

# Does Income Statement Placement Matter to Investors? The Case of Gains/Losses from Early Debt Extinguishment

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**ABSTRACT:** Does the placement of a line item in the income statement matter to investors? The passage of Statement of Financial Accounting Standards (SFAS) No. 145 (Financial Accounting Standards Board [FASB] 2002) affords a quasi-experimental setting to answer this question, because pre-SFAS No. 145, gains/losses from early debt extinguishments were reported below the line, while post-SFAS No. 145, they were reported above the line. After controlling for other identified changes that occur during our sample period, we find that, pre-SFAS No. 145, the market does not respond to these gains/losses, whereas post-SFAS No. 145, it does. This suggests that the market response to gains/losses is associated with their placement in the income statement. Our findings contribute to the literature on the importance of income statement presentation by demonstrating that a line-item position in the income statement has important valuation implications.

**Keywords:** *early debt extinguishment; income statement classification shifting; APB No. 30; SFAS No. 4; SFAS No. 145; earnings components.*

**JEL Classifications:** *G12; G14; M41.*

## I. INTRODUCTION

Corporate executives, regulators, market observers, investors, and researchers have shown substantial interest in the different ways investors use accounting information in their decision-making processes. Early academic studies demonstrate that earnings are informative as a summary measure (Ball and Brown 1968; Beaver 1968). More recent work, which consists of two primary strands, focuses on individual line items from the income statement.

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One strand of research examines the relationship between stock returns and earnings components, and generally finds that investors' behavior suggests they determine the valuation relevance of earnings components based on their placement in the income statement. Specifically, the closer the line item to the top line, the higher its valuation relevance (Lipe 1986; Ohlson and Penman 1992; Strong and Walker 1993; Bradshaw and Sloan 2002).

The other related strand examines variation in earnings components' ability to predict future earnings. For example, Fairfield, Sweeney, and Yohn (1996) find that a line item's ability to predict future earnings corresponds roughly to its position on the income statement. Specifically, special items presented above the line help predict future earnings, whereas extraordinary items, below the line, do not. Lipe (1986) documents that earnings components' persistence and return reactions are positively associated across components, which is consistent with the components providing additional information due to differences in their time-series properties. Collectively, extant academic literature shows that investors weigh different line items on the income statement according to their cash flow implications. This result is consistent with the Financial Accounting Standards Board's (FASB) view that users should analyze the earnings components rather than relying solely on earnings. For example, the FASB (2008, para. 22) states that "it is important to avoid focusing attention almost exclusively on 'the bottom line'. . . The individual items, subtotals, or other parts of a financial statement may often be more useful than the aggregate to those who make investment, credit, and similar decisions."

The findings in Fairfield et al. (1996), together with the findings in Lipe (1996), may be viewed as evidence that investors value earnings components only according to their economic content. However, such a view would be premature because the placement of a component on the income statement is correlated with its information content, i.e., its ability to predict future earnings, and, consequently, it is not clear whether placement drives investor reaction, holding economic content constant. Indeed, prior empirical and experimental research has shown that investors rely on published accounting numbers without considering how these numbers are generated or alternative sources of value-relevant information. Looking at the market reaction to "paper profits" generated by debt-equity swaps, Hand (1990) finds that investors ignore previously disclosed information and respond to gains only when they are included in net income. Luft and Shields (2001) show experimentally that expensing rather than capitalizing intangible expenditures significantly reduces the accuracy and consistency of individuals' profit predictions.

Our goal is to examine whether investors weigh line items possessing similar cash flow implications differently when they are presented in different places in the income statement. Empirically investigating this question presents the fairly challenging task of identifying a setting in which the gains/losses from economically similar transactions appear in two different places in the income statement. The passage of Statement of Financial Accounting Standards (SFAS) No. 145, *Rescission of FASB Statements Nos. 4, 44 and 62, Amendment of FASB Statement No. 13, and Technical Corrections* (FASB 2002), provides such a setting. SFAS No. 4, *Reporting Gains and Losses from Extinguishment of Debt* (FASB 1975), issued in March 1975, required all material gains and losses from early extinguishment of debt, which is the settlement in full of a debt before it is due, to be classified as extraordinary items below the line, net of related income tax effects. SFAS No. 145, which was issued in April 2002 and became effective for financial statements released on or after May 15, 2002, specifies that gains and losses from early extinguishment of debt should be classified as extraordinary items only if they meet the Accounting Principles Board (APB) No. 30 criteria of being both unusual and infrequent.<sup>1</sup> However, as early extinguishments of debt rarely

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<sup>1</sup> APB No. 30 is entitled *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*.

meet both of these criteria, they are nearly always reported in above-the-line earnings after the regulatory change.

This regulatory change allows us to investigate the following research question. Does the market response to gains/losses from early debt extinguishment vary between the pre-SFAS No. 145 period, in which they were reported as extraordinary items below the line, and the post-SFAS No. 145 period, in which they are reported as special items above the line?

To test this question, we must determine the timing of market response to these gains/losses. It is arguable that the gain/loss from an early extinguishment will be reflected in the stock price before the end of the fiscal quarter in which the extinguishment occurs because it can be estimated based on public information as it accrues (Hand 1990; Simko 1999). However, Hand (1990) finds that the market reacts to gains from debt-equity swaps only at the earnings announcement date, weeks or months after the gains first become publicly available. Based on these findings, it seems plausible to expect that the market reacts to gains/losses from early debt extinguishment around the earnings announcement date, as well. Further, prior research has demonstrated delayed reaction to the release of accounting numbers (Burgstahler, Jiambalvo, and Shevlin 2002; Bartov, Balakrishnan, and Faurel 2010), implying that a reaction around the Securities and Exchange Commission (SEC) 10-Q/10-K filing date cannot be ruled out *ex ante*. Thus, our tests consider three windows: around announcements of debt extinguishments, around earnings announcements, and around SEC 10-Q/10-K filing dates.

Our sample consists of 135 distinct firms with gains/losses from early debt extinguishment in both the pre-SFAS No. 145 period from 1996 to mid-2002, and the post-SFAS No. 145 period from mid-2002 to 2009. We conduct portfolio return tests and regression tests to assess the market response to these gains/losses. Our primary finding is that the market response varies significantly between the two accounting regimes. In the pre-SFAS No. 145 period, the market does not respond to the gains/losses in any of the return windows. Conversely, in the post-SFAS No. 145 period, the market responds significantly to the gains/losses in both the earnings announcement window and the SEC 10-Q/10-K filing window.

We obtain these results from both the portfolio return tests and the regression tests that control for earnings news, the motivation to retire debt early, firm characteristics (debt), market volatility, investor sentiment, macroeconomic factors (interest rates), changes in the nature of the early retirement transactions, and the information content of gains/losses from early retirements. Finally, we run sensitivity tests that control for changes in the market reaction to above and below the line items, as well as consider alternate sample selection procedures. These additional tests demonstrate that our results are robust, supporting our inference that the change in the position of gains/losses from early debt retirements in the income statement is associated with the differential market response between the two accounting regimes.

Our paper makes two contributions. First, we contribute to the literature on the importance of the position of accounting numbers in financial statements. Prior research has examined valuation implications of footnote disclosure versus income statement recognition (H. Espahbodi, P. Espahbodi, Rezaee, and Tehranian 2002), footnote disclosure versus balance sheet recognition (Davis-Friday, Folami, Liu, and Mittelstaedt 1999; Ahmed, Kilic, and Lobo 2006; Davis-Friday, Liu, and Mittelstaedt 2010), the characteristics of permanent versus transitory components of earnings (Elliott and Hanna 1996), the location of other comprehensive income disclosures (Sougiannis, Chambers, Linsmeier, and Shakespeare 2007; Hirst and Hopkins 1998; Maines and McDaniel 2000), and whether managers signal their private information through presentation choice (Riedl and Srinivasan 2010). We are the first to empirically examine the valuation implications of the location of the same line item in the income statement.

Our findings highlight the importance of the placement in the income statement and, thus, have implications for regulators and accounting standard setters involved in designing the income statement format. This contribution is timely because in July 2010, the FASB (2010, para. 43) noted

that “how an entity presents information in its financial statements is critical to effectively communicating that information to those outside the entity. Effective financial statement presentation provides disaggregated information organized in a manner that communicates clearly a cohesive financial picture of an entity.”

Our paper also contributes to the literature on opportunistic expense classification shifting (McVay 2006; Barua, Lin, and Sbaraglia 2010). Given that the position of a line item has valuation implications, managers may use classification shifting to influence stock prices. This evidence supports the Securities and Exchange Commission’s (SEC 2000) claim that “the appropriate classification of amounts within the income statement or balance sheet can be as important as the appropriate measurement or recognition of such amounts.”

Next, Section II describes the accounting change due to the passage of SFAS No. 145. Section III discusses the sample selection procedure of this study, describes the data, and outlines the research design, and Section IV presents our primary tests and results. Section V considers alternative explanations for our findings, and Section VI summarizes our findings and conclusions.

## II. SFAS NO. 145 AND GAINS/LOSSES FROM EARLY DEBT EXTINGUISHMENT

SFAS No. 4, effective until 2002, required that gains/losses from early debt retirements be reported as extraordinary items below the line, regardless of whether they were unusual or infrequent, while other extraordinary items governed by APB Opinion No. 30 needed to pass this dual test. As a result, a large majority of reported extraordinary items were related to early debt extinguishment. The American Institute of Certified Public Accountants’ (AICPA 2002, 450) annual survey of 600 companies discovered that out of a total of 78 extraordinary items, 70 were related to debt retirement. Concerns arose that firms used this loophole to separate the gains/losses arising from normal debt management strategies from normal operating earnings.

SFAS No. 145, issued in 2002, now subjects gains/losses from early debt extinguishment to the same qualifying provisions of APB Opinion No. 30 as other unusual items. The FASB clarified that the new standard would improve financial reporting because investors would be able to “distinguish transactions that are part of an entity’s recurring operations from those that are unusual or infrequent or that meet the criteria for classification as an extraordinary item.”

To illustrate the difference in income statement presentation, Appendix A displays two income statements of one of our sample firms (Argosy Gaming). The first income statement pertains to the quarter ended on September 30, 1999. In that quarter, the firm incurred an after-tax loss of \$3.660 million on early debt extinguishment, which under SFAS No. 4 is disclosed separately, below the line, as an extraordinary item. The second income statement corresponds to the quarter ended March 31, 2004. In that quarter, the firm incurred a pre-tax loss on early debt extinguishment of \$25.277 million, which under SFAS No. 145 is disclosed as a special item above the line. This illustration, thus, highlights why the issuance of SFAS No. 145 provides a quasi-experimental setting to test investor response to the placement of items on the income statement. If the cash flow implications of early debt extinguishment are similar in both accounting regimes, and if investors focus on economic content, then the market reaction to the news of the gain/loss should be similar across both regimes. Conversely, if investors react differently to income statement numbers depending on their position, then the market reaction will differ.

