

Segment Disclosures under SFAS No. 131: Has Business Segment Reporting Improved?

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SYNOPSIS: In response to user concerns regarding segment reporting, the FASB issued SFAS No. 131, *Reporting Disaggregated Information about a Business Enterprise*, in 1997. SFAS No. 131 became effective for fiscal years beginning on or after January 1, 1998. This research examines the segment disclosures of U.S. Global 1000 companies for both 1997 and 1998 to ascertain the impact and effectiveness of SFAS No. 131 in practice. Specifically, this research considers whether the new requirements have resulted in (1) a greater number of line-of-business (LOB) segments for some enterprises, particularly those who claimed to operate in one LOB under SFAS No. 14, (2) enterprises reporting more items of information about each segment, and (3) improved consistency of segment information with other parts of the annual report. The research also addresses whether restructuring by some firms might limit the provision of additional segment information under SFAS No. 131. The findings indicate significant changes from reporting under SFAS No. 14 including increased consistency with information in the MD&A and other annual report disclosures. However, the practices of a significant minority of companies continue to give some cause for concern.

INTRODUCTION

Prior research on segment reporting highlighted a number of problem areas, notably too much scope for managerial discretion in regard to segment identification and the lack of consistency of reportable segments with a company's organization structure and internal reporting system (see, for example, Solomons 1968; Emmanuel and Gray 1977, 1978; Gray and Radebaugh 1984).

Recent recognition of the potential for improving segment reporting was strongly expressed in the report on *Improving Business Reporting—A Customer Focus*, by the American Institute of Certified Public Accountants (AICPA 1994) Special Committee on Financial Reporting. Improvements in SFAS No. 14 disclosures of business segment information were listed as its first recommendation. The Special Committee's list of the

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most important improvements needed in segment reporting included:

- Greater number of segments for some enterprises
- More information about segments
- Segmentation that corresponds to internal management reports
- Consistency of segment information with other parts of an annual report

Regarding the first concern, the AICPA Special Committee (AICPA 1994, 69) stated “[users] believe that many companies define industry segments too broadly for business reporting and thus report on too few industry segments.”

The Association for Investment Management Research (AIMR 1993) also expressed concerns about SFAS No. 14. For example, in a position paper, the AIMR stated:

FAS 14 requires disclosure of line-of-business information classified by “industry segment.” Its definition of segment is necessarily imprecise, recognizing that there are numerous practical problems in applying that definition to different business entities operating under disparate circumstances. That weakness in FAS 14 has been exploited by many enterprises to suit their own financial reporting purposes. As a result, we have seen one of the ten largest firms in the country report all its operations as being in a single, very broadly defined industry segment. (AIMR 1993, 60)

The AIMR and other users also argued that segment information is more useful if it is enhanced by explanatory information provided elsewhere in the annual report (FASB 1996). They stated that the business review section and the chairman’s letter in the annual report frequently discuss the company’s operations on a basis that is not consistent with the segment footnote information and MD&A that is required by SEC rules to correspond to the SFAS No. 14 information. The AIMR (1993) further argued that disaggregation based on the internal organization structure should facilitate consistent discussion of segment data and results throughout a company’s annual report.

To address the concerns expressed by users, SFAS No. 131, *Reporting Disaggregated Information about a Business Enterprise*, was issued in 1997 and became effective for fiscal years beginning on or after January 1, 1998. SFAS No. 131 requires companies to report disaggregated information about reportable segments based on management’s organization of the enterprise. Reportable segments may be based on lines of business (LOB), geographic location, or a combination of line of business and geographic location (mixed). For each reportable segment, an enterprise must provide information about:

- segment profit/loss and certain revenues and expenses included in segment profit/loss (to include revenues, interest revenue, interest expense, depreciation/depletion/amortization, amount of noncash items other than depreciation/amortization that are included in the determination of segment profit/loss, unusual items, equity in the net income of investees accounted for by the equity method, income tax expense/benefit, and extraordinary items); and
- segment assets (to include assets, expenditures for additions to segment assets, and the amount of investment in equity-method investees included in segment assets).

The FASB (1997) noted that an enterprise may not be divided into components with similar products/services or geographic areas for managerial purposes and many users would prefer disaggregation on one of those bases. Instead of requiring an alternative to segmentation based on management structure, the Board elected to require enterprise-wide disclosures of additional information about products/services and geographic operations if the basic disclosures do not provide this information. For each operating segment that has not been determined based on differences in products/services, SFAS No. 131 requires disclosure of revenues derived from transactions with external customers from each product/service or each group of similar products/services. Similarly, for each operating segment that has not been determined based on geography, the enterprise must disclose revenues and long-lived assets for each geographic region.

SFAS No. 131 represents a significant modification in U.S. segment-reporting guidelines. SFAS No. 14 defined reportable industry segments based on related products and services and also required limited disclosures for geographic regions and major customers. Alternatively, SFAS No. 131 requires companies to base reportable operating segments on the organization's internal structure, which is not necessarily by industry. In addition, SFAS No. 131 requires limited enterprise-wide disclosures for (1) related products and services, (2) geographic regions, and (3) major customers. Figure 1 compares the disclosure requirements of SFAS No. 14 and SFAS No. 131. Utilizing the 1998 segment reporting of Black & Decker (LOB-based reportable segments) and Kellogg's (geographic-region-based reportable segments), Figure 2 provides an illustration of SFAS No. 131's two-tier disclosure approach whereby companies provide reportable segment data and/or enterprise-wide data.

In the SFAS No. 131 Basis for Conclusions, FASB (1997) states that the Board believes the primary benefits of the Statement include:

- Some enterprises will report a greater number of segments.
- Most enterprises will report more items of information about each segment.
- Enterprises will report segments that correspond to internal management reports.
- Enterprises will report segment information that will be consistent with other parts of their annual report.

The current research addresses the extent to which user concerns were addressed by SFAS No. 131 and if the above benefits materialized.

While the alignment of segment reporting with an organization's internal management is viewed by FASB as a benefit of SFAS No. 131, some commentators have argued that companies would change their organizational structure to avoid segment reporting. For example, a company could require the head of a smaller segment to report not to the chief decision maker but to another executive, thereby avoiding the need to disclose that unit's results (Springsteel 1998). Harrington (then, Director of Accounting and SEC Technical Services at Coopers & Lybrand) is quoted as stating "I've heard innuendo already that some companies may make some internal reporting changes to get the segment groupings they want, mostly to reduce competitive harm" (Springsteel 1998, 85). This research also addresses whether restructuring by some firms might limit the provision of additional segment information under SFAS No. 131.

