The Impact of Nondisclosure of Geographic Segment Earnings on Earnings Predictability

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We address whether nondisclosure of geographic segment earnings after implementation of Statement of Financial Accounting Standards No. 131 (SFAS 131) has an impact on the earnings predictability of multinational companies. An understanding of how nondisclosure of accounting information affects the predictability of a firm's earnings will be of importance to financial statement users, managers, auditors, and standard setters. The quality of geographic disclosures is especially important as foreign operations represent a growing portion of many U.S. multinational companies and these operations can vary considerably on risk and return characteristics. Prior research has focused almost exclusively on issues involving line of business segment reporting after implementation of SFAS 131. However, SFAS 131 has noticeably affected geographic earnings disclosures. Firms that define their operating segments on any basis other than geographic area are no longer required to disclose geographic earnings. We find that nondisclosure of geographic earnings has no effect on analysts' forecast accuracy or dispersion. We conclude that the Financial Accounting Standards Board's decision to no longer require disclosure of geographic earnings for secondary segments has not hampered users' ability to predict earnings of U.S. multinational companies.

Keywords: *SFAS 131, geographic disclosures, analyst forecast error, dispersion, multinational companies*

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1. Introduction

The purpose of this paper is to examine the change in earnings predictability of U.S. multinational companies (MNCs) following implementation of Statement of Financial Accounting Standards No. 131 (SFAS 131). SFAS 131 has a noticeable effect on the disclosure of MNCs' geographic operations. MNCs that define their primary (or operating) segments on any basis other than geographic area are no longer required to disclose earnings by geographic area. Because most MNCs define operating segments along lines of business, geographic earnings are no longer disclosed for many firms. For example, Herrmann and Thomas (2000) find that only 16.2 percent of their sample companies continue to provide earnings by geographic area after adopting SFAS 131. Similarly, we find that adoption of SFAS 131 has significantly reduced the reporting of geographic earnings with our larger sample. In this paper, we are interested in determining whether nondisclosure of geographic earnings after implementation of SFAS 131 is associated with a decrease in the predictability of MNCs' earnings.

We focus on earnings predictability for several reasons. First, an explicit objective of SFAS 131 is to help users of financial statements "better assess its [the enterprise's] prospects for future cash flows" (FASB [1997], para. 3). It is possible that that SFAS 131 may reduce earnings predictability by no longer requiring the disclosure of geographic earnings for many firms. If business factors such as profit margins and growth opportunities differ across geographic areas and this information is not readily available from other sources, then nondisclosure of geographic earnings could impair the ability of financial statement users to predict overall earnings. These findings will be important to the Financial Accounting Standards Board (FASB), which places primary emphasis on the predictive value of financial accounting information in Statement of Financial Accounting Concepts No. 2 (FASB [1980]).

Second, investors consider earnings predictability when making their investment decisions. Investors have strong economic incentives to predict earnings, as changes in earnings positively relate to changes in firm value (Ball & Brown [1968]). Earnings uncertainty, however, negatively affects the extent to which investors respond to announced earnings (Imhoff & Lobo [1992]) and increases the information asymmetry in the market, leading to increased adverse selection cost of the bid-ask spread (Affleck-Graves, Callahan, & Chipalkatti [2002]). Consistent with prior literature, we make the assumption that better disclosure of financial accounting information reduces uncertainty regarding future operations, allowing for more accurate earnings forecasts. In fact, it seems that only for the occurrence of misleading or fraudulent disclosures would additional disclosure actually worsen users' ability to predict earnings. Several prior studies consider the impact that disclosure quality has on the ability of financial statement users to predict earnings (e.g., Lang & Lundholm [1996]; Barron, Kile, & O'Keefe [1999]; Healy, Hutton, & Palepu [1999]; Gelb & Zarowin [2002]; Lundholm & Myers [2002]; Hope [2003a]). Our study is motivated in a similar vein.

Third, managers may also be concerned with earnings predictability. Most theoretical asset valuation models suggest that the value of an asset is inversely related to uncertainty with respect to future economic benefits expected from the asset (Kwon [2002]). Poor disclosure that reduces earnings predictability could therefore negatively affect the value of the firm through reduced investor following, increased estimation risk, and increased information asymmetry; each of which increases the firm's cost of capital (Barry & Brown [1985]; Glosten & Milgrom [1985]; Merton [1987]). To attain a lower cost of equity capital, managers have incentives to improve earnings predictability (Affleck-Graves, Callahan, & Chipalkatti [2002]).

Finally, earnings predictability may be desired by financial analysts. Financial analysts could incur a number of potential costs by following firms with less predictable earnings. First, increased research expenditures (i.e., staff hours for information gathering and processing) could be a direct cost of predicting earnings for the firms with low earnings predictability. Second, a less direct cost is the reduced information intermediary role of the analysts. The earnings forecasts for firms with low earnings predictability may contain more biases or errors, which undermines the trust of investors. Prior research (e.g., Das, Levine, & Sivaramakrishnan [1998]; Duru and Reeb [2002]) suggests that as earnings become less predictable, analysts issue increasingly optimistic forecasts to please managers and consequently gain, or at least limit the loss of, access to managers' private information. Assuming that the market is efficient and investors can see through the forecast bias, analysts could risk their reputation among their clients for making overly optimistic forecasts. The third potential cost can occur because of the analyst affiliation with brokerage firms. These affiliated brokerage firms may reap fewer profits from their clients because investors lose confidence in the financial analysts and choose to hire other brokerage firms.

Understanding the impact of geographic disclosures becomes increasingly important as foreign operations represent a growing portion of most U.S. MNCs. Firms in the S&P 500 currently generate approximately 25 percent of their revenues through foreign operations. Of the ten largest U.S. companies listed on the New York Stock Exchange (NYSE), nearly one-half of their revenues are generated from foreign operations (Meek and Thomas [2004]). Because risks and growth opportunities differ considerably around the world, information concerning the origin of earnings should factor into predictions of the firm's overall earnings. Nondisclosure of geographic earnings following implementation of SFAS 131 may hamper the ability of financial statement users to predict MNCs' earnings. If newly implemented disclosure standards are associated with a decline in useful information for decision making, standard setters may wish to amend current requirements.

The FASB's decision to no longer require disclosure of geographic earnings for secondary segments relates to concerns over the negative effects of the expected increase in business segment disclosures. Many preparer firms complained in their comment letters to the FASB's exposure draft that implementation of SFAS 131 would significantly increase the number of operating segments

being disclosed and increase the number of data items per operating segment, leading to higher proprietary costs (Herrmann & Thomas [1997]). As a result of the expected increase in reporting requirements for primary segments, the FASB compromised by no longer requiring disclosure of earnings for secondary segments. As discussed previously, most firms define their primary segments along business lines and secondary segments along geographic areas. Therefore, the lack of disclosure requirements for geographic earnings relates to a compromise by the FASB to firms that complained about the expected increase in business segment reporting.

