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Earnings presentation effects on manager reporting choices and investor decisions

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We survey recent (mainly US) research on the effects of earnings presentation attributes on manager and user behavior. The literature we discuss relates to three primary earnings presentation attributes: (1) disaggregation (vertical and horizontal), (2) location (recognition vs. disclosure, which statement for recognized items, and within statement classification, labeling, and subtotals), and (3) narrative attributes (location of key amounts within narratives, readability, medium, and timing of disclosure). We show that disaggregation operates mainly by directly affecting information content. Location operates mainly by indirectly affecting information content through changes in managers’ actions and by affecting ease of processing. Narrative presentation attributes operate mainly by affecting ease of processing. These differences in mechanisms determine the implications of the presentation attributes for contracting and valuation uses of accounting information. They also have implications for future research and standard setting.

Keywords: financial statement presentation; disaggregation; recognition vs. disclosure; classification shifting; narrative disclosures; voluntary disclosure; market efficiency; location

1. Introduction

The important roles of earnings information in capital markets and contracting have been recognized in the literature for many years. Earnings information is disseminated through a variety of channels including the primary financial statements, account-level and segment-related disaggregation in the notes to the financial statements, and narratives in the notes, MD&A, and press releases. Indeed, much of the information content of earnings is communicated by management before the full financial statements and notes are released.

Most accounting standards related to reporting earnings focus on the timing of recognition and the measurement of revenues and expenses and gains and losses (the topics for the first two papers in this series). Presentation issues related to the structure, classifications, and disaggregation of information in the income statement and related notes have shown up only intermittently on the Financial Accounting Standard Board’s (FASB) technical agenda, starting with FASB Discussion Memorandum No. 16 in 1979 (FASB 1979) and ending most recently with the
2010 Staff Draft on financial statement presentation (FASB 2010). Further, no significant standards have been issued on these issues beyond two compromises over presentation of other comprehensive income and two standards on segmental reports. The basic structure and content of the income statement and related disclosures prepared under US Generally Accepted Accounting Principles (GAAP) follow the guidance in US Securities and Exchange Commission (SEC) Regulation S-X, which has remained largely unchanged for generations. The International Accounting Standards Board (IASB) has been working on projects related to the presentation of financial performance since 2001 (IASB 2009a,b) and the 2007 revision of International Accounting Standard (IAS) 1 contains significantly more detailed guidance on the structure, classifications, and disaggregation of income statement information than Regulation S-X. However, recent investigations suggest that adherence to this guidance varies by jurisdiction and industry (SEC 2011). And the recent joint IASB/FASB project on financial statement presentation is on an indefinite hold (FASB 2011).

The SEC and other national regulatory bodies have issued a number of regulations that determine the form, content, and timing of press releases, conference calls, and other earnings-related disclosures issued in advance of the formal report that includes a period’s full financial statements and notes. Many of these regulations seem aimed at correcting perceived pre-SOX-era abuses (e.g. Regulation Fair Disclosure). Yet there is still a great deal of flexibility in the form and content of such information releases. SEC and other national regulations also require additional earnings-related disclosures in periodic filings.

The purpose of our review is to organize and outline research findings related to earnings presentation, drawing mainly from US-based studies. Earnings presentation refers to the form of presentation of revenues and expenses and gains and losses in the financial statements and related notes, regulatory filings, and other non-financial statement disclosures (e.g. press releases). Any issues related to the timing of recognition or the measurement of revenues and expenses and by construction, the definition of income are excluded from this topic. The research we review is primarily empirical in nature. But theories of disclosure, the manner in which disclosures are used in contracting and impounded in market prices, and human judgment and decision-making underlie the interpretation of the available evidence. Some of the evidence presented is based on archival data and some is gathered in experiments. It is our hope that a better understanding of what we know about this topic will aid future attempts at standard setting and regulation in the area. Our framework and analysis also suggests directions for future research that can fill gaps in our knowledge in this important area. It should also help eliminate some misconceptions about research on presentation that are apparent in the literature.

Our paper is organized as follows. In Section 2, we present our framework for analyzing the mechanisms through which presentation attributes can affect users and clarify alternative views of the importance of earnings presentation issues to managers and their implications for contracting and equity valuation. In Section 3, we discuss the literature related to three primary earnings presentation attributes: (1) disaggregation (vertical and horizontal), (2) location (recognition vs. disclosure, which statement for recognized items, and within statement classification, labeling, and subtotals), and (3) narrative attributes (location of key amounts within narratives, readability, medium, and timing of disclosure). For each attribute, we provide a brief summary of studies of effects on managers’ reporting behavior and then discuss studies of effects on contracting and investor evaluations in more detail. In Section 4, we suggest implications for standard setters and future research.

Our review is not exhaustive nor does it provide detailed critiques of individual studies. Instead, it presents example findings that underlie what we view as the principal conclusions of the relevant research. This review is also affected by our own biases and the related issues that we have been addressing in our own recent research. Our apologies in advance for any unintentional omissions.
2. Mechanisms through which presentation attributes can affect users

We suggest three mechanisms through which presentation attributes can affect user behavior:

1. Presentation attributes can directly affect information content.
2. Presentation attributes can indirectly affect information content through their effects on managers’ real or reporting actions.
3. Presentation attributes can affect ease or manner of processing.

A single presentation attribute can work through any or all of the three mechanisms.

Our two favorite examples of presentation attributes that directly affect information content relate to expense reporting on the income statement. First, US GAAP (Regulation S-X) provides little guidance on the presentation of operating expenses and the guidance that does exist implies that a split into cost of sales vs. selling, general, and administrative is all that is necessary. Many US registrants only disclose these minimum categories. And current standards provide little guidance on which expenses belong in these two categories or what items should be treated as contra-revenues (subtracted in determining net sales) as opposed to expenses. A clear illustration of the potential magnitude of the effects of this lack of guidance came to light when Kimberly-Clark purchased Scott Paper. Given that both the buyer and seller were major players in the same industry, most observers would expect differences in income statement classifications to have small effects, especially since both companies presented the same small number of US-style expense categories. However, as Kimberly-Clark disclosed following the acquisition, conforming Scott’s accounting policies with Kimberly-Clark’s treatment of certain items as contra-revenues as opposed to advertising, promotion, and selling expenses had a major effect on Scott’s prior year’s income statement. The resulting effects on all activity or turnover ratios were dramatic since the reclassification increased Scott’s reported net sales by 19%. And, as shown in Figure 1, Scott’s reported gross profit margin rose from 29.9% to 41% and its operating profit margin dropped from 14% to 11.8%. It is clear that, before the acquisition, most observers would have been misled concerning differences between Kimberly-Clark’s and Scott’s business strategies and the success of those strategies (e.g., which was the most efficient producer, which relied most heavily on advertising, etc.). Even simple estimates of market share would have been significantly in error. While IAS 1 clearly requires greater disaggregation of operating expenses

<table>
<thead>
<tr>
<th>KIMBERLY-CLARK CORPORATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>UNAUDITED PRO FORMA COMBINED STATEMENT OF INCOME</td>
</tr>
<tr>
<td>Year Ended December 31, 1994</td>
</tr>
<tr>
<td>(Millions, except per share amounts)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Kimberly-Clark</th>
<th>Scott</th>
<th>Reclassification</th>
<th>Scott reclassified</th>
</tr>
</thead>
<tbody>
<tr>
<td>Net Sales</td>
<td>7,399.6</td>
<td>100.0</td>
<td>3,581.1</td>
<td>100.0</td>
</tr>
<tr>
<td>Costs of products sold</td>
<td>4,925.1</td>
<td>66.6</td>
<td>2,510.8</td>
<td>70.1</td>
</tr>
<tr>
<td>Advertising, promotion, and selling expenses</td>
<td>1,079.8</td>
<td>14.6</td>
<td>479.9</td>
<td>13.4</td>
</tr>
<tr>
<td>Research and general expenses</td>
<td>540.2</td>
<td>7.3</td>
<td>189.0</td>
<td>5.3</td>
</tr>
<tr>
<td>Other expenses (income), net</td>
<td>(100.2)</td>
<td>(2.8)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Operating Profit</td>
<td>854.5</td>
<td>11.5</td>
<td>501.6</td>
<td>14.0</td>
</tr>
</tbody>
</table>

Figure 1. Effects of treating certain items as contra-revenues vs. advertising, promotion, and selling expenses on common-size income statements for Kimberly-Clark and Scott Paper.
than Regulation S-X, the degree of disaggregation, the specific categories to be used, and category definitions are for the most part left up to the company. As a consequence, similar significant differences across companies probably exist.

