



ELSEVIER

Contents lists available at ScienceDirect

J. Account. Public Policy

journal homepage: [www.elsevier.com/locate/jaccpubpol](http://www.elsevier.com/locate/jaccpubpol)



# An analysis of the implications of discontinued operations for continuing income



Asher Curtis<sup>a</sup>, Sarah McVay<sup>a,\*</sup>, Mindy Wolfe<sup>b</sup>

<sup>a</sup>University of Washington, United States

<sup>b</sup>University of Waterloo, Canada

## ABSTRACT

We examine the extent to which changes in the accounting for discontinued operations affects the usefulness of disaggregated income components in predicting an entity's future continuing income. Our study is motivated by the joint FASB/IASB convergence project which seeks to define the scope of transactions reported in discontinued operations. To examine our question, we compare the properties of continuing income and discontinued operations reported under SFAS 144 and APB 30, where APB 30 closely parallels IFRS 5. We find that the broader scope of the rule under SFAS 144 results in more persistent continuing income among firms reporting discontinued operations, and that this is concentrated among single-segment firms, which previously were less likely to fall within the scope of APB 30. Because we find no evidence of increased opportunism, we conclude that the broader scope of the rule results in a finer partitioning of recurring and nonrecurring income. Overall, our results support the broader scope of discontinued operations.

© 2014 Elsevier Inc. All rights reserved.

## 1. Introduction

We examine the extent to which changes in the accounting for discontinued operations affect the usefulness of disaggregated income components in predicting an entity's continuing income. The disaggregation of income aids in its usefulness in predicting an entity's future performance (Lipe, 1986; Fairfield et al., 1996). The usefulness of disaggregated information is crucially linked to the classification of transactions into reasonably homogenous groups. The discontinued operations line item is

\* Corresponding author. Tel.: +1 206 616 2196; fax: +1 206 685 1561.  
E-mail address: [smcvay@uw.edu](mailto:smcvay@uw.edu) (S. McVay).

unique in that it aggregates income from a subset of the operations of the firm that have been identified for disposal and presents this subtotal after tax below income from continuing operations. The line item includes sales, expenses, and, if the disposal has transpired, the gain or loss from the sale of the sub-set of the business.<sup>1</sup> Essentially, the aggregation of this information into a single line item near the bottom of the income statement communicates to investors that the transactions included in this line item are nonrecurring. We contribute new empirical evidence on how changes in the accounting for discontinued operations changes the persistence of continuing income.

Our study is motivated by the joint FASB/IASB convergence project, which seeks to define the scope of transactions reported in discontinued operations, and the current consensus that the scope of discontinued operations should be limited to only large transactions such as the divestiture of an entire operating segment.<sup>2</sup> Currently, the FASB and IASB are undertaking a joint project to develop a converged definition of discontinued operations, which is especially important given the prominence with which discontinued operations are displayed in the proposed financial statement presentation project. Specifically, the Boards propose to have the transactions associated with discontinued operations presented separately in each of the financial statements. The key difference between the current rules (SFAS 144 and IFRS 5) is the scope of discontinued operations. Under SFAS 144, effective in 2002, a component of the entity held for sale falls under discontinued operations presentation if it has operations and cash flows that can be clearly distinguished, operationally and for financial reporting purposes, from the ongoing operations of the entity. The scope under IFRS 5 is much narrower (and very similar to the scope of discontinued operations under APB 30). Separate presentation of discontinued operations is only allowed if the asset to be divested represents a separate major line of business or geographical area of operations.

We first provide evidence on how many firms report discontinued operations across the two reporting regimes (SFAS 144 and APB 30) to shed light on the economic importance of the differing scope of the two regimes facing convergence (SFAS 144 and IFRS 5). The number of firms reporting discontinued operations under the broader scope of the rule nearly doubles, suggesting that the outcome of the convergence project has important consequences for the number of transactions reported within discontinued operations. The number of smaller transactions included in discontinued operations drives the overall increase in the frequency of discontinued observations.

To examine whether the scope of accounting for discontinued operations affects the properties of continuing income, we test whether the persistence of continuing income changes following the change in scope. We find evidence that continuing income is more persistent under the broader scope (SFAS 144) than the narrower scope (APB 30). Moreover, this difference in persistence is only present among firms reporting discontinued operations, and thus is unlikely to be a result of other confounding events. Upon further examination, we find that this increase is concentrated among single-segment firms. These findings are consistent with single-segment firms having less latitude to report discontinued operations under the narrower scope of the rule, even when doing so would improve the informativeness of their income statement. Thus, our results have implications for the narrowing of the rule. Specifically, our results suggest that the broader scope of the rule results in higher quality continuing income. Although it is also possible that the broader scope of the rule allows for greater latitude to classify items as “discontinued” (e.g., Athanasakou et al., 2007; Barua et al., 2010; Choi et al., 2007), we find no evidence of increased opportunism.

<sup>1</sup> Under APB 30 (*Reporting the Results of Operations - Reporting the Effects of Disposal of a Segment of a Business, and Extraordinary, Unusual and Infrequently Occurring Events and Transactions*) any anticipated losses on the sale of the asset are recognized at the time the subset of the business was identified for disposal; under SFAS 144 (*Accounting for the Impairment or Disposal of Long-Lived Assets*), losses are recognized when incurred, consistent with SFAS 121, though assets in place must be reviewed for impairment regularly. The scope of discontinued operations was also affected by SFAS 144; under APB 30, only disposals of lines of business qualified as discontinued operations, while pursuant to SFAS 144, lower-level groups of assets could qualify if they are separable for financial reporting and cash flow purposes. We discuss SFAS 144 in greater detail in Section 2.