## III. DATA AND RESEARCH DESIGN

### Sample Selection

Our 14-year sample period, 1996–2009, is divided into two subperiods: the pre-SFAS No. 145 period from 1996 to mid-2002, and the post-SFAS No. 145 period from mid-2002 to 2009. The

**TABLE 1**  
**Sample Composition**

<b>Criterion</b>	<b># of Obs. Pre-SFAS No. 145</b>	<b># of Obs. Post-SFAS No. 145</b>	<b># of Distinct Firms</b>
Observations from 1996 to 2009 with required financial data on Compustat and returns data on CRSP	3,207	4,269	2,834
Firms incorporated in U.S.	2,899	3,984	2,571
Subset that is not in financial services (SIC 6000–7000)	2,340	3,121	2,091
Gain/loss from early extinguishment is at least 1 percent of quarterly sales	1,639	1,824	1,779
Firms with at least one observation pre-SFAS 145 and post-SFAS 145	552	739	308
Removal of observations verified as extraordinary items unrelated to early debt extinguishment (pre-SFAS 145) (and corresponding removal of observations post-SFAS 145 without any pre-SFAS 145 observations for a given firm)	380	495	200
<b>Final Clean-Up Steps</b>			
<ul style="list-style-type: none"> <li>• Removal of observations where line item disclosure is not explicitly provided on the income statement in the post-SFAS 145 period (124 observations)</li> <li>• Removal of observations where extraordinary item description in the pre-SFAS 145 period does not explicitly mention debt retirement (103 observations)</li> <li>• Deletion of Troubled Debt Restructurings (eight in the pre-period and two in the post-period)</li> <li>• Ensuring that matching maintained in the pre- and post-period</li> </ul>			
Final Sample	258	342	135

sample period begins in 1996, as this is the first year 10-Ks/10-Qs are widely available from EDGAR (Electronic Data Gathering, Analysis, and Retrieval). It ends in 2009 because our tests require data for one year after the extinguishment takes place.<sup>2</sup>

The sample was constructed using data available on Compustat and CRSP, augmented by hand collection and examination of financial statements from EDGAR. We ensured that the sample consisted solely of firms with below-the-line gains/losses from debt retirements in the pre-SFAS No. 145 period, and above-the-line gains/losses from debt retirements in the post-SFAS No. 145 period.

Table 1 outlines the sample selection process and its effect on the final sample size. Our final sample of 135 distinct firms with required financial data on Compustat and returns data on CRSP—consisting of 258 observations in the pre-SFAS No. 145 period and 342 observations in the post-SFAS No. 145 period—meets the following six criteria:

- (a) The gain/loss firm is incorporated in the U.S.

<sup>2</sup> Observations in calendar year 2002 could be classified as either pre-SFAS 145 or post-SFAS 145 because the standard required all firms with fiscal years starting after May 2002 to apply the standard, and because some firms were early adopters of the standard. The 10-Q/K filings for all observations in fiscal 2002 were checked to classify them appropriately into the pre-SFAS No. 145 or post-SFAS No. 145 grouping.

- (b) The gain/loss firm is not in the financial services industry (Fama-French codes 45–48; SIC codes 6000–7000).
- (c) The gain/loss from the early extinguishment is at least 1 percent of quarterly sales.
- (d) The gain/loss firm reports at least one early debt extinguishment transaction in each of the two periods.
- (e) The extraordinary gain/loss retrieved from Compustat is related to early debt extinguishment and not to other transactions/events (e.g., a cumulative effect of an accounting change).
- (f) The line-item disclosure in the income statement explicitly states the gain/loss is from early debt extinguishment.

Requirement (a) ensures the availability of the 10-K/10-Q on EDGAR.<sup>3</sup> These forms are needed to verify that the gains/losses from early debt extinguishment retrieved from Compustat satisfy the criteria outlined in (e) and (f). Requirement (b) follows because financial services firms have markedly different income statement formats than those of the typical commercial enterprise. The purpose of requirement (c) is to reduce noise in the data. This requirement represents a trade-off. While it increases the power of our tests and, thus, our ability to document a significant market reaction, if it exists, it also reduces our sample size and, thus, limits our ability to generalize our findings to all early debt extinguishment. Such sample selection criteria are commonly used in accounting and finance research (Bartov and Bodnar 1994; Bartov and Mohanram 2004).<sup>4</sup>

Requirement (d) allows us to compare the market reaction to gains/losses before and after the accounting change, while keeping the firm constant. Thus, it alleviates a potential concern that a differential market response between the two periods arises from cross-sectional differences in companies' response coefficients, rather than the placement of the gain/loss in the income statement. The purpose of requirement (e) is to eliminate possible confounding effects of gains/losses other than the ones from early debt extinguishment. Our final requirement, (f), ensures that the market reaction is to the gain/loss reported in the income statement, and not to other disclosures, such as footnote information, or other debt transactions (troubled debt restructuring).<sup>5</sup>

### Sample Descriptive Statistics

Table 2 reports our sample distribution of the number of firm-quarter observations (n) by industry (Panel A), time (Panel B), fiscal quarter (Panel C), the funding method of the debt retirement (Panel D), and SEC 8-K filing (Panel E). We classify our firms into industry groups using the Fama and French (1997) 48-industry classification (FF classification). The results in Panel A demonstrate that our sample spans a large number of industries; it includes 39 of the 44 nonfinancial industries in the FF classification.<sup>6</sup> Still, not all industries are equally represented. Communications (FF 32) has the most observations both before and after SFAS No. 145, followed by Business Services (FF 34) and Entertainment (FF 7). The least-represented industries are Beer and Liquor (FF 4), Recreation (FF 6), Non-Metallic Mining (FF 28), and Coal (FF 29). However, there appears to be little evidence of industry clustering within the sample.

<sup>3</sup> U.S.-listed foreign firms are generally required to file annual 20-F reports in lieu of 10-K annual reports, but are not required to file quarterly reports in lieu of the 10-Q filings.

<sup>4</sup> We test the sensitivity of our findings to sample selection criteria in (c) and (d) later.

<sup>5</sup> We also analyze the language used on the income statement to describe the gain/loss from debt retirement, and find it fairly similar between the pre- and the post-periods. Hence, the primary noticeable difference between the two regimes is the location of the item within the income statement and the dropping of the word *extraordinary* in the post-SFAS No. 145 period.

<sup>6</sup> The five nonfinancial industries with no observations are Candy and Soda (FF 3), Apparel (FF 10), Construction Materials (FF 17), Aircraft (FF 24), and Shipbuilding and Railroad Equipment (FF 25).



**TABLE 2**  
**Sample Distribution**

**Panel A: Industry Distribution using the Fama and French (1997) Classification**

FF Group	Description	Pre-SFAS 145		Post-SFAS 145	
		n	Proportion (%)	n	Proportion (%)
1	Agriculture	2	0.8%	2	0.6%
2	Food Products	2	0.8%	2	0.6%
4	Beer and Liquor	0	0.0%	1	0.3%
5	Tobacco Products	0	0.0%	4	1.2%
6	Recreation	1	0.4%	3	0.9%
7	Entertainment	15	5.8%	21	6.1%
8	Printing and Publishing	1	0.4%	4	1.2%
9	Consumer Goods	5	1.9%	6	1.8%
11	Healthcare	12	4.7%	14	4.1%
12	Medical Equipment	1	0.4%	1	0.3%
13	Pharmaceutical Products	10	3.9%	19	5.6%
14	Chemicals	7	2.7%	14	4.1%
15	Rubber and Plastic Products	2	0.8%	2	0.6%
16	Textiles	1	0.4%	3	0.9%
18	Construction	6	2.3%	4	1.2%
19	Steel Works	1	0.4%	1	0.3%
20	Fabricated Products	1	0.4%	1	0.3%
21	Machinery	6	2.3%	4	1.2%
22	Electrical Equipment	3	1.2%	5	1.5%
23	Automobiles and Trucks	2	0.8%	2	0.6%
26	Defense	4	1.6%	1	0.3%
27	Precious Metals	5	1.9%	9	2.6%
28	Non-Metallic Mining	1	0.4%	0	0.0%
29	Coal	1	0.4%	1	0.3%
30	Petroleum and Natural Gas	36	14.0%	18	5.3%
31	Utilities	5	1.9%	3	0.9%
32	Communications	42	16.3%	97	28.4%
33	Personal Services	4	1.6%	8	2.3%
34	Business Services	12	4.7%	29	8.5%
35	Computers	6	2.3%	2	0.6%
36	Electronic Equipment	15	5.8%	21	6.1%
37	Measuring and Control Equip.	3	1.2%	1	0.3%
38	Business Supplies	4	1.6%	8	2.3%
39	Shipping Containers	2	0.8%	2	0.6%
40	Transportation	13	5.0%	6	1.8%
41	Wholesale	4	1.6%	6	1.8%
42	Retail	7	2.7%	6	1.8%
43	Restaurants, Hotels, and Motels	7	2.7%	3	0.9%
48	Other	9	3.5%	8	2.3%
	Total	258	100.0	342	100.0

(continued on next page)

TABLE 2 (continued)

**Panel B: Time Distribution**

Pre-SFAS 145 Period			Post-SFAS 145 Period		
Year	n	Proportion (%)	Year	n	Proportion (%)
1996	18	7.0	2002	21	6.1
1997	40	15.5	2003	70	20.5
1998	42	16.3	2004	75	21.9
1999	30	11.6	2005	56	16.4
2000	47	18.2	2006	36	10.5
2001	53	20.5	2007	27	7.9
2002	28	10.9	2008	17	5.0
			2009	40	11.7
Total	258		Total	342	

**Panel C: Fiscal Quarter Distribution**

Pre-SFAS No. 145 Period			Post-SFAS No. 145 Period		
Quarter	n	Proportion (%)	Quarter	n	Proportion (%)
1	51	19.8	1	86	25.1
2	76	29.5	2	91	26.6
3	67	26.0	3	68	19.9
4	64	24.8	4	97	28.4
Total	258		Total	342	

**Panel D: Funding of Debt Retirement Distribution**

Pre-SFAS No. 145 Period			Post-SFAS No. 145 Period		
Funding	n	Proportion (%)	Funding	n	Proportion (%)
Cash	68	26.4	Cash	138	40.4
Debt	143	55.4	Debt	169	49.4
Equity	25	9.7	Equity	13	3.8
Hybrid	22	8.5	Hybrid	22	6.4
Total	258		Total	342	

**Panel E: 8-K Filing of Debt Retirement Distribution**

Pre-SFAS No. 145 Period			Post-SFAS No. 145 Period		
Disclosure	n	Proportion (%)	Disclosure	n	Proportion (%)
8-K	102	39.5%	8-K	115	33.6%
No 8-K	156	60.5%	No 8-K	227	66.4%
Total	258		Total	342	



The results in Table 2, Panel B show that in the pre-SFAS No. 145 period, the number of yearly observations ranges between 18 observations in 1996 and 53 observations in 2001, and in the post-SFAS No. 145 period, between 17 observations in 2008 and 75 observations in 2004. Hence, no discernible time pattern is observed in either period. The transition year, 2002, has 28 observations classified as pre-SFAS No. 145 and 21 observations classified as post-SFAS No. 145. The numbers of observations by fiscal quarter, displayed in Panel C, appear to fluctuate randomly across fiscal quarters in both the pre-SFAS No. 145 period (51, 76, 67, and 64) and the post-SFAS No. 145 period (86, 91, 68, and 97). Overall, no discernible pattern emerges from industry, time, and fiscal quarter distributions.