Our second example of dramatic information content differences resulting from earnings presentation relates to differences in expense disaggregation provided by many companies under IAS 1 and that typical under current US GAAP. These are shown in Figure 2. Panel A presents income statement data from UK retailer Marks & Spencer following the format used by most US retailers such as Wal-Mart and Macy’s. Note that selling, marketing, and administrative expense is a single-line item. Panel B shows the actual disclosures prepared by Marks and Spencer following IAS 1.4 Note that selling, marketing, and administrative expense is broken down into two-line items (by function) on the statement, and each of these is broken down into 6 items (by nature) in the notes.5 The single-line item on a US-style income statement is broken down into 12 items in the UK style statement.6 We believe that it is likely that Marks and Spencer’s income statement disclosures, which are disaggregated by function and nature, provide more information than the typical US presentation and many other companies’ presentations under IAS 1.

The most important conclusion from the above examples is that issues of disaggregation, which have received only intermittent attention from standards setters, are not just simple

<table>
<thead>
<tr>
<th>Panel A: Current U.S. GAAP</th>
<th>Panel B: Current IFRS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Net sales</td>
<td>Net sales</td>
</tr>
<tr>
<td>$12,262.1</td>
<td>$12,262.1</td>
</tr>
<tr>
<td>Cost of sales</td>
<td>Cost of sales</td>
</tr>
<tr>
<td>(7,690.2)</td>
<td>(7,690.2)</td>
</tr>
<tr>
<td>Gross profit</td>
<td>Gross profit</td>
</tr>
<tr>
<td>4,571.9</td>
<td>4,571.9</td>
</tr>
<tr>
<td>Selling, marketing, and admin. exp.</td>
<td>Selling and marketing expenses</td>
</tr>
<tr>
<td>(2,644.5)</td>
<td>(2,074.4)</td>
</tr>
<tr>
<td>Operating profit</td>
<td>Operating profit</td>
</tr>
<tr>
<td>1,627.4</td>
<td>1,927.4</td>
</tr>
<tr>
<td>Interest, net</td>
<td>Interest, net</td>
</tr>
<tr>
<td>(164.5)</td>
<td>(164.5)</td>
</tr>
<tr>
<td>Income before income taxes</td>
<td>Income before income taxes</td>
</tr>
<tr>
<td>1,762.9</td>
<td>1,762.9</td>
</tr>
<tr>
<td>Income tax expense</td>
<td>Income tax expense</td>
</tr>
<tr>
<td>(617.0)</td>
<td>(617.0)</td>
</tr>
<tr>
<td>Net income</td>
<td>Net income</td>
</tr>
<tr>
<td>$ 1,145.9</td>
<td>$ 1,145.9</td>
</tr>
</tbody>
</table>

Notes to Financial Statements:
Selling and marketing expenses include the following:
- Employee costs: $923.2
- Occupancy costs: $439.2
- Repairs & maint. of property: $76.6
- Depreciation: $343.5
- Amortization: $24.6
- Other costs: $267.3
- Total: $2,074.4

Administrative expenses include the following:
- Employee costs: $231.1
- Occupancy costs: $77.5
- Repairs & maint. of property: $19.1
- Depreciation: $38.2
- Amortization: $2.7
- Other costs: $201.5
- Total: $570.1

Figure 2. Typical US GAAP income statement presentation compared to International Financial Reporting Standards (IFRS) recommended presentation (from Libby and Brown (2013) Figure 1. All rights reserved. Reprinted by permission of the AAA).
format issues. They can and probably do have large effects on the amount of information available to stakeholders. Furthermore, the lack of precision in existing standards for disaggregation and categorization appears to have major effects on cross-company comparability and thus the usefulness of earnings presentations. These are not new issues. They were very ably and carefully identified in the 1979 FASB Discussion Memorandum on reporting earnings which was written 35 years ago.

The other earnings presentation attributes that we address in this paper, including location (recognition vs. disclosure, which statement for recognized items, and within statement classification, labeling, and subtotals) and narrative attributes (location of key amounts, readability, medium, and timing of disclosure), affect the amount of information conveyed only if they affect managers’ real actions or managers’ and auditors’ reporting choices. That is, they are informationally equivalent unless managers take actions to change the numbers or form of disclosure. The research we review suggests that managers often do take actions to change the numbers or form of disclosure. These presentation attributes can also be important when they do not affect managers’ actions if they affect ease or manner of processing, which in turn can affect the way in which the information is used. Again, the research that we discuss suggests that these pure presentation issues also have significant effects on contracting and on market participants’ evaluations.

2.1. Effects on managers

As highlighted above, IFRS, US GAAP, and current standard-setting proposals afford managers considerable discretion in how they present earnings information. As a result, managers must choose how to present earnings information and managers’ motives likely underlie their choice of presentation. Prior literature reveals two fundamental perspectives regarding managers’ disclosure motives – the opportunistic perspective and the information perspective (Riedl and Srinivasan 2010). These perspectives offer competing hypotheses about why managers prefer certain earnings presentations over others.

The opportunistic perspective suggests that managers prefer to present information in a manner that biases external parties’ perceptions of firm performance in a direction favored by management. According to this perspective, managers believe that external parties face limitations when processing accounting information and that earnings presentation impacts the extent to which these processing limitations shape external parties’ judgments. For example, a manager may believe that investors or other interested parties pay less attention to income statement items that are recognized outside of net income (as part of other comprehensive income) and that investors or others are even less likely to attend to such items when managers present them as part of other comprehensive income on the statement of equity (vs. a separate performance statement or a single performance statement). The opportunistic perspective posits that self-interested managers will select the accounting presentation that portrays firm performance in the most favorable light. For example, a manager who manages earnings through realized gains and losses on available-for-sale securities will present other comprehensive income in a statement of equity, because this presentation reduces the salience of the earnings management, decreasing the likelihood that investors detect managers’ strategic manipulations (Hirst and Hopkins 1998, Hunton et al. 2006, Lee et al. 2006). Managers purportedly act according to the opportunistic perspective because they have strong pecuniary incentives in their compensation contracts to inflate stock price (Bamber et al. 2010) or simply wish to improve their managerial reputation or the reputation of the company with various parties including lenders, directors, contracting counterparties, regulators, and the public (Fields et al. 2001, Merkl-Davies and Brennan 2011).
In contrast, the information perspective suggests that managers present information in a manner that balances two competing motivations – (1) the motivation to convey information transparently and (2) the motivation to protect proprietary information that underlies a firm’s competitive advantage. This perspective shares many of the same assumptions about managers’ beliefs assumed in the opportunistic perspective. In particular, the information perspective assumes that external parties suffer from processing limitations and that accounting presentation impacts the extent to which processing limitations shape user judgments. However, the information perspective assumes that managers have strong incentives to convey information transparently. Accordingly, the information perspective posits that managers will seek to ameliorate (rather than exploit) users’ processing limitations in order to realize the liquidity benefits associated with transparent accounting disclosure. This perspective also assumes, however, that managers balance incentives for transparency against incentives to protect proprietary information about firm performance. Accounting disclosures can convey information about a firm’s strategic decisions, rendering transparent presentation especially detrimental to a firm’s competitive advantage (Botosan and Stanford 2005). Hence, the information perspective posits that managers will select the accounting presentation that optimizes a tradeoff between transparency’s costs and benefits. This perspective is silent on the importance of influencing parties other than investors and competitors.

2.2. Effects on investors and other stakeholders

Both perspectives discussed in the previous section contend that managers believe that the manner in which they present accounting information impacts the judgments of investors and/or other stakeholders. A large literature in accounting investigates how individual investors and other stakeholders process alternative earnings presentations and how markets aggregate investors’ beliefs about firm value.

The literature, for the most part, offers a single view of individual behavior. Like most individuals, investors and other stakeholders respond to complexity by using heuristics or simplified decision rules. These heuristics are efficient and often work well, but in some circumstances may lead to systematic biases in judgment (Tversky and Kahneman 1974). The research on how individuals process alternative earnings presentations demonstrates that some presentations make it more difficult to extract important information (see Libby et al. 2002 for a review). Unsophisticated investors and even analysts sometimes lack the requisite attentional capacity to “unwind” alternative earnings presentations and thus reach different conclusions about the same underlying information when earnings presentation varies. This lack of attentional capacity can result from lack of ability, knowledge, and/or effort on the part of the investor or other stakeholder (Libby and Luft 1993). The use of simplified decision rules or heuristics is also evident in compensation contracts, debt contracts, regulatory investigations, newspaper reporting, and elsewhere (e.g. see Watts and Zimmerman 1986, Jones 1991, Cahan 1992, Luft 1994, Collins et al. 1995, Key 1997, Han and Wang 1998, Krishnan and Yetman 2011). As a consequence, ease of processing is likely to affect important judgments by some investors and non-investor stakeholders.

