Will Accounting Standards Update 2014-09 improve the comparability of gift card breakage income?

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ABSTRACT

Accounting Standards Update [ASU] 2014-09, *Revenue from Contracts with Customers,* standardizes the way gift card breakage income is determined by prescribing the proportionate recognition method. The common belief driving FASB's mandate is that eliminating diversity of approach for breakage income will improve financial comparability. Yet, a review of the literature suggests that there is no study that has actually investigated whether different breakage recognition methods have outcomes that affect comparability. In response, this study investigates whether there are differences in the accretive effects of breakage income on Earnings per Share between recognition methods. Earnings per share was chosen because it is the quintessential comparator for financial analysts. The results suggest that FASB's quest for comparability in ASU 2014-09 may be unfounded as there are no statistically significant differences in EPS impact between methods. In short, the results question whether standardizing the approach for recognizing breakage will be beneficial for users of financial information or merely a headache for firms that don't currently use the proportionate recognition method.

Keywords: Gift Cards, Breakage, ASU 2014-09, Proportionate Recognition Method

INTRODUCTION

Gift cards represent significant sales for retail firms. CEB TowerGroup (2013) estimates that sales of closed-loop gift cards in the retail trade sector will increase to $80 billion in 2016, up from just $60 billion in 2008. A surprising by-product of gift card programs is *breakage*. Breakage represents the unredeemed portion of gift card sales (Kile & Wall, 2008) and occurs when gift cards are lost, or when consumers elect to partially redeem or never redeem their gift cards. While there is no official estimate of breakage, some calculate that breakage is $2 - $7 billion annually (see e.g., O'Connell, 2010; TowerGroup, n.d.; "States Find Jackpot," 2012).

It is widely understood among accounting practitioners that the sale of a gift card should not be immediately recorded as revenue; instead, it should be considered both a receipt of cash and the assumption of a liability, which is called deferred revenue. Upon redemption, the liability is removed from the balance sheet, revenue is recognized, and a product or service is delivered. However, an accounting conundrum exists for unredeemed gift cards; that is, when is the earnings process complete for an unredeemed gift card and therefore recognizable in financial statements (Marden & Forsyth, 2007) as breakage? On one hand, it could be argued that the earnings process is not complete until a gift card is redeemed; therefore unredeemed balances should remain on the balance sheet as indefinite deferrals. In contrast, it could be said that it is necessary to keep the balance sheet up to date so as to reflect the true liability of future gift card redemptions; therefore, it is necessary to remove unused balances when it is determined that the gift card balances will not be redeemed. Both arguments have merits, but regardless of the approach, the answer to this accounting puzzle is left solely to managements. Importantly, whenever breakage is eventually recognized in the financial statements, it is accretive to income.

It should be evident that breakage income recognition is a subjective activity; the determination of when the earnings process is complete will be different for each firm and can change over time. The absence of clearly defined breakage recognition standards and bright-line rules within generally accepted accounting principles (GAAP) fosters flexible breakage policies (see e.g., Feinson, 2008; Hennes & Schenck, 2014; Kile, 2007) and contributes to an environment where breakage recognition is susceptible to highly discretionary actions by managements. Given that breakage is found throughout the entire retailing industry, it follows that discretionary breakage recognition decisions have far-reaching effects in the financial markets.

Yet there remains uncertainty as to which firms derive greater benefit from the decision to recognize breakage income. That is to say, if breakage income is accretive, are some firms more likely to accrue significant advantage from its recognition and therefore more likely to recognize it? This study investigates whether a firm's financial strength, as measured by its net profit margin (NPM) and return on net operating assets (RNOA), is an indicator of a firm's likelihood to capitalize on the accretive effects of breakage income. Using quarterly financial data, this study determined that lower profit margin retailers and retailers with lower returns on net operating assets recognize more breakage income than their stronger retail counterparts, suggesting that financially weaker firms are more likely to recognize breakage income.

LITERATURE REVIEW

Hypothesis H6b, the propensity to recognize breakage varies by line of trade, assumes that retailers differ in their ability to benefit from gift card breakage depending on their line of trade. Lines of trade with significant gift card activity imply greater opportunity to build up unredeemed cards and to ultimately recognize breakage income. Here, breakage as a percent of sales is a substitute for the level of breakage available to individual retailers; it is expected that the average of this proxy across each line of trade will differ significantly.