<sup>2</sup> At the time of writing, the scope of the IASB/FASB joint proposal is similar to APB 30 and IFRS 5. In particular, the current exposure draft states: “Only those components of an entity that represent a separate major line of business or major geographic area of operations would be eligible for discontinued operations presentation in the financial statements. Currently, a component of an entity that is a reportable segment, an operating segment, a reporting unit, a subsidiary, or an asset group is eligible for discontinued operations presentation” (FASB, 2013, p. 3).

Our results contribute to prior literature that examines the persistence of income components. Specifically, we provide evidence of the consequences of changing the scope of discontinued operations for future continuing income. Our results also contribute to research on the FASB/IASB convergence program. While the current direction of the FASB/IASB is to narrow the scope of transactions included in discontinued operations, our results support retaining the broader scope of the rule.

## 2. Background and hypothesis development

### 2.1. Discontinued operations background

Currently, the definition of a discontinued operation under SFAS 144, *Accounting for the Impairment or Disposal of Long-Lived Assets*, differs from IFRS 5, *Non-Current Assets Held for Sale and Discontinued Operations*. As described in greater detail below, the key difference is the scope of the rule. Under SFAS 144, disposals of any separately identifiable component of the entity can fall within discontinued operations presentation, while under IFRS 5, the disposal component must represent a major line of business or geographical segment.

Specifically, SFAS 144 defines a discontinued operation as a component of an entity that has been disposed of or is classified as held for sale provided that the operations and cash flows of the component have been (or will be) eliminated from the ongoing operations of the entity as a result of the disposal transaction and the entity will not have any significant continuing involvement in the operations of the component after the disposal transaction. A component of an entity may be a reportable segment or an operating segment (as defined in FASB Statement No. 131, *Disclosures about Segments of an Enterprise and Related Information*), a reporting unit (as defined in FASB Statement No. 142, *Goodwill and Other Intangible Assets*), a subsidiary, or an asset group (the lowest level for which identifiable cash flows are largely independent of the cash flows of other groups of assets and liabilities).

IFRS 5 defines a discontinued operation as a component of an entity that either has been disposed of or is classified as held for sale, and (a) represents a separate major line of business or geographical area of operations, (b) is part of a single coordinated plan to dispose of a separate major line of business or geographical area of operations, or (c) is a subsidiary acquired exclusively with a view to resale.

Prior to SFAS 144, discontinued operations were defined under APB 30, which had a scope very similar to that of IFRS 5.<sup>3</sup> SFAS 144 broadened the scope of divestiture transactions to be presented in discontinued operations to components of an entity (rather than only segments of a business). As noted above, a component of an entity comprises operations and cash flows that can be clearly distinguished, operationally and for financial reporting purposes, from the rest of the entity (FASB, 2001). For example, the sale of a poorly performing store (but not an entire chain of stores) would not have qualified as a discontinued operation under APB Opinion No. 30 (or IFRS 5), but often does qualify under SFAS 144.<sup>4</sup> Components of an entity that have been disposed of or are classified as “held for sale,” are presented as discontinued operations if the operations and cash flows of the component of the entity are separately identifiable and the entity will not have any significant continuing involvement in the operations of the component.

<sup>3</sup> Although APB 30 and IFRS 5 have similar scope in terms of the economic significance of the disposal, they do differ in terms of measurement. IFRS 5 is similar to SFAS 144, which was modeled after SFAS 121, and requires impairment testing. APB Opinion No. 30 required that segments be reported at the lower of carrying amount or net realizable value. Net realizable value requires an estimate of the proceeds from the sale, as well as anticipated profits or losses from the operations until the disposal. If the net realizable value fell short of the current carrying value, a loss was recognized under discontinued operations, essentially accelerating anticipated losses.

<sup>4</sup> Note that EITF 03-13 clarifies the criteria to qualify as a discontinued operation. Operations for which continuing cash flows are expected to result from a migration or a continuation of activities do not qualify as discontinued. For example, if an unprofitable store were closed, but replaced with a new store in a nearby location, and from which many of the same customers are expected to shop, the closed store would not qualify as a discontinued operation. This ratification became effective for all fiscal periods beginning after December 15, 2004.

The FASB broadened the definition based on the recommendation made by the AICPA Special Committee on Financial Reporting in its 1994 report (FASB, 2001, p. 48). Specifically, prior research found the classification of discontinued operations to be ambiguous, resulting in dissimilar treatment across firms (Rapaccioli and Schiff, 1991). In its 1994 report, the Jenkins Committee called for a broadening of the discontinued operations definition to include “all significant discontinued operations whose assets and results of operations and activities can be distinguished physically and operationally and for business-reporting purposes” (AICPA 1994). The FASB concluded that “[b]roadening the presentation of discontinued operations to include more disposal transactions provides investors, creditors, and others with decision-useful information that is relevant in assessing the effects of disposal transactions on the ongoing operations of an entity” (FASB, 2001). As an example, if Walmart closed a large number of underperforming Sam’s Clubs (but not all Sam’s Clubs), the earnings from the operations of the closed stores are not expected to recur. Prior to SFAS 144, these closures would not fall under discontinued operations reporting, but rather would be included in earnings from operations (with any gain or loss on disposal likely classified as special items). Following SFAS 144, as long as new Sam’s Clubs stores are not expected to replace the closed stores (see footnote 4), the earnings from the closed stores is classified as discontinued operations.