The literature offers two opposing foundational perspectives about price creation in capital markets – the limited attention perspective and the market efficiency perspective. The first perspective, the “limited attention” perspective, assumes that sophisticated investors, who know underlying firm value, face limits to arbitrage, preventing them from driving market prices equal to underlying firm values. As a result, the number of investors that correctly process the underlying information affects market prices, which ultimately reflect a weighted average of the beliefs of unsophisticated and sophisticated investors (e.g. Bloomfield and Libby 1996, Lee 2001, Hirshleifer and Teoh 2003). In such markets, information that is more difficult to
extract is less completely reflected in stock prices (Bloomfield 2002). Schipper (2007) points out that some required disclosures are included in hard copy reports but excluded from machine-readable databases. This is an extreme example of a presentation difference that limits the number of investors that correctly process the excluded disclosures. However, any presentation attribute that affects ease of processing affects the number of investors that correctly process a disclosure and potentially may affect price.

The second perspective, the “market efficiency” perspective, also acknowledges that unsophisticated investors sometimes lack the requisite capacity to fully and accurately process accounting information. However, this perspective assumes that other investors, who know the firm’s true value, compete among each other and drive market prices equal to underlying firm value (e.g. see Fama 1970, Fama 1991). As a consequence, presentation attributes that affect information content (e.g. disaggregation) can affect price. Presentation attributes that affect ease of processing, but not the underlying information content, will not affect price.

As shown in Figure 3, the above discussion describes the three mechanisms through which presentation attributes can affect user behavior. A single presentation attribute can work through any or all of the three mechanisms. First, presentation attributes that directly affect information content such as disaggregation can affect investors/prices and other stakeholders (contracting parties) regardless of the assumption one makes about price creation. Second, the same is true for presentation attributes that indirectly affect information content through changes in managers’ actions. And third, presentation attributes that affect ease of processing, but have no direct or indirect effect on the underlying information content, can affect contracting and some investors and other stakeholders, but will only affect equity prices in markets that meet the assumptions of limits to arbitrage. Presentation attributes that only affect ease of processing will have no effect on prices in efficient markets. Thus, there is some disagreement in the literature about whether presentation attributes that only affect ease of processing will shape market prices and this disagreement hinges on assumptions about market efficiency. However, as shown in

![Figure 3. Mechanisms through which presentation attributes can affect users.](image-url)
Figure 3, presentation attributes can have important economic consequences, regardless of your position on market efficiency.

3. Dimensions of earnings presentation

In this section, we discuss the literature related to the primary earnings presentation attributes that have been examined. In particular, we discuss the literature related to three earnings presentation attributes: (1) disaggregation (vertical and horizontal), (2) location (recognition vs. disclosure; which statement for recognized items; and within statement classification, labeling, and subtotals), and (3) narrative attributes (location of key amounts within narratives, readability, medium, and timing of disclosure). We discuss research on disaggregation first because this attribute can directly affect the amount of information presented in significant ways. For each attribute, we briefly summarize studies of their effects on managers. Then we discuss studies of effects of presentation on investor evaluations/pricing and other stakeholders.

3.1. Disaggregation

Demski’s (1973) model of accounting choice implies that any degree of aggregation conceals information that is useful to at least a subset of users and suggests that users are best served by financial statements that do not aggregate any information. However, standard setters argue that such an approach would burden preparers and many users, claiming that “financial statements result from processing vast amounts of data and involve needs to simplify, to condense, and to aggregate” (FASB 1984). Any standard that affects the level of aggregation presented in the income statement and related disclosures has the potential to directly affect the information content of the earnings presentation.

3.1.1. Horizontal disaggregation of segments, locations, and products

Issued in 1976, Statement of Financial Accounting Standards (SFAS) No. 14 required firms to disclose earnings information for each of a firm’s reportable segments and geographic locations, but allowed managers considerable discretion in how they defined a reportable segment. In response to persistent complaints about the inconsistent application of this standard, the FASB issued SFAS 131 in 1997 (FASB ASC 280), which requires firms to define and report industry segments for external purposes in the same way management defines and reports operational segments for internal purposes. Further, SFAS 131 requires firms to provide “enterprise-wide disclosures” that disaggregate revenues by the firms’ products/services, geographic locations, and major customers, if this information does not appear in the firm’s other segment disclosures. The IASB adopted similar standards in 2009 (IFRS 8). These reporting requirements have spawned research examining disaggregation’s impact on managers’ reporting choices and users’ judgments and decisions.

First, the literature examines the determinants of segment disaggregation when managers have discretion over the nature or extent of disaggregation, focusing specifically on whether managers’ disaggregation decisions reflect informational or opportunistic motives. Overall, this literature suggests that managers exploit the discretion inherent in financial reporting standards on horizontal disaggregation to serve a variety of purposes (e.g. Harris 1998, Botosan and Harris 2000, Givoly et al. 2000, Berger and Hann 2003, 2007, Botosan and Stanford 2005, Bens et al. 2011). Managers exhibit a persistent tendency to protect information about firm segments earning abnormal profits in industries with low competition by aggregating information about these segments. They also tend to aggregate underperforming segment information to avoid
increased external monitoring of a firm’s operations. Finally, managers balance both of these motivations with the motivation to increase the liquidity of the firm’s shares by providing full and complete disclosure.

User studies examine how the incremental information provided in disaggregated segment disclosure impacts financial statement users’ judgments and decisions and in turn, how the market impounds this information into prices. Early studies on user responses to segment disaggregation demonstrate that the additional information provided in segment disclosures improves security valuation and analysts’ earnings forecasts (e.g. Kinney 1971, Collins 1976, Collins and Simonds 1979, Baldwin 1984, Swaminathan 1991). More recent studies examine how the changes in reporting brought on by SFAS 131 impact users’ judgments and decisions. Some of this research largely confirms prior research on the topic. Ettredge et al. (2005), for example, show that by increasing the number of segments that firms disaggregate and report, SFAS 131 improves the stock market’s ability to predict firms’ future earnings. Maines et al. (1997) find that segmentation based on internal reporting structure increases analysts’ assessment of the reliability of segment numbers. And Berger and Hann (2003) show that SFAS 131 improves analyst forecast accuracy and revises the market’s expectation about firm performance.

Other studies on SFAS 131 provide interesting insights into how the demand for private and public information shifts when reporting standards improve the quality of segment disclosures. Venkataraman (2001) shows that SFAS 131 increased the precision of public information for firms that changed the number of segments they disclosed under SFAS 131. Botosan and Stanford (2005) show that SFAS 131 increased analyst consensus following the standard’s adoption, but that analyst’s overall certainty decreased following the standard’s adoption. These results imply that SFAS 131 increased analysts’ demand for public information about firm performance (increasing consensus among analysts), but decreased analysts’ demand for private information about firm performance (decreasing certainty among analysts). Together, these papers demonstrate that horizontal disaggregation provides value-relevant information to users and that the public availability of this information shifts users’ demand for public and private information. Notably, no prior work examines the impact of SFAS 131’s requirement to disaggregate revenue by product or services, which we discuss further in Section 4.

3.1.2. Vertical disaggregation of earnings amounts

Vertical aggregation combines a firm’s transactions into a handful of summary line items and subtotals on the income statement. We can think of vertical aggregation as a continuum – on one extreme of this continuum, firms report each of the firm’s transactions as a separate line item and on the other extreme of the continuum, firms aggregate all of the firm’s transactions into a single summary measure (e.g., net income). As discussed in Section 2, international standards and US standards lie on different points of the aggregation continuum, with US standards allowing more flexibility in expense aggregation and international standards requiring relatively more disaggregation of expense items. Both standards, however, allow managers considerable discretion in how they disaggregate the income statement, causing considerable variation in how managers disaggregate the income statement in practice (SEC 2011).

Despite the FASB’s and IASB’s joint focus on disaggregation as a key pillar of the financial statement presentation project (FASB 2010), there has been little research on vertical disaggregation. The existing research suggests that managers strategically disaggregate income statement items for both informational and opportunistic purposes. For example, Riedl and Srinivasan (2010) show that US companies tend to disaggregate special items on the face of the income statement if the items are less persistent, supporting the information motive. But they mainly do so when the item decreases income, which is consistent with opportunistic motives. Bonner et al.
(2013) find that managers tend to disaggregate bond gains and losses when doing so portrays the gains and losses in a more favorable light. And Libby and Brown (2013) show that auditors require more correction to financial statement errors in disaggregated numbers, which should increase the reliability of income statement numbers, but only when the income statement is disaggregated on the face of the income statement as opposed to the notes.

Only a handful of studies directly investigate how vertical disaggregation of the income statement impacts users’ judgments. Bloomfield et al. (Forthcoming) provide experienced credit analysts financial statements of two manufacturing firms that differ in operating structure. They manipulate whether the firm disaggregates cost of goods sold on the face of the financial statements or only in the footnotes and whether the financial statements present a cohesive classification system across the statements. The authors find that disaggregation on the face of the financial statements in conjunction with a cohesive classification system that keeps related items together helps analysts better identify a firm’s cost structure, whereas disaggregation on the face of the financial statements without cohesive classification does not help analysts identify a firm’s cost structure. These results suggest that disaggregation can make certain elements of a company’s operations more salient to users, a result that coincides with related work on forecast disaggregation. For example, Elliott et al. (2011) find that investors are less likely to fixate on reported income when managers disaggregate their earnings forecasts. Elliott et al. (2013) show that disaggregation improves market efficiency relative to aggregation, but harms efficiency relative to only displaying persistent elements of income. In particular, long investors in the authors’ experimental markets interpreted transitory elements in a biased manner and skewed their estimates of fundamental value and trades in the direction of their investment position. Thus, investors used disaggregated information to adjust their trading decisions, but they also interpreted the disaggregated information in a biased manner. Together, these studies suggest that disaggregation can help users extract important information from financial statements, especially when the information is presented cohesively. But disaggregation may also lead unsophisticated investors to believe what they want to believe about a firm’s underlying value when investors have strong motivational preferences.