Following a long line of research, we use analysts' forecast errors and forecast dispersion to measure earnings predictability (e.g., Ashbaugh & Pincus [2001]; Affleck-Graves, Callahan, & Chipalkatti [2002]; etc). We compare results between a sample of MNCs that no longer disclose geographic earnings with a sample of MNCs that continue to disclose geographic earnings before and after implementation of SFAS 131. We find that the adoption of SFAS 131 does not have a differential effect on the two groups (i.e., nondisclosure of geographic earnings does not hinder analysts' ability to predict earnings). Thus, our evidence supports the FASB's decision to require less extensive secondary segment disclosures, because nondisclosure of geographic earnings does not appear to impact users' ability to predict earnings.[1] We conduct a number of sensitivity tests and find that these conclusions remain constant.

The paper proceeds as follows. Section 2 discusses prior research. Section 3 details the data and our sample selection. Section 4 describes the research design and presents empirical results. Conclusions are offered in section 5.

2. Prior Research Relating Geographic Segment Disclosures to Earnings Predictability

SFAS 131 fundamentally changes the way in which firms report segment information. Before SFAS 131, SFAS 14 required firms to disclose sales, assets, and earnings for lines of business and geographic areas. Line of business segments were generally disclosed along Standard Industrial Classification (SIC) codes and geographic areas were disclosed by country or region. SFAS 14 was referred to as the "industry approach." Currently, SFAS 131 requires firms to report segment information consistent with the internal organization of the company (e.g., products and services, geographic area, legal entity, or customer). In addition, firms are required to report segment results according to methods used for internal reporting purposes, which are not necessarily in accordance with

1. Policy implications from our tests should be made with caution. Both public and private information can affect earnings predictability and we do not control for private information in our tests. Thus, the lack of significant evidence of a change in analysts' ability to predict earnings could be caused by a change in the level of private information instead of the nondisclosure of public information.

generally accepted accounting principles. The segment reporting approach of SFAS 131 may be superior to that under SFAS 14 because external parties can now "see through the eyes of management" (Street, Nichols, & Gray [2000]). This method of segment reporting is referred to as the "management approach" (FASB [1997], para. 4).

Recent research suggests that implementation of SFAS 131 results in more segments being disclosed (Herrmann and Thomas [2000]; Street, Nichols, & Gray [2000]), more information per segment being disclosed (Herrmann & Thomas [2000]), greater precision in analysts' forecasts (Berger & Hann [2003]), and greater ability of investors to predict earnings (Ettredge, Kwon, Smith, & Zarowin [2005]). These studies typically focus on disclosure of business segments. Another effect of the implementation of SFAS 131 is the reduction in the information disclosed for each geographic segment. Firms that choose to define their operating segments on any basis other than geographic area (e.g., products and services) are no longer required to disclose geographic earnings information. These firms, however, must continue to report geographic sales and long-lived assets. Herrmann and Thomas (2000) find that most MNCs define operating segments along products and services and therefore no longer disclose geographic earnings information. The issue then becomes whether the loss of geographic earnings disclosure relates to a decrease in the predictability of MNCs' earnings Because earnings predictability relates to the overall variability and expected growth of consolidated earnings, it seems reasonable that investors would consider the differential variability and growth of geographic earnings. Clearly, geographic areas around the world differ in levels of uncertainty and growth and should differentially affect earnings forecasts.

Prior research provides evidence of the usefulness of geographic disclosures to predict earnings under SFAS 14. Ahadiat (1993) employs Box-Jenkins time series models over a nineteen-year period and finds that geographic segment earnings provide more accurate predictions of consolidated earnings than do consolidated earnings alone. Similarly, Balakrishnan, Harris, and Sen (1990) find that geographic earnings can improve the predictability of consolidated earnings under certain conditions. Nichols, Tunnell, and Seipel (1995) report that the earnings forecast accuracy of financial analysts improved after implementation of SFAS 14.

Other studies provide indirect evidence of the potential usefulness of geographic segments to predict earnings. Senteney and Bazaz (1992) show that the relation between abnormal returns and the change in earnings at the time earnings are announced decreases after implementation of SFAS 14. This result suggests that the market is able to make more accurate predictions of future consolidated earnings by using geographic segment data (i.e., there are fewer surprises at the time earnings are announced). Thomas (2000) provides evidence of differential market valuations of geographic earnings, suggesting that investors consider geographic earnings in setting firm value. The valuation multiples on geographic earnings correlate positively with the geographic segment's growth and negatively with the geographic segment's risk. These results are consistent

with the ability of risk and growth to explain differences in valuation multiples of total earnings (Kormendi & Lipe [1987]; Collins & Kothari [1989]).[2]

While the studies mentioned thus far find evidence consistent with the potential usefulness of geographic earnings in predicting consolidated earnings, Boatsman, Behn, and Patz (1993) find conflicting results. They investigate the use of geographic earnings by investors and examine the market reaction to unexpected geographic earnings at the release of the firm's Form 10-K. If investors use geographic earnings disclosures, then unexpected geographic earnings should be valued differentially; otherwise consolidated earnings are sufficient. Boatsman, Behn, and Patz (1993) find that unexpected geographic earnings generally are not differentially related to unexpected security returns, suggesting that either investors do not use this information or they obtain it from other sources (e.g., geographic sales, news sources, company announcements, etc.).[3] Their event study approach does not speak directly to the issue of earnings predictability. Our study is the first attempt to measure directly (using analysts' forecasts) the usefulness of geographic earnings to predict consolidated earnings.

As discussed in more detail below, we examine earnings predictability using analysts' forecast error and forecast dispersion. Both of these metrics have been used extensively in prior research to measure the predictability of earnings. In their role as information intermediaries, analysts incur significant costs in gathering and processing information to predict earnings accurately because of the clear economic incentives for doing so. If the information set used by analysts includes geographic earnings disclosures, then nondisclosure of geographic earnings after implementation of SFAS 131 should negatively affect earnings predictability.

3. Data and Sample

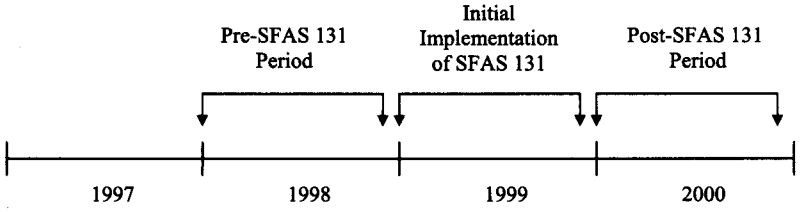
To determine the impact that implementation of SFAS 131 has on earnings predictability, it is important that we correctly identify the pre- and post-SFAS 131 periods. Initial implementation of SFAS 131 would affect the predictability of earnings in the *following* period. It is the previous year's geographic disclosures (or lack thereof) that will affect the predictability of current earnings. SFAS 131 became effective for periods ending after December 15, 1998. Therefore, we define the post-SFAS 131 period as the one-year period subsequent

2. In a related study, Bodnar and Weintrop (1997) find that the market's valuation of foreign earnings is greater than the market's valuation of domestic earnings. They attribute this finding to the greater growth opportunities associated with foreign operations.