The FASB’s motivation for the wider scope of SFAS 144 is noteworthy because the current exposure draft (FASB, 2013) revises the definition of discontinued operations to converge with International Financial Reporting Standards. The revision would again narrow the scope of discontinued operations: “Only those components of an entity that represent a separate major line of business or major geographic area of operations would be eligible for discontinued operations presentation in the financial statements. Currently, a component of an entity that is a reportable segment, an operating segment, a reporting unit, a subsidiary, or an asset group is eligible for discontinued operations presentation” (FASB, 2013, p. 3).<sup>5</sup>

Thus, providing evidence on the impact of the scope of the rule should be of interest to regulators, who must agree on a converged rule, as well as capital market participants, who must determine the usefulness of the classification.

## 2.2. Relation to prior literature

Our hypotheses relate to the implications of the disaggregated components of income (continuing income and discontinued operations) for continuing income. Prior research provides substantial evidence that income classified as transitory (special items, discontinued operations and extraordinary items) is less associated with a firm’s future performance (e.g., Lipe, 1986; Fairfield et al., 1996; Herrmann et al., 2000; Burgstahler et al., 2002; Athanasakou et al., 2007). Our study contributes to this literature by investigating whether a broader classification rule for discontinued operations provides a more homogenous partitioning between continuing and discontinued operations for divestitures, thereby increasing the usefulness of disaggregated income components in predicting an entity’s future performance.

## 2.3. Hypothesis development

The underlying reason for the separation of discontinued operations in the income statement (and within all of the statements under the proposed financial statement presentation project) is that these operations have fundamentally different future implications than other operations of the firm. Specifically, the sales and related costs from discontinued operations are not expected to persist.<sup>6</sup> Discontinued operations should include transactions within operations with which the

<sup>5</sup> The revision would maintain the measurement changes of SFAS 144, as the accrual of future operating losses, which was previously required under APB Opinion No. 30, is not consistent with the Board’s conceptual framework (FASB 2001, p. 25).

<sup>6</sup> Special items, which are considered unusual or infrequent, are also not expected to persist, on average. Note, however, that special items include one-off transactions such as restructuring charges or a loss on the sale of an asset, while discontinued operations treatment actually removes sales, cost of goods sold, etc., from continuing income and classifies all of the operations related to the divestiture as discontinued operations.

firm has no continuing involvement. The perceived benefit of a broader scope of discontinued operations, as outlined in the FASB's discussion of SFAS 144, is the homogeneity of the income statement presentation of significant divestitures. Absent this delineation, managers in the UK, following FRS 3, appear to highlight certain divestitures as transitory to more accurately reflect the continuing operations of the firm that could be classified as discontinued operations under SFAS 144 (Choi et al., 2007).<sup>7</sup>

By construction, a broader scope of what can be classified under discontinued operations will increase the number of divestitures classified under discontinued operations. If the broader scope allows for a better delineation of income into continuing and discontinued, then the persistence of continuing income will increase. If the broader scope is used opportunistically, however, some transactions that might be better characterized as continuing might be incorrectly classified under discontinued operations (e.g., Barua et al., 2010). In this case, the persistence of continuing income is not expected to change. We first test whether the persistence of continuing income is different under these two regimes. Our first hypothesis, stated in the null form, is:

**H1.** The association between current continuing income and future continuing income does not differ between SFAS 144 and APB 30.

A broader scope of transactions included in discontinued operations may also change the properties of discontinued operations. Under both rules the association of discontinued operations and future continuing income is expected to be very low (Fairfield et al., 1996; Herrmann et al., 2000). It is possible, however, that the broader scope of the rule results in recurring income being classified as discontinued operations. Barua et al. (2010) provide evidence that managers intentionally classify recurring expenses as discontinued earnings to increase recurring earnings, whereas Choi et al. (2007) find that managers voluntarily exclude discontinued operations when forming non-GAAP earnings in the UK, but that the majority of these adjustments reflect appropriate classification of earnings components. To the extent managers use the broader scope to artificially improve continuing income by shifting recurring expenses to the discontinued operation, we expect a positive association between discontinued operations and future continuing income when those expenses recur in the future.<sup>8</sup> Alternatively, if the transactions included in discontinued operations remain relatively homogenous (i.e., divested operations with which the firm has no continuing involvement), we do not expect a significant change in the association between discontinued operations and future continuing operations. We therefore hypothesize in the null form:

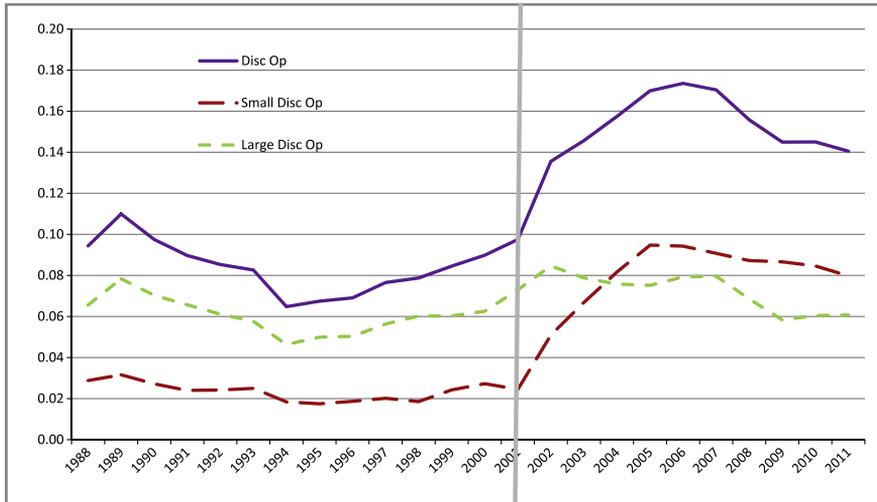
**H2.** The association between current period discontinued operations and future continuing income does not differ between SFAS 144 and APB 30.

