LOSS	0.389***	3.94	0.265***	2.69	0.265***	2.68
STKEXCH	0.176***	5.95	0.223***	7.59	0.223***	7.57
ADR	0.241	1.17	0.383*	1.86	0.378*	1.84
ACCRUAL	-0.061	-0.24	-0.436*	-1.71	-0.440*	-1.73
SURPRISE	0.062***	6.82	0.061***	6.68	0.061***	6.69
INVMILLS	-0.250	-1.24	-0.661***	-3.31	-0.665***	-3.33
Country Indicators	Yes		Yes		Yes	
Year Indicators	Yes		Yes		Yes	
Industry Indicators	Yes		Yes		Yes	
S/E Clustering	Firm and Year		Firm and Year		Firm and Year	

Table 6 reports the univariate (Panel A) and regression (Panels B and C) estimates of the relation between *ABSCAR* and forecast disaggregation. Panel A1 (A2) reports the number and percentage of forecasts by whether they are disaggregated (the number of items in each forecast) across three sub-samples. Standalone forecasts omit forecasts that are bundled with earnings announcements. Non-US forecasts exclude forecasts made by U.S. firms. The difference in *ABSCAR* by whether a forecast is disaggregated is also reported along with whether this difference is significant. ***, **, * indicate that a difference is significant at the 1%, 5%, and 10% levels, respectively. Panels B and C report regression estimates based on Equation (2) $ABSCAR = \beta_0 + \beta_1 Forecast\ Disaggregation + \beta_2 Forecast\ Disaggregation * Legal\ Environment + \beta_3 Legal\ Environment + Other\ Forecast\ Properties + Control\ Variables + INVMILLS + \varepsilon$. Variable definitions are provided in Table 1.

TABLE 7 Investor Protection and Forecast Items

Panel A - Univariate analysis (N = 30 countries)

		ENFORCE			*INVPRO*			*CLASSACT*		
		High	**Low**	*diff*	**High**	**Low**	*diff*	**High**	**Low**	*diff*
		N =15	N = 15	*(High - Low)*	N =15	N = 15	*(High - Low)*	N =13	N = 17	*(High - Low)*
Forecast Items										
SALES	*(Likelihood)*	0.502	0.531	*-0.029*	0.427	0.606	*-0.179*	0.509	0.523	*-0.014*
MID4	*(Likelihood)*	0.131	0.326	*-0.195****	0.139	0.317	*-0.178****	0.185	0.261	*-0.076****
NI	*(Likelihood)*	0.660	0.598	*0.062*	0.721	0.538	*0.183*	0.641	0.621	*0.020*
OTHERS	*(Likelihood)*	0.052	0.027	*0.025**	0.047	0.033	*0.014**	0.054	0.029	*0.025**

(Table 7 cont'd)

Panel B: Forecast- and Country-level Regressions: Legal Environment on Forecast Item Choice