3. Early descriptive studies criticize the disclosure of geographic segment data under SFAS 14 (e.g., Arnold, Holder, & Mann [1980]; Bavishi & Wyman [1980]; Doupnik & Rolfe [1990]). The financial community also criticizes disclosures of geographic segment data (AIMR [1993], 39; AICPA [1994]). Many complain that geographic segment earnings disclosures are not useful because of insufficient disaggregation, lack of comparability across firms, and management manipulation through transfer pricing policies and common cost allocations. See Pacter (1993) for a thorough discussion of the alleged shortcomings of segment reporting practices under SFAS 14 and Herrmann and Thomas (1998) for a review of the literature in this area.

FIGURE 1

Pre- and Post-SFAS 131 Periods



Pre-SFAS 131 Period = Fiscal year ends from December 1997 to November 1998.
Initial Implementation = Fiscal year ends from December 1998 to November 1999.
Post-SFAS 131 Period = Fiscal year ends from December 1999 to November 2000.

to the year of initial implementation, which includes firms with year ends from December 1999 to November 2000. The pre-SFAS 131 period is the one-year period before implementation of SFAS 131, which includes firms with year-ends from December 1997 to November 1998. Fiscal year ends between December 1998 and November 1999 are excluded from our analysis because this is the year following possible early adoption of SFAS 131. Figure 1 provides a graphical depiction of the pre- and post-SFAS 131 periods.[4]

Table 1 outlines the sampling criteria. The initial sample includes all U.S. incorporated MNCs that disclose geographic sales for at least one year in both the pre-SFAS 131 period and post-SFAS 131 period. This results in 1,554 firms. Firms are then required to have disclosed geographic earnings in the pre-SFAS 131 period so that the effects of discontinuing disclosure can be measured. This reduces the sample by 218 observations. Next, we require that all sample firms generate an average of 10 percent of their sales from foreign operations in both the pre- and post-SFAS 131 period. The effect of nondisclosure of geographic earnings should occur primarily for firms with significant foreign operations.[5] This criterion results in 227 firms being eliminated. We also require that Institutional Brokers Estimate System (I/B/E/S) forecast data be available for both the pre- and post-SFAS 131 period, which eliminates an additional 407 firms from our sample. Finally, we eliminate a firm if its absolute analyst forecast error in

4. The effect of nondisclosure of geographic earnings may not be concentrated in the year immediately before and the year after implementation to SFAS 131. While including only one year in the pre- and post-SFAS periods increases the internal validity of our tests, it reduces the number of observations and the power of our tests. As a robustness check, we extend the pre-SFAS period to three years leading up to adoption of SFAS 131 and the post-SFAS period to three years following. These results are similar to those reported.

5. The 10 percent criterion is consistent with the 10 percent criterion established by SFAS 14 whereby firms are not required to disclose geographic segment information unless foreign sales or foreign assets include at least 10 percent of consolidated amounts. Results are not sensitive to this criterion. We also considered dropping this criterion and keeping all observations or requiring foreign sales to be at least 20 percent of total sales. Results are similar to those reported and none of the conclusions changes.

TABLE 1

Determination of Final Sample

	Number of Firms
Firms that disclose geographic *sales* data for both the pre-SFAS 131 period and post-SFAS 131 period[a]	1,554
Less: Firms that do not disclose geographic *earnings* in the pre-SFAS 131 period[b]	(218)
Less: Firms generating an average of less than 10% of their sales from foreign operations in the pre- or post-SFAS 131 period[c]	(227)
Less: Forecast data available from I/B/E/S eight months before the year-end in the pre- and post-SFAS 131 periods[d]	(407)
Less: Extreme analyst forecast errors[e]	(14)
Final sample[f]	688

[a]The sample period includes all fiscal year ends for the one-year period between December 1997 and November 1998 (pre-SFAS 131 period) and the one-year period between December 1999 and November 2000 (post-SFAS 131 period).

[b]This criterion ensures that all sample observations had disclosure of geographic earnings in the pre-SFAS 131 period so that the effects of nondisclosure of geographic earnings in the post-SFAS 131 period can be determined.

[c]This criterion ensures that foreign operations are material and nondisclosure has the potential to affect overall earnings predictability.

[d]We measure absolute forecast error as actual earnings minus the consensus forecast in the eight months preceding the fiscal year end, scaled by price at the time of the forecast.

[e]We delete the highest percentile of absolute forecast error. To maintain our matched sample in the pre- and post-SFAS 131 periods, an extreme observation deleted in the pre- (post-) SFAS 131 period will cause the firm's observations to be deleted in the post- (pre-) SFAS 131 period.

[f]For our tests of forecast dispersion, we require three analysts to be included in the consensus as of eight months before year-end. This criterion reduces the forecast dispersion sample to 540 firms.

the pre- or post-SFAS 131 period falls in the top percentile. The final sample includes 688 firms.

In Table 2, we provide mean amounts for a number of variables related to MNCs and their disclosure of geographic operations. The amounts are partitioned so that comparisons can be made in the pre- versus post-SFAS 131 period for those firms that continue to disclose geographic earnings versus those that no longer disclose. As will be discussed in more detail below, some of these variables may relate to analysts' forecasts and therefore could affect conclusions. We include these variables as controls in our model.

Of the 688 firms in the sample, 509 (74 percent) no longer disclose geographic earnings after implementation of SFAS 131. For both disclosers and nondisclosers of geographic earnings in the post-SFAS 131 period, the number of industry segments disclosed (*INDSEGS*) significantly increased after implementation of SFAS 131. Both disclosers and nondisclosers also had a significant increase in the number of foreign geographic segments (*GEOSEGS*) after

TABLE 2

Means and Sample Sizes

Variables and sample size[a]	All	Firms that disclose geographic earnings in the post-SFAS 131 period		Firms that do not disclose geographic earnings in the post-SFAS 131 period	
		Pre-131	Post-131	Pre-131	Post-131
Firm/years	1,376	179	179	509	509
INDSEGS	2.193	1.637	2.525***	1.644	2.821***
GEOSEGS	2.258	2.201	2.760***	1.849	2.511***
LGMV	20.814	20.591	20.713	20.797	20.945
NUMEST	10.062	9.899	10.609	9.758	10.230
SEGSALES	20.708	20.451	20.613	20.680	20.859*
TOTSALES	20.724	20.473	20.759	20.664	20.877*
TOTASSETS	20.749	20.482	20.722	20.713	20.941***
MKTBOOK	3.940	4.233	4.453	3.829	3.766
FORPCT	0.363	0.376	0.407	0.334	0.372***
AFE (x 100)	1.945	1.622	2.306**	1.507	2.371***
Firm/years[b]	1,080	138	138	402	402
DISP (x 100)	0.434	0.446	0.532	0.375	0.455*

[a]*INDSEGS* is the number industry segments reported by the firm, *GEOSEGS* is the number of foreign geographic segments reported by the firm, *LGMV* is the log of market value, *NUMEST* is the number of analysts included in the consensus forecast eight months before the year-end, *SEGSALES* is the sum of geographic segment sales, *TOTSALES* is total consolidated sales, *TOTASSETS* is total consolidated assets, *MKTBOOK* is the ratio of market value equity to book value of equity, *FORPCT* is the percentage of annual foreign sales to total geographic segment sales, *AFE* is the absolute forecast error measured as earnings per share in year t minus the consensus forecast eight months before the year-end, scaled by price at the time of the forecast, *DISP* equals the standard deviation of analysts' forecasts of earnings per share eight months before the end of year *t*, scaled by price at the time of the consensus forecast.