There are two main differences between SFAS 144 and APB 30, the measurement, which does not differ between SFAS 144 and IFRS 5, and thus adds noise to our analysis, and the scope, which similarly differs between SFAS 144 and IFRS 5 and is the focus of our analysis. In other words, we use APB 30 to proxy for IFRS 5. We expect the scope of the rule to disproportionately impact single-segment firms, which will be more likely to meet the criteria for discontinued operations reporting under SFAS 144 than under IFRS 5 and APB 30. As such, we expect any differences between the two regimes to be stronger among single-segment firms than multi-segment firms. We therefore hypothesize in the null form:

**H3.** The regime shift from APB 30 to SFAS 144 does not differentially impact single-segment and multi-segment firms.

<sup>7</sup> It is important to highlight that special items, although often excluded from analysts' determination of earnings and managers' determination of pro forma earnings, only contain the gain or loss on the divestiture. Discontinued operations also exclude the operating income related to the divested operation. Thus, the narrowing of the scope cannot be easily corrected by analysts or investors by backing out the gain or loss on divestiture.

<sup>8</sup> It is also possible that the performance of divested operations is correlated with related business units retained by the firm, in which case there will be a mechanical positive relation between discontinued operations and future continuing income.



**Fig. 1.** Notes: To be included in the graph the firm-year observation must have lagged assets and non-missing total discontinued operations. The grey vertical line separates APB 30 (to the left of the line) and SFAS 144 (to the right of the line). *DiscOp* is an indicator variable that is equal to one if the firm-year has a nonzero discontinued operation (Xpressfeed DO), and zero otherwise. *Large (Small) DiscOp* is an indicator variable that is equal to one if the absolute value of discontinued operations is greater than (less than) 1% of lagged assets (Xpressfeed AT), and zero otherwise.

### 3. Empirical analysis

#### 3.1. Data sources, sample selection, and descriptive statistics

To test our hypotheses, we begin with all exchange-traded, industrial firms with standardized records at the consolidated level reporting in US Dollars and non-missing discontinued operations (Xpressfeed DO) and non-missing lagged total assets (Xpressfeed AT) from 1988 to 2011 from the 2011 Compustat Xpressfeed file. Our preliminary data screen results in 201,027 observations, which we examine graphically in Fig. 1. As the purpose of our graphical analysis is to document the prevalence of discontinued operations as a proportion of Compustat firms over time, we do not impose any further sample restrictions to form Fig. 1. In the APB 30 period, the proportion of firm-years with discontinued operations averages approximately 8 percent whereas in the SFAS 144 period, we observe a significantly higher frequency of reported discontinued operations, with an average of approximately 15%. Consistent with the scope of the rule largely driving this difference, the increase is concentrated among small discontinued operations (those with a magnitude less than 1 percent of lagged assets).<sup>9</sup>

To test our hypotheses, we further restrict our sample to cover two equal six-year time periods (1995–2000 and 2002–2007). We require positive common equity (Xpressfeed CEQ) and non-missing lags of discontinued operations (Xpressfeed DO), continuing income (Xpressfeed IB), and common equity (Xpressfeed CEQ).<sup>10</sup> Finally, we require that the absolute value of net income and net income in  $t + 1$  deflated by lagged common equity is less than one, consistent with Fairfield et al. (1996). Thus, our sample presented in the descriptive statistics and regression analysis comprises 39,469 firm-year observations from 1995–2007.

<sup>9</sup> Inferences are not sensitive to the size cutoff.

<sup>10</sup> We intentionally end our sample in 2007 to increase the generalizability of our results by avoiding the financial crisis. Results are similar if we consider five year windows and end the analysis in 2006 (not tabulated).

**Table 1**  
Descriptive statistics for the full sample.

Variables	Full Sample (39,469 observations)				Firm-years with no discontinued operations (35,246 observations)		Firm-years with discontinued operations (4223 observations)		Test of differences at the mean (median)
	Mean	Median	Q1	Q3	Mean	Median	Mean	Median	
<i>Discon Ops</i>	0.000	0.000	0.000	0.000	0.000	0.000	0.002	0.001	.001(.001)
<i>DiscOpIndicator</i>	0.106	0.000	0.000	0.000	0.000	0.000	1.000	1.000	.001(.001)
<i>SmallDiscOp</i>	0.065	0.000	0.000	0.000	0.000	0.000	0.606	1.000	.001(.001)
<i>LargeDiscOp</i>	0.042	0.000	0.000	0.000	0.000	0.000	0.394	0.000	.001(.001)
<i>Contin Inc</i>	0.095	0.112	0.026	0.189	0.097	0.116	0.076	0.087	.001(.001)
<i>Net Income</i>	0.092	0.112	0.023	0.190	0.095	0.115	0.074	0.091	.001(.001)
<i>Assets</i>	4295.690	374.146	95.124	1,571.094	3,825.734	331.152	8,218.851	1,124.054	.001(.001)