Panel D of Table 2 reports the distribution of the early debt retirements by funding method: cash, debt, equity, or other. In both periods, the most common method to retire debt early is debt refinancing, representing 55.4 percent of transactions in the pre-SFAS No. 145 period and 49.4 percent in the post-period. The next most common method is cash, representing 26.4 percent in the pre-SFAS No. 145 period and 40.4 in the post-period. In our empirical analysis, we control for the decrease (increase) in debt refinanced retirements (cash financed retirements) in the post-SFAS No. 145 period.

Finally, Panel E of Table 2 reports the frequency of 8-K filing of debt retirement prior to the earnings announcement date. For each firm-quarter, we searched EDGAR for any 8-K announcement corresponding to debt retirements. In the pre-SFAS No. 145 period, 102 out of the 258 observations (39.5 percent) had an 8-K disclosure corresponding to the debt retirement. In the post-SFAS No. 145 period, the proportion of firms with 8-K disclosures is slightly lower, 115 out of the 342 observations (33.6 percent).

Table 3, Panel A, presents a comparison of firm characteristics between our two subsamples. *DGAIN*, our primary variable of interest, is the after-tax gains or losses from extinguishment of debt. Firm-specific effective tax rates are estimated as the ratio of quarterly income tax expense (TXTQ) to quarterly pre-tax income (PIQ).<sup>7</sup> Our variable *DGAIN* is set to DTEPQ multiplied by (1 – effective tax rate).

The results in the first row show an insignificant difference in the mean and median frequency of the gains *vis-à-vis* losses from early extinguishment ( $\%DGAIN > 0$ ). The next three rows demonstrate that the magnitudes of the gains/losses are also fairly similar across the two accounting regimes. In addition, the magnitude of  $|DGAIN|$ , both scaled and unscaled, is economically important. This increases confidence that we are likely to document a market reaction to these gains/losses, if one exists. Further, the fifth and sixth rows show that the results for differences in the absolute value of *DGAIN* scaled by either market capitalization or by the absolute value of the quarterly earnings are also weak. While the means of the differences are significant, the medians are not. The seventh and eighth rows show that the two subsamples are also similar in terms of the quarterly income from continuing operations (*IBQ*) and the frequency of quarterly losses (*LOSS*).

The ninth to eleventh rows display a somewhat mixed picture: while means of quarterly sales (*SALEQ*), total assets (*ATQ*), and market capitalization (*MCAP*), three alternative proxies for firm size, are all insignificantly different across the two regimes, the medians of the first two are significantly different. Next, the means of *DEBT*, the sum of short- and long-term debt in the quarter prior to the early retirement scaled by market capitalization in both the pre- and post-SFAS No. 145, 123.3 percent and 193.7 percent, respectively, appear fairly high. However, a closer examination reveals these seemingly high numbers are driven by a few outliers, as evidenced by the much lower medians of 70.0 percent and 77.6 percent. In addition, the difference in these medians across the two regimes is insignificant. The change in interest expense

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<sup>7</sup> If this information is unavailable, then the tax rate is set to the median tax rate across all observations in the same fiscal year. If the sign of effective tax rate is opposite what would be expected (i.e., income tax expense despite a pre-tax loss, or income tax credit despite a pre-tax profit), then the tax rate is set to zero.

**TABLE 3**  
**Sample Descriptive Statistics**

**Panel A: Firm Characteristics**

Variable	Mean	Mean	Diff.	t-stat	Median	Median	Diff.	z-stat
	Pre-145	Post-145	(Post – Pre)		Pre-145	Post-145	(Post – Pre)	
$\%DGAIN_t > 0$	27.5%	21.1%	-6.5%	-1.82*	0.0%	0.0%	0.0%	-1.83*
$DGAIN_t$	-1.26	-3.53	-2.27	-0.24	-3.22	-5.87	-2.65	-2.86***
$ DGAIN_t $	21.46	20.98	-0.48	-0.05	4.92	7.95	3.03	4.26***
$DGAIN_t/MCAP_{t-1}$	0.8%	2.4%	1.7%	1.39	-0.4%	-0.6%	-0.2%	-2.21***
$ DGAIN_t/MCAP_{t-1} $	4.6%	10.7%	6.1%	1.98**	1.1%	1.2%	0.1%	1.58
$ DGAIN_t / IBQ_t $	1.57	2.25	0.68	1.82*	0.58	0.59	0.01	0.03
$IBQ_t$	-9.19	5.23	14.42	1.40	0.79	0.73	-0.06	-0.57
$LOSS$	45.7%	48.0%	2.2%	0.54	0.0%	0.0%	0.0%	0.53
$SALEQ_t$	317	289	-28	-0.48	116	166	50	2.55***
$ATQ_{t-1}$	2731	2313	-418	-0.81	941	1247	307	2.27**
$MCAP_{t-1}$	1907	1485	-422	-1.11	609	650	41	0.80
$DEBT_{t-1}$	123.3%	193.7%	70.4%	3.50***	70.0%	77.6%	7.7%	1.30
$\Delta DEBT_t$	4.0%	-4.8%	-8.8%	-2.95***	0.0%	-1.3%	-1.3%	-2.60***
$\Delta INT_t$	0.05%	-0.11%	-0.15%	-1.86*	0.00%	-0.03%	-0.03%	-3.64***
$\Delta NI_t$	-0.88%	-0.20%	0.68%	0.44	-0.06%	0.27%	0.33%	2.36**

**Panel B: Stock Returns (%)**

Window	Return	Mean	Mean	Diff.	t-stat	Median	Median	Diff.	z-stat
		Pre-145	Post-145	(Post-Pre)		Pre-145	Post-145	(Post – Pre)	
8-K Release	$RET$	0.24	-0.01	-0.25	-0.24	0.18	-0.17	-0.35	-0.05
	$EXRET$	0.53	-0.09	-0.63	-0.66	-0.08	-0.28	-0.20	-0.11
Earnings Announ.	$RET$	0.30	0.19	-0.11	-0.13	0.00	0.00	0.00	-0.53
	$EXRET$	0.25	0.19	-0.06	-0.07	-0.21	0.25	0.46	0.52
SEC Filing	$RET$	0.39	-0.26	-0.65	-0.90	0.00	-0.55	-0.55	1.02
	$EXRET$	0.18	-0.02	-0.21	-0.29	-0.28	-0.18	0.10	0.02

**Panel C: Mean Firm Characteristics Compared to Compustat Universe**

Variable	Sample Pre-145	All Firms Pre-145	Diff.	t-stat	Sample Post-145	All Firms Post-145	Diff.	t-stat
			(Sample – All Firms)				(Sample – All Firms)	
$IBQ_t$	-9.19	15.30	-24.49	-5.20***	5.23	35.05	-29.82	-3.51***
$LOSS$	45.7%	45.2%	0.50%	0.55	48.0%	49.8%	-1.80%	-2.28**
$SALEQ_t$	317	354	-37	-0.95	289	627	-338	-5.92***
$ATQ_{t-1}$	2731	2883	-152	-0.34	2313	7512	-5199	-4.28***
$MCAP_{t-1}$	1907	1546	361	1.68*	1485	2418	-933	-4.21***
$DEBT_{t-1}$	123.3%	39.3%	84.00%	37.29***	193.7%	42.6%	151.10%	71.27***

(continued on next page)

TABLE 3 (continued)

## Panel D: Median Firm Characteristics Compared to Compustat Universe

Variable	Sample Pre-145	All Firms Pre-145	Diff.		Sample Post-145	All Firms Post-145	Diff.	
			(Sample- All Firms)	t-stat			(Sample- All Firms)	t-stat
$IBQ_t$	1.38	0.37	1.01	1.47	-2.11	0.52	-2.64	-2.06**
$SALEQ_t$	103	19	84.06	11.58***	159	27	132.75	13.35***
$ATQ_{t-1}$	711	123	587.66	12.13***	1130	229	900.58	13.46***
$MCAP_{t-1}$	568	89	478.75	11.13***	640	143	496.72	11.75***
$DEBT_{t-1}$	66.0%	0.7%	65.4%	16.70***	84.7%	1.6%	83.0%	23.06***

## Panel E: Mean Firm Characteristics Partitioned on Whether Firms Disclose 8-Ks

Variable	No 8-K Pre-145	8-K Pre-145	Diff.	t-stat	No 8-K Post-145	8-K Post-145	Diff.	
							(Post - Pre)	t-stat
$\%DGAIN_t > 0$	35.9%	14.7%	-21.2%	-4.06***	25.1%	13.0%	-12.1%	-2.82***
$DGAIN_t$	-4.49	3.67	8.16	0.46	0.77	-12.03	-12.80	-1.30
$ DGAIN_t $	14.35	32.34	17.99	1.02	22.72	17.56	-5.16	-0.54
$DGAIN_t/MCAP_{t-1}$	0.8%	0.7%	-0.1%	-0.09	3.4%	0.4%	-3.0%	-1.65
$ DGAIN_t/MCAP_{t-1} $	3.6%	6.1%	2.4%	0.76	11.3%	9.3%	-2.0%	-0.34
$ DGAIN_t / IBQ_t $	1.54	1.61	0.07	0.17	2.52	1.73	-0.79	-1.30
$IBQ_t$	-11.80	-5.21	6.59	0.36	-1.55	18.61	20.17	1.49
$LOSS$	47.4%	43.1%	-4.3%	-0.68	48.0%	47.8%	-0.2%	-0.03
$SALEQ_t$	305	335	30	0.27	280	305	25	0.46
$ATQ_{t-1}$	2644	2864	220	0.22	2240	2458	218	0.56
$MCAP_{t-1}$	2021	1733	-288	-0.46	1276	1898	621	1.76*
$DEBT_{t-1}$	132.3%	109.6%	-22.7%	-1.16	200.9%	179.6%	-21.3%	-0.61
$\Delta DEBT_t$	0.2%	9.7%	9.5%	1.94*	-6.4%	-1.7%	4.7%	1.25
$\Delta INT_t$	0.02%	0.09%	0.08%	0.65	-0.20%	0.07%	0.26%	2.16**
$\Delta NI_t$	-0.34%	-1.72%	-1.38%	-0.63	-0.80%	0.97%	1.77%	0.92

\*, \*\*, \*\*\* Significant at the 10 percent, 5 percent, and 1 percent levels for difference, respectively.