FIGURE 1
Comparison of SFAS No. 131 and SFAS No. 14 Disclosure Requirements

<u>SFAS No. 131</u>	<u>SFAS No. 14</u>
<p>Reportable Operating Segments</p> <p>Determined by organizational structure using management approach (can be based on LOB or geographic region or a combination of LOB and geographic region)</p> <p>Required Disclosures include information about:</p> <ol style="list-style-type: none"> 1) Segment profit/loss (including revenues, interest revenue, interest expense, depreciation/depletion/amortization, unusual items, equity in the net income of investees accounted for by the equity method, extraordinary items, and significant noncash items) 2) Segment assets (including amount of investment in equity-method investees and capital expenditures) <p>Enterprise-Wide Disclosures</p> <p>All companies, including those with one reportable operating segment, must disclose data about:</p> <ol style="list-style-type: none"> 1) Products and services <ol style="list-style-type: none"> a) revenues from external customers 2) Geographic areas <ol style="list-style-type: none"> a) revenues from external customers attributed to the country of domicile and attributed to all countries in total. If revenues from any individual country are material, those revenues are disclosed separately. b) long-lived assets located in the country of domicile and located in all other countries. If assets in any individual country are material, those assets are disclosed separately. 3) Major customers <ol style="list-style-type: none"> a) fact that revenues from any one customer account for more than 10 percent of total, total revenues from each such customer, and identity of the segment(s) reporting the revenues. 	<p>Reportable Industry Segments</p> <p>Determined by grouping products and services by industry line</p> <p>Required Disclosures include:</p> <ol style="list-style-type: none"> 1) Revenues 2) Operating profit or loss 3) Identifiable assets 4) Other related information (including depreciation/depletion/amortization, capital expenditures, equity in income, and investment in equity-method investees, effect of change in accounting principle) <p>Foreign Operations</p> <p>For each foreign operation disclose:</p> <ol style="list-style-type: none"> 1) Revenues 2) Profitability information 3) Identifiable assets <p>Major Customers</p> <p>Disclose fact that revenues from any one customer account for more than 10 percent of total, total revenues from each such customer, and identity of the segment(s) reporting the revenues.</p>

LOB: Line of business

FIGURE 2
Illustrations of SFAS No. 131's Two-Tiered Approach:
Reportable Operating Segments and Enterprise-Wide Disclosures

Illustration 1: Reportable Operating Segments Based on LOB with Enterprise-Wide Data for (1) Products, (2) Geographic Region, and (3) Major Customers
 Source: Black & Decker 1998 Segmental Disclosures

Disclosures Provided	Reportable Operating Segments		
	Power Tools and Accessories	Building Products	Fastening and Assembly Systems
Sales	XX	XX	XX
Segment profit (loss)	XX	XX	XX
Depreciation and amortization	XX	XX	XX
Income from equity-method investees	XX	XX	XX
Capital expenditures	XX	XX	XX
Segment assets	XX	XX	XX
Investment in equity-method investees	XX	XX	XX

Disclosures Provided	Enterprise-Wide Data									
	Segments Identified for Product-Based Enterprise-Wide Data					Segments Identified for Geographic Region-Based Enterprise-Wide Data				
	Consumer and Professional Power Tools and Product Services	Consumer and Professional Accessories	Electric Lawn and Garden Products	Cleaning and Lighting Products	Fastening and Assembly Systems	Household Products	Inspection Equipment	Recreational Products	Glass Container-forming	
Revenues	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX
Sales	U.S. XX		Canada XX		Europe XX		Other XX			
Long-lived assets	U.S. XX								Other XX	

(Continued on next page)

FIGURE 2 (Continued)

Major Customer Enterprise-Wide Data

Sales to The Home Depot, as customer of the Corporation's Power Tools and Accessories and Building Products segments, accounted for \$XX and \$XX of the Corporation's consolidated sales for the years ended 12/31, 1998 and 1997, respectively. Sales to that customer for the year ended December 31, 1996, did not exceed 10% of the Corporation's consolidated sales for that year.

Illustration 2: Reportable Operating Segments Based on Geographic Region with Enterprise-Wide Data for (1) Products and (2) Geographic Region

Source: Kellogg's 1998 Segmental Disclosures

Reportable Operating Segments

Disclosures Provided	Geographic Region Reportable Operating Segments			
	North America	Europe	Asia-Pacific	Latin America
Sales	XX	XX	XX	XX
Operating profit (excluding restructuring charges)	XX	XX	XX	XX
Depreciation and amortization	XX	XX	XX	XX
Total assets	XX	XX	XX	XX
Additions to long-lived assets	XX	XX	XX	XX
Segment assets	XX	XX	XX	XX
Investment in equity-method investees	XX	XX	XX	XX

Enterprise-Wide Data

Segments Identified for Product-Based Enterprise-Wide Data

Ready-to-Eat Cereal

XX

Convenience Foods

XX

Segments Identified for Geographic Region-Based Enterprise-Wide Data

U.S.

Sales

XX

Canada

XX

Europe

XX

Other

XX

Long-lived assets

XX

XX

XX

RESEARCH QUESTIONS

To provide information about SFAS No. 131 disclosures in practice and more importantly to ascertain whether SFAS No. 131 addressed the main concerns expressed regarding segment reporting under SFAS No. 14, the current study addresses the following research questions:

1. In practice, what types of reportable segments are disclosed under SFAS No. 131 (LOB, geographic, mixed)?
2. Has SFAS No. 131 resulted in the reporting of a greater number of LOB segments? In particular, has the number of companies supplying segment data for only one LOB declined?
3. Did some companies realign their organizational structure and thereby limit the impact of the segment-reporting requirements?
4. What specific items are disclosed for LOB-based reportable segments under SFAS No. 131, and to what extent do these include voluntary disclosures? Are enterprises reporting more items of information about each segment?
5. What types of enterprise-wide data are reported under SFAS No. 131?
6. Has SFAS No. 131 improved the consistency of segment information with other parts of the annual report?

SAMPLE SELECTION AND METHODOLOGY

Sample selection began with a list of the 480 U.S.-domiciled *Business Week* Global 1000 companies. *Business Week* ranks publicly held companies based on market capitalization, which is a significant indicator of size from an investment perspective.¹ Global 1000 companies are likely to have international operations and thus likely to have geographic segments. Hence, a sample drawn from U.S. Global 1000 companies allows for not only an examination of the impact of SFAS No. 131 on LOB-based reporting (the primary focus of the research), but also provides insight regarding the type of geographic disclosures provided as enterprise-wide data. While the sample focuses on the segment disclosure practices of the largest and most significant U.S. companies, these are not necessarily representative of all multi-segment firms in the U.S.

Annual reports for 1997 and 1998 were requested for all U.S. Global 1000 companies with the exception of those (1) in the energy or finance industries² and (2) with a noncalendar year-end. For these companies, the researchers reviewed the overall annual report and segment disclosures and excluded those that:

¹ In contrast, the *Fortune* 500 ranks companies based on sales and includes a significant number of private companies and cooperatives. A comparison of our sample to the *Fortune* 500 companies that would remain after logical cuts (i.e., private company or cooperative plus the sample selection criteria listed in Table 2) indicates that the two samples (U.S. *Business Week* Global 1000 vs. *Fortune* 500) are very similar.

² Companies in the finance industry and utilities (from the energy industry) were deleted due to SFAS No. 131's liberal aggregation criteria for operating segments that operate in similar regulatory environments. SFAS No. 131 allows operating segments to be combined for reporting purposes, even though they may be individually material, if the segments have similar basic characteristics in each of several areas including the nature of the regulatory environment. Additionally, the finance industry has a history of "avoidance" of segmental reporting. Prior to the issuance of SFAS No. 131, most financial institutions concluded that under SFAS No. 14 they operated in one industry segment; hence, inclusion of the industry could bias the findings of the current study. Oil and gas companies (from the energy industry) were deleted due to SFAS No. 69, which imposes additional segment disclosures on the industry.

- had no segment LOB or geographic disclosures in either 1997 or 1998
- early adopted SFAS No. 131 in 1997
- were involved in a merger, major acquisition, spin-off, etc., that affected segment composition between 1997 and 1998

The last criterion ensures that differences (or lack of differences) identified by the research are primarily a function of the new SFAS No. 131 guidelines as opposed to being driven by changes in the makeup of the companies' operating segments. For example, the considerable number of spin-offs that occurred in 1998 reduced the number of operating segments for several U.S. Global 1000 companies, and acquisitions by other companies increased the number of operating segments. As the researchers reviewed each annual report, they compared the number of 1997 segments to the number of 1998 segments and reviewed the annual report as a whole to ascertain if any changes could be linked to events such as spins-offs or acquisitions. If such an event modified segment composition, the company was dropped from the sample. Table 1 summarizes the sample selection process that yielded a final sample of 160 companies. Descriptive information for the 160 sample companies is provided in Table 2 by industry. A list of the sample companies is provided in the Appendix.