Notes: *Discontinued Ops* is the total amount of net income attributable to discontinued operations (Xpressfeed DO) in year  $t$ , scaled by common equity (Xpressfeed CEQ) as of the beginning of year  $t$ . *DiscOpIndicator* is equal to one if the firm-year has nonzero discontinued operations, and zero otherwise. *SmallDiscOp* is equal to one if the absolute value of non-zero discontinued operations is less than or equal to 1% of lagged total assets, and zero otherwise. *LargeDiscOp* is equal to one if the absolute value of discontinued operations is greater than 1% of lagged total assets, and zero otherwise. *Continuing Income* is income before discontinued operations and extraordinary items (Xpressfeed IB) in year  $t$ , scaled by common equity as of the beginning of year  $t$ . *Net Income* is net income (Xpressfeed NI) in year  $t$ , scaled by common equity as of the beginning of year  $t$ . *Assets* is total assets (Xpressfeed AT). Firm-years with discontinued operations encompass all firm-years with non-zero and non-missing discontinued operations on Compustat. The final column provides  $p$ -values for the test of differences between firm-years with and without discontinued operations at the mean (median).

We present descriptive statistics for our variables in Tables 1 and 2. In Table 1, we present the full sample and partition this sample by whether or not a discontinued operation was reported in each firm-year. Among firms reporting non-zero discontinued operations, mean and median discontinued operations as a percent of equity are quite low, at 0.002 and 0.001, respectively. Also among firms reporting non-zero discontinued operations, small discontinued operations (those less than 1% of lagged total assets) comprise 60% of the observations. It is important to note that positive and negative discontinued operations values offset; the mean absolute value of discontinued operations is material, at 4.5% (not tabulated).

Continuing income and net income (both scaled by common equity) are higher among firm-years that do not report discontinued operations. Finally, total assets are higher among firms reporting discontinued operations, consistent with the notion that larger firms are more likely to experience material divestitures.

In Table 2, we partition our sample by regime, with APB 30 presented in Panel A and SFAS 144 presented in Panel B. The evidence is consistent with our graphical evidence in Fig. 1. There is a notable increase in the frequency of discontinued operations under the broader scope of SFAS 144, with the mean frequency increasing from 5% under APB 30 to 17.1% under SFAS 144. The increase is concentrated among small discontinued operations, which experienced a fivefold increase, from 2.2% to 11.3%. The mean absolute value of all discontinued operations falls from 7.1 of lagged common equity under APB 30 to 3.6% under SFAS 144 (not tabulated). The increase in the frequency and the decrease in the overall magnitude of discontinued operations under SFAS 144 relative to APB 30 are both consistent with effects expected under a broader scope of the rule.

### 3.2. Earnings persistence and the scope of discontinued operations

Our hypotheses investigate whether the components of earnings are differentially associated with future continuing income under APB 30 versus SFAS 144. To determine whether or not the broader scope of the rule for discontinued operations has implications for the persistence of continuing income (Hypothesis 1) or the association between discontinued operations and future continuing income (Hypothesis 2), we estimate the following regression using Ordinary Least Squares:

**Table 2**  
Descriptive statistics by reporting regime: APB 30 and SFAS 144.

Variables	Full sample (20,838 observations)				Firm-years with no disc. operations (19,801 observations)		Firm-years with discontinued operations (1037 observations)		Test of differences at the mean (median)
	Mean	Median	Q1	Q3	Mean	Median	Mean	Median	
<i>Panel A: APB 30</i>									
<i>Discon Ops</i>	−0.000	0.000	0.000	0.000	0.000	0.000	−0.005	0.000	.001(.001)
<i>DiscOpIndicator</i>	0.050	0.000	0.000	0.000	0.000	0.000	1.000	1.000	.001(.001)
<i>SmallDiscOp</i>	0.022	0.000	0.000	0.000	0.000	0.000	0.435	0.000	.001(.001)
<i>LargeDiscOp</i>	0.028	0.000	0.000	0.000	0.000	0.000	0.565	1.000	.001(.001)
<i>Contin Inc</i>	0.106	0.121	0.037	0.199	0.108	0.123	0.083	0.091	.001(.001)
<i>Net Income</i>	0.105	0.120	0.035	0.198	0.106	0.122	0.075	0.090	.001(.001)
<i>Assets</i>	3161.408	283.794	75.096	1171.479	3076.199	272.258	4788.347	705.777	.002(.001)
<i>Panel B: SFAS 144</i>									
Variables	Full sample (18,631 observations)				Firm-years with no disc. operations (15,445 observations)		Firm-years with discontinued operations (3,186 observations)		Test of differences at the mean (median)
	Mean	Median	Q1	Q3	Mean	Median	Mean	Median	
<i>Discon Ops</i>	0.001	0.000	0.000	0.000	0.000	0.000	0.005	0.001	.001(.001)
<i>DiscOpIndicator</i>	0.171	0.000	0.000	0.000	0.000	0.000	1.000	1.000	.001(.001)
<i>SmallDiscOp</i>	0.113	0.000	0.000	0.000	0.000	0.000	0.662	1.000	.001(.001)
<i>LargeDiscOp</i>	0.058	0.000	0.000	0.000	0.000	0.000	0.338	0.000	.001(.001)
<i>Contin Inc</i>	0.081	0.101	0.015	0.179	0.083	0.105	0.074	0.086	.024(.001)
<i>Net Income</i>	0.079	0.102	0.011	0.181	0.080	0.104	0.073	0.091	.102(.001)
<i>Assets</i>	5564.344	507.915	129.153	2087.703	4786.614	422.601	9,335.784	1262.329	.001(.001)