[b]Sample sizes are smaller because of the additional data requirement that firms have at least three analysts providing forecasts eight months before year-end.

*/**/***Indicates that the mean for the pre-SFAS 131 period is significantly different at the 10 percent, 5 percent, and 1 percent levels, respectively, from the mean for the post-SFAS 131 period.

implementation of SFAS 131.[6] Disclosers of geographic earnings also have slightly lower total geographic segment sales (*SEGSALES*), total sales (*TOTSALES*), and total assets (*TOTASSETS*), but a higher ratio of foreign sales to total geographic sales (*FORPCT*) compared with nondisclosers. Neither group had a significant change in the mean market-to-book ratio (*MKTBOOK*).

6. The increase in the number of geographic segments could offset any loss of information related to nondisclosure of geographic earnings. In the Additional Tests section, we divide the sample into those firms that have increased the number of geographic segments after implementation of SFAS 131 and those that did not. We find no evidence of a relation between nondisclosure and earnings predictability for either group. There does not appear to be an offsetting effect between the increase in number of geographic segments and the decrease in information (i.e., earnings) disclosed per segment.

Table 2 also reports mean amounts for each of the dependent variables being tested: analysts' absolute forecast errors (*AFE*) and analysts' forecast dispersion (*DISP*). The sample size for tests of *DISP* is lower because of the additional data requirement that firms have at least three analysts included in the consensus forecasts to make the calculation of the standard deviation meaningful. Both disclosers and nondisclosers have a significant increase in *AFE* and *DISP* after implementation of SFAS 131. The increase in each of these variables is approximately equal for disclosers and nondisclosers. While these increases for nondisclosers are consistent with declining earnings predictability, conclusions are confounded by the fact that this same declining earnings predictability is observed for the firms that continue to disclose geographic earnings. This makes it difficult to attribute the declining earnings predictability to nondisclosure of geographic earnings.

4. Results

4.1 Analysts' Forecast Accuracy

We first examine the effect of disclosure versus nondisclosure of geographic earnings on analysts' forecast accuracy. Our use of analysts' forecasts to measure earnings predictability is motivated by the following. Analysts' forecasts provide observable measures of earnings expectations by sophisticated users of financial accounting information. Presumably, analysts have economic incentives to accurately forecast earnings, and they actively employ their resources and skills in outperforming their peers. Other measures of earnings predictability (e.g., mechanical time-series model) generally do not outperform analysts and do not incorporate disclosure information. In fact, the superiority of analysts over mechanical models likely relates to analysts' use of a more complete information set that includes disclosure information.

A long line of research uses analysts' absolute forecast error as a measure of earnings predictability (e.g., Elliott & Philbrick [1990]; Luttman & Silhan [1995]; Lang & Lundholm [1996]; Barron, Kile, & O'Keefe [1999]; Ashbaugh & Pincus [2001]; Affleck-Graves, Callahan, & Chipalkatti [2002]; Bowen, Davis, & Matsumoto [2002]; Hope [2003a]; and many others). In general, this research shows that analysts' forecasts are typically less accurate for firms with lower quality disclosures. If analysts employ disclosures of geographic earnings in formulating a forecast of earnings, then nondisclosure of such information should decrease their forecast accuracy.

To test the impact of nondisclosure of geographic earnings on analysts' forecasts, we consider two research designs:

$$AFE_{i,t} = \alpha_0 + \alpha_1 POST_{i,t} + \alpha_n Controls_{n,i,t} + \varepsilon_{i,t} \quad (1)$$

$$AFE_{i,t} = \beta_0 + \beta_1 NONDISC_{i,t} + \beta_n Controls_{n,i,t} + \upsilon_{i,t} \quad (2)$$

AFE is analysts' absolute forecast, which equals actual earnings as reported by I/B/E/S minus the consensus forecast eight months before year-end (scaled by price at the time of the forecast).[7] *POST* and *NONDISC* are indicator variables for the post-SFAS 131 period and for firms that no longer disclose geographic earnings in the post-SFAS 131 period, respectively. For the time-series research design, eq. (1), the change in *AFE* from the pre- to post-SFAS 131 period for firms that no longer disclose geographic earnings after implementation of SFAS 131 (nondisclosers). The change in *AFE* is measured by α_1, controlling for other firm characteristics that vary over the pre- and post-SFAS 131 time periods. As a control sample, we then estimate α_1 for firms that continue to disclose geographic earnings after implementation (disclosers). We test whether α_1 of nondisclosers is significantly different from α_1 of disclosers. Evidence of reduced earnings predictability would be provided if α_1 of nondisclosers is greater than α_1 of disclosers.

For the cross-sectional research design, eq. (2), we measure the difference in *AFE* between disclosers and nondisclosers in the post-SFAS 131 period. The difference between the two groups is measured by β_1, controlling for cross-sectional differences in firm characteristics. We then estimate β_1 in the pre-SFAS 131 period between these two groups. Thus, the pre-SFAS 131 period acts as the control period in our cross-sectional analysis by testing for differences between these two groups when all firms disclose geographic earnings.

While both eq. (1) and eq. (2) are similar in their "differences-in-differences" research design, each offers an advantage over the other. Eq. (1) has the advantage of controlling for changes in firm-specific characteristics around the implementation of SFAS 131. This provides greater reliability that any changes in analysts' forecast errors are attributable to the implementation of SFAS 131 rather than to changes in other firm characteristics. Eq. (2) has the advantage of controlling for differences in firm characteristics between disclosers and nondisclosers. Firms that choose to disclose geographic earnings may differ in some way from firms that choose not to disclose, and it may be this difference, rather than nondisclosure of geographic earnings, that affects analysts' forecasts.