Panel B presents raw returns ( $RET$ ) and Fama-French three-factor adjusted excess returns ( $EXRET$ ) computed in the three-day window around 8-K release, earnings announcement, and SEC filing. Panel C compares sample firm characteristics with the universe of firms on Compustat (excluding SIC 6000-7000). t-statistics for differences are calculated using a pooled estimate of standard error using the Satterthwaite method; z-statistics for differences in medians are from Wilcoxon rank sum tests.

## Variable Definitions:

$DGAIN$  = after-tax gains or losses from extinguishment of debt. For the pre-SFAS 145 period,  $DGAIN$  is hand-collected from 10-Q or 10-K. For the post-SFAS 145 period,  $DGAIN$  is equal to the pre-tax gain or loss from debt retirement (DTEPQ) from the Compustat FUNDQ database, adjusted for taxes using the firm-specific tax rate;

$ATQ$  = total assets;

$MCAP$  = market capitalization defined as ending stock price (PRCCQ) times shares outstanding (CSHOQ) from the prior quarter;

$IBQ$  = quarterly income before extraordinary items;

$DEBT$  = sum of short-term debt (DLCQ) and long-term debt (DLTTQ) scaled by market capitalization;

$\Delta DEBT$  = change in total debt with respect to the prior quarter, also scaled by market capitalization;

$\Delta INT$  = change in interest expense with respect to the previous quarter, scaled by market capitalization; and

$\Delta NI$  = the change in income before extraordinary items with respect to the previous quarter, scaled by market capitalization.

relative to the previous quarter of our sample firms ( $\Delta INT$ ) seems weakly positive in the pre-SFAS No. 145 period and negative in the post-period. This is to be expected as interest rates were generally stable in 1996–2002, but then declined in 2002–2009. Finally, the mean change in net income before extraordinary items relative to the previous quarter ( $\Delta NI$ ) between our two sample periods is insignificant, whereas the median change is significant. Overall, the results in Panel A of Table 3 show that our two subsamples are fairly similar with respect to important firm characteristics. Thus, our research design is successful in alleviating concerns that omitted variables related to differences in company characteristics may underlie our findings. Still, some differences do exist, as companies change over time. Our empirical design, thus, employs specifications that control for the possible effects of these differences.

Panel B of Table 3 compares the stock price performance of our sample firms across the two accounting regimes using three return windows: an SEC 8-K filing window, an earnings announcement window, and an SEC 10-Q/10-K filing window. Each of the three windows spans three trading days, days  $-1$ ,  $0$ , and  $+1$ , where day  $0$  is the SEC formal filing date (for the 8-K and 10-Q/10-K windows) or the preliminary earnings announcement date (for the earnings announcement window). We use two alternative measures for stock price performance: raw returns ( $RET$ ) and the Fama-French three-factor model returns ( $EXRET$ ).<sup>8</sup> Two salient points are noteworthy. First, both  $RET$  and  $EXRET$  are fairly close to zero for all three windows in both the pre- and post-SFAS No. 145 periods. Second, for both  $RET$  and  $EXRET$ , the difference between the pre- and post-SFAS No. 145 periods is insignificant. These findings alleviate concerns that our sample selection procedure might have generated an unusual or biased sample.

Panels C and D of Table 3 display the means and medians, respectively, from a comparison of firm characteristics between our sample and the Compustat universe. Clearly, our sample firms differ from the Compustat universe in three important ways. First, they are more highly levered. In both sample periods, total debt scaled by market capitalization at the beginning of the quarter ( $DEBT$ ) is significantly higher for our sample than for the Compustat universe. Second, our sample firms are generally less profitable, but appear to report losses less frequently in the post-SFAS No. 145 period, as the quarterly before extraordinary items ( $IBQ$ ) is generally significantly smaller and the frequency of losses ( $LOSS$ ) significantly higher. Finally, while our sample firms are larger in terms of median sales ( $SALEQ$ ), total assets ( $ATQ$ ), and market capitalization ( $MCAP$ ), the differences with means generally show an opposite trend.

Panel E of Table 3 compares mean characteristics for the sample partitioned by whether the firms disclose the debt retirement in an 8-K filing. As the results indicate, both the gain/loss characteristics and sample firm characteristics are similar, whether firms file 8-Ks or not. There is some evidence that firms filing 8-Ks are less likely to have positive gains from debt retirement; however, this finding holds both before and after the passage of SFAS No. 145.

## Research Design

Our research design consists of four sets of tests. The first set is comprised of portfolio returns tests. In both the pre- and post-period, we divide the sample into three portfolios based on the level of the gains/losses from early debt extinguishments: Large Negative, Small Negative, and Positive.<sup>9</sup>

<sup>8</sup> For each observation, we estimate betas for each of the Fama-French factors using daily returns and an estimation period of 60 days, ending with the fiscal quarter (or ending just prior to the 8-K date for the subset of firms with 8-K announcements). Buy-and-hold excess returns are then estimated using the estimated betas and the actual returns for the Fama-French factors over each of the three-day windows.

<sup>9</sup> The descriptive statistics in Table 3, Panel A indicate that only 27.5 percent of the observations in the pre-SFAS No. 145 period and 21.1 percent of observations in the post-SFAS No. 145 period have gains from debt extinguishment. This prevents us from using terciles or quartiles to compare the extreme portfolios.

We analyze stock returns in each of the three return windows to test the relationship, if any, between the gains/losses and the market reaction. We also perform tests of difference-in-differences in returns between the Positive and the Large Negative portfolios across the two accounting regimes to directly assess differential market response to gains/losses from early retirements across the two accounting regimes.

Clearly, a critical assumption underlying the portfolio tests is that other effects (e.g., earnings surprises) are randomized across the two gains/losses portfolios. To the extent that this assumption is violated, the results of the portfolio tests would be hard to interpret. Our second set of tests consists of multivariate regression analyses, which control for factors other than the accounting change that may vary across the two accounting regimes. Specifically, for each of our three return windows across both accounting regimes, we regress stock returns on the gains/losses from debt extinguishment, while controlling for earnings surprise, the motivation to retire debt, the macroeconomic environment, firm characteristics, capital market conditions, and investor sentiment. For each of the three announcement windows, we test whether the coefficient on the gains/losses variable is significantly different between the two accounting regimes.

Our third set of tests attempts to rule out alternate explanations that might underlie the relationship between gains/losses from debt extinguishment and stock returns. First, the differential market reaction might be related to the increased frequency of cash-financed retirements in the post-SFAS No. 145 period. We control for this by partitioning our regression analysis on the nature of funding underlying the retirements. Second, we test whether the changes in either the information content of the gains/losses or in the market reaction to above- and below-the-line items are driving our results. Finally, our fourth set of tests consists of sensitivity analyses to ensure that our results are not driven by the sample selection procedure.

#### IV. TESTS AND RESULTS

In this section, we analyze our research question by performing portfolio return tests and return gains/losses regression tests.

##### Portfolio Return Tests

Table 4 presents the results for the pre-SFAS No. 145 period (Panel A) and for the post-SFAS No. 145 period (Panel B). Consider first the results for *DGAIN*, the after-tax gain/loss for early debt extinguishment scaled by the beginning-of-the-quarter firm size (market capitalization), and  $\Delta NI$ , the seasonal change in quarterly earnings scaled by the beginning-of-the-quarter firm size. Two salient points are noteworthy. First, the mean loss for the Large Negative *DGAIN* portfolio is  $-4.04$  percent in Panel A and  $-9.46$  percent in Panel B, whereas the mean gain for the Positive *DGAIN* portfolio is  $10.89$  percent in Panel A and  $31.97$  percent in Panel B. Thus, in both panels, not only is the inter-portfolio variation in *DGAIN* economically significant, the gain/loss relative to firm size and, thus, to its earnings in each portfolio is substantial. This suggests that we designed powerful tests that are likely to successfully document any stock price reaction to these gains/losses, if it exists. Second, there appears to be some (weak) correlation between *DGAIN* and  $\Delta NI$ , as evidenced in both panels by the negative mean  $\Delta NI$  in the Large Negative *DGAIN* portfolios and the positive mean  $\Delta NI$  in the Positive *DGAIN* portfolios. Hence, our regression tests for differential market response to gains/losses from early debt retirements include  $\Delta NI$  as a control variable.

The return results displayed in Table 4 suggest that in the pre-SFAS No. 145 period, the portfolio raw returns (*RET*) and the Fama-French three-factor model returns (*EXRET*) reported in Panel A are both generally small (close to zero) and statistically insignificant for all portfolios in all return windows. For example, *EXRET* for the Large Negative *DGAIN* portfolio are:  $0.79$  percent,  $0.00$  percent, and  $0.20$  percent, respectively, for the return windows around SEC 8-K filings,

**TABLE 4**  
**Portfolio Analyses: Tests for Market Response Around Early Debt Retirements**

**Panel A: Pre-SFAS No. 145 Period**

DGAIN Portfolios	Mean		Mean $\Delta N_t$ (%)	Returns Around SEC 8-K Filings		Returns Around Earnings Announcements		Returns Around SEC 10-Q/10-K Filings			
	n	DGAIN (%)		RET	EXRET	n	RET	EXRET	n	RET	EXRET
Large Negative	93	-4.04%	-3.42%	0.73%	0.79%	93	0.05%	0.00%	93	0.23%	0.20%
Small Negative	94	-0.39%	-1.45%	0.00%	0.33%	94	1.22%	1.27%	94	0.15%	-0.20%
Positive	71	10.89%	3.74%	-0.63%	0.28%	71	-0.59%	-0.77%	71	0.93%	0.66%
Positive - Large Negative t-statistics		14.93%	7.16%	-1.36%	-0.51%		-0.63%	-0.77%		0.70%	0.46%
		NA	(1.04)	(-0.44)	(-0.19)		(-0.41)	(-0.52)		(0.56)	(0.37)