TABLE 1
Largest U.S. Publicly Traded Companies Providing 1998 Segmental Disclosures^a
Sample Selection Procedure

U.S. Companies included in 1997 <i>Business Week</i> Global 1000	480
Energy companies and financial institutions	(155)
Companies with year ends other than December	(89)
Companies adopting SFAS No. 131 in 1997	(14)
Companies involved in a merger, major acquisition, spin-off, etc., in 1998	(47)
Companies with no line of business or geographic disclosures in both 1997 and 1998	(15)
Final sample size	<u>160</u>

^a Largest firms based on market capitalization.

TABLE 2
Sample Descriptive Statistics

Industry (based on primary SIC code)	Number of Firms	Average Sales (in millions)		Average Assets (in millions)	
		1997	1998	1997	1998
All Firms	160	11,069	11,796	9,012	10,169
By Industry					
Paper and Publishing	14	6,579	6,602	5,111	5,212
Chemical and Pharmaceuticals	26	8,787	9,254	5,577	6,191
Manufacturing	49	14,478	15,088	6,621	7,171
Communications	13	16,728	19,143	22,419	24,528
Services	15	4,191	4,808	3,997	4,054
Other	43	10,933	11,740	12,858	15,417

Once the sample was finalized and the annual reports collected, each annual report was analyzed and a data sheet based on the research questions was completed. To promote accuracy of the data, each annual report was reviewed a second time.

FINDINGS AND DISCUSSION

Research Question 1: Types of Reportable Segments under SFAS No. 131

As shown in Table 3, of the 160 companies disclosing reportable and/or enterprise-wide segment data in 1998, only 19 claim to operate in one reportable segment. Thirteen companies determine reportable segments based on geographic location, and 22 determine reportable segments based on a mix of LOB and geographic location.³ Most companies (106) are managed, and hence determine reportable segments, based on LOBs.

Research Question 2: SFAS No. 131 Impact on Number of LOB Segments *Fewer Companies Claim to Operate in One LOB*

The findings indicate SFAS No. 131 was effective in increasing the number of LOB segments reported by some companies, particularly those that had claimed to operate in one LOB under SFAS No. 14. Table 4 reveals a marked reduction in the number of companies claiming to operate in one LOB in 1998. In 1997, 78 sample companies had claimed to operate in one LOB. Under SFAS No. 131, 30 disclosed reportable segments based on LOB and eight supplied data for multiple LOB via mixed reportable segments. The remaining companies either had reportable segments based on geographic region (6) or had no reportable segments (34).

³ The ability to report mixed LOB and geographic segments is a new feature of SFAS No. 131. The industry classification for the 22 companies reporting mixed segments is as follows: four food, four manufacturing, three chemical and pharmaceuticals, three communications, two retail, two paper and publishing, one oil equipment and services, one tobacco, one pollution control, and one health care provider.

TABLE 3
Types of SFAS No. 131 Reportable Operating Segments Reported in 1998
by Sample Companies

	<u>LOB</u>	<u>GEO</u>	<u>Mixed</u>	<u>ONE</u>	<u>Total</u>
All Firms	106	13	22	19	160
By Industry					
Paper and Publishing	12	0	2	0	14
Chemical and Pharmaceuticals	17	2	3	4	26
Manufacturing	35	4	4	6	49
Communications	8	1	3	1	13
Services	12	1	0	2	15
Other	22	5	10	6	43

LOB = Reportable segments based on lines of business

GEO = Reportable segments based on geographic areas

Mixed = Reportable segments based on a combination of lines of business and geographic areas

ONE = Company had only one reportable segment

TABLE 4
Impact of SFAS No. 131 on Number of LOB Operating Segments
for Companies Claiming to Operate in One LOB under SFAS No. 14

	(a) + (b) Disclosed More than 1 LOB Reportable Segment in '98	(a) Multiple LOBs via LOB Reportable Segments	(b) Multiple LOBs via Mixed Reportable Segments	(c) + (d) Disclosed No LOB Reportable Segments in '98	(c) GEO Reportable Segments	(d) No Reportable Segments
Total	38	30	8	40	6	34 ^a
By Industry						
Paper and Publishing	1	1	0	1	0	1
Chemical and Pharmaceuticals	4	3	1	6	2	4
Manufacturing	7	7	0	8	1	7
Communications	6	3	3	2	1	1
Services	8	8	0	4	0	4
Other	12	8	4	19	2	17

LOB = Reportable segments based on lines of business

GEO = Reportable segments based on geographic areas

Mixed = Reportable segments based on a combination of lines of business and geographic areas

^a The 34 companies disclosing no reportable segments in 1998 include 19 companies that disclose product and/or geographic enterprise-wide information under SFAS No. 131 and 15 companies that did not disclose any segment information under SFAS No. 131 and that were eliminated from the final sample (see Table 1).

The 38 companies disclosing multiple LOB reportable segments in 1998 that had previously claimed to operate in one LOB included two of the ten largest U.S. companies. In 1997, Merck (ranked 5th in the 1998 U.S. Global 1000) supplied only geographic segment data. In 1998, the company provided reportable segment data for two LOB (Merck Pharmaceutical and Merck Medco). The company's 1997 claim to operate in one LOB was inconsistent with both the introductory annual report material and MD&A that both referenced Merck's pharmaceutical operations and its Medco Managed Care. While the 1998 introductory annual report material was consistent with Merck's two reportable LOB, the MD&A focused on product lines within the LOB, and yet Merck supplied no enterprise-wide product data to supplement its reportable segment data.

In 1997, IBM (ranked 10th in the 1998 U.S. Global 1000) claimed to operate "primarily in the single industry segment that creates value by offering a variety of solutions that include, either singularly or in some combination, services, software, systems, products, financing, and technologies." IBM provided only revenue information by classes of similar products/services (information technology clients, information technology servers, peripherals storage, other peripherals, OEM hardware, services, software, maintenance, financing, and other) under SFAS No. 14. In 1998, IBM again stated that it operated in a single industry, but acknowledged that organizationally

the company's major operations consisted of three hardware product segments (technology, personal systems, and server), a global services segment, a software segment, a global financing segment, and a series of enterprise investments. IBM labeled the 1998 reportable segment disclosures as "the management system segment view." While IBM's 1997 introductory annual report material and MD&A were not consistent with the company's claim to operate in one LOB, the 1998 MD&A was consistent with the segment data (the introductory material did not focus on this issue).

Six (of 11) companies⁴ in the communications industry claimed to operate in one LOB in 1997 yet supplied reportable segment data for multiple LOB in 1998. For example, although the company's introductory annual report material and MD&A suggested otherwise, both Bell South and GTE claimed to operate in one LOB in 1997. In 1998, in line with other sections of the annual report, both companies supplied data for multiple mixed reportable segments. Bell South's reportable segments included three LOB (wireline communications, domestic wireless, and advertising and publishing) and an international operations segment. GTE's reportable segments included four LOB (network services, wireless product services, data products and services, and other national operations) and an international operations segment.

Regarding the five companies in the communications industry that supplied data for multiple LOB in both 1997 and 1998, the MD&A and segment reporting were consistent for both 1997 and 1998. Three of the companies reported the same number of segments in 1997 and 1998, and the other two increased the number of LOB they reported in 1998.

Eight (of 12) companies⁵ in the services industry claimed to operate in one LOB in 1997 yet supplied reportable segment data for multiple LOB in 1998. For example, while other sections of the 1997 annual report made reference to various types of services including systems and technology services, business process management, management consulting services, electronic business, and co-sourcing service, EDS failed to provide LOB segment data. In line with other sections of the annual report, in 1998 EDS provided reportable segment data for three LOB (systems and technology services, business process management, and management consulting services).