3.1.3. Summary

Research on horizontal and vertical disaggregation demonstrates that disaggregation produces information that impacts the decisions of managers and users. Managers disaggregate information strategically and their strategies reflect a variety of underlying motives. Users rely on the information produced through disaggregation to improve their judgments and decisions and to reduce the amount of information they would otherwise acquire through private sources. However, users may struggle to fully extract the information produced through disaggregation when that information is not presented cohesively across the financial statements. Overall, the research reviewed suggests that disaggregation directly affects information content and therefore likely shapes market prices and other important non-valuation activities.

3.2. Location

The recent survey of chief financial officers by Dichev et al. (2013) strongly suggests managers believe that a single number, net income, shapes their interactions with stakeholders. Their results also point to managers’ strong preference for reporting predictable, smoothly increasing, sustainable earnings (see also Nelson and Skinner 2013). Managers believe that these earnings characteristics increase firm valuation and reduce contracting costs. Consistent with these concerns, the preparer community has generally opposed changes in standards that result in recognition of
additional expenses (or liabilities) and reporting of changes in value as part of net income (see preparer comments on proposed accounting standards for leases, pensions, impairments of tangible and intangible assets, and fair values for financial instruments, among others). Interestingly, preparers have been much more open to note disclosure as opposed to recognition of these items and to recognition on a non-performance statement as opposed to recognition in net income. Location choices within narrative disclosures are mainly left to management discretion.

Findings related to the effects of location on managers and auditors suggest a significant barrier to interpreting the findings from studies of users. Changes in location can affect perceived or real differences in the underlying properties of the numbers (reliability and bias). Location can also affect ease or manner of processing. This confound makes it very difficult to determine the cause of any effects of location on users. Studies of the effects of location on users can be split into three groups: (1) recognition vs. disclosure, that is, whether the amount is reported on a financial statement or in the related disclosures, (2) if the amount is recognized, in what statement is it reported, and (3) within a financial statement, how is the amount classified, labeled, and in what subtotal is it included. The first group is far larger than the other two groups.

3.2.1. Recognition vs. disclosure (statements vs. notes)

Systematic studies of changes in managers’ reporting behavior in response to changes in presentation standards support managers’ preferences for smoothly increasing earnings noted above. For example, Choudhary (2011) shows that, when forced by Financial Accounting Standard (FAS) 123R to recognize previously disclosed employee stock option fair values, firms reduce their estimates of price volatility, resulting in a reduction of fair value of 7%, which translates into an increase in net income of 3.2%. Libby et al. (2006) find that auditors apply stricter materiality criteria for recognized than for disclosed amounts even though they believe that clients would object more strongly to correction of the recognized amounts for stock compensation. Clor-Proell and Maines’s (Forthcoming) results suggest that managers anticipate greater scrutiny of recognized amounts. Studies of reporting choices where presentation options are available (e.g. Aboody et al. 2004) also reflect the same preference to avoid recognition of added expenses.

As Schipper (2007) notes, studies of the effects of recognition vs. disclosure on users have taken two basic forms: experimental studies and capital market association tests. Most experimental studies select a relevant user group, attempt as best as possible to create two or more economically equivalent information settings that differ in presentation, and compare the participants’ responses. They often eliminate alternative explanations for results by also manipulating a second attribute of the setting, such as the sign of the news, and comparing the effects of presentation across the levels of the second attribute (a difference in differences design). Most also rely on post-experimental debriefings and random assignment of participants to eliminate alternative hypotheses. While most such studies employ unsophisticated investors, sophisticated analysts, or creditors as participants, there is no reason why other interested parties (e.g. board members and jurors) could not be useful participants.

Early experimental studies focused primarily on balance sheet recognition vs. disclosure of liabilities (e.g. Belkaoui 1980, Wilkins and Zimmer 1983, Harper et al. 1987). These studies generally find disclosed numbers to have a smaller effect than equivalent recognized numbers. More recent studies focus on why these effects occur. In the employee stock option context, Frederickson et al. (2006) find that experienced accounting and finance graduates rate financial information as more reliable when standards require income statement recognition than when firms voluntarily recognize the expense and much more reliable than when they disclose the information. This suggests a strong belief in an information reliability difference between recognized and disclosed numbers.
Hirst et al. (2004), who examine recognition vs. disclosure in the fair-value context, provide perhaps the most convincing direct demonstration of processing difficulty or limited attention effects. They find that bank buy-side analysts recognize interest rate risk and value differences more effectively when both bank assets and liabilities are valued on the balance sheet at fair value and the full fair-value gains and losses are reported in comprehensive income (full fair-value recognition) than when the liability fair values and gains and losses are only disclosed in notes (partial fair-value recognition). This paper is interesting for a number of reasons. First, the participants are the last group one would think to be susceptible to processing difficulty/limited attention effects, given that hedging of interest rate risk is a critical factor in bank analysts’ judgments. Second, virtually all analysts were aware that changes in interest rates had taken place during the period. Third, the analysts saw no difference in reliability between recognized and disclosed liability fair values. Finally, analysts that follow fewer firms, and likely spend more time analyzing each firm, were more likely to recall the location of the liability fair-value information. Each of the findings strongly suggests a processing difficulty/limited attention effect of the disclosed information, even among some sophisticated analysts.

Three other recent papers provide strong evidence of processing difficulty or limited attention effects by demonstrating conditions that can eliminate the effect of recognition vs. disclosure. Hales et al. (2011) examine the effects of disaggregating the makeup of capitalized leases into mandatory and optional components. Even though renewal options are generally considered to be a factor that protects the lessee, their positive nature was not considered in masters students’ credit decisions if the disaggregation was disclosed as opposed to recognized. This suggests a strong processing difficulty or limited attention effect, which reduces the effect of disclosed numbers. Emett and Nelson (2014) demonstrate that the passage of time exacerbates investors’ tendency to fixate on recognized numbers when firms change accounting methods. These effects are mitigated when firms provide disclosures that reconcile income under the old and new accounting methods. This suggests that investors’ memory limitations and other processing costs reduce the impact of disclosed numbers. Nelson and Tayler (2007) further support the idea of a strong processing difficulty or limited attention effect by demonstrating that when users transform financial statements to appear as if disclosed information had been recognized (that is, they are forced to carefully attend to the information and incorporate the amounts in summary statistics), the disclosed information can affect users’ judgments as much or more than if it had originally been recognized in the financial statements.

The experimental studies suggest that both perceived differences in the underlying properties of recognized vs. disclosed numbers and processing difficulty/limited attention affect individual investors, including some very sophisticated ones. This suggests the potential for strong effects on private credit markets, on the media, on the public, on directors and other contracting parties, and the possibility of price effects. But the effect on stock prices will depend on the market’s ability to aggregate judgments of informed and uninformed investors. This aggregation of informed and uninformed judgments is difficult and may depend on factors such as analyst following, investor base, trading mechanism, and others.

A number of early capital market association tests assess the value relevance of disclosed amounts (e.g. Barth et al. 1996, Nelson 1996). More recent capital market association studies compare recognition vs. disclosure by taking advantage of natural experiments created by (1) changes in reporting standards, normally from disclosure to required recognition, or (2) inconsistent treatment of like items in the existing reporting standards. Unlike the experiments discussed above, it is often more difficult to determine if any differences in market response to recognized vs. disclosed numbers arise from differences in the underlying numbers and/or processing difficulty/limited attention effects. Schipper (2007) presents a particularly clear and detailed discussion.
of both types of studies through 2006. We will briefly summarize her discussion and add the results of newer studies to our discussion.

Studies analyzing the effects of changes in accounting standards from mandatory disclosure to mandatory recognition generally show an increase in the inferred valuation weights. For example, in a study of the effects of changes in other post-employment benefits (OPEB) reporting standards, Davis-Friday et al. (1999) shows lower valuation weights on disclosed OPEB items reported before SFAS 106 than amounts recognized after that standard became effective. In the same setting, Davis-Friday et al. (2004) combine some of the strengths of both designs. They report that disclosed OPEB liabilities receive lower valuation weights than recognized OPEB liabilities and recognized pension liabilities. Once recognized, the market treats OPEB liabilities and pension liabilities similarly.