**Panel B: Post-SFAS No. 145 Period**

DGAIN Portfolios	Mean		Mean $\Delta N_t$ (%)	Returns Around SEC 8-K Filings		Returns Around Earnings Announcements		Returns Around SEC 10-Q/10-K Filings			
	n	DGAIN (%)		RET	EXRET	n	RET	EXRET	n	RET	EXRET
Large Negative	135	-9.46%	-0.55%	-0.36%	-0.68%	135	-2.01%	-1.82%	135	-2.31%	-2.26%
Small Negative	135	-0.48%	0.47%	-0.62%	0.14%	135	0.68%	0.73%	135	-0.35%	-0.06%
Positive	72	31.97%	4.10%	3.19%	1.12%	72	3.38%	2.95%	72	3.75%	4.25%
Positive - Large Negative t-statistics		41.43%	4.65%	3.55%	1.80%		5.39%	4.77%		6.06%	6.51%
		NA	(0.59)	(0.85)	(0.46)		(2.15)**	(1.93)*		(2.63)**	(2.94)**

**Panel C: Differences in Differences in Returns between Positive and Large Negative DGAIN Firms (Post - Pre)**

Mean $\Delta N_t$ (%)	Returns Around SEC 8-K Filings		Returns Around Earnings Announcements		Returns Around SEC 10-Q/10-K Filings	
	RET	EXRET	RET	EXRET	RET	EXRET
-2.51%	4.91%	2.31%	5.54%	5.36%	6.05%	6.05%
(-0.24)	(0.94)	(0.49)	(1.92)*	(2.04)**	(2.38)**	(2.38)**

(continued on next page)

TABLE 4 (continued)

\*, \*\*, \*\*\* Significant at the 10 percent, 5 percent, and 1 percent levels for difference, respectively. The analysis variable is either raw returns (*RET*) or Fama-French three-factor adjusted excess returns (*EXRET*) computed in the three-day window around 8-K release, earnings announcement, and SEC filing. *DGAIN* is after-tax gains or losses from extinguishment of debt. For the pre-SFAS 145 period, *DGAIN* is hand-collected from 10-Q or 10-K. For the post-SFAS 145 period, *DGAIN* is equal to the pre-tax gain or loss from debt retirement (DTEPQ) from the Compustat FUNDQ database, adjusted for taxes using the firm-specific tax rate. *DGAIN* is deflated by lagged market value. *ANI* is the seasonally adjusted earnings surprise. In each year, all observations are divided into three groups. Firms with negative *DGAIN* are split into two groups (Large Negative and Small Negative), while firms with positive *DGAIN* are analyzed separately. Figures in parentheses represent t-statistics for the difference using the Satterthwaite method.



earnings announcements, and SEC 10-Q/10-K filings. Likewise, *EXRET* for these three windows for the Positive *DGAIN* portfolio are: 0.28 percent, -0.77 percent, and 0.66 percent, respectively. In addition, the differences in returns between the two extreme portfolios are insignificant in all three return windows. Thus, the univariate analysis provides little evidence that in the pre-SFAS No. 145 period, the market responds to gains/losses from early debt extinguishment reported as extraordinary items below the line, presumably because the market considers these numbers valuation-irrelevant. This result makes sense in light of [Fairfield et al. \(1996\)](#) finding that extraordinary items, below the line, have no persistence.

The return results for the post-SFAS No. 145 period, displayed in Panel B of Table 4, portray a different story. As before, while no response is observed around the SEC 8-K filing date, the market does respond to gains/losses from early debt retirements around the earnings announcement date. Specifically, *RET* and *EXRET* are approximately -2 percent and 3 percent for the Large Negative and Positive *DGAIN* portfolio, respectively; the approximately 5 percent return difference between the two portfolios is significant. Thus, in contrast to the pre-SFAS No. 145 period, in the post-SFAS No. 145 period, the market responds positively to gains and negatively to losses from early debt extinguishment at the earnings announcement date. Further, this pattern continues for the SEC 10-Q/10-K filing window, as well, with negative returns for the Large Negative *DGAIN* portfolio (*RET* = -2.31 percent; *EXRET* = -2.26 percent) and positive returns for the Positive *DGAIN* portfolio (*RET* = 3.75 percent; *EXRET* = 4.25 percent). The difference in returns between the two groups (*RET* = 6.06 percent; *EXRET* = 6.51 percent) is highly significant. Furthermore, our difference-in-differences test results displayed in Panel C demonstrate no difference in market response between the two regimes around SEC 8-K filings, but significant differences around both earnings announcement dates and SEC 10-Q/10-K filings.

Collectively, the evidence in Table 4 provides *prima facie* evidence that the market reaction to gains/losses from early extinguishment is associated with their placement on the income statement. In the pre-SFAS No. 145 regime, the market appears to ignore the “below-the-line” gains/losses, while in the post-SFAS No. 145 period, the market appears to respond to the “above-the-line” gains/losses. In the section below, we ascertain whether the univariate results, which are vulnerable to confounding effects, continue to hold even after controlling for other factors that might influence market reaction.

### Return Gains/Losses Regression Tests

The regression analysis tests for a differential market response to gains/losses from early debt retirement between the two accounting regimes after controlling for changes between the two sample periods in earnings, the macroeconomic environment, the motivation to retire debt, capital market conditions, firm characteristics, and investor sentiment. Specifically, we estimate the following model:

$$\begin{aligned} RET_{t+1}/EXRET_{t+1} = & \alpha_0 + \beta_1 * \Delta NI_t + \beta_2 * DEBT_{t-1} + \beta_3 * \Delta DEBT_t + \beta_4 * \Delta INT_t + \beta_5 * MTR_t \\ & + \beta_6 * SGR_t + \beta_7 * ZSCORE_t + \beta_8 * BOND_t + \beta_9 * \Delta BOND_t + \beta_{10} * VIX_t \\ & + \beta_{11} * SENTI_t + \beta_{12} * DGAIN_t + \varepsilon_t, \end{aligned} \quad (1)$$

where the dependent variable is either raw returns (*RET*) or the Fama-French three-factor model returns (*EXRET*), measured over the three alternative return windows, as before.  $\Delta NI$  is the seasonally adjusted earnings surprise. To ensure consistency in the pre- and post-periods, *NI* is adjusted for the above-the-line gain/loss from early debt extinguishment (Compustat variable DTEPQ adjusted for taxes) in the post-SFAS No. 145 period.<sup>10</sup> We introduce  $\Delta NI$  into Equation (1)

<sup>10</sup> Refer to Appendix B for detailed definitions of  $\Delta NI$  and other variables in Equation (1).

to control for the earnings surprise released simultaneously with the gain/loss from the early debt retirement. Based on prior literature, we expect  $\beta_1 > 0$ . We exclude  $\Delta NI$  in the regression for the 8-K window, as earnings are not yet available at the time of the 8-K release.

Manzon (1994) identifies high-leverage and high-interest burden as motivations to retire debt early. Hence, we include the level of debt (*DEBT*), change in debt ( $\Delta DEBT$ ), and change in interest expense ( $\Delta INT$ ) in our regression. *DEBT* is lagged total debt scaled by lagged market capitalization, and  $\Delta DEBT$  is the quarterly change in *DEBT*.  $\Delta INT$  is lagged quarterly change in total interest expense scaled by lagged market capitalization. Manzon (1994) also shows that firms with higher marginal tax rates are less likely to retire debt because of the greater value of the debt tax shield. Thus, we include *MTR*, the firm-specific marginal tax rate as estimated by Graham and Mills (2008).<sup>11</sup> In addition, since Manzon (1994) demonstrates that growing firms are less likely to retire debt, we control for sales growth (*SGR*), defined as sales growth rate between current quarterly sales (*SALEQ*) and quarterly sales from four quarters prior.<sup>12</sup>

Since companies in financial distress are less likely to early retire debt, we include the Altman Z-Score (*ZSCORE*), in Equation (1). *BOND* is the Moody's seasoned BAA corporate bond yield;  $\Delta BOND$  is the change in *BOND* compared to the year before.<sup>13</sup> We add these two variables to the regression to control for possible macroeconomic differences (level of and changes in market interest rate) between our two sample periods. *VIX* is the Chicago Board Options Exchange Market Volatility Index, and *SENTI* is the monthly market sentiment index obtained from Baker and Wurgler (2007). We introduce these variables to control for possible changes in capital market conditions or investor behavior between our two sample periods. *DGAIN*, our variable of interest, is the after-tax gains or losses from extinguishment of debt, as defined earlier. In terms of Equation (1), the parameter of interest is  $\beta_{12}$ . If the market responds to gains/losses from early debt extinguishment, then we expect  $\beta_{12} > 0$ .

To address a potential problem of outlying observations that may arise when accounting data are pooled across firms and over time, we follow the standard approach in the accounting literature and winsorize all firm-level independent variables at the 1st and 99th percentiles. In addition, to control for the effects of firm- and time-clustering, all reported t-statistics are adjusted for two-way clustering by firm (CUSIP) and time (years), as in Petersen (2009) and Gow, Ormazabal, and Taylor (2010). Finally, we control for industry-fixed effects using the Fama and French (1997) industry classification.

Table 5 reports the regression results. In Panel A, the dependent variable is raw returns and in Panel B, the Fama-French three-factor model returns. For each return window, we estimate Equation (1) in both the pre- and post-SFAS No. 145 periods, and then test for equality between the two corresponding coefficients across the two accounting regimes.<sup>14</sup> For the sake of brevity, the discussion below focuses on the results in Panel A of Table 5 with *RET* as the dependent variable;

<sup>11</sup> The data for *MTR* are available for 587 observations out of 600. For the remaining 13 observations, we set *MTR* to equal the contemporaneous industry median *MTR*, where industry is defined as two-digit SIC code.

<sup>12</sup> We replicate Manzon's (1994) analysis to ensure that the motivations behind debt retirements are similar across both the pre- and post-periods. We estimate a probit model using all quarterly observations on Compustat between 1996 and 2009 with non-zero long-term debt. Consistent with Manzon (1994), we find that the decision to retire debt is positively associated with leverage and interest burden and negatively associated with sales growth and marginal tax rate. All variables are significant in the expected direction in both periods. The effects of leverage and taxes are marginally stronger in the post-SFAS No. 145 period (results are not tabulated for parsimony).

<sup>13</sup> We use the yield on BAA bonds because of the risk profile of firms in our sample (smaller and less profitable than the Compustat universe). Results are nearly identical when we use yield on AAA bonds instead.

<sup>14</sup> The significance of the difference between the coefficients across the two regressions is estimated using a t-test with a pooled estimate of standard error. The results are similar when we run a single regression across both subperiods with a dummy interaction for the post-period. We prefer the approach used in the paper, as it also allows for the coefficients on the independent variables other than *DGAIN* to vary across the two subperiods.