The introductory annual report material and MD&A of the other four companies in the services industry were consistent with the segment reporting in both 1997 and 1998. Three of the companies reported the same number of LOB in 1997 and 1998, while the fourth company reported a greater number of LOB in 1998.

Of the 34 companies noted in Table 4 (see column d) as disclosing no reportable segments in 1998, 19 supplied enterprise-wide data and hence are included in the sample. The 1998 MD&A of all 19 companies was consistent with their claim to operate in one LOB. This group included: Mattel and Hasbro (toy manufacturers), CVS (retail drug chain), Safeway (grocery chain), and Cox Communications (cable TV provider).

The other 15 companies (of the 34 with no 1998 reportable segments) were cut from the sample (see Table 1) because they claimed to operate in one LOB and provided

⁴ See Table 3 (eight LOB plus three mixed).

⁵ See Table 3 (12 LOB plus zero mixed).

no enterprise-wide data. An analysis of these companies indicated that for most the introductory annual report material and the MD&A were consistent with the claim to operate in one LOB.⁶ Examples include: Burlington Northern and Norfolk Southern (railway networks), Food Lion and Kroger (grocery chains), Walgreen (retail drug store), and Yahoo! (global internet media company). However, the introductory annual report material and MD&A of Nucor Corporation appear to be inconsistent with the company's claim to operate in one LOB. Nucor's Business Review indicated that the corporation's business is the manufacture of steel products. While Nucor's MD&A discussed only steel mills, the Business Review listed several divisions which included Nucor-Yamato Steel Company (operates scrap-based steel mills), Vulcraft (the nation's largest producer of steel joists and joist girders), Nucor Cold Finish (produces cold-finished bars for shafting and machined precision parts), Nucor Grinding Balls (produces steel grinding bars), Nucor Fastener (steel bolt-making facility), Nucor Bearing Products (produces steel bearings and machined steel parts), and Nucor Building Systems (produces metal buildings). The company notes that two of these divisions account for a small percentage of corporate sales. Hence, the introductory annual report material suggests that segmental reporting (at least product sales information at the enterprise-wide level) may be appropriate.

Overall, with the one possible exception noted above, the 34 companies that either reported only enterprise-wide data or that were excluded from the sample because they supplied no segment data appear to truly operate in one LOB. Thus, the findings indicate SFAS No. 131 has been effective in reducing the number of large firms that inappropriately report as single LOB firms.

Overall Increase in the Number of LOB Segments

For the 106 companies with 1998 reportable segments based on LOB, Table 5 compares the number of LOB segments reported in 1998 to 1997. SFAS No. 131 had a marked impact on the number of LOB segments particularly in the manufacturing, communications, and services industries where 17, 5, and 9 companies, respectively, had an increase in the number of LOB segments between 1997 and 1998. The increase in the number of LOB reported by the communications and services industries can be linked to companies in these industries that claimed to operate in one LOB under SFAS No. 14 yet which provided reportable segment information based on LOB under SFAS No. 131 (see above discussion for examples). Overall, 55 (52 percent) of the sample companies had an increase in the number of LOB segments. For companies with 1998 reportable segments based on LOB, the average number of LOB segments increased from 2.7 in 1997 to 3.7 in 1998. A t-test indicates the increase is significant at $p = .00001$ ($t = 14.04$).⁷ Hence, FASB was correct in anticipating that one of the primary benefits of SFAS No. 131 would be that some enterprises would report a greater number of segments.

⁶ Most of the 15 companies appear also to have only domestic operations (i.e., Food Lion, Burlington Northern, Norfolk Southern). Hershey specifically states that its non-U.S. operations are immaterial, and in its 1998 MD&A, Kmart reports sales data for international operations that reveals a decline over the past three years resulting in no international sales revenue for 1998. Yahoo! states that international sales account for less than 10 percent of total sales and that foreign assets are insignificant. Hence, these companies supplied no geographic segment data at the reportable segment level or at the enterprise-wide level.

⁷ Wilcoxon signed rank tests and binomial tests were performed for all tests of significance. The results parallel the t-tests.

TABLE 5
Impact of SFAS No. 131:
Change in Number of LOB Operating Segments from 1997 to 1998
(for Companies with LOB-Based Reportable Segments in 1998)

	No Change	Increase in Number	Decrease in Number	Same Number, Different Segments	Total	Average Number Segments 1997	Average Number Segments 1998
All Firms	33 (31%)	55 (52%)	6 (6%)	12 (11%)	106	2.7	3.7 ^a
By Industry							
Paper and Publishing	7	3	0	2	12	2.9	3.3
Chemical and Pharmaceuticals	8	4	3	2	17	3.1	3.5
Manufacturing	13	17	3	2	35	3.0	3.9
Communications	1	5	0	2	8	2.6	4.1
Services	1	9	0	2	12	1.7	2.9
Other	3	17	0	2	22	2.5	3.9

LOB = Lines of business

^a A t-test ($t = 14.04$) indicates that the increase from 1997 to 1998 is significant at $p = .00001$.

Examples of companies that reported additional LOB segments under SFAS No. 131 include CSX and Leggett & Platt. In 1997, inconsistent with the company's introductory annual report material and MD&A, CSX reported only two LOB (transportation and nontransportation). Moving in line with its introductory annual report material and MD&A, in 1998 CSX supplied reportable segment data for four LOB (rail, container shipping, intermodal, and contract logistics). Inconsistent with its introductory annual report material and MD&A, in 1997, Leggett & Platt provided data for two LOB (furnishings and diversified). Paralleling its introductory annual report material and MD&A, in 1998, the company provided reportable segment data for five LOB (residential furnishings, commercial furnishings, aluminum products, industrial materials, and specialized products).

Thirty-three (31 percent) reported the same number of LOB in 1998 as in 1997. For example, in both 1997 and 1998, McGraw-Hill provided information on three LOB (educational and professional publishing, financial services, and information and media services). In both years, the three LOB segments parallel the information in McGraw-Hill's MD&A and the annual report taken as a whole.

While another 12 (11 percent) companies reported the same number of segments, the composition of the segments changed between 1997 and 1998. In 1997, Alltel provided data for five business segments (wireline communications, wireless communications, information services, product distribution, and other). In 1998, Alltel again disclosed segment data for five LOB but the composition changed to wireless communications, wireline communications, emerging businesses communications, information services, and other. In 1997, Dow Chemical provided data for six LOB (performance plastics, performance chemicals, plastics, chemicals and metals, hydrocarbons and energy, and diversified). Data for six

LOB was supplied as reportable segment data in 1998, but the composition of segments changed to performance plastics, performance chemicals, plastics, chemicals, hydrocarbons and energy, and agricultural products. For both 1997 and 1998, Alltel's and Dow's introductory annual report material and MD&A were consistent with their segment reporting.

The number of reported LOB decreased for only six companies (6 percent). For example, in 1997, Pfizer reported segment data for three LOB (health care, animal health, and consumer health care). In 1998, Pfizer states "as a result of adopting SFAS No. 131...we split the previously reported health care unit into two segments, pharmaceutical and MTG and combined consumer health care with pharmaceutical." Thus, Pfizer had two reportable segments in 1998 (pharmaceutical and animal health). While Pfizer's 1997 MD&A was consistent with its segment reporting, there were inconsistencies between the introductory annual report material and segment reporting. In 1998, both Pfizer's introductory material and MD&A were consistent with the segment disclosures.