See Table 1 for variable definitions. The final column provides p-values for the test of differences between firm-years with and without discontinued operations at the mean (median).

$$\begin{aligned}
 \text{ContinuingIncome}_{t+1} = & \alpha_0 + \alpha_1 \text{ContinuingIncome}_t + \alpha_2 \text{DiscontinuedOperations}_t \\
 & + \alpha_3 \text{RegimeShift}_t + \alpha_4 \text{ContinuingIncome}_t \times \text{RegimeShift}_t \\
 & + \alpha_5 \text{DiscontinuedOperations}_t \times \text{RegimeShift}_t + e_t
 \end{aligned} \quad (1)$$

where *ContinuingIncome* is income before discontinued operations and extraordinary items (Xpressfeed IB) scaled by common equity (Xpressfeed CEQ) at time  $t - 1$  following Fairfield et al. (1996). We measure scaled *Continuing Income* annually at time  $t + 1$  and time  $t$ , *DiscontinuedOperations* is annual discontinued operations (Xpressfeed DO) scaled by common equity at time  $t - 1$ , *RegimeShift* is an indicator variable that takes the value of one if the year of *ContinuingIncome*<sub>*t*</sub> is between 2002 and 2007, and zero if the year is from 1995 to 2000. As our analysis is pooled and we expect significant firm and year effects, we report our *t*-statistics based on standard errors clustered by firm (Xpressfeed GVKEY) and year (Xpressfeed FYEAR).

As previously noted, it is possible that the coefficient on either *Continuing Income* or *Discontinued Operations* will differ between the two regimes. If the broader scope of the rule allows transactions that are most appropriately classified as discontinued operations to be classified as such under SFAS 144, when these transactions were classified as continuing income under APB 30, we would expect higher persistence of *Continuing Income* under SFAS 144 ( $\alpha_4 > 0$ ), but no difference in the persistence of *Discontinued Operations* across the two regimes ( $\alpha_5 = 0$ ).<sup>11</sup> Alternatively, if the broader scope of the

<sup>11</sup> Note that the operations of the discontinued operation are included in the discontinued operation (it is the sum of the income or loss from operations from the discontinued operation and any gain or loss on the divestiture). Thus, any improvement in continuing income is not simply mechanical.

**Table 3**

Earnings persistence and discontinued operations for the full sample  $ContinuingIncome_{i,t+1} = \delta_0 + \delta_1 ContinuingIncome_{i,t} + \delta_2 DiscOp_{i,t} + \delta_3 FAS144_{i,t} + \delta_4 ContinuingIncome_{i,t} \times FAS144_{i,t} + \delta_5 DiscOp_{i,t} \times FAS144_{i,t} + \varepsilon_{i,t}$ .

Independent variables	Predicted sign	Dependent Variable = $ContinuingIncome_{i,t+1}$			Difference
		All firms	No DiscOp	Only DiscOp	
<i>Intercept</i>		0.033*** (4.95)	0.033*** (4.71)	0.046*** (10.41)	0.014*** (2.89)
<i>Continuing Income</i>	+	0.796** (42.25)	0.800** (42.81)	0.650** (38.84)	-0.150** (13.41)
<i>Discontinued Operations</i>	+	0.083*** (5.08)		0.079*** (8.16)	
<i>RegimeShift</i>	?	0.004 (0.29)	0.005 (0.35)	-0.009 (1.10)	-0.014* (1.82)
<i>Continuing Income × RegimeShift</i>	?	-0.005 (0.17)	-0.002 (0.06)	0.060** (2.29)	0.062*** (3.24)
<i>Disc. Operations × RegimeShift</i>	?	-0.102*** (3.18)		-0.092*** (3.27)	
Total number of obs		39,469	35,246	4,223	
Adj. R <sup>2</sup>		49%	49%	55%	

Notes: *Continuing Income* is income before discontinued operations and extraordinary items (Xpressfeed IB) scaled by common equity (Xpressfeed CEO) as of the beginning of year *t*. *Discontinued Operations* is the total amount of net income attributable to discontinued operations (Xpressfeed DO) in year *t* scaled by common equity as of the beginning of year *t*. *RegimeShift* is an indicator variable that is equal to zero for fiscal years 1995–2000 and one for 2002–2007. This table presents t-statistics in parentheses that are clustered by firm and year.

\* indicate statistical significance at the 10% level under a two-tailed test.

\*\* indicate statistical significance at the 5% level under a two-tailed test.

\*\*\* indicate statistical significance at the 1% level under a two-tailed test.

rule led to transactions that would be best characterized as continuing income to be classified under discontinued operations, we would expect no change in the persistence of continuing income across the two regimes ( $\alpha_4 = 0$ ), but more persistent discontinued operations under SFAS 144 relative to APB 30 ( $\alpha_5 > 0$ ).

We first report our estimation of Eq. (1) for a pooled sample including firms both with and without discontinued operations. We next partition this sample between firm-years that do not report discontinued operations (*No DiscOp*) and firm-years reporting discontinued operations under either APB 30 or SFAS 144 (*Only DiscOp*).<sup>12</sup> This partition allows us to establish benchmark changes in the persistence of operating income due to other regulatory events such as the Sarbanes–Oxley Act of 2002, and the final column provides a test of differences between *No DiscOp* and *Only DiscOp*.