**TABLE 5**  
**Regression Analyses: Tests for Market Response Around Early Debt Retirements**

**Panel A: Dependent Variable Raw Returns (RET)**

$$\text{Model } RET_{t+1} = \alpha_0 + \beta_1 * \Delta NI_t + \beta_2 * DEBT_{t-1} + \beta_3 * \Delta DEBT_t + \beta_4 * \Delta INT_t + \beta_5 * MTR_t + \beta_6 * SGR_t + \beta_7 * ZSCORE_t + \beta_8 * BOND_t + \beta_9 * \Delta BOND_t + \beta_{10} * VIX_t + \beta_{11} * SENTI_t + \beta_{12} * DGAIN_t + \epsilon_t.$$

Variable	Coeff.	Returns Around 8-K Release			Returns Around Earnings Announcement			Returns Around SEC Filing		
		Pre-145	Post-145	Post - Pre	Pre-145	Post-145	Post - Pre	Pre-145	Post-145	Post - Pre
$\Delta NI$	$\beta_1$				0.082*** (2.57)	0.115*** (3.15)	0.033 (0.69)	0.033 (1.25)	-0.053 (-1.63)	-0.087*** (-2.05)
$DEBT_{t-1}$	$\beta_2$	0.002 (0.22)	-0.005 (-1.58)	-0.006 (-0.82)	0.006 (1.47)	0.004 (1.48)	-0.002 (-0.40)	-0.002 (-0.56)	-0.001 (-0.49)	0.001 (0.18)
$\Delta DEBT_t$	$\beta_3$	0.011 (0.46)	-0.075*** (-2.78)	-0.086** (-2.40)	0.003 (0.18)	-0.010 (-0.42)	-0.013 (-0.44)	0.007 (0.45)	-0.038* (-1.89)	-0.045* (-1.80)
$\Delta INT_t$	$\beta_4$	1.569* (1.67)	-0.091 (-0.10)	-1.660 (-1.25)	0.065 (0.09)	-1.101* (-1.82)	-1.166 (-1.25)	-0.320 (-0.54)	-1.217** (-2.29)	-0.897 (-1.13)
$MTR$	$\beta_5$	-0.015 (-0.17)	-0.045 (-0.68)	-0.030 (-0.27)	0.019 (0.30)	0.036 (0.59)	0.016 (0.19)	-0.009 (-0.17)	0.030 (0.57)	0.039 (0.52)
$SGR$	$\beta_6$	0.002 (0.19)	0.020 (0.90)	0.018 (0.75)	0.004 (0.63)	0.008 (0.48)	0.004 (0.20)	-0.006 (-0.95)	0.004 (0.24)	0.009 (0.58)
$ZSCORE$	$\beta_7$	0.006 (0.81)	0.002 (0.37)	-0.004 (-0.50)	0.002 (0.52)	0.010** (2.05)	0.007 (1.20)	-0.005 (-1.34)	0.004 (0.88)	0.008 (1.53)
$BOND$	$\beta_8$	0.024 (0.65)	0.043 (1.11)	0.018 (0.34)	-0.005 (-0.20)	0.011 (0.39)	0.016 (0.42)	0.040* (1.82)	-0.053** (-2.20)	-0.094*** (-2.85)
$\Delta BOND$	$\beta_9$	-0.030 (-1.36)	0.001 (0.03)	0.031 (1.14)	-0.009 (-0.56)	0.012 (0.95)	0.021 (1.04)	-0.009 (-0.66)	0.011 (0.95)	0.019 (1.12)
$VIX$	$\beta_{10}$	-0.086 (-0.59)	-0.156 (-0.68)	-0.071 (-0.26)	0.092 (0.88)	0.004 (0.02)	-0.089 (-0.43)	0.195** (2.23)	0.449*** (2.87)	0.255 (1.42)
$SENTI$	$\beta_{11}$	-0.006 (-0.46)	0.002 (0.07)	0.008 (0.25)	-0.004 (-0.41)	-0.023 (-0.87)	-0.019 (-0.67)	-0.009 (-1.08)	0.005 (0.23)	0.014 (0.58)

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TABLE 5 (continued)

Variable	Coeff.	Returns Around 8-K Release		Returns Around Earnings Announcement		Returns Around SEC Filing		
		Pre-145	Post-145	Post - Pre	Pre-145	Post-145	Post - Pre	
DGAIN	$\beta_{12}$	0.087 (1.48)	0.141** (2.41)	0.054 (0.65)	-0.036 (-0.70)	0.086** (2.16)	0.104*** (2.98)	0.107** (1.96)
n		102	115		258	342	342	
Adj. R <sup>2</sup>		8.21%	19.55%		4.41%	11.38%	9.21%	4.98%

Panel B: Dependent Variable Three-Factor Adjusted Excess Returns (EXRET)

$$\text{Model } EXRET_{t+1} = \alpha_0 + \beta_1 * \Delta NI_t + \beta_2 * DEBT_{t-1} + \beta_3 * \Delta DEBT_t + \beta_4 * \Delta INT_t + \beta_5 * MTR_t + \beta_6 * SGR_t + \beta_7 * ZSCORE_t + \beta_8 * BOND_t + \beta_9 * \Delta BOND_t + \beta_{10} * VIX_t + \beta_{11} * SENTI_t + \beta_{12} * DGAIN_t + \epsilon_t.$$

Variable	Coeff.	Returns Around 8-K Release		Returns Around Earnings Announcement		Returns Around SEC Filing		
		Pre-145	Post-145	Post - Pre	Pre-145	Post-145	Post - Pre	
$\Delta NI$	$\beta_1$				0.094*** (3.07)	0.118*** (3.32)	0.025 (0.53)	0.037 (1.38)
$DEBT_{t-1}$	$\beta_2$	0.002 (0.29)	-0.006* (-2.26)	-0.008 (-1.14)	0.007* (1.78)	0.004 (1.50)	-0.003 (-0.62)	(-1.33) -0.001 (0.19)
$\Delta DEBT_t$	$\beta_3$	0.014 (0.65)	-0.08*** (-3.24)	-0.094*** (-2.87)	0.002 (0.14)	-0.004 (-0.16)	-0.006 (-0.22)	-0.009 (0.60)
$\Delta INT_t$	$\beta_4$	1.399 (1.62)	-0.54 (-0.63)	-1.939 (-1.60)	0.135 (0.20)	-1.121* (-1.89)	-1.257 (-1.40)	-0.479 (-0.80)
MTR	$\beta_5$	-0.013 (-0.16)	-0.013 (-0.21)	0.00 (0.00)	0.035 (0.58)	0.034 (0.57)	-0.001 (-0.02)	-0.012 (-0.22)
SGR	$\beta_6$	0.000 (0.01)	0.028 (1.40)	0.028 (1.28)	0.007 (1.11)	0.011 (0.67)	0.004 (0.20)	-0.008 (-1.28)
ZSCORE	$\beta_7$	0.004 (0.68)	-0.001 (-0.15)	-0.005 (-0.66)	0.004 (1.12)	0.009** (1.96)	0.005 (0.77)	-0.003 (-0.99)

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TABLE 5 (continued)

Variable	Coeff.	Returns Around 8-K Release			Returns Around Earnings Announcement			Returns Around SEC Filing		
		Pre-145	Post-145	Post - Pre	Pre-145	Post-145	Post - Pre	Pre-145	Post-145	Post - Pre
BOND	$\beta_8$	0.034 (0.99)	0.045 (1.29)	0.012 (0.24)	-0.015 (-0.59)	-0.006 (-0.22)	0.009 (0.24)	0.021 (0.95)	-0.051** (-2.20)	-0.073** (-2.24)
$\Delta$ BOND	$\beta_9$	-0.022 (-1.06)	-0.007 (-0.47)	0.015 (0.61)	-0.005 (-0.37)	0.020 (1.60)	0.026 (1.31)	-0.003 (-0.20)	0.020* (1.89)	0.023 (1.36)
VIX	$\beta_{10}$	-0.023 (-0.17)	-0.285 (-1.35)	-0.262 (-1.05)	0.033 (0.33)	0.053 (0.30)	0.020 (0.10)	0.166* (1.87)	0.382** (2.54)	0.217 (1.24)
SENTI	$\beta_{11}$	-0.010 (-0.79)	0.001 (0.05)	0.011 (0.37)	-0.003 (-0.30)	-0.038 (-1.46)	-0.035 (-1.27)	-0.007 (-0.84)	-0.009 (-0.41)	-0.002 (-0.09)
DGAIN	$\beta_{12}$	0.108** (2.01)	0.129** (2.40)	0.020 (0.27)	-0.030 (-0.62)	0.086** (2.21)	0.116* (1.86)	0.001 (0.03)	0.110*** (3.30)	0.109** (2.00)
n		102	115		258	342		258	342	
Adj. R <sup>2</sup>		7.66%	23.23%		5.88%	11.36%		4.28%	9.50%	

\*, \*\*, \*\*\* Significant at the 10 percent, 5 percent, and 1 percent levels for difference, respectively. The dependent variable is either raw returns (RET) or Fama-French three-factor adjusted excess returns (EXRET) computed in the three-day window around 8-K release, earnings announcement, and SEC filing. See Appendix B for definitions of independent variables. All firm-level independent variables are winsorized at the 1st and 99th percentiles. t-statistics control for clustering by firm and year. Figures in parentheses represent t-statistics.

the results in Panel B with *EXRET* as the dependent variable are fairly similar, which is not surprising given the short (three-day) return windows.

Before discussing the results for our variable of interest, *DGAIN*, we note that  $\beta_1$ , the coefficient on our proxy for the quarterly earnings surprise,  $\Delta NI$ , is significantly positive in the earnings announcement window in both accounting regimes: 0.082 (t-statistic of 2.57) in the pre-period and 0.115 (t-statistic = 3.15) in the post-period. However, the difference between the two coefficients, 0.033, is insignificant. The significantly positive coefficient on  $\Delta NI$  in both sample periods is consistent with findings in prior literature and, thus, alleviates concerns that our sample is not representative. The insignificant difference between the two coefficients across the two accounting regimes provides little evidence that the market response to earnings news changed between the two accounting regimes. We also note that nearly all other control variables are either insignificant or show insignificant differences across time. This increases our confidence that any differential market response to gains/losses between the two periods can be attributed to income statement presentation.

Our variable of interest, *DGAIN*, has an insignificant coefficient ( $\beta_{12}$ ) for all three return windows in the pre-SFAS No. 145 period. Thus, there is little evidence that investors react to gains/losses from early debt extinguishments when they are reported as special items below the line. Conversely, the results for the post-SFAS No. 145 period indicate a significant market response. First, in all three return windows,  $\beta_{12}$  is significantly positive, 0.141 (t-statistic = 2.41) for the 8-K announcement window, 0.086 (t-statistic = 2.16) for the earnings announcement window and 0.104 (t-statistic = 2.98) for the SEC 10-Q/10-K filing window. Further, the difference between the pre- and post-SFAS No. 145 periods in the earnings announcement window is significantly positive, 0.121 (t-statistic = 1.88). Similarly, the difference between the pre- and post-SFAS No. 145 periods in the SEC 10-Q/10-K filing window is significantly positive, 0.107 (t-statistic = 1.96).<sup>15</sup>

Overall, the results from the portfolio return tests in Table 4 and from the return gains/losses regression tests in Table 5 suggest that the difference in the placement of gains/losses from early extinguishment is associated with the difference in the market response between the two accounting regimes.