Research Question 3: Realignment of Organizational Structure and Its Impact on Segment Reporting

Our analysis identified six companies that realigned their organizational structure in a manner that had at least a minor impact on the 1998 segment reporting and one company that is undertaking a realignment that will affect its 1999 segment reporting. Three of the realignments modified the composition of the companies' LOB segments but not the number of segments. For example, in 1997 Ingersoll Rand reported four segments (standard machinery; engineered equipment; bearings, locks, and tools; and Thermo King). In 1998, Ingersoll Rand also reported four segments, but the composition changed (speciality vehicles; air and temperature control; hardware and tools; and engineered products). The Chairman's letter stated "in 1998, we changed our financial reporting segments to better reflect the more diversified character of the company. This change provides a more accurate categorization of our businesses." The analysis also revealed that, while Ingersoll Rand's 1997 segment reporting was consistent with the MD&A, it was not consistent with the introductory annual report material. In 1998, both the introductory annual report material and the MD&A paralleled Ingersoll Rand's segment reporting.

Kimberly Clark undertook a restructuring that resulted in moving some products from one segment to another and the renaming of segments. In 1997, the company supplied data for personal care, tissue, and newsprint, paper and other, and in 1998, data was supplied for tissue, personal care, and health care and other. The MD&A was consistent with Kimberly Clark's segment reporting for both 1997 and 1998. However, in 1997 the introductory annual report material was not consistent with the segment reporting.

Dow Jones was involved in a multiyear restructuring that resulted in a realignment of operating segments, but again the number of segments remained constant. The composition of community newspapers was unchanged but business publishing and financial information services were realigned to yield print publishing and electronic publishing. Dow Jones' introductory annual report material and MD&A were consistent with the segment reporting for both 1997 and 1998.

Only one realignment was identified that resulted in a decrease in the number of LOBs reported. In 1997, Rohm & Haas provided segment disclosures for four LOB (polymers, resins, and monomers; performance chemicals; plastics; and agricultural chemicals). The

1998 report stated "the company's business segment reporting under SFAS No. 131 is consistent with the changes in the financial reporting structure incorporated in the companies reporting since the first quarter of 1998. These changes, and concurrent changes to the management organization, were made to reflect the company's technical strengths and focus on key markets." In 1998, Rohm & Haas provided data for three reportable segments (performance polymers, chemical specialties, and electronic materials). In both 1997 and 1998, Rohm & Haas' introductory annual report material and MD&A were consistent with the company's segment reporting.

Further, six companies that previously claimed to operate in one LOB discussed realignments in 1998. Three of these may have impacted, or will soon impact, the composition of operating segments.⁸ United Healthcare's 1997 MD&A was inconsistent with the company's claim to operate in one LOB, and in 1998, the company realigned operations into *six* customer-oriented, more independently driven but strategically aligned business segments. In 1998, the company supplied reportable segment data for *four* LOB (healthcare services, Uniprise, specialized care services, and Ingenix) and indicated that two operating segments had been combined into one reportable segment. The 1998 MD&A is consistent with United Healthcare's segment reporting, but the introductory annual report material discusses *seven* key business areas. The numbers provided by the company throughout the 1998 annual report regarding the number of operating segments appear to be inconsistent.

In 1998, W.W. Grainger supplied detailed information for two segments (branch-based distribution and other) yet claimed to have one reportable segment. Branch-based distribution "is an aggregation of the following business segments: Grainger Industrial Supply, Acklands-Grainger Inc., Grainger Parts, Grainger S.A. de C.V Puerto Rico, Grainger Export, and Grainger Global Sourcing. The "other" segment included the Grainger Custom Solutions, Grainger Integrated Supply, Grainger Consulting Services, Internet Commerce, and Lab Safety Supply segments. The "other" segment accounted for 16 percent of total sales, 3 percent of total segment operating earnings, and 9 percent of total segment assets. W.W. Grainger's segment footnote stated that the segments were formed in late 1997 as the Company refocused its organization to meet the diverse needs of its customers and that the restatement of comparable financial information for 1997 and 1996 is not practicable. Elsewhere in the annual report, the company stated "we transitioned our Company into *several* separate business units based on diverse market needs" (emphasis added). The 1997 introductory annual report material and MD&A indicated more than one LOB. While the 1998 introductory annual report material and MD&A were compatible with the segment reporting, they suggested aggregation of segments.

AT&T, in 1998, disclosed three reportable segments: business services, consumer services, and wireless services. Following this move from claiming to operate in one LOB in 1997, AT&T is now realigning its segments. The 1998 MD&A states, "Reflecting the dynamics of our business, we are reviewing our management model and structure which will result in adjustments to our segment discussion during 1999."

In summary, a small group of companies were identified that were involved in restructuring that impacted, or will impact next year's, segment reporting. A review of

⁸ While Pharmacia & Upjohn, Nabisco, and Campbell's all supplied segment LOB data for the first time in 1998 and all discussed restructuring, the restructuring did not appear to have an impact of the segment reporting.

the overall disclosures and segment reporting suggest that the restructuring by only four of these companies (Rohm & Haas, United Healthcare, W.W. Grainger, and AT&T) might possibly limit the disclosures required under SFAS No. 131.

Research Question 4: Items of Information Reported for LOB Reportable Segments under SFAS No. 131

Items Required by Both SFAS No. 131 and SFAS No. 14

For 1997 and 1998, Table 6 summarizes the specific items of reportable segment data provided by companies managed by LOB and indicates which items are: (1) required disclosures under both SFAS No. 14 and SFAS No. 131, (2) required disclosures only under SFAS No. 131, and (3) voluntary disclosures. As required by SFAS No. 131 (and previously by SFAS No. 14), most companies disclosed sales/revenues (100 percent), a measure of segment profit/loss (99 percent), assets (89 percent), depreciation/amortization/depletion expense (93 percent), and capital expenditures (86 percent).⁹ For the preceding items, the percentage of companies providing these disclosures was similar in 1997 and 1998.

As noted above, one sample company did not provide a profitability measure in its 1998 segment footnote. In the segment footnote, Textron stated that it "evaluates segment performance based on operating income from operations." While reportable segment disclosures include revenues; assets; property, plant, and equipment expenditures; amortization; and depreciation, no footnote disclosure is provided for operating income. However, the MD&A (which is not referenced in the footnote) includes operating income and operating income margins for each reportable segment.

Table 6 also reveals that the sample companies provided various measures of segment profitability including, but not limited to, operating profit; earnings before interest and taxes; income before tax; earnings before interest, taxes, depreciation and amortization; and after-tax operating income. When the FASB voted on SFAS No. 131, Board Member Leisenring dissented because the statement does not define segment profit or loss and does not require that whatever measure of profit or loss is reported be consistent with the attribution of assets to reportable segments. By not defining segment profit or loss, SFAS No. 131 allows any measure of performance to be displayed as segment profit or loss as long as that measure is reviewed by the chief operating decision maker. The findings illustrate the lack of comparability resulting from FASB's decision not to define segment profit or loss.

Most companies not providing information on segment assets, depreciation/amortization/depletion, and/or capital expenditures provided an explanation. For example, Intel (no assets, depreciation/amortization/depletion, or capital expenditures) and Alza (no assets or capital expenditures) state that assets are not used to evaluate segments. Merck (no assets or capital expenditures) comments that the company does not disaggregate assets on a product basis for internal management purposes.

As required by SFAS No. 131 in 1998 (and previously by SFAS No. 14), income recognized on equity-method investments (23 percent) and the amount of investment in equity-method investees (24 percent) was disclosed when significant. Disclosure of these two items was less prevalent in 1997 with 11 percent disclosing income recognized

⁹ SFAS No. 131 requires disclosure of total expenditures for additions to long-lived assets and the amount of investment in equity-method investees if the specified amounts are included in the determination of segment profit/loss.