	1		2		3		4		5		6		7		8	
Dep Var =	*SALES*		*MID4*		*NI*		*OTHERS*		*% of SALES*		*% of MID4*		*% of NI*		*% of OTHERS*	
	(Forecast Level)								*(Country Level)*							
Model	**Logistic**		**Logistic**		**Logistic**		**Logistic**		**OLS**		**OLS**		**OLS**		**OLS**	
N (Total Obs.)	60,067		60,067		60,067		60,067		30		30		30		30	
N (Dep Var =1)	35,823		10,424		41,341		4,362									
Pseudo/ Adj. R² %	59.46		38.92		31.01		46.86		71.49		73.67		38.53		58.69	
	Coef	*P Value*	*Coef*	*P Value*	*Coef*	*P Value*	*Coef*	*P Value*	*Coef*	*t Value*	*Coef*	*t Value*	*Coef*	*t Value*	*Coef*	*t Value*
Intercept	-3.023***	0.00	-5.065***	0.00	-0.100***	0.00	-8.363***	0.00	40.936	1.05	5.840	0.22	146.573***	5.83	2.646	0.39
H_INVPRO	**-0.353***	**0.00**	**-1.389***	**0.00**	**1.034***	**0.00**	**1.280***	**0.00**	**-12.083**	**-2.57**	**-0.790**	**-0.18**	**7.425**	**2.29**	**-0.635**	**-0.63**
NUM_ITEMS	2.882***	0.00	1.932***	0.00	1.441***	0.00	1.040***	0.00	0.660***	3.85	0.772***	6.38	0.128	0.94	-0.043	-0.98
LNASSET	-0.187***	0.00	0.025***	0.01	0.082***	0.00	0.158***	0.00	7.058***	2.77	4.398	1.72	-10.151***	-5.84	0.804	1.38
ANALYST	0.014***	0.00	-0.009***	0.00	-0.002*	0.08	-0.014***	0.00	0.114	0.37	-0.379	-1.23	-0.020	-0.09	-0.052	-0.68
BIG4	-0.515***	0.00	0.098***	0.00	0.182***	0.00	0.517***	0.00	-0.131	-1.11	0.043	0.74	0.131**	2.03	-0.014	-0.76
IO	0.001	0.30	-0.007***	0.00	0.002***	0.00	0.006***	0.00	0.191	1.26	-0.021	-0.16	-0.038	-0.32	0.069*	1.89
HITECH	0.186***	0.00	0.052	0.43	-0.136***	0.01	0.200*	0.10	0.514*	2.20	-0.061	-0.30	-0.037	-0.21	0.065	0.86
LOSS	0.014	0.72	0.099**	0.02	-0.003	0.92	0.665***	0.00	-0.751	-1.27	-1.021**	-2.33	2.123***	4.59	-0.038	-0.25
STKEXCH	0.043***	0.00	0.088***	0.00	-0.075***	0.00	-0.066***	0.00	-5.386	-1.09	4.309	0.92	13.904***	4.04	-3.058**	-2.85
ADR	-0.033	0.72	0.219***	0.01	-0.099	0.18	-0.847***	0.00	-0.341	-0.32	1.978*	1.96	-3.379***	-4.88	0.551***	2.73
EARNVOL	0.236***	0.00	0.075***	0.00	-0.278***	0.00	0.151***	0.00	1.709	0.15	27.516***	3.22	-30.953***	-3.73	0.417	0.12
ACCRUAL	0.229***	0.01	0.043	0.67	0.009	0.90	-0.114	0.48	0.049	0.04	-0.173	-0.21	-0.571	-0.64	0.397	1.08
GOODNEWS	0.014	0.56	0.014	0.59	-0.029	0.16	0.053	0.17	-1.117	-1.75	-1.124*	-2.13	0.259	0.51	-0.062	-0.43
EXTDEP	0.002***	0.01	-0.002**	0.04	-0.002***	0.00	0.003***	0.01	-1.803**	-2.31	-0.033	-0.05	-1.407**	-2.12	0.425**	2.42
LIKELIHOOD	0.019***	0.00	0.004***	0.00	-0.012***	0.00	-0.022***	0.00	0.281	0.51	-0.143	-0.45	-1.898***	-5.04	0.090	0.84
COMPETITION	-0.008	0.18	0.034***	0.00	-0.010*	0.03	0.025***	0.00	0.109	1.00	-0.029	-0.37	-0.228***	-3.06	0.007	0.42
Year Indicators	Yes		Yes		Yes		Yes		No		No		No		No	
Industry Indicators	Yes		Yes		Yes		Yes		No		No		No		No	
S/E Clustering	Firm and Year		Firm and Year		Firm and Year		Firm and Year		No		No		No		No	

Table 7 reports the univariate (Panel A) and regression (Panel B) estimates of the relation between legal environment and forecast items. Panel A reports the country-level mean of whether a forecast includes *SALES*, *MID4*, *NI*, or *OTHERS* across whether a country has a high or low level of *ENFORCE*, *INVPRO*, or *CLASSACT*, as well as the difference between high and low countries and whether this difference is significant. ***, **, * indicate that a difference is significant at the 1%, 5%, and 10% levels, respectively. Panels B reports regression estimates based on Equation (3):

$Forecast\ Item = \beta_0 + \beta_1 Legal\ Environment + Control\ Variables + Year\ and\ Industry\ Indicators + \varepsilon$. Variables are defined in Table 1.