## V. ALTERNATIVE EXPLANATIONS AND SENSITIVITY TESTS

In this section, we test alternative explanations that examine changes in: (1) the nature of extinguishment transactions (cash versus debt refinancing), (2) the information content of gains/losses from early retirements, and (3) the market reaction to above and below the line items. We also perform sensitivity tests that assess the validity of our sample selection procedure.

### Extinguishment Transactions Vary Across the Two Accounting Regimes

In addition to reacting to the gain/loss from early retirement, the market may also react to the form in which the retirement is carried out. The reaction to a plain vanilla extinguishment, financed with cash, may be confounded by the market's perception of the reduction in leverage. The market reaction to gains/losses from more complex extinguishments, such as debt refinancing, may be confounded by its favorable terms. If the distribution of the nature of extinguishments varies across the two periods, then this will affect our ability to interpret the differential market response.

Recall from Panel D of Table 2 that the two most common forms of funding debt retirements are through debt refinancing and cash. However, the proportion of debt refinancing declines from

<sup>15</sup> For the SEC 8-K filing window,  $\beta_{12}$  is significant in the post-SFAS No. 145 period and insignificant in the pre-period. However, the difference between the two coefficients is insignificant.



55.4 percent to 49.4 percent, while the proportion of cash-based retirements increases from 26.4 percent to 40.4 percent, across the two sample periods. To ensure that this shift does not influence our results, we partition the sample into cash and debt refinancing subsamples and replicate the regression analysis reported in Table 5.

Panels A and B of Table 6 report, respectively, the results for the debt refinancing and cash retirement transactions, using the three-day abnormal returns (*EXRET*) as the dependent variable. Results in Panels A and B show that the stock returns associated with the gains/losses from cash retirements and debt refinancing retirements are similar. For example, the coefficient on *DGAIN* in the earnings announcement window is close to zero and statistically insignificant ( $-0.002$ ,  $t$ -statistic  $= -0.02$ ) in the pre-SFAS No. 145 period for the subset of debt refinancing retirements (Panel A of Table 6). In contrast, in the post-SFAS No. 145 period, it is approximately 80 times larger (in absolute value) and statistically significant ( $0.171$ ,  $t$ -statistic  $= 2.70$ ). Similarly, for the subset of cash retirements (Panel B of Table 6), in the pre-SFAS No. 145 period, the coefficient on *DGAIN* is small and statistically insignificant ( $-0.044$ ,  $t$ -statistic  $= -0.50$ ), whereas in the post-SFAS No. 145 period, it is significantly positive ( $0.144$ ,  $t$ -statistic  $= 2.57$ ). Furthermore, in both partitions, the difference between the coefficients across the two accounting regimes is significant. Overall, the results in Table 6 suggest that the differential reaction to gains/losses from early retirements across the two accounting regimes cannot be attributed to differences in the mode of financing across the two regimes.

### Gains/Losses from Early Extinguishment and Earnings Predictability

Another alternative explanation for our findings is that the future cash flow implications of the debt retirements differ across the two subperiods. In other words, the observed market response to the gains/losses from early retirements reflects an improvement in their ability to predict future firm performance in the post-SFAS No. 145 period. We explore this possibility by testing the ability of the gains/losses to predict future earnings and cash flows. To that end, we estimate the following model:

$$\begin{aligned} PERFORMANCE_{t+i} = & \alpha_0 + \beta_1 * POST + \beta_2 * PERFORMANCE_t + \beta_3 * DGAIN_t \\ & + \beta_{33} * DGAIN_t * POST + \varepsilon_t \quad (i = 1, 2, 3, 4), \end{aligned} \quad (2)$$

where the dependent variable,  $PERFORMANCE_{t+i}$ , is either  $i$ -quarter-ahead cash from operation (*CFO*) or  $i$ -quarter-ahead income before extraordinary items (*IBQ*). To ensure consistency in the pre- and post-periods, *IBQ* is adjusted for the above-the-line gain from early debt extinguishment (*DTEAQ*) in the post-SFAS No. 145 period. The independent variables are  $PERFORMANCE_t$ , the performance measure (*CFO* or *IBQ*) at the early retirement quarter, and the after-tax gain/loss from early debt extinguishment (*DGAIN*), which is also interacted with a dummy variable, *POST*, that equals 1 for the post-SFAS No. 145 period (after 2002), and 0 otherwise. All variables are deflated by lagged market value at the beginning of the early debt extinguishment quarter and, as before, are winsorized at the 1st and 99th percentiles. Also, as before, we include industry-fixed effects and present two-way clustered  $t$ -statistics.

In Equation (2), if the current performance measure is informative about future performance, then we expect  $\beta_2 > 0$ , and if *DGAIN* is informative about future performance, then we expect  $\beta_3 > 0$ . The coefficient of interest, however, is  $\beta_{33}$ . If the ability of *DGAIN* to predict future performance has improved between the two accounting regimes, then we expect  $\beta_{33} > 0$ .

Table 7 reports the results from estimating Equation (2), measuring the dependent variables in quarters  $t+1$  to  $t+4$ . In Panel A, the dependent variable is *IBQ* and in Panel B, the dependent variable is *CFO*. Three salient points emerge from these results. First, the coefficient on current quarterly earnings ( $\beta_1$ ) is significantly positive in all four quarters for both performance measures.



**TABLE 6**  
**Regression Analyses: Tests for Market Response Around Early Debt Retirements by Funding Means**

**Panel A: Subset of Debt Refinancing Retirements**

$$\text{Model } EXRET_{t+1} = \alpha_0 + \beta_1 * \Delta NI_t + \beta_2 * DEBT_{t-1} + \beta_3 * \Delta DEBT_t + \beta_4 * \Delta INT_t + \beta_5 * MTR_t + \beta_6 * SGR_t + \beta_7 * ZSCORE_t + \beta_8 * BOND_t + \beta_9 * \Delta BOND_t + \beta_{10} * VIX_t + \beta_{11} * SENTI_t + \beta_{12} * \Delta GAIN_t + \epsilon_t.$$

Variable	Coeff.	Returns Around 8-K Release			Returns Around Earnings Announcement			Returns Around SEC Filing		
		Pre-145	Post-145	Post - Pre	Pre-145	Post-145	Post - Pre	Pre-145	Post-145	Post - Pre
$\Delta NI$	$\beta_1$				-0.021 (-0.36)	0.034 (0.62)	0.055 (0.69)	0.103** (2.39)	0.076* (1.91)	-0.027 (-0.46)
$DEBT_{t-1}$	$\beta_2$	-0.002 (-0.25)	0.006*** (1.99)	0.008 (0.84)	0.003 (0.52)	0.001 (0.24)	-0.002 (-0.26)	0.000 (0.11)	-0.002 (-0.57)	-0.002 (-0.43)
$\Delta DEBT_t$	$\beta_3$	0.007 (0.20)	-0.009 (-0.31)	-0.015 (-0.35)	0.023 (0.99)	-0.023 (-0.56)	-0.046 (-0.97)	0.008 (0.47)	-0.049 (-1.63)	-0.057* (-1.65)
$\Delta INT_t$	$\beta_4$	1.739 (0.77)	1.051 (0.66)	-0.689 (-0.25)	-0.534 (-0.44)	-1.031 (-0.87)	-0.497 (-0.29)	0.510 (0.55)	0.601 (0.70)	0.091 (0.07)
$MTR$	$\beta_5$	-0.035 (-0.32)	-0.018 (-0.29)	0.016 (0.13)	-0.037 (-0.47)	-0.018 (-0.19)	0.018 (0.15)	-0.009 (-0.15)	0.004 (0.06)	0.013 (0.14)
$SGR$	$\beta_6$	0.050** (2.20)	0.051* (1.83)	0.001 (0.02)	-0.001 (-0.05)	-0.006 (-0.16)	-0.005 (-0.14)	-0.014* (-1.67)	0.003 (0.12)	0.017 (0.64)
$ZSCORE$	$\beta_7$	-0.006 (-0.68)	0.008 (1.32)	0.014 (1.30)	0.012* (1.70)	0.016** (1.71)	0.004 (0.37)	0.014*** (2.64)	0.007 (0.98)	-0.007 (-0.82)
$BOND$	$\beta_8$	0.037 (0.87)	0.075* (2.18)	0.038 (0.70)	-0.039 (-1.22)	0.017 (0.38)	0.056 (1.02)	-0.002 (-0.09)	-0.03 (-0.94)	-0.028 (-0.69)
$\Delta BOND$	$\beta_9$	-0.007 (-0.29)	-0.018 (-1.30)	-0.01 (-0.37)	0.016 (0.81)	0.014 (0.69)	-0.001 (-0.05)	0.017 (1.18)	0.028* (1.81)	0.01 (0.48)
$VIX$	$\beta_{10}$	0.023 (0.14)	-0.653*** (-3.01)	-0.675** (-2.48)	0.002 (0.02)	-0.234 (-0.79)	-0.236 (-0.73)	0.169* (1.85)	0.156 (0.72)	-0.013 (-0.05)
$SENTI$	$\beta_{11}$	-0.017 (-1.09)	0.024 (0.87)	0.041 (1.30)	-0.009 (-0.86)	-0.035 (-0.83)	-0.026 (-0.59)	-0.001 (-0.17)	-0.043 (-1.39)	-0.042 (-1.30)

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TABLE 6 (continued)

Variable	Coeff.	Returns Around 8-K Release			Returns Around Earnings Announcement			Returns Around SEC Filing		
		Pre-145	Post-145	Post - Pre	Pre-145	Post-145	Post - Pre	Pre-145	Post-145	Post - Pre
DGAIN	$\beta_{12}$	0.267*** (3.39)	0.326** (2.43)	0.059 (0.38)	-0.002 (-0.02)	0.171*** (2.70)	0.173* (1.73)	-0.036 (-0.61)	0.100** (2.19)	0.136* (1.83)
n		66	60		143	169		143	169	
Adj. R <sup>2</sup>		25.66%	39.86%		9.22%	8.82%		18.01%	10.67%	