Measuring a firm's financial strength is a subjective discussion. Literature examining financial performance and corporate results has a post-modern, du-jour feel; that is, the determination of financial strength is subjective and relative and changes over time. Numerous articles have tried to articulate and summarize a "best" way (see e.g., Bacidore, Boquist, Milbourn, & Thakor, 1997; Burns, Sale, & Stephan, 2008; Capon, Farley, & Hoenig, 1990; Ferguson, & Leistikow, 1998), but no clearly defined way to assess financial strength exists.

Yet, widely accepted methods and practices do exist, namely assessments through profitability and operational measures. Among the most popular profitability measures is net profit margin; NPM assesses how much of a sales dollar results in profits. Generally speaking, higher profit margins suggest financial strength, mostly due to good management of expenses and taxes. Likewise, a popular operational metric is return on net operating assets; RNOA differs from net profit margin in that it excludes the impact of taxes by focusing on operational income, and it includes asset efficiency. Again, generally speaking, higher returns on net operational assets are indicative of strong financial performance, as they demonstrate good management of operational expenses and proper use of operating assets like inventory and property, plant, and equipment to generate sales.

Importantly, the financial choices managements make affect profitability and operational metrics. This topic has been fully explored in the accounting choice literature, starting with the seminal articles of Watts and Zimmerman (1978) and Holthausen and Leftwich (1983). The accounting choice research of the 1970s and 1980s focused mainly on contracting costs and "hard" accounting choices like inventory valuation method and their impact on firm value or cash flow. Since the 1990's, the accounting choice literature turned to "softer" accounting choices typically associated with earnings management and incorporated management incentives (e.g., bonus plans or meeting external benchmarks) as possible motivators of management decisions to affect financial outcomes. Today, the literature continues to explore both hard and soft choices and remains a fruitful area of study.

Of particular interest here is an affirmation in extant literature that recognizes that managements make accounting choices based on their assessments of their firms' financial strength. Frantz (1997) suggested that financially strong firms will signal their strength by adopting conservative accounting policies; in contrast, it can be inferred from his work that financially weak firms will signal their weakness by adopting aggressive accounting policies. This may be especially true in the retail sector. For example, Chun, Eppli, and Shilling (2003) observed that highly leveraged retail firms were more likely to adopt operational leases because they can be expensed immediately; they called retailers acting in this manner "financially constrained" which is akin to calling those retailers financially weak. It should be obvious however that the financially weak retailers opted for the aggressive accounting policy because adopting a contrarian capital lease convention would have been a more conservative choice. The

same logic of conservative/aggressive choice can be applied to breakage recognition; a conservative policy of delayed or limited recognition suggests a retailer is in a position of financial strength. That is, if a firm exhibits strong profitability and operational performance metrics, there would be no need to take an aggressive approach on the removal of unredeemed gift card balances from the balance sheet because the accretive income is not necessary. In contrast, aggressive recognition of breakage income is a more assertive policy decision and suggests financial weakness. Weak financial results in the absence of breakage income may spur managers to use breakage income more aggressively to inflate profitability and operational results. In this study, it is assumed that retailers' breakage decisions are influenced by their financial strength as measured by net profit margins and by returns on net operating assets. Thus, it is hypothesized:

H_1: Lower net profit margin retailers recognize more breakage income than higher net profit margin retailers.

H_2: Lower RNOA retailers recognize more breakage income than higher RNOA retailers.

METHODOLOGY

The null and alternative hypotheses are:
H_O μ〖BRKG/SALES%〗_1=μ〖BRKG/SALES%〗_2=μ〖BRKG/SALES%〗_n

H_(A) The mean scores are not all equal

where
n = Number of lines of trade
For retailers recognizing breakage in the sample (n=45), quarterly breakage as a percent of sales is calculated for each quarter after initial recognition of breakage, and each quarterly observation is assigned a unique, SIC line of trade code (see Table 1). The period of study includes the first quarter of 2005 through the first quarter of 2012. Data is then grouped by SIC code. The mean for each SIC code is calculated. To evaluate this hypothesis, a one-way ANOVA test is used. The ANOVA is appropriate when comparing three or more population means to determine whether they could be equal. Here, the confidence level is 95%. If the null hypothesis is rejected ($p < .05$) a Tukey HSD post hoc test will determine where the significant differences occurred between lines of trade.