The remaining variables in the model are specifically chosen to control for firm characteristics that are expected to relate to analysts' forecast accuracy for our sample of firms. We are interested in the impact of SFAS 131 beyond any other factors shown to be related to forecast accuracy. Controlling for firm size has become standard procedure (e.g., Lang & Lundhom [1993]; Lang & Lundholm [1996]; Barron, Kile, & O'Keefe [1999]; Healy, Hutton, & Palepu [1999]; Ashbaugh & Pincus [2001]; Hope [2003a]). Larger firms have more predictable earnings because of a better overall information environment and a more stable earnings stream. We use the log of market value (*LGMV*) at the time of the forecast to measure firm size. While highly correlated with firm size, we also

7. As in Payne and Thomas (2003), we use the unadjusted I/B/E/S data and appropriately adjust for stock splits.

include the number of analysts following the firm (*NUMEST*) at the time of the forecast. Analyst following may have some incremental ability to explain forecast accuracy if it represents competition among analysts (Lys & Soo [1995]). As competition increases, forecast accuracy should increase. Moreover, firms' nondisclosure of geographic earnings may potentially affect the number of analysts following the firm. Therefore, it is important for us to include this number.

We also control for loss firms (*LOSS*) with an indicator variable (Heflin, Subramanyam, & Zhang [2003]; Hope [2003a]). Analysts' forecasts are expected to be less accurate for loss firms (Brown [2001]). This occurs because of the greater overall uncertainty surrounding loss firms and the transitory nature of negative earnings, making it inherently more difficult to predict earnings. In addition, analysts' incentives to gather and process information to make accurate earnings predictions are reduced, as loss firms are less likely to generate trading revenue for the brokerage firm. Because the frequency of loss firms has been increasing over time, failure to control for this factor in a pre- versus post-SFAS 131 test could impact conclusions.

We also consider that firm complexity can affect earnings predictability. More complex firms necessitate a higher degree of ability and information processing to predict earnings accurately. Following Whisenant, Sankaraguruswamy, and Raghunandan (2004), we use the number of industry segments (*INDSEGS*) and the ratio of foreign sales to total geographic segment sales (*FORPCT*) to represent the complexity of the firm.[8] Both of these variables are expected to relate positively to analysts' absolute forecast errors.

One limitation of our study is that we do not control for all variables that affect analysts' forecast errors. However, using control samples in eq. (1) (i.e., firms that continue to disclose geographic earnings in the post-SFAS 131 period) and eq. (2) (i.e., firms in the pre-SFAS 131 period that disclose geographic earnings) helps to mitigate the potential problem of correlated omitted variables. The control samples provide a benchmark from which to measure the effect of nondisclosure in the post-SFAS 131 period. Another limitation of our study is that analysts' forecasts may provide biased or noisy measures of earnings predictability. While analysts' forecasts are useful to academic researchers because they provide observable measures of expected earnings from sophisticated users of financial accounting information, analysts' forecasts may not always accurately match the earnings expectations of other users. Thus, our conclusions apply to investors only to the extent that analysts' forecasts and investors' expectations align.

The results for eq. (1) are reported in Table 3. Consistent with the descriptive statistics reported in Table 2, the model for nondisclosers suggests higher absolute forecast errors in the post-SFAS 131 period, after controlling for other variables. The coefficient on *POST* is 0.433 ($t = 1.98$), indicating that analysts'

8. We also considered adding the number of geographic segments as a control variable. Doing so has little influence on the results and none of the conclusions changes.

absolute forecast errors are, on average, greater in the post-SFAS 131 period. This would be consistent with nondisclosure of geographic earnings reducing earnings predictability. However, a similar increase in absolute forecast error is observed for firms that continue to disclose geographic earnings. The coefficient on *POST* for these firms is 0.302 ($t = 1.69$). The differential increase between the two groups of 0.131 ($t = 0.433 - 0.302$) is not significant ($t = 0.33$). Thus, we conclude that the declining performance of analysts' forecasts cannot be attributed to nondisclosure of geographic earnings. The control variables are generally significant in the predicted direction.[9]

The results for eq. (2) are reported in Table 4. For the post-SFAS 131 period, the coefficient for *NONDISC* of 0.293 ($t = 0.97$) is positive but not significant. For the pre-SFAS 131 period, the coefficient on *NONDISC* is 0.252 ($t = 1.29$). The insignificant coefficient suggests that in the pre-SFAS 131 period eventual nondisclosers have forecast errors similar to firms that will continue to disclose geographic earnings after implementation of SFAS 131. Thus, as shown by the difference in the coefficients, analysts' forecast errors for nondisclosers are not significantly different than those of disclosers ($t = 0.11$). Nondisclosure of geographic earnings has no significant relation to differences in analysts' forecast accuracy.

4.2 Analysts' Forecast Dispersion

As an additional test, we consider whether analysts' forecast dispersion changes around the implementation of SFAS 131. While tests of analysts' forecast errors reported in the previous section are considered our primary results, we consider the effect of nondisclosure of geographic earnings on analysts' forecast dispersion as a secondary test. Our rationale for its use as a measure of earnings predictability is as follows. In the absence of public disclosures (i.e., common information), analysts have incentives to gather uniquely private information (Kim [1993]), which increases analysts' idiosyncratic beliefs (Barron, Byard, & Kim [2002]). It is the expression of idiosyncratic beliefs that leads to forecast dispersion. If analysts previously relied on publicly available geographic earnings disclosures in setting their forecasts, then nondisclosure of geographic earnings under SFAS 131 eliminates a useful source of common information. Individual analysts will gather varying amounts and precision of private information related to foreign operations, and forecast dispersion should increase. Elliott and Philbrick (1990, 168) use forecast dispersion to measure the impact of accounting changes on earnings predictability and explain that "[t]o the extent

9. Note that *NUMEST* is not significant in the nondiscloser model and is significantly *positive* in the discloser model. These results occur as a result of including both *NUMEST* and *LGMV* in the model. These variables are highly positively correlated. When *LGMV* is removed from the model, *NUMEST* is significantly negatively related to *AFE* for disclosers and nondisclosers.

TABLE 3

Time-Series Analysis: Impact of SFAS 131 on Analysts' Absolute Forecast Errors[a]

$$AFE_{i,t}\ (x\ 100) = \alpha_0 + \alpha_1 POST_{i,t} + \alpha_2 LGMV_{i,t} + \alpha_3 NUMEST_{i,t} + \alpha_4 LOSS_{i,t} + \alpha_5 INDSEGS_{i,t} + \alpha_6 FORPCT_{i,t} + \varepsilon_{i,t}$$

Variables[b]	Pred.	Nondisclosers	Disclosers	Difference[c]
Intercept		11.127	12.906	−1.779
		(6.04)***	(5.34)***	(−0.53)
POST	+	0.433	0.302	0.131
		(1.98)**	(1.69)*	(0.33)
LGMV	−	−0.538	−0.655	0.117
		(−5.53)***	(−5.00)***	(0.66)
NUMEST	−	0.019	0.064	−0.045
		(0.96)	(2.28)**	(−1.19)
LOSS	+	8.091	6.497	1.594
		(21.30)***	(13.50)***	(2.38)**
INDSEGS	+	0.180	0.300	−0.120
		(1.98)**	(2.50)**	(−0.73)
FORPCT	+	1.768	1.348	0.420
		(2.95)***	(1.93)*	(0.42)
Adj *R*-Square		0.409	0.480	
N		1,018	358	

[a]Separate regressions are provided for firms that no longer disclose (nondisclosers) and those that continue to disclose (disclosers) geographic earnings in the post-SFAS 131 period. The pre-SFAS 131 period includes all annual observations of firms with year-ends from December 1997 to November 1998. The post-SFAS 131 period includes all annual observations of firms with year-ends from December 1999 to November 2000.