We present our results in Table 3. In column 1, we report the results of Eq. (1) applied to the full sample of 39,469 firms with available data. Consistent with prior research, we find that continuing income has a higher association with future operating income ( $\alpha_1 = 0.796$ ,  $t = 42.25$ ) than does discontinued operations ( $\alpha_2 = 0.083$ ,  $t = 5.08$ ). We do not find evidence to reject Hypothesis 1, as the coefficient on  $ContinuingIncome_t \times RegimeShift_t$  is not statistically significant ( $\alpha_4 = -0.005$ ,  $t = 0.17$ ). Turning to the coefficient on  $DiscontinuedOperations_t \times RegimeShift_t$ , a positive and significant coefficient would have suggested an increase in opportunism via classification shifting but instead we find a negative and significant coefficient, indicating that the positive association between discontinued operations and future operating income has declined.

We next partition firm-years with and without discontinued operations. We see no change in the persistence of continuing income among firms that do not report discontinued operations ( $\alpha_4 = -0.002$ ,  $t = 0.06$ ), but find evidence of an increase in the persistence of continuing income among firm-years that do report discontinued operations ( $\alpha_4 = 0.060$ ,  $t = 2.29$ ). The difference in the coefficients is statistically significant ( $t = 3.24$ ). This suggests that the broader scope of SFAS 144 allows for a finer partition of continuing income and discontinued operations.

<sup>12</sup> We also re-estimate our analyses on a fixed sample of firms that existed under both regimes and results are qualitatively similar (not tabulated).

**Table 4**

Earnings Persistence and Discontinued Operations for Single-Segment Firms  $ContinuingIncome_{i,t+1} = \delta_0 + \delta_1 ContinuingIncome_{i,t} + \delta_2 DiscOp_{i,t} + \delta_3 FAS144_{i,t} + \delta_4 ContinuingIncome_{i,t} \times FAS144_{i,t} + \delta_5 DiscOp_{i,t} \times FAS144_{i,t} + \varepsilon_{i,t}$ .

Independent variables	Predicted sign	Dependent Variable = $ContinuingIncome_{i,t+1}$			Difference
		All firms	No DiscOp	Only DiscOp	
Intercept		0.034 <sup>***</sup> (5.55)	0.034 <sup>***</sup> (5.50)	0.038 <sup>***</sup> (7.78)	0.004 (0.61)
Continuing Income	+	0.816 <sup>***</sup> (45.11)	0.817 <sup>***</sup> (44.67)	0.681 <sup>***</sup> (41.69)	-0.137 <sup>***</sup> (5.46)
Discontinued Operations	+	0.108 <sup>***</sup> (2.98)		0.092 <sup>***</sup> (3.61)	
RegimeShift	?	-0.003 (0.22)	-0.002 (0.16)	-0.018 (1.89)	-0.015 <sup>*</sup> (1.67)
Continuing Income × RegimeShift	?	-0.015 (0.50)	-0.016 (0.52)	0.125 (5.35)	0.141 <sup>***</sup> (3.71)
Disc. Operations × RegimeShift	?	-0.202 <sup>***</sup> (4.49)		-0.162 <sup>***</sup> (5.09)	
Total number of obs		22,141	21,230	911	
Adj. R <sup>2</sup>		52%	52%	62%	

See Table 4 for variable definitions. This table presents t-statistics in parentheses that are clustered by firm and year.

<sup>\*\*\*</sup> indicate statistical significance at the 5% level under a two-tailed test.

<sup>\*</sup> indicate statistical significance at the 10% level under a two-tailed test.

<sup>\*\*\*</sup> indicate statistical significance at the 1% level under a two-tailed test.

We next investigate Hypothesis 3, and investigate whether the increase in operating income persistence under the broader scope of SFAS 144 differs cross-sectionally between single-segment and multi-segment firms. It is possible that the increase in operating income persistence is more acute for firms with single segments, as these firms are less likely, under APB 30, to reach the threshold of a discontinued operation. We present the analogous results for single-segment and multi-segment firms in Tables 4 and 5, respectively. The increase in the persistence of continuing income is statistically higher among single-segment firms (0.141) relative to multi-segment firms (0.011) [*t*-statistic for the test of difference = 2.37; not tabulated]. In sum, the increase in the persistence of continuing income is concentrated in the sample expected to be most affected by the broader scope of the rule: firms reporting single segments.

**Table 5**

Earnings persistence and discontinued operations for multi-segment firms  $ContinuingIncome_{i,t+1} = \delta_0 + \delta_1 ContinuingIncome_{i,t} + \delta_2 DiscOp_{i,t} + \delta_3 FAS144_{i,t} + \delta_4 ContinuingIncome_{i,t} \times FAS144_{i,t} + \delta_5 DiscOp_{i,t} \times FAS144_{i,t} + \varepsilon_{i,t}$ .