The purpose of this study is to evaluate whether retail firms with lower net profit margins and retail firms with lower returns on net operating assets (RNOA) recognize more breakage income than their financially stronger counterparts. This is accomplished by first determining whether there is a negative correlation between the level of breakage income and net profit margin and return on net operating assets, respectively. A negative correlation suggests that the lower the net profit margin or return on net operating asset, the higher the level of breakage income. Assuming a negative correlation exists, the study then stratifies net profit margins and RNOA values for US publicly traded retailers into quartiles and determines mean breakage income as a percent of net sales for the first and fourth quartile, respectively. Two-sample *t*-tests are used to test for differences in the mean; significance suggests that financially weaker firms

accrue significant advantage from the recognition of breakage income and therefore are leveraging it to a greater extent.

The study begins by identifying publicly traded firms that disclosed quarterly breakage income. SEC EDGAR was queried for "breakage," "gift cards," "stored value cards," or "unredeemed" within six lines of retail trade including apparel and accessories; building material, hardware, and garden supply; eating and drinking; food stores; home furniture, furnishings, and equipment; and miscellaneous retail. These retail groups were selected because it was assumed that gift card activity within them is high. While 187 publicly-traded retail firms were identified in the six retail groups, only 45 disclosed quarterly breakage income values during the sample period, 2002 – 2011. Breakage income (BRKG) was disclosed for 594 firm quarters. All other financial data, including profit and loss and balance sheet values for the 45 sampled firms, was obtained from Thomson One.

To test H_1 lower net profit margin retailers recognize more breakage income than higher net profit margin retailers, it was assumed that lower profit margin retailers benefit more from breakage recognition than higher profit margin firms; that is, there is more up-side potential from breakage income for lower profit margin firms to improve profitability since breakage income falls directly to the bottom line. Here, breakage income as a percent of sales (BRKG/SALES%) is a proxy for the level of breakage. To test the hypothesis, the null (1) hypothesis is:

(1) $H_O \quad \mu BRKG/SALES\%_{low\ profit\ margin\ firms} \leq \mu BRKG/SALES\%_{high\ profit\ margin\ firms}$

Quarterly sales (SALES) and net income available to common shareholders excluding extraordinary items (NETINC) for all firms were downloaded from Thomson One. Both SALES and NETINC were adjusted for pre-tax and post-tax breakage, respectively. Breakage income was removed from the firm's actual result to eliminate its effect on both net margin and revenue in order to create baseline financial values. Net profit margin without breakage, calculated by dividing quarterly net income available to common, excluding extraordinary items and breakage income by quarterly net sales excluding breakage income, was determine for the 45 firms, resulting in 1,335 firm quarters. To minimize the impact of year-on-year business fluctuations, an average net profit margin was calculated for each retailer over an 8-year period, 2003-2010 (32 quarters); 8-years was deemed sufficient to smooth results stemming from normal business cycles. The 8-year average net profit margin data of all firms was sorted, ranked, and divided into quartiles with the top quartile (top 25% of firms) considered "high net profit margin" and the bottom quartile (bottom 25% of firms) considered "low net profit margin." Quarterly breakage income as a percent of sales (BRKG/SALES%) for each retailer was calculated for all quarters following the initial recognition of breakage income, and each quarterly observation was assigned to an NPM quartile, depending on how a firm was ranked. For example, if firm *i* was classified as a high margin retailer, then each of its BRKG/SALES% by quarter was assigned to the first quartile. The mean for each quartile was calculated, and one-tailed t-statistic (two-sample t-test) assessed the null hypothesis. The critical level of significance is .05.