[b]*AFE* is the absolute forecast error measured as earnings per share in year *t* minus the consensus forecast eight months before the year-end, scaled by price at the time of the forecast. *POST* is an indicator variable equal to 1 (0) for the post- (pre-) SFAS 131 period. *LGMV* is the log of market value. *NUMEST* is the number of analysts included in the consensus forecast eight months before the year-end. *LOSS* is an indicator variable equal to 1 (0 otherwise) if actual earnings as reported by I/B/E/S are less than zero. *INDSEGS* is the number of industry segments reported by the firm. *FORPCT* is the percentage of annual foreign sales to total geographic segment sales.

[c]The significance of the difference in mean coefficients is tested using the typical F-test.

*/**/***Indicates significance at the 10 percent, 5 percent, and 1 percent levels, respectively (*t*-statistics and F-statistics are shown in parentheses).

that accounting changes make it more difficult to forecast earnings, the individual forecasts of different analysts are expected to be more dispersed in years of accounting changes." Several other studies employ forecast dispersion to

TABLE 4

Cross-Sectional Analysis: Impact of Nondisclosure of Geographic Earnings on Analysts' Absolute Forecast Errors[a]

$$AFE_{i,t}\ (x\ 100) = \beta_0 + \beta_1 NONDISC_{i,t} + \beta_2 LGMV_{i,t} + \beta_3 NUMEST_{i,t} + \beta_4 LOSS_{i,t} + \beta_5 INDSEGS_{i,t} + \beta_6 FORPCT_{i,t} + \upsilon_{i,t}$$

Variables[b]	Pred.	Post-SFAS 131	Pre-SFAS 131	Difference[c]
Intercept		13.777	8.191	5.586
		(5.83)***	(4.86)***	(1.89)*
NONDISC	+	0.293	0.252	0.041
		(0.97)	(1.29)	(0.11)
LGMV	−	−0.669	−0.403	−0.266
		(−5.30)***	(−4.46)***	(−1.68)*
NUMEST	−	0.027	0.028	−0.001
		(1.01)	(1.56)	(−0.02)
LOSS	+	8.330	6.549	1.781
		(17.40)***	(18.55)***	(2.91)***
INDSEGS	+	0.370	0.021	0.349
		(3.04)***	(0.27)	(2.37)**
FORPCT	+	0.697	2.218	−1.521
		(0.91)	(4.33)***	(−1.64)
Adj *R*-Square		0.423	0.428	
N		688	688	

[a]Separate regression are provided for the pre- and post-SFAS 131 periods. The pre-SFAS 131 period includes all annual observations of firms with year-ends from December 1997 to November 1998. The post-SFAS 131 period includes all annual observations of firms with year-ends from December 1999 to November 2000.

[b]*AFE* is the absolute forecast error measured as earnings per share in year *t* minus the consensus forecast eight months before the year-end, scaled by price at the time of the forecast. *NONDISC* is an indicator variable equal to 1 (0 otherwise) for firms that do not disclose geographic earnings in the post-SFAS 131 period. *LGMV* is the log of market value. *NUMEST* is the number of analysts included in the consensus forecast eight months before the year-end. *LOSS* is an indicator variable equal to 1 (0 otherwise) if actual earnings as reported by I/B/E/S are less than zero. *INDSEGS* is the number industry segments reported by the firm. *FORPCT* is the percentage of annual foreign sales to total geographic segment sales.

[c]The significance of the difference in mean coefficients is tested using the typical F-test.

*/**/***Indicates significance at the 10 percent, 5 percent, and 1 percent levels, respectively (*t*-statistics and F-statistics are shown in parentheses).

measure uncertainty surrounding future earnings (e.g., Imhoff & Lobo [1992]; Francis, Hanna, & Philbrick [1997]; Barron, Kile, & O'Keefe [1999]; Affleck-Graves, Callahan, & Chipalkatti [2002]; Bowen, Davis, & Matsumoto [2002];

Clement, Frankel & Miller [2003]; Hope [2003b]).[10] To test the impact of nondisclosure of geographic earnings on forecast dispersion, we employ our time-series Equation (3) and cross-sectional Equation (4) research designs.

$$DISP_{i,t} = \alpha_0 + \alpha_1 POST_{i,t} + \alpha_n Controls_{n,i,t} + \varepsilon_{i,t} \quad (3)$$

$$DISP_{i,t} = \beta_0 + \beta_1 NONDISC_{i,t} + \beta_n Controls_{n,i,t} + \upsilon_{i,t} \quad (4)$$

DISP equals the standard deviation of analysts' forecasts of earnings per share eight months before the end of year t, scaled by price at the time of the consensus forecast. All other variables are as previously defined, including the control variables. For eq. (3), *POST* measures the change in dispersion around implementation of SFAS 131. For eq. (4), *NONDISC* measures the difference in dispersion between nondisclosers and disclosers of geographic earnings. If nondisclosure of geographic earnings results in greater forecast dispersion, then *POST* and *NONDISC* will be positive.

The results for eq. (3) are reported in Table 5. The coefficient on *POST* for nondisclosers is not significant ($t = -0.55$). This indicates that there is no change in forecast dispersion once these firms discontinue their disclosures of geographic earnings. The coefficient on *POST* for disclosers is also not significant ($t = 0.82$) and neither is the difference in coefficients ($t = -1.03$). Since nondisclosure of geographic earnings decreases the amount of publicly available information, it was expected that forecast dispersion would be greater for nondisclosers. As the access to public information decreases, analysts will share less common information and disagreement should increase. However, we find no evidence that nondisclosure of geographic earnings induces greater disagreement among analysts regarding future earnings.

The results for eq. (4) are reported in Table 6. In the post-SFAS 131 period, the coefficient on *NONDISC* of -0.043 is opposite the expected direction but is not significant ($t = -0.68$). MNCs no longer disclosing geographic segment earnings after implementation of SFAS 131 show no indication of significantly greater disagreement among analysts than do MNCs that continue to disclose geographic earnings. In the pre-SFAS 131 period, the coefficient on *NONDISC* of -0.009 ($t = -0.19$) indicates that the insignificant difference in dispersion between the two groups in the post-SFAS 131 period also exists in the pre-SFAS 131 period. The difference in the NONDISC coefficients from the pre-to post-SFAS 131 period is also insignificant ($t = -0.43$). We conclude that

10. Dispersion in analysts' forecasts can be a function of differences in the information set available to analysts as well as differences in forecasting models. In practice, however, it is generally not possible to quantify the differences in forecasting models, because analysts do not publish their models and procedures of how to forecast earnings. Thus, all we can obtain from public sources are the forecasted earnings—the final results from analysts.