Ahmed et al. (2006) directly combine the two designs discussed above, first comparing inconsistent treatment of like items and then analyzing the effect of an accounting standard change for the previously disclosed items. They find that, before issuance of SFAS 133, valuation coefficients for recognized derivative fair values were significant, but the coefficients for disclosed derivative fair values were not. When SFAS 133 moved the disclosed derivatives from mandated disclosure to recognition, valuation weights on those derivatives became significant. Dhaliwal et al. (2012) analyze the effect of inconsistent treatment of like items in the leasing context. They find that inferred operating lease liabilities have a weaker association with the cost of equity than capital lease liabilities and other liabilities. In all of the above market association studies, it is unclear whether or to what degree the weaker association for disclosed numbers arises from differences in the underlying numbers (e.g. reliability) or processing difficulty/limited attention effects.

In a new paper, Bratten et al. (2013) attempt to more directly take on the question of the cause of any difference in association with the cost of debt and cost of equity. They analyze firms reporting both operating and capital leases. They take a two-step approach to addressing whether reliability of the underlying numbers underlies differences in the effects of recognized and disclosed amounts. First they compute “as-if” amounts for capital leases using the same technique they later apply to operating leases and compare those as-if amounts to the actual capitalized amounts. They find that the as-if capitalized amounts are not statistically or economically different from the actual capitalized amounts and conclude that the reliability of actual capitalized leases and as-if capitalized operating leases is the same. They then conduct typical association tests with cost of debt and cost of equity. Their results support the view that creditors and investors do not appear to price lease obligations differently based on recognition vs. disclosure for firms reporting both types of leases. The authors take their findings of no differences in reliability and associations with cost of capital to mean that reliability does matter. And they attribute differences with the findings in Dhaliwal et al. (2012) to lower reliability in the broader Dhaliwal et al. (2012) disclosed lease sample.

We believe that the existing market association studies lead to the same general conclusion as the experimental studies: both reliability differences and processing difficulty likely matter. The basic problem with determining the degree to which each plays a role is that the two information constructs, reliability and processing difficulty, are highly negatively correlated in the environment. When reliability of the disclosed numbers is very high, as in the leasing case, the difficulty of unraveling the effect of the accounting treatment is very low. When the reliability of the disclosed numbers is lower, as was the case for disclosed employee stock options and derivatives, the difficulty in understanding the valuation implications of the disclosures is much higher.

We believe that capital market studies of other presentation issues discussed later in the paper such as Hirshleifer et al. (2009) and Lawrence (2013) are better able to separate and demonstrate processing difficulty effects. In total, the studies described above suggest the potential for strong effects of recognition vs. disclosure in private credit markets, on the media, on the public, on directors and other contracting parties, and the possibility of temporary price effects, particularly for firms with limited following.
3.2.2. Which statement for recognized amounts

Studies of managers’ choices between recognition on a non-performance statement as opposed to recognition in net income also show consistent preferences. Only 82 of the 491 US firms followed by Accounting Trends and Techniques in 2010 (the last year before passage of ASU 2011–05) reported other comprehensive income in a performance report and only 7 of the 82 used the single performance statement format. Clearly, the preparer community prefers the less transparent reporting alternatives. In more systematic studies, Lee et al. (2006) and Bamber et al. (2010) find that companies with a history of earnings management through selective sale of AFS securities, and those that have less institutional ownership and analyst coverage and stronger equity-based incentives, are significantly more likely to choose the less transparent statement of stockholders’ equity presentation. And Hunton et al. (2006) find that eliminating the stockholders’ equity presentation option would reduce or at least redirect this type of earnings management. These preferences seem more consistent with management opportunism or a combination of management opportunism and information motivations.

The effects on users of where or in what statement a recognized amount is reported have been examined in two contexts. The first examines effects of reporting comprehensive income in a performance statement vs. the statement of stockholders’ equity. In two well-known experimental studies, Hirst and Hopkins (1998) and Maines and McDaniel (2000) examine whether placement of comprehensive income on the income statement vs. the statement of stockholders’ equity affects users’ ability to detect earnings management and changes in earnings volatility. Amounts reported on the income statement were more likely to be treated as relevant to future performance estimates by the experienced analysts in Hirst and Hopkins (1998) as well as by the evening MBA students in Maines and McDaniel (2000). In a more recent paper, Elliott et al. (2010) address the effect of location on the price formation process. They use Hirst and Hopkins’ (1998) cases to examine sophisticated analysts’ beliefs about the effects of placement of comprehensive income and investor based on their expectations of mispricing and duration of mispricing of other comprehensive income items. Contrary to a simple interpretation of Hirst and Hopkins’s results, they find that transparency increases the expected magnitude and duration of mispricing which is exacerbated by the dominance of transient investors. We are aware of no capital market association tests that examine the effect of placement of other comprehensive income items. This probably results from the infrequent use of either performance statement format under prior standards. Hodge et al. (2010) examine whether within financial statements the proximity of financial information improves unsophisticated investors’ forecasts. They manipulate whether forecast-relevant information (and forecast feedback) is displayed on one screen or two screens over several periods of a forecasting task. Graduate students exhibit lower forecast error and faster learning when the information is presented on one screen rather than two, suggesting that unsophisticated investors can better integrate information that is located in one place.

The studies in this section present results similar to the recognition vs. disclosure studies indicating that processing difficulty/limited attention affects individual investors, including some very sophisticated ones. Again, this suggests the potential for strong effects in private credit markets, on the media, on the public, on directors and other contracting parties, and the possibility of temporary price effects, particularly for firms with limited following.

3.2.3. Within statement classification, labeling, and subtotals

As noted earlier, many accounting standards related to earnings presentation are aimed at separating recurring (more persistent) items from non-recurring (less persistent) special items or operating earnings from financing costs, taxes, and issues related to ownership structure. While none
of these distinctions affect net income, they do affect other measures often displayed as separate
categories that may be labeled and included in separate subtotals such as operating earnings.\textsuperscript{11} 
The literature provides significant evidence of opportunism- or information-motivated classification
within the income statement (Barnea \textit{et al.} 1976, McVay 2006, Barua \textit{et al.} 2010, Fan
\textit{et al.} 2010). Managers apparently use classification shifting to move expenses out of core oper-
ating earnings to extraordinary items, special items, and discontinued operations. Consistent with
the information motivation, on average, these items are less persistent than items higher on the
income statement (e.g. Lipe 1986, Fairfield \textit{et al.} 1996). However, the selective focus on
expense reclassification suggests that opportunistic motives also play a role. Consistent with man-
agement opportunism, Kilic \textit{et al.} (2013) find evidence that, as unexpected core earnings
decreases, manufacturing managers reclassify cost of goods sold to selling, general and adminis-
trative expense to help offset the bad news in core earnings.

The archival literature suggests that investors appropriately treat special items as less persistent
(e.g. Lipe 1986, Bradshaw and Sloan 2002) and treat items within other comprehensive income in a
similar manner to special items (Chambers \textit{et al.} 2007). The experimental literature has taken a
different tack, focusing mainly on the role of category structures in the organization and use of
expert accounting knowledge (e.g. Libby 1985). Hopkins (1996) was the first to demonstrate
that within-financial statement categorization was fundamental to the efficient decision rules that
expert analysts use to deal with complex financial disclosures. Concerning income statement classi-
fication, Hopkins \textit{et al.} (2000) show the importance of separate classification and subtotals to ana-
lysts’ stock price judgments. Goodwill amortization classified as an operating expense had a
significant effect on experienced buy-side analysts’ stock price estimates. However, when the
expense was included in its own category with before and after subtotals, the effect was eliminated.
This suggests that accounting classifications play a key role in the efficient decision rules that ana-
lysts’ use. Since then, a number of studies have investigated the impact of classification choices on
the credibility or perceived reliability of accounting numbers. Hodge \textit{et al.} (2006) show that users
view incentive-inconsistent classifications as more credible. And Clor-Proell \textit{et al.} (2014) find that
classifying and isolating fair-value information increases non-professional investors’ ability to
incorporate the reliability of those estimates into their judgments. Taken together, these findings
suggest that existing classifications play an important role in even sophisticated investors’ judg-
ments. While existing classifications and ordering on the income statement convey important infor-
mation (cf. Lipe 1986), clearer guidance on classification can only increase the information content
of those choices by limiting opportunistic choices by management. Again, the findings suggest the
potential for strong effects of within statement classifications in private credit markets, on the media,
on the public, on directors and other contracting parties, and the possibility of temporary price
effects, particularly for firms with limited following.

3.2.4. \textit{Summary}

The research we have reviewed suggests that location can directly and indirectly convey informa-
tion to users and that location can also affect how users process accounting information. Man-
gers have strong preferences about the recognition and location of income items and they use their
discretion to recognize and locate items in accordance with their preferences. Users differentially
react to accounting information depending on its location, partly because location conveys value-
relevant information about the underlying information and partly because location affects informa-
tion processing costs. Overall, the research reviewed suggests that location can directly and
indirectly affect information content and, therefore, likely shapes market prices and other important
non-valuation activities. The fact that location and classification play important roles in the heuristic
decision rules used in contracting and different forms of financial analysis suggests the potential for
large effects on the media, on the public, on directors and other contracting parties, and the possibility of temporary price effects, particularly for firms with limited following.