For H_2 lower RNOA retailers recognize more breakage income than higher RNOA retailers, this study leveraged a modified DuPont model which is widely recognized in literature (see e.g., Pratt & Hirst, 2009; Soliman, 2008) as an indicator of overall financial performance and operational efficiency. The modified DuPont model measures RNOA as the product of an operating product margin and asset turnover ratio (Soliman, 2008). Again, breakage income as a

percent of sales (BRKG/SALES%) is a proxy for the level of breakage. To test the hypothesis, the null (2) hypothesis is:

(2) $H_O \quad \mu BRKG/SALES\%_{Low\ RNOA\ firms} \leq \mu BRKG/SALES\%_{High\ RNOA\ firms}$

Quarterly sales (SALES), operating income (OPINC) and balance sheet values necessary to compute net operating assets (NOA) were downloaded from Thomson One for each sampled firm. NOA was determined by summing cash, accounts receivable (net of allowances), inventory, and property/plant/ equipment (net of depreciation) and subtracting accounts payable for each firm. Cash was included in NOA because some cash is necessary for operations, and it is a non-interest bearing asset (Brigham & Daves, 2013). One quarterly NOA observation had to be imputed by mean substitution due to incomplete quarterly data. SALES and OPINC were adjusted for pre-tax breakage; breakage income was removed from the firm's actual result to eliminate its effect on operating margin and net sales in order to create baseline financial values. The return on net operating assets (RNOA) was determined for the 45 firms, resulting in 1,335 firm quarters. Four quarterly observations could not be computed due to zero sales (i.e., a divide by zero error) and were discarded. To minimize the impact of year-on-year business fluctuations, an average RNOA was calculated for each retailer over an 8 year period, 2003-2010 (32 quarters); 8-years was deemed sufficient to smooth fluctuations arising during a normal business cycle. The 8-year average RNOA data of all firms was sorted, ranked, and divided into quartiles with the top quartile (top 25% of firms) considered "high RNOA firms" and the bottom quartile (bottom 25% of firms) considered "low RNOA firms." Quarterly breakage income as a percent of sales (BRKG/SALES%) for each retailer was calculated for each quarter following initial recognition of breakage income, and each quarterly observation was assigned to an RNOA quartile, depending on how a firm was ranked. For example, if firm *j* was classified as a high RNOA retailer, then each of its BRKG/SALES% by quarter was assigned to the first quartile. The mean for each quartile was calculated, and a one-tailed t-statistic (two-sample t-test) assessed the null hypothesis. The critical level of significance is .05.

FINDINGS OF THE STUDY

H_{6b} – There is statistically significant evidence that the propensity to recognize breakage varies by line of trade.

In this study, six lines of trade are considered (see Table 1). Each retailer is aligned to an SIC major group permitting analysis along line of trade.

Preparing the data to address hypothesis H_{6b} required that breakage as a percentage of sales (BRKG/SALES%) be calculated for the 45 firms recognizing breakage for each firm quarter following initial recognition of breakage by an individual retailer; 594 firm quarters were calculated. BRKG/SALES% serves as a proxy for a retailer's tendency to recognize breakage.

Each BRKG/SALES% quarterly observation was mapped to a line of trade at the firm level. For example, if Firm *i* was classified as a Food Store (SIC Code = 54), then each of its quarterly BRKG/SALES% were assigned the line of trade code "54". Table 22 presents descriptive statistics of BRKG/SALES% by line of trade. The BRKG/SALES% data is ratio data.

Table 22: ***Breakage as % of Sales by Line of Trade***

of Trade	N*	M	SD	Min	Median	Max	Skewness	Kurtosis
52	48	0.05%	0.000	0.01%	0.05%	0.23%	3.05	11.90
54	17	0.05%	0.001	0.00%	0.01%	0.42%	3.42	12.14
56	218	0.20%	0.004	0.00%	0.09%	4.05%	5.95	41.79
57	56	0.28%	0.006	0.03%	0.19%	4.83%	7.01	51.27
58	181	0.39%	0.008	-0.32%	0.15%	7.42%	5.33	38.94
59	74	0.17%	0.003	0.00%	0.06%	1.96%	3.85	18.75

** Firm quarters*

Assumptions for an ANOVA test require an interval or ratio dependent variable, sample independence, a normal distribution, and equal variances (Lind et al., 2005). The assumption of normality was not met by the BRKG/SALES% data ($AD = 109.09$, $p < .005$); attempts at data transformation did not improve normality.

Therefore, the Kruskal-Wallis test was employed as a non-parametric, but widely accepted alternative to a one-way ANOVA. The Kruskal-Wallis test relaxes the assumption of normality while maintaining assumptions for the dependent variable's level of measurement (i.e., interval or ratio) and sample independence (Anderson et al., 2011). The Kruskal-Wallis test also requires that the data come from populations with the same shape (e.g., both skewed right) (Anderson et al., 2011). The BRKG/SALES% data met these requirements, supporting the use of Kruskal-Wallis.