TABLE 8 Different Forecast Items and Stock Market Reaction

Panel A – Univariate Analysis: *ABSCAR* by Different Forecast Items

	All Forecasts N = 60,067			Standalone Forecasts N = 21,383			Non-US Forecasts N = 22,799		
Forecast Item =	Yes	No	*diff (Yes - No)*	Yes	No	*diff (Yes - No)*	Yes	No	*diff (Yes - No)*
SALES	6.51	5.05	*1.46****	6.65	5.119	*1.526****	4.697	4.573	*0.124**
MID4	6.06	5.89	*0.17***	6.250	5.860	*0.390****	4.985	4.515	*0.470****
NI	5.78	6.24	*-0.46****	5.712	6.393	*-0.681****	4.562	4.754	*-0.192****
OTHERS	6.81	5.85	*0.96****	6.951	5.853	*1.098****	5.221	4.615	*0.606****

(Table 8 cont'd)

Panel B – Forecast-level Regressions: Forecast Items (*SALES*, *MID4*, and *NI*) on *ABSCAR*

	1		2		3	
Dep Var =			*ABSCAR*			
Sample =	**All Forecasts**		**Standalone Forecasts**		**Non-US Forecasts**	
N (Total Obs.)	60,067		21,383		22,799	
R^2 %	11.40		14.07		10.31	
	Coef	*t Value*	*Coef*	*t Value*	*Coef*	*t Value*
Intercept	6.492***	30.66	7.036***	21.50	5.297***	19.62
SALES	**0.286***	**6.82**	**0.225***	**3.12**	**0.110**	**1.97**
MID4	**0.104**	**2.05**	**0.034**	**0.37**	**0.159***	**2.63**
NI	**0.040**	**0.92**	**0.064**	**0.85**	**0.071**	**1.25**
FLOSS	0.255***	3.07	-0.014	-0.10	0.447***	3.90
FPREC	0.109***	8.25	0.199***	8.72	0.105***	5.46
FATTR	0.225***	3.73	0.441***	4.45	0.245***	3.12
FTIME	0.001	0.38	0.001***	2.97	-0.001	-0.14
LNASSET	-0.310***	-22.81	-0.368***	-16.64	-0.164***	-9.12
ANALYST	0.007***	3.91	-0.002	-0.82	0.002	0.71
BIG4	-0.081*	-1.63	-0.057	-0.67	-0.080	-1.28
IO	-0.001	-0.97	-0.004***	-2.94	-0.001	-0.91
HITECH	0.215**	2.29	0.369**	2.18	0.538***	3.95
LOSS	0.156***	2.68	0.539***	3.90	0.004	0.04
STKEXCH	0.087***	4.51	0.071**	2.36	0.080***	3.48
ADR	0.165	1.21	0.209	1.04	0.056	0.48
ACCRUAL	-0.186	-1.35	-0.060	-0.26	-0.141	-0.72
SURPRISE	0.026***	6.10	0.023***	3.19	0.013**	2.39
INVMILLS	-0.532***	-4.49	-0.531***	-2.75	-0.580***	-3.94
Country Indicators	Yes		Yes		Yes	
Year Indicators	Yes		Yes		Yes	
Industry Indicators	Yes		Yes		Yes	
S/E Clustering	Firm and Year		Firm and Year		Firm and Year	

(Table 8 cont'd)

Panel C – Forecast-level Regressions: Interaction between Legal Environment and Different Forecast Items (*SALES*, *MID4*, and *NI*) on *ABSCAR*