TABLE 5

Time-Series Analysis: Impact of SFAS 131 on Analysts' Forecast Dispersion[a]

$$DISP_{i,t}\ (x\ 100) = \alpha_0 + \alpha_1 POST_{i,t} + \alpha_2 LGMV_{i,t} + \alpha_3 NUMEST_{i,t} + \alpha_4 LOSS_{i,t} + \alpha_5 INDSEGS_{i,t} + \alpha_6 FORPCT_{i,t} + \varepsilon_{i,t}$$

Variables[b]	Pred.	Nondisclosers	Disclosers	Difference[c]
Intercept		3.383	4.590	−1.207
		(8.36)***	(6.94)***	(−1.62)
POST	+	−0.024	0.064	−0.088
		(−0.55)	(0.82)	(−1.03)
LGMV	−	−0.163	−0.225	0.062
		(−7.79)***	(−6.30)***	(1.54)
NUMEST	+	0.018	0.036	−0.018
		(4.57)***	(4.92)***	(−2.32)**
LOSS	+	1.471	1.475	−0.004
		(15.68)***	(8.43)***	(−0.02)
INDSEGS	+	0.061	0.029	0.032
		(3.45)***	(0.96)	(0.95)
FORPCT	+	0.306	0.091	0.215
		(2.48)**	(0.46)	(0.96)
Adj *R*-Square		0.340	0.373	
N		804	276	

[a]Separate regressions are provided for firms that no longer disclose (nondisclosers) and those that continue to disclose (disclosers) geographic earnings in the post-SFAS 131 period. The pre-SFAS 131 period includes all annual observations of firms with year-ends from December 1997 to November 1998. The post-SFAS 131 period includes all annual observations of firms with year-ends from December 1999 to November 2000.

[b]*DISP* equals the standard deviation of analysts' forecasts of earnings per share eight months before the end of year *t*, scaled by price at the time of the consensus forecast. POST is an indicator variable equal to 1 (0) for the post- (pre-) SFAS 131 period. *LGMV* is the log of market value. *NUMEST* is the number of analysts included in the consensus forecast eight months before the year-end. *LOSS* is an indicator variable equal to 1 (0 otherwise) if actual earnings as reported by I/B/E/S are less than zero. *INDSEGS* is the number industry segments reported by the firm. *FORPCT* is the percentage of annual foreign sales to total geographic segment sales.

[c]The significance of the difference in mean coefficients is tested using the typical F-test.

*/**/***Indicates significance at the 10 percent, 5 percent, and 1 percent levels, respectively (*t*-statistics and F-statistics are shown in parentheses).

nondisclosure of geographic earnings has not affected the predictability of MNCs' earnings, as measured using analysts' forecast dispersion.

4.3 Additional Tests

The results reported to this point rely on a full sample of MNCs meeting the necessary sampling criteria. In this section, we explore subsets of firms for which

TABLE 6

Cross-Sectional Analysis: Impact of Nondisclosure of Geographic Earnings on Analysts' Forecast Dispersion[a]

$$DISP_{i,t}\ (x\ 100) = \beta_0 + \beta_1 NONDISC_{i,t} + \beta_2 LGMV + \beta_3 NUMEST_{i,t} + \beta_4 LOSS_{i,t} + \beta_5 INDSEGS_{i,t} + \beta_6 FORPCT_{i,t} + \upsilon_{i,t}$$

Variables[b]	Pred.	Post-SFAS 131	Pre-SFAS 131	Difference[c]
Intercept		4.699	2.541	2.057
		(9.25)***	(5.91)***	(2.98)***
NONDISC	+	−0.043	−0.009	−0.034
		(−0.68)	(−0.19)	(−0.43)
LGMV	−	−0.227	−0.124	−0.103
		(−8.49)***	(−5.26)***	(−2.83)***
NUMEST	+	0.030	0.015	0.015
		(5.56)***	(3.49)***	(2.18)**
LOSS	+	1.363	1.635	−0.272
		(11.22)***	(14.80)***	(−1.61)
INDSEGS	+	0.054	0.044	0.010
		(2.22)**	(2.36)**	(0.34)
FORPCT	+	0.181	0.231	−0.050
		(1.11)	(1.82)*	(−.24)
Adj *R*-Square		0.345	0.358	
N		540	540	

[a]Separate regression are provided for the pre- and post-SFAS 131 periods. The pre-SFAS 131 period includes all annual observations of firms with year-ends from December 1997 to November 1998. The post-SFAS 131 period includes all annual observations of firms with year-ends from December 1999 to November 2000.

[b]*DISP* equals the standard deviation of analysts' forecasts of earnings per share eight months before the end of year *t*, scaled by price at the time of the consensus forecast. *NONDISC* is an indicator variable equal to 1 (0 otherwise) for firms that do not disclose geographic earnings in the post-SFAS 131 period. *LGMV* is the log of market value. *NUMEST* is the number of analysts included in the consensus forecast eight months before the year-end. *LOSS* is an indicator variable equal to 1 (0 otherwise) if actual earnings as reported by I/B/E/S are less than zero. *INDSEGS* is the number industry segments reported by the firm. *FORPCT* is the percentage of annual foreign sales to total geographic segment sales.

[c]The significance of the difference in mean coefficients is tested using the typical F-test.

*/**/***Indicates significance at the 10 percent, 5 percent, and 1 percent levels, respectively (*t*-statistics and F-statistics are shown in parentheses).

the nondisclosure of geographic earnings is more (or less) likely to be detrimental to the predictability of earnings. Below we provide a brief description of the subsets examined and the rationale for the test.

4.3.1 Change in the Number of Geographic Segments after Implementation of SFAS 131

Firms are defined as increasing (not increasing) their number of geographic segments when the number of geographic segments in the post-SFAS 131 increases by more than (less than or equal to) one relative to the number in the pre-SFAS 131 period. The loss of information from nondisclosure of geographic earnings could be offset by the increase in information related to an increase in the number of geographic segments.

4.3.2 Change in the Number of Industry Segments after Implementation of SFAS 131

Firms are defined as increasing (not increasing) their number of industry segments when the number of industry segments in the post-SFAS 131 period increases by more than (less than or equal to) one relative to the number in the pre-SFAS 131 period. The loss of information from nondisclosure of geographic earnings could be offset by the increase in information related to an increase in the number of industry segments.