TABLE 6
Number of Companies Disclosing Specific Items of Reportable Segment Information
(for Companies with LOB-Based Reportable Segments in 1998)

Item Disclosed	1998		1997	
	Number of Firms	% of Firms (out of 106)	Number of Firms	% of Firms (out of 76)
Items Required under both SFAS No. 131 and SFAS No. 14				
Sales/revenue	106	100	76	100
Profitability measure ^a	105	99	76	100
Assets	94	89	66	87
Depreciation/amortization	99	93	68	89
Capital expenditures	91	86	61	80
Equity in net income of investees accounted for by equity method	24	23	8	11
Amount of investment in equity-method investees	25	24	4	5
Items Required under SFAS No. 131 Only				
Interest income	10	9	0	0
Interest expense	16	15	1	1
Income tax expense/benefit	10	9	3	4
Other noncash items included in net profit/loss	3	3	0	0
Unusual items ^b	17	16	5	7
Voluntary disclosures ^c	23	22	18	24

LOB = Lines of business

^a Profit measures disclosed include: operating profit (43 companies), earnings before interest and taxes (25 companies), income before tax (12 companies), earnings before interest, taxes, depreciation, and amortization (9 companies), other measures (9 companies), after-tax operating income (4 companies) and no disclosure of method used (3 companies).

^b SFAS No. 14 required only disclosure of the effect of any change in accounting principles. SFAS No. 131's unusual item requirement is much broader.

^c Voluntary disclosures include net assets (2 companies), cash flow, operating expenses (8 companies), R&D, liabilities (3 companies), start-up costs, order backlog, number of locations, accounts receivable (2 companies), asset sales (3 companies), and investments. A few companies disclosed more than one item.

on equity-method investments and 5 percent disclosing the amount of investment in equity-method investees.

New Disclosures—Some Enterprises Report More Items of Information for Each Segment

New disclosures per SFAS No. 131 included: interest income (ten companies/9 percent), interest expense (16 companies/15 percent), income tax expense/benefit (ten companies/9 percent), significant noncash items other than depreciation/amortization/depletion (three companies/3 percent), and unusual items (17 companies/16 percent). Under SFAS No. 14, disclosure of these items was not required and was less prevalent. In

1997, no company disclosed interest income, one disclosed interest expense, three disclosed income tax expense/benefit, no company disclosed significant noncash items other than depreciation/amortization/depletion, and five disclosed unusual items. Hence, the additional disclosure requirements of SFAS No. 131 had a marginal impact on the number of items of information disclosed for each reportable segment.

Voluntary Disclosures

Only 23 companies (22 percent) provided disclosures beyond those noted above. The limited voluntary disclosure of segmental information is of some concern. For example, only three companies provided information on segment liabilities. However, the new version of International Accounting Standard No. 14 (IASC 1997), *Segment Reporting*, will require disclosure of segment liabilities. In the Exposure Draft (ED) preceding SFAS No. 131, FASB (1996) proposed disclosure of segment liabilities and stated (see FASB 1996, "Basis for Conclusions") that disclosure of segment assets and liabilities together with interest revenue and interest expense included in segment profit/loss would provide information about the financing activities of the segment. The Board dropped the segment liability disclosure requirement prior to issuing SFAS No. 131.

Only one company disclosed segment cash flow data. In the ED preceding SFAS No. 131, FASB noted that the Board considered requiring disclosure of operating cash flow for each operating segment. However, respondents to the Invitation to Comment often argued that disclosing operating cash flow would require them to gather and process information solely for external-reporting purposes. Thus, the Board decided not to require disclosure of cash flow by segment. Alternatively, IAS No. 7, *Cash Flow Statements*, notes that disclosing cash flow information for each reportable industry and geographic segment is relevant to understanding the enterprise's overall financial position, liquidity, and cash flows (IASC 1997). IAS No. 7 and IAS No. 14, *Segment Reporting*, both encourage disclosure of segment cash flow information.

The ED preceding SFAS No. 131 also recommended disclosure of research and development (R&D) expenditures, but only one sample company disclosed segment R&D. In the ED's basis for conclusions, FASB argued that disclosure of R&D included in segment profit/loss would provide users with information about the operating segments in which an enterprise is focusing its product development efforts. The FASB also noted that disclosure of R&D had been requested by a number of financial statement users and was specifically requested in both the AICPA's (1994) Special Committee report and the AIMR's (1993) position paper. Again, FASB dropped the requirement prior to issuing SFAS No. 131.

Research Question 5: Enterprise-Wide Segment Data Disclosures under SFAS No. 131

As reflected in Figures 1 and 2, SFAS No. 131 requires the disclosure of enterprise-wide data for (1) products and services, (2) geographic regions, and (3) major customers. Enterprise-wide data is required even for companies with one reportable operating segment. Table 7 reports the number of companies, by industry and by type of reportable segment (i.e., based on LOB or geographic region or a mix of LOB and geographic region or one reportable segment), that disclosed enterprise-wide information.

TABLE 7
Number of Companies Providing Enterprise-Wide
Segment Disclosures in 1998 under SFAS No. 131

	<u>Product</u> <u>Disclosures</u>	<u>Geographic</u> <u>Disclosures</u>	<u>Major</u> <u>Customer</u> <u>Disclosures</u>	<u>Total</u> <u>Firms in</u> <u>Sample</u>
All Firms	37 (23%)	125 (78%)	39 (24%)	160
By Industry				
Paper and Publishing	3	9	0	14
Chemical and Pharmaceuticals	8	25	5	26
Manufacturing	12	45	20	49
Communications	5	5	2	13
Services	0	12	4	15
Other	9	29	8	43
By Type of Reportable Segment				
LOB	16	79	27	106
GEO	6	7	2	13
Mixed	6	20	1	22
ONE	9	19	9	19

LOB = Reportable segments based on lines of business

GEO = Reportable segments based on geographic areas

Mixed = Reportable segments based on a combination of lines of business and geographic areas

ONE = Company had only one reportable segment

Product-Based Enterprise-Wide Data

For products and services, 37 companies (23 percent) reported enterprise-wide information. At least 30 percent of the companies in the chemical and pharmaceuticals (eight companies, 31 percent) and communications (five companies, 38 percent) industries provided product enterprise-wide data. For example, Bristol-Myers Squibb supplied reportable segment data for four LOB. Additionally, Bristol-Myers Squibb reported enterprise-wide sales data for five products (cardiovascular, anti-cancer, anti-infective, central nervous system, and analgesics) within the medicines LOB, two products (hair care and hair color) within the beauty care LOB, one product (infant formulas) within the nutritionals LOB, and two products (orthopaedic implants and ostomy) within the medical devices LOB. Frontier Communications reported enterprise-wide sales data for four products (commercial, consumer, carrier, and exited business—prepaid) for its integrated services reportable segment.

Twenty-two companies reported revenues by product as enterprise-wide data in addition to the LOB information supplied for reportable segments based on either LOB (16) or a mix of LOB and geographic location (six). As reflected in Figure 2, Black & Decker is an example of a company with LOB-based reportable segments that also provided product-based enterprise-wide data. As described above, Bristol-Myers Squibb and Frontier Communications provide additional examples.

Caterpillar's reportable operating segments were based on a mix of seven LOB and geographic regions (Asia/Pacific marketing, construction and mining products, Europe/Africa/MiddleEast/Commonwealth of Independent States marketing, financing and insurance services, Latin America marketing, power products, North America marketing). In addition, Caterpillar supplied enterprise-wide revenue data for three products (machinery, engines, and financial products).