The hypotheses associated with Kruskal-Wallis mirrors those of the one-way ANOVA except that medians are used instead of means (Anderson et al., 2011). Formally, let η_{52} = the median BRKG/SALES% for building material, hardware, and garden supply stores; let η_{54} = the median BRKG/SALES% for food stores; let η_{56} = the median BRKG/SALES% for apparel and accessory stores; let η_{57} = the median BRKG/SALES% for home furniture, furnishings, and equipment stores; let η_{58} = the median BRKG/SALES% for eating and drinking establishments;

and let η_{59} = the median BRKG/SALES% for miscellaneous retailers. The null and alternative hypotheses for *H6b* using a Kruskal-Wallis test are restated as:

$$H_0\ \eta_{52} = \eta_{54} = \eta_{56} = \eta_{57} = \eta_{58} = \eta_{59}$$
$$H_A\ The\ medians\ are\ not\ all\ equal$$

The complete output from Minitab® is in Appendix F. The results of the Kruskal-Wallis test, adjusted for ties, is significant at a 95% confidence level (H = 88.28, 5 *d.f.*, p = .000), indicating that there is at least one significant difference in medians among the lines of trade. Therefore, the null hypothesis for *H6b* is rejected.

A limitation of the Kruskal-Wallis test, like the one-way ANOVA, is that the test does not indicate which pair(s) of medians differ (Dytham, 2011). A one-way ANOVA requires a *post hoc* test to determine differences among pairs. Unfortunately, there is no equivalent *post hoc* test for Kruskal-Wallis. Dytham (2011) however recommends that pairwise Mann-Whitney tests should be carried out if a difference among pairs is important to the research.

Therefore, pairwise comparisons for each possible combination of factors were conducted using a Mann-Whitney two-tailed test. Following Chiang et al. (2008), a Bonferroni adjustment technique was employed to adjust the significance level necessary to reject the null hypothesis by dividing the alpha level by the number of comparisons. This avoided "increased risk of Type I Error that comes with multiple comparisons" (Vogt & Johnson, 2011, p.35). First, the total number of comparisons was given by 0.5s(s-1) = 15, where *s* is the number of factors. The adjusted alpha, *a*, was (0.05/15)*100 = 0.333; therefore, 15 Mann-Whitney tests are run at *a* = 0.00333 (99.667%) confidence level. Summarized output for the 15 comparison tests, adjusted for ties, is in Table 23; see Appendix F for complete results. The results of these *post hoc* tests indicated significant differences in medians at the 99.667% confidence level between 13 of the 15 pairwise combinations.

The inference of this finding is that some lines of trade seem to have greater opportunity to manage earnings with breakage than others. That is, the very line of trade in which retailers operate may afford them more latitude in their discretionary decision-making concerning breakage.

Table 23: ***Post-hoc Mann-Whitney Pairwise Comparisons – Line of Trade***

e of Trade	52	54	56	57	58	59
52 (Bldg.)	---					
54 od Store)	J = 666 = 3.851 **p = .000**	---				
56 Apparel)	' = 7824 = 5.372 **p = .000**	' = 3148 = 4.797 **p = .000**	---			
57 Home)	' = 2229 = 5.771 **p = .000**	J = 869 = 5.129 **p = .000**	' = 7883 = 3.363 **p = .001**	---		
58 at/Drink)	' = 7207 = 7.016 **p = .000**	' = 2569 = 4.562 **p = .000**	= 24777 = 4.402 **p = .000**	' = 5198 = 0.290 p = .773	---	
59 (Misc.)	' = 2318 = 2.841 **p = .005**	J = 946 = 3.228 **p = .001**	' = 7242 = 1.314 p = .189	' = 2737 = 3.124 **p = .002**	' = 8815 = 3.962 **p = .000**	---

H6b: The propensity to recognize breakage varies by trade.