3.3. **Narrative attributes**

The presentation of numerical financial information in firms’ income statements and related notes has received attention from regulators and standard setters for decades. The presentation of information in narrative disclosures such as earnings announcements and restatement announcements, however, has received regulatory attention only recently. This has allowed managers a great deal of discretion in how they present and discuss financial issues in narrative disclosures. Recent accounting literature suggests that managers exploit this discretion in a variety of ways to influence user perceptions of narrative disclosures. Accordingly, financial accounting researchers have used narrative disclosures as a context to examine the impact of several presentation attributes on user judgment and decision-making. Recent research has focused mainly on the following narrative presentation attributes: location of amounts within narratives, readability, medium, and timing.

3.3.1. **Location of amounts within narratives**

A growing body of experimental and archival literature investigates the impact of location of amounts reported within narrative disclosures such as press releases and management discussion and analysis in 10-Ks. As noted above, whether an amount is recognized and the location of information in different financial statements can and sometimes does impact underlying properties of the numbers (reliability and bias). Studies in this section examine aspects of financial presentation that likely have little impact on the properties of the numbers. These relatively “pure” presentation issues avoid confounds between the underlying properties of the numbers and processing difficulty. As a consequence, they deliver some of the most convincing evidence to date regarding the impact of processing difficulty on user response to financial information.

The first set of studies in this literature examine how users respond to the relative emphasis that managers place on GAAP earnings and non-GAAP earnings (i.e. “pro-forma” earnings) in earnings releases. Several studies show that managers use the discretion allowed under US securities regulations to report and emphasize pro-forma earnings (as discussed in detail by Young 2014). Further, this research suggests that managers emphasize one earnings metric over the other, not only prominently reporting the metric that is more value-relevant, but also prominently reporting the metric that demonstrates better performance (e.g. see Bradshaw and Sloan 2002, Bowen et al. 2005, Brown et al. 2012, Guillamon-Saorin et al. 2012). This suggests both informational and opportunistic motives.

A growing body of research suggests that the market responds to the order of pro-forma and GAAP earnings in press releases. Bowen et al. (2005) explicitly measure the emphasis that managers place on GAAP and pro-forma earnings, coding whether each of the metrics are placed (1) in the headline, (2) in the first or second paragraph, or (3) further down in the earnings release. They find that that the market responds more to the metric that managers emphasize in their earnings release. Elliott (2006) conducts a laboratory experiment to test this proposition in a controlled setting. She manipulates the order of pro-forma and GAAP earnings in a press release and also manipulates whether or not the firm includes a reconciliation of pro-forma earnings to GAAP earnings in the release. Consistent with the results in Bowen et al. (2005), she finds that non-professional investors react more to the earnings metric that receives more prominence in the earnings release. However, she also finds that this tendency is attenuated when firms include a quantitative reconciliation of the two metrics in the earnings release. Allee et al. (2007) examine...
whether Elliott’s (2006) results hold in an archival setting and examine the judgments of both sophisticated and unsophisticated investors. They show that unsophisticated investors (those who trade in small share amounts) rely more on pro-forma earnings when that metric is placed before GAAP earnings in the earnings release, while sophisticated investors do not exhibit this tendency. Together, these studies suggest that unsophisticated investors attend to and respond more strongly to earnings metrics that receive more prominence in firms’ narrative disclosures.

A second set of studies on location in narrative disclosures examines the income statement line items that managers emphasize in their earnings releases. Although this literature is new and relatively small, some research indicates that managers strategically stress good news by locating that news prominently in the narrative disclosure, consistent with opportunistic motives (e.g. see Guillamon-Saorin et al. 2012, Huang et al. 2012).

Huang et al. (2012) provide evidence that the way in which managers present the headline of an earnings press release can bias the market’s initial reaction to the earnings release. The authors argue that managers can increase the salience of good earnings news by including quantitative information in the headline of the earnings release. They measure headline salience as the number of quantitative items in the release’s headline. Interestingly, for firms reporting good news, the authors’ measure of salience is associated with stronger returns around the earnings announcement and a post-earnings announcement price reversal, suggesting that investors initially overreact to salient good news in earnings releases. This suggests that managers strategically induce investors to overreact to good news by making the good news more salient in the earnings release.

Two studies examine whether managers strategically repeat prior-period information in earnings releases to encourage users to adopt a more favorable benchmark on which to evaluate current earnings and how this strategic behavior impacts users. Schrand and Walther (2000) demonstrate that managers are more likely to repeat and separately announce a prior-period gain on the sale of property, plant and equipment than a prior-period loss on the sale of property, plant, and equipment. Managers presumably do this to make current-period earnings look better relative to the prior period, assuming that investors forget about prior-period gains and losses but adjust for such one-time gains or losses if reminded to do so. Consistent with this proposition, the authors find that price movement is positively associated with managers’ decision to remind about prior-period gains. Krische (2005) examines two alternative explanations for the results in Schrand and Walther (2000) – namely, whether investors reward firms for repeating any prior-period information or whether investors forget about the prior-period information but adjust for it when reminded of its content. In her experiment, she manipulates whether firms incur a prior-period gain or a prior-period loss on the sale of equipment, and whether firms repeat the prior-period gain or loss in the current period. Investors provide lower valuation judgments when prior-period losses are repeated and higher valuation judgments when prior-period gains are repeated. Together, these studies suggest that investors have short-term memory limitations and that managers can strategically exploit these limitations by selectively making prior-period information prominent in earnings releases. Such evidence points to one of the many ways in which investors display limited attention.

A final set of studies on location in narrative disclosures focus on how firms present earnings restatements in press releases. As with earnings releases, managers have considerable discretion in how they announce earnings restatements. The literature suggests that managers often announce accounting restatements opportunistically, opaquely burying them in footnotes at the end of long press releases (Files et al. 2009, Myers et al. 2013).

We are aware of only one study that examines how users react to the prominence of earnings restatement announcements. Files et al. (2009) measure the prominence of restatement announcements, coding the announcements as “high prominence” if included in the headline, “medium
prominence” if included in the body of the release, and “low prominence” if included in a footnote to the operating results. Controlling for several restatement characteristics (including severity and magnitude), the authors find that prominence is negatively associated with market returns in the three days around the announcement and positively associated with the probability of class-action lawsuits. These results suggest that investors and plaintiffs’ law firms attend and react more to earnings restatements displayed more prominently in press releases.

Since it is unlikely that the presentation attributes examined in this section either directly or indirectly affect information content, these studies present some of the strongest evidence of ease of processing effects. Both the experimental and capital market studies in this section also focus on the underlying psychological processes (e.g. memory limitations and primacy effects) that determine processing difficulty under alternative presentation formats. As a consequence, they can lead to better predictions of processing difficulty effects in other settings.

3.3.2. Readability
Another growing body of research examines how investors react to disclosures that are difficult to read. Beginning with its adoption of the Securities Act of 1933 and culminating in its adoption of “plain English” regulations in the late 1990s (SEC 1998), the SEC has encouraged preparers to produce disclosures that investors find “easy to read” (Levitt 1997). Despite the SEC’s efforts, disclosure readability has only deteriorated over the past decade (Radin 2007, Li 2008).

Li (2008) measures readability using two metrics: (1) the Fog Index, which is higher for text with long sentences and syntactically complex words, and (2) disclosure length. He demonstrates that firms with losses or transient income write longer disclosures with a higher Fog Index, suggesting that managers intentionally obfuscate bad news by making disclosures harder to read. Bloomfield (2008) notes, however, that this evidence is also consistent with managers attempting to attribute bad news to external causes in financial disclosures. It may also result from managers anticipating greater demand for information when performance is poor or just the underlying complexity of bad news. Thus, poor readability in financial disclosures may reflect managers’ opportunistic motives as well as non-opportunistic motives.