4.3.3 High versus Low Degree of Foreign Operations

Firms with a high (low) degree of foreign operations are defined as those with a ratio of foreign sales to total geographic sales greater (less) than 40 percent. The sample median is approximately 32 percent. Disclosure of geographic earnings should increase in importance as the foreign operations of a MNC increases.

4.3.4 Higher and Lower Growth in Foreign Sales

Firms are defined as having high (low) growth in foreign sales if the percentage change in foreign sales from the pre- to post-SFAS 131 period is greater (less) than 50 percent. The sample median is approximately 34 percent. Additional information about foreign operations (e.g., geographic earnings) may be more important in predicting future results as MNCs expand their operations internationally.

4.3.5 Large and Small Difference between Domestic and Foreign Profit Margins

Firms are defined as having a large (small) difference between domestic and foreign profit margins (i.e., earnings divided by sales) when the absolute difference between the domestic profit margin and foreign profit margin in the pre-SFAS 131 period is greater (less) than 5 percent. Investors and analysts may be able to derive

the approximate amount of geographic earnings using reported geographic sales if the company's ratio of earnings to sales is relatively constant across operations. Geographic earnings will be harder to determine when the profitability of foreign operations differs considerably from that of domestic operations.

4.3.6 High and Low Analyst Following

Firms are defined as having high (low) analyst following when there are at least (fewer than) four analysts following the firm in the post-SFAS 131 period. The sample median is approximately three analysts. Firms with higher analyst following likely have a richer information environment because of information gathering and processing on the part of analysts from sources other than financial disclosures (e.g., conference calls with management).

4.3.7 Large versus Small Firms

Large (small) firms are defined as those with sales greater (less) than $500 million in the post-SFAS 131 period. Disclosures made by smaller firms may be more important to investors and analysts in predicting earnings, as investors are more likely to obtain information on larger firms from a number of alternative sources.

4.3.8 High and Low Risk

Firms are defined as having high (low) risk if the market-to-book ratio is less (greater) than three in the post-SFAS 131 period. Financial disclosure may be especially important for riskier firms in reducing information asymmetry between the firm and financial statement users.

For the 16 subsets of firms across the different tests of earnings predictability around the implementation of SFAS 131, we find no evidence consistent with nondisclosure of geographic earnings being related to changes in the predictability of MNCs' earnings.

5. Conclusion

In this paper, we attempt to understand what effect, if any, nondisclosure of geographic earnings upon implementation of SFAS 131 has on the predictability of MNCs' earnings. SFAS 131 fundamentally changes the way in which firms report segment results compared with guidelines under SFAS 14. Firms are now required to report operating segment results according to the internal organization of the company. Companies that define operating segments on any basis other than geographic area (e.g., products or services) are no longer required to disclose geographic earnings. Because geographic earnings have varying degrees of

volatility and expected growth, investors will no longer have access to an important piece of information useful for predicting a firm's future performance.

Contrary to expectations, we find that the FASB's decision to no longer require disclosure of earnings for geographic segments does not result in lower earnings predictability for MNCs. To measure the predictability of earnings around implementation of SFAS 131, we use analysts' absolute forecast error and analysts' forecast dispersion.[11] In each of these tests, we find that earnings predictability has not declined after implementation of SFAS 131 for firms that no longer disclose geographic earnings, relative to firms that continue to disclose geographic earnings.[12]

The insignificant results could occur for several reasons. First, investors and analysts may not use geographic earnings information in making their forecasts. SFAS 131 differs from other financial reporting standards in that firms are required to disclose only the information that they use it for internal reporting purposes. If geographic earnings are not disclosed, then the presumption could be that this information is not used internally. If managers do not find this information useful for internal decision making, then investors and analysts might also deem this information to be unimportant. While the decisions of managers, investors, and analysts may not align precisely, all parties are interested in predicting the results of future operations and therefore should use approximately the same information set.

Second, the insignificant results could occur because geographic earnings disclosures under SFAS 131 are not useful. There is some debate as to whether geographic segment information reported under SFAS 131 represents an improvement in disclosure compared to that reported under SFAS 14. For example, SFAS 131 states that firms must disclose geographic information only for material countries. If amounts for particular countries are deemed immaterial by management, then foreign operations can be combined into a single "Total Foreign" segment. Under SFAS 14, firms commonly disclosed geographic segments for groups of countries or regions. While not preferable to single-country disclosures, the multi-country disclosures should provide more information than a "Total Foreign" segment disclosure.[13] Thus, the quality of geographic disclosures required under SFAS 131 may be inferior to that under SFAS 14.

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11. Our empirical tests do not control for changes in analysts' private information around implementation of SFAS 131. As such, any policy implications from our use of observable forecast properties (i.e., error and dispersion) should be made with this caveat.

12. The fact that we do not observe any effect from nondisclosure of geographic earnings could be caused by the fact that we examine the effect on total earnings predictability. It could be that such disclosures are particularly important for the predictability of earnings components such as the foreign component of total earnings (see Hope, Kang, Thomas, & Vasvari [2006]). Analysts' forecasts are not, however, available separately for domestic and foreign earnings from commercial databases. Another possibility is that tests of forecast errors are not powerful enough to detect any differences among the two groups of firms. For example, Cready and Hurtt (2002) provide evidence that volume-based metrics provide very powerful tests of the effect of accounting information, and Hope, Thomas, and Winterbotham (2006) show that nondisclosure of geographic earnings is associated with lower trading volume.

13. For example, Pepsico and ChevronTexaco generate approximately one-third and one-half, respectively, of their revenues from foreign operations. However, these companies disclose only revenues and long-lived assets for a domestic segment and a single international segment.

Third, sales and long-lived assets by geographic area continue to be required disclosures under SFAS 131, regardless of the firm's definition of operating segments. The marginal benefit to investors and analysts of also having geographic earnings disclosures may be minimal in forecasting future results. Prior research has shown that although geographic sales enhance the predictability of consolidated sales, the same is not always true for geographic earnings (Roberts [1989]; Herrmann [1996]). If geographic earnings disclosures do not provide incremental information beyond other disclosures, then the FASB's decision to no longer require disclosure is appropriate.

Fourth, the lack of significance may be related to analysts not appropriately using this information. If analysts *should* have used the geographic earnings disclosure but did not, then failure to disclose geographic earnings under SFAS 131 will not impact analysts' forecasts. This conclusion would be consistent with prior research showing that analysts do not fully adjust for the differential implications of domestic and foreign earnings on future earnings (Khurana, Pereira, & Raman [2003]).

Finally, we rely on analysts' forecast properties as measures of earnings predictability. These measures may provide biased or noisy measure of other users' ability to predict earnings. As such, our results generalize to other user groups (e.g., investors) only to the extent that their expectations relate to analysts' expectations. To compensate for the potential noise in analysts' forecasts, we consider increasing the sample size by extending the pre- and post-SFAS 131 periods to three years (instead of one year) and using quarterly observations (instead of annual).[14] All conclusions remain, suggesting that lack of power does not explain the insignificant results.

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