Six companies with reportable segments based on geographic location disclosed enterprise-wide product data. For example, Crown Cork & Seal had three reportable segments based on geographic region (Americas, Europe, and Asia-Pacific). Additionally, Crown Cork & Seal supplied enterprise-wide revenue information for four products (metal beverage cans and ends, metal food cans and ends, other metal packaging, and plastic packaging). An additional example of geographic reportable segments supplemented by product based enterprise-wide data is provided by Kellogg's as shown in Figure 2.

Geographic-Based Enterprise-Wide Data

One hundred twenty-five (78 percent) companies provided geographic enterprise-wide disclosures. Typically, these disclosures included only revenues and assets as required by SFAS No. 131. Of the companies supplying geographic enterprise-wide data, only 19 (15 percent) disclosed operating profit by segment. In 1997, 105 of these 125 disclosed operating profit as was previously required under SFAS No. 14.

Geographic enterprise-wide data was reported by at least one-third of the companies in each of the industries listed in Table 7 and was particularly prevalent in the paper and publishing (nine companies, 64 percent), chemical and pharmaceuticals (25 companies, 96 percent), manufacturing (45 companies, 92 percent), and services (12 companies, 80 percent) industries. The high frequency of geographic enterprise-wide data is as expected in that, while many sample companies had global operations, most were managed by, and hence had reportable operating segments based on, LOB (see Table 3). Seventy-nine companies with reportable segments based on LOB supplied geographic enterprise-wide data. For example, Baxter provided detailed reportable operating segment data based on four LOB (system/medical products, blood therapies, renal, and cardiovascular) and provided geographic enterprise-wide data (sales and long-lived assets) for three geographic regions (U.S., Japan, other). Another example is provided by Black & Decker (see Figure 2).

Twenty-seven companies provided geographic-based enterprise-wide information in addition to geographic data provided for reportable segments based on geographic area (seven) or a mix of geographic area and LOB (20). Examples of companies with geographic based reportable segments that also provided geographic enterprise-wide data are provided by Crown Cork & Seal and Kellogg's (see Figure 2). In addition to geographic reportable segments (described above), Crown Cork & Seal disclosed sales and long-lived assets at the enterprise-wide level for four geographic areas (U.S., U.K., France, and other). Caterpillar is an example of a company with mixed reportable segments (as described above) that also provided sales and long-lived assets enterprise-wide data for two geographic areas (U.S. and other).

Enterprise-Wide Data for Companies with One Reportable Segment

All 19 sample companies with one reportable segment in 1998 provided geographic enterprise-wide data, and nine disclosed product enterprise-wide data. For example,

Diamond Offshore states that the Company manages its business on the basis of one reportable segment (contract drilling of offshore oil and gas wells). As enterprise-wide data, Diamond Offshore reported revenues for six products (fourth-generation semisubmersibles, other semisubmersibles, jack-ups, integrated services, land, and other). Diamond Offshore also reported revenues and long-lived intangible assets for four geographic areas (U.S., Europe/Africa, Australia/Southeast Asia, and South America). In addition, revenues were reported for the U.K., Brazil, and Australia (as each is responsible for at least 5 percent of total revenues) and assets were reported for the U.K. and Brazil.

Major Customer Enterprise-Wide Data

Like SFAS No. 14, Statement No. 131 requires companies to report revenues from a single customer that accounts for 10 percent or more of revenue and the segments from which sales to each major customer were made. In 1998, 36 sample companies disclosed major customer data. Black & Decker (see Figure 2) provides an illustration.

Research Question 6: Impact of SFAS No. 131 on Consistency of Segment Information with Other Parts of Annual Report ***Enterprises Report Information that is More Consistent With the Introductory Annual Report Information***

For companies with 1998 reportable segments based on LOB, Panel A of Table 8 reveals that in 1997, 46 (43 percent) reported segment LOB that were inconsistent with the annual report introductory material (i.e., letter to shareholder's, etc.). Segment disclosures were rated as inconsistent where additional product line information is included in the introductory annual report information but not in the segment footnote. Inconsistencies were most pronounced in the manufacturing (18 companies, 51 percent) and services (eight companies, 67 percent) industries. In 1998, the situation under SFAS No. 131 improved when the level of inconsistency reduced to 15 (14 percent). A t-test indicates the reduction is significant at $p = .00001$ ($t = 5.84$).

Enterprises Report Information That Is More Consistent with the Management Discussion and Analysis

For those companies managed on an LOB basis, Panel B of Table 8 reveals that in 1997 for 27 (25 percent) companies the LOB identified in the segment reporting are inconsistent with the MD&A. Inconsistencies were particularly problematic in the services industry (six companies, 50 percent). The situation improves considerably in 1998 with inconsistencies between the segment LOB and MD&A reduced to only nine (8 percent) companies. A t-test indicates the reduction is significant at $p = .0001$ ($t = 4.12$). The improvement in consistency between LOB reporting and MD&A is linked to the increased number of segments reported under the management approach as reflected in Table 5.

Illustrating the effectiveness of SFAS No. 131, the inconsistencies for the nine companies in 1998 are all associated with detailed discussion of products in the MD&A. For the nine companies, given the extent of discussion in the MD&A, a financial statement user would anticipate at least enterprise-wide product data but none is provided. For other companies in the sample, similar MD&A discussion ties to enterprise-wide product data (if the information is not provided in the reportable segment data).

Case Corporation provides an example of improved consistency between the segment reporting and the introductory annual report material and MD&A under SFAS

TABLE 8
Impact of SFAS No. 131: Improvement in Consistency of LOB Operating Segment Disclosures with Introductory Annual Report Information and MD&A (for Companies with 1998 LOB-Based Reportable Segments)

	1997 (SFAS No. 14)			1998 (SFAS No. 131)		
	Consistent	Not Consistent ^a	No Information	Consistent	Not Consistent ^b	No Information
Panel A: Consistency with Introductory Annual Report Information						
All Firms	56 (53%)	46 ^c (43%)	4 (4%)	106 (83%)	15 ^c (14%)	3 (3%)
By Industry						
Paper and Publishing	10	1	1	11	1	0
Chemical and Pharmaceuticals	11	6	0	15	2	0
Manufacturing	16	18	1	26	7	2
Communications	4	3	1	7	1	0
Services	4	8	0	10	2	0
Other	11	10	1	19	2	1
Panel B: Consistency with MD&A						
All Firms	76 (72%)	27 ^{**} (25%)	3 (3%)	106 (88%)	9 ^{**} (8%)	4 (4%)
By Industry						
Paper and Publishing	10	1	1	10	1	1
Chemical and Pharmaceuticals	12	5	0	14	1	2
Manufacturing	30	4	1	33	2	0
Communications	5	3	0	7	1	0
Services	5	6	1	10	1	1
Other	14	8	0	19	3	0

Introductory annual report information includes items other than the MD&A and audited statements including the shareholder's letter, business-at-a-glance, operations review, etc.

^a A t-test ($t = 5.84$) indicates the decrease from 1997 to 1998 is significant at $p = .00001$. This result is consistent with results of the Wilcoxon signed rank test and the binomial test.

^{**} A t-test ($t = 4.12$) indicates the decrease from 1997 to 1998 is significant at $p = .0001$. This result is consistent with results of the Wilcoxon signed rank test and the binomial test.

^a Not consistent indicates companies where the introductory annual report information and/or MD&A product information does not match the segment reporting footnote, or the introductory annual report information indicates more/less segments than reflected in the segment footnote.

^b Not consistent indicates companies where additional product line information (sales/revenues) is included in the introductory annual report information and/or MD&A that is not disclosed in the segment footnote.

MD&A = Management Discussion and Analysis

LOB = Lines of business

No. 131. In 1997, Case's "Year in Review" and MD&A discuss three types of business (agricultural equipment, construction equipment, and financial services). However, Case's footnotes provide no LOB segment data (only geographic). In 1998, in line with the introductory annual report material and MD&A, segment disclosures are provided in the footnotes for three reportable segments based on the LOBs discussed throughout the 1997 and 1998 annual reports.