User studies on readability largely suggest that investors avoid processing long and/or complex disclosures and struggle extracting information from such disclosures (You and Zhang 2009, Miller 2010, Rennekamp 2012). You and Zhang (2009), for example, proxy for readability by measuring the length of long sentences and syntactically complex words, and (2) disclosure length. They show that investors tend to underreact to long 10-K disclosures. Miller (2010) distinguishes between disclosure length and readability, measuring readability using two different metrics: the Fog Index and a plain-English measure of readability. Consistent with the results in You and Zhang (2009), he finds that smaller investors trade less on longer and less readable disclosures. He also finds that longer and less readable disclosures lead to less consensus among investors about firm value. Thus, investors appear to not only avoid long and low-readability disclosures, but they also disagree about the content of the disclosures. Lehavy et al. (2011) provide evidence that sell-side financial analysts are less accurate in forecasting earnings for firms that provide disclosures that are difficult to read, suggesting that even analysts struggle extracting information from disclosures that are difficult to read. Using a brokerage data-set, Lawrence (2013) provides evidence that individual investors are less willing to hold shares in firms with disclosures that are long and have a high Fog Index. However, investors who trade frequently or are professionals (e.g. lawyers, accountants, actuaries, analysts, etc.) demonstrate less of this tendency, suggesting that investment experience and financial literacy may help investors overcome poor disclosure readability. Rennekamp (2012) and Tan et al. (2013) examine investor reaction to readability in controlled experimental settings. In both of these studies, the authors manipulate the readability of earnings releases, using the SEC’s...
“Plain English Handbook” as a guide in their manipulations. Rennekamp (2012) shows that investors experience metacognitive feelings of difficulty (i.e. processing disfluency) when reading disclosures with poor readability and, as a result, rely less on disclosures with poor readability. Tan et al. (2013) demonstrate that readability has a larger impact on investors’ judgments when firm performance is ambiguous, with the firm beating one performance benchmark but missing a different performance benchmark.

Together, studies on readability suggest that investors (1) avoid processing disclosures with poor readability and (2) when processing documents with poor readability, disagree about their content and rely less on their content. Such findings suggest that at least some investors are unable or unwilling to accurately process disclosures with low readability, largely supporting the limited attention perspective discussed in Section 2.3. However, the archival evidence in this literature provides only modest evidence of a large-scale market underreaction to poor readability (Li 2008, You and Zhang 2009), suggesting market forces attenuate the muted response of unsophisticated investors to disclosures with poor readability.

3.3.3. Medium

Firms have opportunities to communicate with the public through several media platforms, including traditional financial disclosures (10-K’s and press releases), conference calls, videos, social media, etc. A few recent studies assess the impact of presentation medium. Elliott et al. (2012) examine how users differentially react to restatement announcements made online via text vs. online via video. Using an experiment, the authors hold constant the underlying information provided to participants and manipulate whether the manager accepts or denies responsibility for the accounting error and whether the manager does so via text or video. The authors find that video essentially amplifies users’ perceptions and reactions to the restatement announcement, making them more likely to recommend investment in the firm when the manager accepts responsibility for the error but less likely to recommend investment in the firm when the manager denies responsibility. In supplementary analyses, the authors provide evidence that investor trust in management underlies these judgments. Thus, presentation medium can make certain features of accounting disclosures more prominent to investors. Asay et al. (2013) present results that suggest that some characteristics of accounting announcements that vary with medium affect the manager’s association with the message, which, in turn, magnifies investors’ reaction to disclosures. Outlining which characteristics of accounting announcements change with medium and their effects will be an important direction for future research.

3.3.4. Timing

Managers have considerable discretion over when they release earnings information to the public. Two recent studies examine whether extraneous events distract investors from fully attending to a given firm’s earnings announcements at predictable times. Hirshleifer et al. (2009) posit that investors are unable to fully attend to earnings announcements that occur on high-news days. The authors measure whether firms announce earnings on high-news days (i.e. days when many other firms announce their earnings) or on low-news days (i.e. days when few other firms announce their earnings). They show that initial market reaction to earnings announcements is significantly lower during high-news days (vs. low-news days) and that the subsequent price drift is significantly higher for announcements made on high-news days (vs. low-news days).

In a similar vein, DellaVigna and Pollet (2009) posit that weekend plans distract investors disproportionately on Friday. Consistent with this argument, they show that initial market reaction to Friday earnings announcements is 15% lower than the initial reaction to weekday announcements.
and that the delayed reaction to Friday earnings announcements is 70% larger than the delayed reaction to weekday announcements.

These studies suggest that extraneous events occupy investors’ attention, preventing them from fully attending to firms’ earnings announcements at predictable times. Accordingly, these studies provide strong support for the limited attention perspective and suggest that an often-overlooked aspect of financial presentation can significantly impact market reaction.

3.3.5. **Summary**

Research on narrative disclosures investigates a diverse set of presentation attributes and their impact on managers and users. Managers often use the wide discretion they are afforded over narrative disclosures to present firm performance in a favorable light. These strategic choices impact the ease with which users process the underlying information and in turn, how users react to the information. Accordingly, this literature provides some of the more persuasive evidence that presentation attributes that only affect ease of processing can have some impact in private credit markets, on the media, on the public, on directors and other contracting parties, and may have some temporary price effects, particularly for firms with limited following.

4. **Implications for researchers and standard setters**

4.1. **Researchers**

Perhaps the most important implication of our discussion for researchers is the need to specify the proposed mechanism(s) through which presentation attributes affect user behavior as a basis for test design and determining what conclusions can be drawn. As shown in Figure 3, presentation attributes can (1) directly affect information content, (2) indirectly affect information content through their effects on managers’ real or reporting actions, and/or (3) affect ease or manner of processing. The evidence reviewed suggests that some attributes operate mostly through a single mechanism. Others operate through more than one mechanism. Specifically, the attributes discussed in Section 3.1 *Disaggregation* operate mainly by directly (and secondarily by indirectly) affecting information content. Attributes discussed in Section 3.2 *Location* operate mainly by indirectly affecting information content by changing managers’ actions and by affecting ease of processing. And the attributes discussed in Section 3.3 *Narrative attributes* operate mainly by affecting ease of processing.

Recognizing the three mechanisms makes it clear that the potential importance of presentation attributes depends little on which side of the efficient markets/behavioral finance divide one falls. First and perhaps most importantly, contracting frictions result in reliance on heuristic rules (see, e.g. De Franco et al. 2013 on determinants of debt contract terms). These rules rely on common definitions of what is recognized vs. disclosed, what is classified as an operating or non-operating item, what is included on an income statement vs. the statement of stockholders’ equity, and so on. Any changes in the presentation rules or lack of uniformity in application of those rules can have significant economic consequences for the contracting parties through any of the three mechanisms. Second, presentation attributes that directly affect information content can affect price regardless of assumptions about market efficiency. Third, it is also clear that managers change their real and reporting choices based on some presentation rules. These changes can indirectly affect information content which can also affect equity prices, again regardless of assumptions about market efficiency. Finally, the only disagreement is over whether presentation attributes that only affect ease of processing can affect price. Our position is that the literature we review suggests that short-term price effects are quite possible especially when there are greater limits
to arbitrage or fewer attentional resources available (e.g. when there is less analyst coverage or on Fridays). However, an emphasis on the importance of market efficiency in some commentaries (e.g. Kothari et al. 2010) may have led some readers to understate the importance of the non-price effects of presentation issues in financial reporting.

Our analysis also points to several gaps in the literature on earnings presentation that are promising areas for future research. In the area of horizontal disaggregation, most research on manager behavior and user responses has focused on disclosures of industry and geographic segments and the effects of changes in standards in these areas. However, as noted in Section 3, SFAS 131 also requires firms to disaggregate revenues by product or service. Yet little research investigates how managers choose to report this product information or how users respond to this information. It is even possible that this element of segmental reporting is even more important to cash flow prediction than summary income statement and balance sheet information prepared on the basis of management organization. Such information may also be the most sensitive form of proprietary information in some industries. Research that follows approaches similar to those already used to examine the effects of management-based segment reports would seem appropriate here. Research in this area could also inform discussions on the enhanced disclosures being considered in the new revenue recognition standard.

Likewise, little research explores the determinants of expense disaggregation under current US GAAP or IFRS reporting standards, or how users respond to different forms of expense disaggregation. Furthermore, as far as we are aware, the different vertical disaggregation requirements are among the largest remaining “unconverged” difference between US GAAP and IFRS. Given current standard-setting interest in these issues, we believe research in this area could provide valuable insights for current and future standard-setting initiatives. We also see an important relationship between disaggregation of expenses by nature and disaggregation of revenues by product since the usefulness of the disaggregation in both the cases requires assessment of revenues or expenses that do not respond equally to similar economic events. This is the basis for their predictive value.

As noted above, research on location faces a real challenge in trying to disentangle the indirect effects on information content caused by changes in managers’ actions from the effects of ease of processing/limited attention. Recent experimental and archival studies such as Ahmed et al. (2006), Bratten et al. (2013), and Hales et al. (2011) have made important contributions in this regard. Future research should continue to look for circumstances and experimental designs that further clarify this issue. Studies that emphasize within statement classification as the context for analysis may be a particularly important venue for these analyses.

The study of narrative disclosures is a growing and important part of the disclosure literature. We suggest two directions for future research. First, these contexts often allow separation of information effects from processing difficulty effects. As a result, they can tell us more about “pure presentation effects”. Creative studies such as Huang et al. (2012) provide important evidence and could be followed up with experimental studies similar to Krische (2005) to further determine the cause of the discovered effects. Experiments similar to Rennekamp (2012) also provide the opportunity to study these phenomena at more of a micro level to help determine the underlying language constructs that are driving user behavior as well as the determinants of managers’ narrative disclosure choices.