Using breakage as a percent of sales as a proxy for breakage, a Kruskal-Wallis test (H = 88.28, 5 d.f., p = .000) combined with two-tailed pairwise Mann-Whitney post hoc tests at the 99.667% confidence level found that among firms recognizing breakage, there are significant differences between the lines of trade in this study. Highest levels of breakage occurred in the Home Furnishings, Furniture, and Equipment; Eating and Drinking Places; and Apparel and Accessory Stores lines of trade. In contrast, Miscellaneous Retail; Building Materials, Hardware, and Garden Supply; and Food Stores saw lower levels of breakage. This finding indicates that sizable breakage activity is more likely to occur within some retail segments than others. The implication is that retailers within some lines of trade may use more latitude in making discretionary decisions on breakage, and therefore, a larger lever in which to manage earnings. As such, the hypothesis is supported.

Correlation analysis suggests a significant, inverse relationship between the level of breakage and net profit margin, and the level of breakage and return on net operating assets; here, breakage income as a percent of sales is a proxy for the level of breakage. Both relationships are in the expected direction, suggesting that as profitability or operational efficiency falters, retail firms recognize more breakage income. Due to violations of normality, both Pearson and Spearman rho correlation coefficients were reviewed; the results did not appreciably differ across each combination of variables between the two test statistics. Table 1 (Appendix) provides the correlation results.

For H_1, eleven retailers were classified as high net profit margin firms (M = 7.44%, SD = .041, Mdn = 7.25%) while 11 retailers were classified as low net profit margin retailers (M = -17.06%, SD = 3.711, Mdn = -0.79%). Table 2 (Appendix) presents descriptive statistics for net profit margin for all quartiles.

Breakage income as a percentage of sales (BRKG/SALES%) was calculated for each firm quarter, resulting in 594 firm quarters, of which 304 were assigned to either the first and fourth quartile, respectively. Table 3 (Appendix) presents descriptive statistics of BRKG/SALES% for high net profit margin firms and low net profit margin firms.

The BRKG/SALES% data did not follow a normal distribution (AD = 109.09, $p < .005$). Attempts at data transformation did not improve normality. Therefore, the underlying assumption of normality required for a two-sample t-test was violated. As such, the research used the Mann-Whitney test as a non-parametric, but widely accepted alternative to a two-sample independent t-test. The results of the Mann-Whitney test were in the expected direction and significant at a 95% confidence level (U = 15039, Z = 4.569, p = .000, r = .26), indicating that breakage income as a percentage of sales is greater for lower profit margin retailers (Mdn = 0.19%, Range = 7.40%, n = 157) than for higher profit margin retailers (Mdn = 0.10%, Range: 1.30%; n = 147). Therefore, the null hypothesis for H_1 is rejected.

For H_2, Eleven retailers were classified as high RNOA firms (M = 9.17%, SD = .015, Mdn = 8.49%); also, 11 retailers were classified as low RNOA firms (M = -122.35%, SD = 4.008, Mdn = -0.73%). Table 4 (Appendix) presents descriptive statistics for RNOA by quartile.

Breakage income as a percentage of sales (BRKG/SALES%) was calculated for each firm quarter, resulting in 594 firm quarters, of which 307 were assigned to either the first and fourth quartile, respectively. Table 5 (Appendix) presents descriptive statistics of BRKG/SALES% for high RNOA firms and low RNOA firms.

The BRKG/SALES% data did not follow a normal distribution (AD = 109.09, $p < .005$). Attempts at data transformation did not improve normality. Therefore, the underlying assumption of normality required for a two-sample t-test was violated. As such, the research used the Mann-Whitney test as a non-parametric, but widely accepted alternative to a two-sample independent t-test. The results of the Mann-Whitney test were in the expected direction and significant at a 95% confidence level (U = 16588, Z = 6.283, p = .000, r = 0.36), indicating that breakage income as a percentage of sales is greater for low RNOA retailers (Mdn = 0.19%, Range = 7.42%, n = 165) than for high RNOA retailers (Mdn = 0.06%, Range = 1.30%, n = 142). Therefore, the null hypothesis for H_2 is rejected.

DISCUSSION

In similar fashion, breakage differs significantly across line of trade, suggesting that line of trade may be an important lever in a retailers' ability to recognize breakage and ultimately manage earnings. The highest levels of breakage occurred in the Home Furnishings, Furniture, and Equipment; Eating and Drinking Places; and Apparel and Accessory Stores lines of trade. These lines most likely have higher gift card usage, and therefore, a higher probability of breakage. Firms with more breakage opportunity may be more inclined to tap their unredeemed gift card reserves, possibly even to manage earnings.