Independent variables	Predicted sign	Dependent Variable = $ContinuingIncome_{i,t+1}$			Difference
		All Firms	No DiscOp	Only DiscOp	
Intercept		0.034 <sup>***</sup> (4.19)	0.032 <sup>***</sup> (3.63)	0.048 <sup>***</sup> (9.32)	0.016 <sup>**</sup> (2.43)
Continuing Income	+	0.740 <sup>***</sup> (37.47)	0.749 <sup>***</sup> (35.88)	0.642 <sup>***</sup> (32.99)	-0.107 <sup>***</sup> (4.72)
Discontinued Operations	+	0.077 <sup>***</sup> (5.30)		0.074 <sup>***</sup> (7.81)	
RegimeShift	?	0.009 (0.74)	0.012 (0.90)	-0.007 (0.81)	-0.019 <sup>**</sup> (2.23)
Continuing Income × RegimeShift	?	0.029 (1.07)	0.035 (1.18)	0.046 <sup>*</sup> (1.68)	0.011 (0.35)
Disc. Operations × RegimeShift	?	-0.085 <sup>***</sup> (2.62)		-0.076 <sup>**</sup> (2.48)	
Total number of obs		17,328	14,016	3,312	
Adj. R <sup>2</sup>		43%	42%	53%	

See Table 4 for variable definitions. This table presents t-statistics in parentheses that are clustered by firm and year.

<sup>\*</sup> indicate statistical significance at the 10% level under a two-tailed test.

<sup>\*\*</sup> indicate statistical significance at the 5% level under a two-tailed test.

<sup>\*\*\*</sup> indicate statistical significance at the 1% level under a two-tailed test.

Taken together, these results suggest that including smaller divestitures in discontinued operations under the broader scope of SFAS 144 improves the delineation of operations between continuing and discontinued thereby improving the quality of continuing income.

#### 4. Conclusions

We examine the extent to which the scope of accounting for discontinued operations affects the usefulness of disaggregated income components in predicting an entity's future continuing income. We examine two reporting regimes, APB 30 (which is similar in scope to IFRS 5) and SFAS 144. The scope of APB 30 is narrower than SFAS 144, requiring the divestiture of a segment or line of business. Under SFAS 144, the scope of the rule is broader and covers divestitures of assets that are separable for financial reporting and cash flow purposes. Consistent with the broader scope, we document significantly more firms reporting discontinued operations under SFAS 144 relative to APB 30. As the FASB's motivation for the broader scope of SFAS 144 was to provide more homogenous information, we examine how the components of earnings correlate with future operating income across the two regimes.

Consistent with a broader scope of the rule allowing reported continuing income to be of higher quality, we document an increase in the persistence of continuing income. The improvement is concentrated among single-segment firms, which we expect to be more constrained by the narrower scope of APB 30. We do not find an increasingly positive association between discontinued operations and future operating income, suggesting that managers are not pervasively abusing the broader scope of the rule (Choi et al., 2007; Barua et al., 2010). As in Barua et al. (2010), we cannot rule out that a confounding event, such as the Sarbanes–Oxley Act of (2002), is affecting our inferences. Such a confounding event, however, would need to affect only firms reporting discontinued operations, and within these firms, be concentrated among single-segment firms. Thus, we feel the existence of such an event is unlikely.

Overall, our results support retaining the broader scope of discontinued operations. As discontinued operations is set to have a more prominent role in the financial statement presentation project, our findings have implications for regulators as the IASB and FASB move towards convergence on the reporting of discontinued operations.

#### Acknowledgements

We gratefully acknowledge the helpful comments from an anonymous referee, Christine Botosan, Ted Christensen, Jeffrey Doyle, Neil Fargher, Susan McMahon, Grace Pownall, Stephen Ryan, Jeff Wilks, David Wood, the Research Discussion Group at the University of Utah, and participants at the Center for Corporate Reporting and Governance Conference, Brigham Young University, Cornell University, Emory University, and Utah State University. All errors remain our responsibility.

#### References

- American Institute of Certified Public Accountants (AICPA) Special Committee on Financial Reporting, 1994. Improving business reporting—a customer focus: meeting the information needs of investors and creditors. New York, NY: AICPA.
- Athanasakou, V., Strong, N., Walker, M., 2007. Classificatory income smoothing: the impact of a change in regime of reporting financial performance. *J. Account. Public Pol.* 26, 387–435.
- Barua, A., Lin, S., Sbaraglia, A., 2010. Earnings management using discontinued operations. *Account. Rev.* 85 (5), 1485–1509.
- Burgstahler, D., Jiambalvo, J., Shevlin, T., 2002. Do stock prices fully reflect the implications of special items for future earnings? *J. Account. Res.* 40, 585–612.
- Choi, Y.-S., Lin, S., Walker, M., Young, S., 2007. Disagreement over the persistence of earnings components: evidence on the properties of management-specific adjustments to GAAP earnings. *Rev. Account. Stud.* 12, 595–622.
- Fairfield, P., Sweeney, R., Yohn, T., 1996. Accounting classification and the predictive content of earnings. *Account. Rev.* 71 (3), 337–355.
- Financial Accounting Standards Board (FASB), 2001. Statement of Financial Accounting Standards No. 144: Accounting for the Impairment or Disposal of Long-Lived Assets.
- Financial Accounting Standards Board (FASB), 2013. Proposed Accounting Standards Update: Reporting Discontinued Operations.

- Herrmann, D., Inoue, T., Thomas, W., 2000. The persistence and forecast accuracy of earnings components in the USA and Japan. *J. Int. Finan. Manage. Account.* 11 (1), 48–70.
- Lipe, R., 1986. The information contained in the components of earnings. *J. Account. Res.* 24 (Supplement), 37–64.
- Rapaccioli, D., Schiff, A., 1991. Reporting sales of segments under APB opinion no. 30. *Account. Horiz.* 5 (4), 53–59.