Changes in technology such as XBRL (Hodge et al. 2004) may eliminate many current presentation issues and create new ones that are worthy topics for future research. Audio and video releases have become a more important part of the disclosure process (Elliott et al. 2012). And the recent SEC probe of Netflix chief executive officer (CEO) Reed Hastings’ communications over Facebook suggests the possibility that personal media sites and blogs may play an increasing role in financial communications. These are exciting areas for studying the effects of presentation attributes.
In general, we believe that linguistic choices are more subtle than implied by broad measures such as readability and length. As a consequence, in future research on the effects of narrative presentation attributes, it will be important to identify narrower linguistic features. For example, Asay et al. (2013) differentiate between content words that directly convey information and style word choices that operate in a more subtle fashion. It will also be important to analyze and identify the underlying cognitive constructs through which the presentation attribute(s) operate. For example, Asay et al. (2013) demonstrate that both use of personal pronouns and CEO photos in press releases increase perceived identification with the message, which increases the effect of both positive and negative announcements.

Finally, while manager behavior has been the focus of many studies of presentation effects, the effects of presentation attributes on auditors’ perceived responsibility for the reported numbers have received relatively little attention. Since auditor actions also affect information content, the effects of presentation attributes on their behavior is an understudied area.

4.2. Standard setters

FASB Discussion Memorandum No. 16 Reporting earnings (FASB 1979) is a highly undervalued document. As far as we can tell, it is not even available in electronic form. Its simple and straightforward analyses and recommendations are very insightful. Much of the same can be said for documents related to the joint IASB/FASB financial statement presentation project (see the FSP Staff Draft, FASB 2011). For example, concerning the importance of presentation issues, they immediately acknowledge “Users often treat each individual item, subtotal, or other part of a financial statement differently... Therefore, how an entity presents information in its financial statements is of utmost importance in communicating financial information (para. 1.9)”. The main difference between the two documents is that the more recent proposal focuses on more major changes improving the coherence of presentations across the financial statements. And the suggested changes in the Staff Draft are massive.

There are a number of possible explanations for the apparent difficulty in creating new standards for earnings presentation. One possibility is that it is difficult to make progress because any possible changes are very important to a number of constituent groups. A second is that it is difficult to make progress because there is little public or regulatory pressure to address the underlying issues, so they rarely percolate to the top of the agenda. A third is that the underlying issues are so complex conceptually and operationally that it is difficult to come up with an integrated set of standards. And standard setters may be letting the search for broad-reaching improvements get in the way of common-sense piecemeal improvements (following Voltaire, letting the perfect be the enemy of the good).

A more productive approach might be to choose key items and consider piecemeal improvements. This would avoid letting the perfect be the enemy of the good. The most obvious, and the most useful change according to the recent survey of analysts (FASB/IASB 2009, September 21), is increased disaggregation of the income statement prepared under US GAAP. Simply put, the boards should converge the US standard to current IFRS as represented in current UK practice. And when the US preparer community complains about the change being too costly, an appeal to national pride should be a sufficient response.

As illustrated by Kimberly-Clark’s acquisition of Scott Paper (discussed in Section 2) and the literature on classification (discussed in Section 3), firms exercise considerable discretion over how they classify transactions into different earnings categories (e.g. “net” sales; cost of goods sold; selling, general, and administrative expense, etc.), reducing the comparability of firms’ earnings subtotals. Given that classifications play a big role in contracting and in the efficient decision heuristics used by analysts and other stakeholders, standard setters may wish
to provide more detailed guidance on earnings classification than currently exists in IAS 1. Such guidance should aim to reduce managers’ opportunistic classifications and increase the comparability of earnings subtotals across firms. The results of the recent SEC (2011) study of international practice support this recommendation. In general, presentation standards such as segment reporting requirements and the changes suggested here that clearly increase information content seem like obvious directions that would help meet the stated goals of most financial reporting standard setters and regulators.

The most consistent conclusion from the research we have examined is that standards should not be set based on the assumption that location does not affect the reported numbers. Except in rare circumstances (see, e.g. Bratten et al. 2013), management actions will change the underlying characteristics of ostensibly identical numbers reported in different locations. Standard setters should always be aware of this.

Our discussions of ease of processing effects suggest that presentation standards that focus on reducing the costs of collecting and processing valuable information seem a viable and worthy goal. However, meeting the goal requires an understanding of what determines these costs. Papers such as Maines and McDaniel (2000), who provide a preliminary list of attributes (placement, labeling as income, linkage to net income, etc.), and Hodder et al. (2008), who demonstrate that a simple reversal of the direction of the reconciliation of net income and cash flows to the more intuitive version (cash flows plus accruals equals net income instead of the reverse) results in more accurate cash flow forecasts, are good examples to follow in this regard. Memory theory, intuition, and further experimentation could produce a series of simple recommendations for improvement in this regard. Requiring referencing of relevant notes in financial statement line items (e.g. “see note 5”) is an example of a simple recommendation based on intuition. Requiring that reclassification adjustments be reported on the face of the statement of comprehensive income is a simple example suggested by existing studies (Hirst and Hopkins 1998). Both would reduce the cost of collecting and processing valuable information.

Research on narrative disclosures also suggests that regulators should keep a wary eye on these disclosures, especially earnings press releases. Most of the stock price reaction to earnings occurs contemporaneously with the press release. And recent research suggests that seemingly innocuous differences in the press release can have effects on users. At the same time, regulators should be careful for what they wish in this area. For example, some of the plain-English recommendations may have unintended consequences (e.g. Asay et al. 2013). The use of new media for financial disclosures will complicate these efforts.

The literature reviewed provides several more general insights that can inform current and future standard-setting initiatives on earnings presentation. In general, the literature reveals that managers’ presentation choices reflect opportunistic, informational, and proprietary motives, but the literature does not delineate the circumstances that cause one of those motives to prevail over the others. As a result, standard setters face tradeoffs when constraining (or expanding) managers’ discretion over earnings presentation. Standards over earnings presentation may therefore have unintended consequences, hindering managers from making opportunistic reporting choices at the cost of not allowing managers to signal valuable information to users.

Another theme that emerges from the literature is that with many earnings presentation attributes, certain forms of presentation benefit one user group but disadvantage other user groups. For example, in the context of recognition vs. disclosure, recognizing fair value changes on the face of the income statement may help unsophisticated and sophisticated investors incorporate this information into valuation judgments (Hirst et al. 2004, Hales et al. 2011), but it also decreases the reliability of recognized amounts, an attribute of earnings that is especially important to contracting uses (Kothari et al. 2010). Highlighting these
tradeoffs, some studies explicitly show that low-volume, unsophisticated investors react differently to earnings presentations than high-volume, sophisticated investors (Elliott 2006, Allee et al. 2007, Lawrence 2013).

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Notes
1. Additional requirements for specific disclosures of items such as advertising, research and development expense, and depreciation and amortization also exist.
2. Kilic et al. (2013) document 14 cases between 1997 and 2010 where improper classification of cost of sales vs. selling, general, and administrative expenses caused firms to restate their income statements.
3. The 2012 FASB/IASB Conference in Norwalk CT focused on some of these issues in its discussion of “netting”.
4. IAS 1 currently allows complete income statement disaggregation as presented by Marks & Spencer or partial disaggregation of important expenses as presented by a number of other UK retailers.
5. Function refers to the primary activities in which an entity is engaged (for example, selling goods or administration). Nature refers to the economic characteristics or attributes that distinguish expense items that do not respond equally to similar economic events (for example, labor varies more with sales than occupancy).
6. Note that many US retailers would include many occupancy costs and repairs and maintenance of property related to selling in cost of sales.
7. Merkl-Davies and Brennan (2011) present a more complete taxonomy of management motives and the theories that underlie different views of impression management that are relevant to the disclosure literature.
8. In this case, there were other presentation differences in the reporting rules that also could have affected the valuation weights including allowing range estimates for the disclosures but requiring point estimates for the recognized amount (Davis-Friday et al. 2004).
9. Bratten et al. (2013) point out that approaches to constructive capitalization of operating leases are among the most well-known techniques used in the financial statement analysis. In fact, it is taught to varying degrees in three courses (two accounting and one finance) in the MBA programme at the authors’ school. We believe that this eliminates any real possibility for a significant processing difficulty/limited attention effect. This view is also consistent with the findings in Nelson and Tayler (2007) discussed above. They also expect and find a high degree of reliability in the numbers resulting from the lack of estimation inherent in the numbers.
10. Our guess is that only a small portion of students who understand constructive capitalization of operating leases have an equal understanding of valuation of derivatives.
11. Managers and analysts also rely on categorizations to exclude certain items from “pro forma” performance measures which are the topic of the final paper in this series (see, e.g. Lougee and Marquardt 2004).
12. While maintaining an efficient markets perspective, Kothari et al. (2010) note in numerous places that “From a costly contracting perspective, form of accounting information does matter.”
13. See also Bloomfield (2002).

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