A review of the 38 companies that claimed to operate in one LOB in 1997 yet disclosed information for reportable segments based on LOB or a mix of LOB and geographic region in 1998 further illustrates the impact of SFAS No. 131. Table 9 reveals that in 1997, the MD&A of 30 (79 percent) of these companies suggested more than one LOB. In 1998, inconsistencies between the reported LOB and MD&A for the 38 companies were reduced to only seven (18 percent) companies. A t-test indicates the reduction is significant at $p = .00001$ ($t = 7.53$).

For the 40 companies that disclosed no LOB reportable segments in 1998, the 1997 MD&A was inconsistent with the claim to operate in one LOB for nine companies (23 percent). In 1998, there were no inconsistencies between the MD&A and the claim to operate in one LOB. A t-test indicates the reduction is significant at $p = .0017$ ($t = 3.36$).

CONCLUSIONS

This research assessed the 1997 and 1998 annual reports of a sample of the largest publicly traded U.S. companies to determine whether SFAS No. 131 adequately addressed user concerns about segment disclosures and the extent to which the anticipated benefits set forth in SFAS No. 131 materialized. In particular, the research addressed:

- the extent to which a greater number of segments were reported in 1998, with special reference to companies claiming to operate in only one LOB segment in 1997;
- the extent to which companies reported more items of information about each reportable segment; and
- whether the consistency of segment information with other parts of the annual report improved under SFAS No. 131.

Taken overall, under SFAS No. 131 business reporting has improved. The number of segments reported and the consistency of segment information increased significantly in 1998 as compared to 1997. Further, it is noteworthy that 38 sample companies providing LOB reportable segment disclosures in 1998 claimed to operate in one LOB in 1997 (see Table 4). Our findings also suggest that few companies restructured to limit the reporting of additional segment information.

On a less positive note, a significant minority of companies continues to report segment information on a basis inconsistent with their introductory annual report information (14 percent) and MD&A (8 percent). The results also reveal that under SFAS No. 131 few companies reported more items of information about each reportable segment, and the findings illustrate the lack of comparability resulting from the FASB's decision not to define segment profit or loss. Nevertheless, our results suggest SFAS No. 131 has supplied financial statement users with most of the benefits anticipated by the FASB (1997).

In concluding, it is important to note that despite controlling for mergers and acquisitions, spin-offs, and other corporate transactions, other economic events could drive observed reporting changes for some sample companies. Examples include internal

TABLE 9
Impact of SFAS No. 131: Improvement in Consistency of LOB Disclosures with MD&A for Companies with Multiple LOB Reportable Segments in 1998 That Claimed to Operate in One LOB in 1997

	1997 (SFAS No. 14)		1998 (SFAS No. 131)	
	Consistent	Not Consistent ¹	Consistent	Not Consistent ^b
	(%)	(%)	(%)	(%)
		Information		Information
		Total		Total
Panel A: Disclosed More than One LOB Reportable Segment in 1998				
All Firms	7 (18%)	30* (79%)	38 (79%)	7* (18%)
Multiple LOBs via LOB Reportable Segments	7	1 (3%)	30	1 (3%)
Multiple LOBs via Mixed Reportable Segments	0	8	8	0
Panel B: Disclosed No LOB Reportable Segments in 1998				
All Firms	31 (77%)	9** (23%)	40 (100%)	0** (0%)
GEO Reportable Segments	3	3	6	0
No Reportable Segments	28	6	34	0

* A t-test ($t = 7.53$) indicates the decrease from 1997 to 1998 is significant at $p = .00001$. This result is consistent with the Wilcoxon signed rank test and the binomial test.

** A t-test ($t = 3.36$) indicates the decrease from 1997 to 1998 is significant at $p = .0017$. This result is consistent with the Wilcoxon signed rank test and the binomial test.

^a Not consistent indicates companies where the introductory annual report information and/or MD&A product information does not match the segment reporting footnote, or the introductory annual report information indicates more/less segments than reflected in the segment footnote.

^b Not consistent indicates companies where additional product line information (sales/revenues) is included in the introductory annual report information and/or MD&A that is not disclosed in the segment footnote.

MD&A = Management Discussion and Analysis

LOB = Reportable segments based on lines of business

GEO = Reportable segments based on geographic areas

Mixed = Reportable segments based on a combination of lines of business and geographic areas

growth of a business operation or an internal change in the allocation of assets-in-use. Additionally, to provide a more complete illustration of the impact of SFAS No. 131 on the population of U.S. publicly traded companies, future research is needed to address the impact of SFAS No. 131 on the finance and energy industries. Further, while the current research assessed the impact of SFAS No. 131 on the largest companies in the U.S., arguably of the greatest interest to the investment community, research is also needed to explore the impact of SFAS No. 131 on smaller companies with less of an investor following.

APPENDIX
List of Companies

Abbott Laboratories	First Data	Peoplesoft
Aetna	Ford	Pfizer
Allegheny Teledyne	Fort James	Pharmacia & Upjohn
Allied Signal	Fortune Brands	Philip Morris
Alltel	Frontier Communications	Pitney Bowes
Aluminum Co. of America	Gannett	PPG
Alza	General Electric	Praxair
American Home	Genetech	Quaker Oats
Ameritech	Gillette	R&B Falcon
Amgen	Goodyear Tire	Raytheon
Anheuser-Busch	GTE	RJR Nabisco
Ascend Communications	Guidant	Robert Half
AT&T	Hasbro	Rohm & Haas
Avery Dennison	Healthsouth	Royal Caribbean
Avon	Hercules	RR Donnelley
Baxter	Hertz	Sabre Group
Bell Atlantic	Honeywell	Safeway
Bell South	Humana	SBC Communications
Berkshire Hathaway	Illinois Tool Works	Schering-Plough
Black & Decker	Ingersoll Rand	Schlumberger
Boston Scientific	Ingram Micro	Sears
Bristol-Myers Squibb	Intel	Service Corp Intl
Cadence Design	IBM	Servicemaster
Campbell Soup	International Flavors &	Sherwin-Williams
Case Corporation	Fragrances	Sprint
Caterpillar	International Paper	Stanley Works
CBS	Interpublic Group	Starwood Hotels
Century Telephone	ITT	Storage Technology
Champion International	Johnson & Johnson	Tellabs
Cincinnati Bell	Kansas City Southern	Tenneco
Coca-Cola	Kellogg's	Textron
Colgate Palmolive	Kimberly Clark	Thermo Electron
Comcast	Leggett & Platt	Times Mirror
Corning	Level 3 Communications	Total System Services
Cox Communications	Lockheed Martin	Tribune
Crown Cork & Seal	Loews	TRW
CSX	Loral Space	UAL
CVS	Marriott International	Union Carbide
Dana	Masco	Union Pacific
Danaher	Mattel	Unisys
Dayton Hudson	Maytag	United Healthcare
Diamond Offshore	McGraw-Hill	United Technologies
Dillard's	Merck	US Airways
Dow Chemical	Minnesota Mining & Mfg	VF
Dow Jones	Nabisco Holdings	Viacom
DuPont	New York Times	W.W. Grainger
Eastman Chemical	Newmont Gold	Warner-Lambert
Eastman Kodak	Nextel Communications	Washington Post
Ecolab	Northrop Grumman	Waste Management
Edison	Northwest Air	Weyerhaeuser
EDS	Office Depot	Whirlpool
Eli Lilly	Omnicom Group	Wm. Wrigley
EMC	Owens-Illinois	Xerox
Emerson Electric	Paccar	

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