	1		2		3	
Dep Var =	*ABSCAR*					
Sample =	**Full Sample**					
LEGENV =	*H_ENFORCE*		*H_INVPRO*		*CLASSACT*	
N (Total Obs.)	60,067		60,067		60,067	
Adj. R^2 %	10.63		11.32		11.31	
	Coef	***t Value***	***Coef***	***t Value***	***Coef***	***t Value***
Intercept	7.098***	16.20	6.418***	18.10	6.400***	17.85
SALES	**-0.305***	**-2.73**	**-0.259***	**-2.66**	**-0.202**	**-1.95**
*SALES * LEGENV*	**0.825***	**6.43**	**0.769***	**6.49**	**0.680***	**5.62**
MID4	**-0.038**	**-0.33**	**0.072**	**0.70**	**0.121**	**1.02**
*MID4 * LEGENV*	**0.446***	**2.84**	**0.301**	**1.97**	**0.223**	**1.40**
NI	**-0.109**	**-0.95**	**-0.142**	**-1.43**	**-0.182***	**-1.64**
*NI * LEGENV*	**-0.005**	**-0.04**	**0.048**	**0.36**	**0.106**	**0.76**
LEGENV	**1.200***	**4.10**	**3.080***	**15.67**	**3.108***	**15.33**
FLOSS	0.594***	3.69	0.566***	3.52	0.560***	3.49
FPREC	0.157***	7.68	0.117***	5.68	0.116***	5.66
FATTR	0.278***	2.89	0.347***	3.64	0.349***	3.65
FTIME	-0.001	-0.63	-0.001	-0.48	-0.001	-0.48
LNASSET	-0.543***	-21.90	-0.556***	-22.40	-0.557***	-22.42
ANALYST	0.006**	2.09	0.011***	3.75	0.011***	3.89
BIG4	-0.168**	-1.95	-0.082	-0.96	-0.087	-1.03
IO	-0.001	-0.84	-0.007***	-4.86	-0.007***	-4.92
HITECH	0.300	1.61	0.299	1.62	0.299	1.62
LOSS	0.361***	3.65	0.238**	2.41	0.243***	2.45
STKEXCH	0.164***	5.55	0.208***	7.08	0.210***	7.13
ADR	0.242	1.18	0.375*	1.84	0.379*	1.85
ACCRUAL	-0.045	-0.18	-0.420*	-1.65	-0.424*	-1.66
SURPRISE	0.060***	6.62	0.059***	6.49	0.059***	6.51
INVMILLS	-0.245	-1.21	-0.644***	-3.22	-0.645***	-3.22
Country Indicators	Yes		Yes		Yes	
Year Indicators	Yes		Yes		Yes	
Industry Indicators	Yes		Yes		Yes	
S/E Clustering	Firm and Year		Firm and Year		Firm and Year	

Table 8 reports the univariate (Panel A) and regression (Panels B and C) estimates of the relation between *ABSCAR* and whether a forecast includes various forecast items. Panel A reports the ABSCAR by whether a forecast includes each of *SALES*, *MID4*, *NI*, or *OTHERS* across three sub-samples. Standalone forecasts omit forecasts that are bundled with earnings announcements. Non-US forecasts exclude forecasts made by U.S. firms. The difference in *ABSCAR* by whether a forecast includes each item is also reported along with whether this difference is significant. ***, **, * indicate that a difference is significant at the 1%, 5%, and 10% levels, respectively. Panels B and C report regression estimates based on Equation (4) $ABSCAR = \beta_0 + \beta_1 SALES + \beta_2 SALES * Legal\ Environment + \beta_3 MID4 + \beta_4 MID4 * Legal\ Environment + \beta_5 NI + \beta_6 NI * Legal\ Environment + \beta_7 Legal\ Environment + Other\ Forecast\ Properties + Control\ Variables + INVMILLS + \varepsilon$. Variable definitions are provided in Table 1.