For consumers, unredeemed gift cards are merely lost opportunities; in the retail sector, unredeemed gift card balances might be a cookie-jar reserve that firms can use to improve financial results. Consistent with the accounting choice literature, this study provides evidence that a firm's financial strength – as measured by either profitability or operational efficiency ratios – may be an indicator of whether a firm will pull the breakage lever. Here, both less profitable and less operationally efficient firms recognized more breakage income as a percent of sales than more profitable and efficient firms, respectively. A likely inference is that a financially weak retailer would be more likely to tap into its gift card liability to improve the appearance of its actual financial results. The results give the impression that the decision to recognize breakage income may be an intentional, managed choice. If so, then it is also highly likely that the results hint at earnings management.

STUDY LIMITATIONS AND FUTURE RESEARCH

There are several limitations to this study, with the most noteworthy being the selected sample. Because retail firms voluntary disclose breakage income values, the research relied on a non-probability sampling technique. As such, the firms used in this study may not represent the retail sector at large, and the results may be biased. Moreover, the period of this study contained abnormal economic conditions resulting from the economic crash of 2008 which may have negatively affected the financial performance of retail firms. As such, the implied negative relationship between the level of breakage and profitability and operating efficiency, respectively, may be overstated. A final limitation stems from significant violations of normality. While it is the opinion of the researcher that non-parametric tests overcome much of this limitation, the insights yielded may be biased. While this research adds to the body of literature on accounting choice, many questions remain unanswered such as whether other financial or non-financial metrics are better indicators of accounting action, especially in the context of breakage income. Likewise, natural extensions to this study could be completed using different research methodologies or different firms and time periods. These would be fruitful areas to review.

SUMMARY

In this study, it was hypothesized that retailers' breakage recognition decisions are influenced their financial strength as measured by profitability (net profit margin) and operational efficiency (return on net operating assets). Here, it seems clear that retailers in poor financial health attempt to increase their financial performance by recognizing more breakage

income than their stronger counterparts. The implication is that a firm's financial strength seems to be an important indicator of the level of breakage income firms will recognize. Another implication of this study is that retail managers seem to be sensitive to their firm's financial health and make financial decisions accordingly, which suggests a managed choice to influence accounting results and potentially hints at earnings management. The results should be relevant to external stakeholders, like financial analysts, who are responsible for assessing earnings quality. Likewise, this study seems to highlight the need for greater oversight from standard setters who may want to establish clear accounting standards (i.e., bright-line rules) on breakage recognition.

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APPENDIX

Table 1: Correlation Matrix

›les	*	:earson r	›earman r_s
‹ge – NPM	›4	0.196) › = .000	(0.107) *p* = .009
‹ge – RNOA	›4	0.174) › = .000	(0.221) *p* = .000

** Firm quarters*

Table 2: Descriptive Statistics of Net Profit Margin by Quartile

Quartile	N*	M	SD	Median
‹h NPM)	11	7.44%	0.041	7.25%
	11	4.00%	0.029	3.84%
	12	1.48%	0.058	2.07%

y NPM)	11	-17.06%	3.711	-0.79%

** Number of retailers*

Table 3: Breakage % of Sales by High/Low NPM Retailers

uartile	N*	M	SD	Min	Median	Max	Skewness	Kurtosis
;h NPM	147	0.16 %	0.002	0.00%	0.10%	1.30 %	2.73	9.99
w NPM	157	0.41 %	0.008	0.00%	0.19%	7.42 %	5.65	42.16

** Firm quarters*

Table 4: Descriptive Statistics of RNOA by Quartile

Quartile	N*	M	SD	Median
h RNOA)	11	9.17%	0.015	8.49%
	11	5.79%	0.010	5.68%
	12	2.53%	0.006	2.54%
v RNOA)	11	-122.35%	4.008	-0.73%

** Number of retailers*

Table 5: ***Breakage as % of Sales by High/Low RNOA Retailers***

uartile	N*	M	SD	Min	Median	Max	Skewness	Kurtosis
ı RNOA	142	0.15 %	0.002	0.00%	0.06%	1.30 %	2.95	10.82
' RNOA	165	0.40 %	0.008	0.00%	0.19%	7.42 %	5.88	45.26

** Firm quarters*