**Panel B: Subset of Cash Financed Retirements**

$$\text{Model } EXRET_{t+1} = \alpha_0 + \beta_1 * \Delta NI_t + \beta_2 * DEBT_{t-1} + \beta_3 * \Delta DEBT_t + \beta_4 * \Delta INT_t + \beta_5 * MTR_t + \beta_6 * SGR_t + \beta_7 * ZSCORE_t + \beta_8 * BOND_t + \beta_9 * \Delta BOND_t + \beta_{10} * VIX_t + \beta_{11} * SENTI_t + \beta_{12} * DGAIN_t + \varepsilon_t$$

Variable	Coeff.	Returns Around 8-K Release			Returns Around Earnings Announcement			Returns Around SEC Filing		
		Pre-145	Post-145	Post - Pre	Pre-145	Post-145	Post - Pre	Pre-145	Post-145	Post - Pre
$\Delta NI$	$\beta_1$	0.004 (0.17)	-0.028*** (-5.46)	-0.032 (-1.39)	0.147*** (2.95)	0.143*** (2.76)	-0.004 (-0.06)	0.054 (1.21)	-0.438*** (-9.14)	-0.492*** (-7.50)
$DEBT_{t-1}$	$\beta_2$	-0.004 (-0.06)	-0.012 (-0.19)	-0.008 (-0.08)	0.007 (0.66)	0.005 (1.74)	-0.002 (-0.15)	0.011 (1.18)	0.008*** (2.83)	-0.003 (-0.31)
$\Delta DEBT_t$	$\beta_3$	-2.314** (-2.00)	-2.495* (-1.78)	-0.182 (-0.10)	-0.021 (-0.44)	-0.012 (-0.48)	0.009 (0.16)	0.018 (0.41)	-0.036 (-1.51)	-0.054 (-1.09)
$\Delta INT_t$	$\beta_4$	-0.058 (-0.20)	-0.026 (-0.26)	0.032 (0.10)	0.247 (0.20)	-1.753*** (-2.63)	-2.00 (-1.42)	-0.759 (-0.68)	-0.483 (-0.78)	0.277 (0.22)
MTR	$\beta_5$	-0.021 (-1.26)	0.010 (0.29)	0.030 (0.82)	0.107 (0.65)	0.035 (0.52)	-0.072 (-0.40)	0.194 (1.30)	0.007 (0.11)	-0.187 (-1.16)
SGR	$\beta_6$	0.011 (0.63)	-0.013** (-2.35)	-0.024 (-1.27)	0.001 (0.10)	0.007 (1.38)	-0.006 (-0.86)	-0.018** (-0.25)	0.005 (1.00)	0.022*** (0.93)
ZSCORE	$\beta_7$	0.011 (0.63)	-0.013** (-2.35)	-0.024 (-1.27)	0.001 (0.10)	0.007 (1.38)	-0.006 (-0.86)	-0.018** (-0.25)	0.005 (1.00)	0.022*** (0.93)

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TABLE 6 (continued)

Variable	Coeff.	Returns Around 8-K Release			Returns Around Earnings Announcement			Returns Around SEC Filing		
		Pre-145	Post-145	Post - Pre	Pre-145	Post-145	Post - Pre	Pre-145	Post-145	Post - Pre
<i>BOND</i>	$\beta_8$	-0.160 (-1.58)	-0.020 (-0.31)	0.140 (1.17)	-0.011 (-0.15)	-0.066** (-2.10)	-0.055 (-0.74)	0.104* (1.69)	-0.019 (-0.64)	-0.122* (-1.80)
$\Delta BOND$	$\beta_9$	-0.023 (-0.44)	0.010 (0.36)	0.033 (0.56)	-0.011 (-0.32)	0.024* (1.70)	0.035 (0.93)	-0.053* (-1.66)	0.001 (0.09)	0.054 (1.56)
<i>VIX</i>	$\beta_{10}$	-0.817** (-2.15)	0.182 (0.55)	0.998** (1.99)	0.014 (0.05)	0.447** (2.37)	0.432 (1.31)	0.543** (2.23)	0.181 (1.04)	-0.362 (-1.21)
<i>SENTI</i>	$\beta_{11}$	0.053* (1.70)	-0.011 (-0.21)	-0.064 (-1.04)	0.018 (0.66)	-0.072** (-2.57)	-0.089** (-2.31)	-0.021 (-0.87)	0.037 (1.42)	0.057 (1.63)
<i>DGAIN</i>	$\beta_{12}$	-0.187 (-1.63)	0.074 (0.86)	0.260* (1.82)	-0.044 (-0.50)	0.144*** (2.57)	0.189* (1.81)	-0.003 (-0.04)	0.200*** (3.83)	0.203** (2.14)
n		19	41		68	138		68	138	
Adj. R <sup>2</sup>		22.29%	55.06%		15.40%	33.47%		23.48%	42.59%	

\*, \*\*, \*\*\* Significant at the 10 percent, 5 percent, and 1 percent levels for difference, respectively.

The dependent variable is the Fama-French three-factor adjusted excess returns (*EXRET*) computed in the three-day window around 8-K release, earnings announcement, and SEC filing. See Appendix B for definitions of independent variables. All firm-level independent variables are winsorized at the 1st and 99th percentiles. t-statistics control for clustering by firm and year. Figures in parentheses represent t-statistics.

TABLE 7

## Persistence of Earnings and Cash Flows Pre- and Post-SFAS No. 145

## Panel A: Persistence of Earnings

$$\text{Model: } IBQ_{t+i} = \alpha_0 + \beta_1 * POST + \beta_2 * IBQ_t + \beta_{22} * IBQ_t * POST + \beta_3 * DGAIN_t + \beta_{33} * DGAIN_t * POST + \varepsilon, \quad i = 1, 2, 3, 4.$$

Variable	Coeff.	Expected Sign	$IBQ_{t+1}$	$IBQ_{t+2}$	$IBQ_{t+3}$	$IBQ_{t+4}$
<i>POST</i>	$\beta_1$	?	0.081 (1.57)	0.078 (1.45)	-0.002 (-0.04)	0.033 (0.58)
$IBQ_t$	$\beta_2$	+	0.247*** (5.55)	0.288*** (6.15)	0.210*** (4.51)	0.273*** (5.41)
$IBQ_t * POST$	$\beta_{22}$	?	-0.009 (-0.14)	-0.111* (-1.73)	-0.021 (-0.34)	-0.058 (-0.83)
<i>DGAIN</i>	$\beta_3$	?	0.299 (0.91)	-0.222 (-0.64)	-0.449 (-1.30)	0.086 (0.23)
$DGAIN * POST$	$\beta_{33}$	?	-0.780*** (-2.06)	0.178 (0.45)	0.642 (1.43)	0.006 (0.01)
	$\beta_2 + \beta_{22}$	+	0.238*** (3.07)	0.177** (2.22)	0.189** (2.41)	0.216** (2.50)
	$\beta_3 + \beta_{33}$	?	-0.788** (-2.05)	0.067 (0.170)	0.621 (1.45)	-0.051 (-0.12)
n			580	583	585	572
Adj. R <sup>2</sup>			23.99%	26.49%	21.41%	22.46%

## Panel B: Persistence of Cash Flows

$$\text{Model: } CFO_{t+i} = \alpha_0 + \beta_1 * POST + \beta_2 * CFO_t + \beta_{22} * CFO_t * POST + \beta_3 * DGAIN_t + \beta_{33} * DGAIN_t * POST + \varepsilon, \quad i = 1, 2, 3, 4.$$

Variable	Coeff.	Expected Sign	$CFO_{t+1}$	$CFO_{t+2}$	$CFO_{t+3}$	$CFO_{t+4}$
<i>POST</i>	$\beta_1$	?	-0.002 (-0.04)	-0.004 (-0.06)	-0.048 (-0.64)	-0.08 (-1.01)
$CFO_t$	$\beta_2$	+	0.987*** (21.39)	4.669*** (10.00)	2.934*** (4.68)	1.339** (2.01)
$CFO_t * POST$	$\beta_{22}$	?	0.045 (0.70)	-0.319 (-0.50)	-0.822 (-0.93)	0.849 (0.83)
<i>DGAIN</i>	$\beta_3$	?	-0.033 (-0.11)	-0.725* (-1.65)	-0.967** (-2.07)	-1.13** (-2.30)
$DGAIN * POST$	$\beta_{33}$	?	0.054 (0.16)	0.347 (0.68)	0.542 (1.01)	0.759 (1.36)
	$\beta_2 + \beta_{22}$	+	1.032*** (13.02)	4.349*** (5.47)	2.113* (1.94)	2.188* (1.79)
	$\beta_3 + \beta_{33}$	?	0.099 (0.29)	0.028 (0.03)	-0.279 (-0.27)	1.609 (1.38)

(continued on next page)

TABLE 7 (continued)

Variable	Coeff.	Expected Sign	$CFO_{t+1}$	$CFO_{t+2}$	$CFO_{t+3}$	$CFO_{t+4}$
n			580	583	585	572
Adj. R <sup>2</sup>			74.86%	48.63%	39.79%	35.31%

\*, \*\*, \*\*\* Significant at the 10 percent, 5 percent, and 1 percent levels for difference, respectively.

The dependent variable is either income before extraordinary items (*IBQ*) or cash flow from operations for each of the four quarters following debt retirement. *DGAIN* is equal to the pre-tax gain or loss from debt retirement (*DTEPQ*) from the Compustat FUNDQ database, adjusted for taxes using the firm-specific tax rate. *DGAIN* is deflated by lagged market value. All variables are scaled by lagged market capitalization. *POST* is an indicator variable that equals 1 for the post-SFAS No. 145 period, and 0 otherwise. All independent variables are winsorized at the 1st and 99th percentiles. Regressions include industry-fixed effects using the Fama and French (1997) classification. Figures in parentheses represent t-statistics, which control for clustering by firm and year.

Second, *DGAIN* generally has little predictive power with respect to future firm performance. Third, and most important,  $\beta_{33}$  is not significantly positive for either performance measure in any of the quarters.<sup>16</sup> Thus, the evidence in Table 7 is inconsistent with an improvement in the predictive ability of *DGAIN* over time. This increases confidence that the return pattern we document relates to the position of the gains/losses in the income statement.

### Market Reaction to Below- and Above-the-Line Items Varies Across the Two Accounting Regimes

In this section, we assess the possibility that investor reaction to below- and above-the-line items changed over time, irrespective of the change in the position of gains/losses from early debt extinguishments in the income statements. To examine this possibility, we compare the market reaction to gains/losses from special items above the line (Table 8) and from extraordinary items below the line (Table 9) around earnings announcements and SEC 10-Q/10-K filings in the pre- and post-SFAS No. 145 periods. Consider the results in Table 8, focusing on the earnings announcement window. In both the pre-period (Panel A) and the post-period (Panel B), the stock return is negative for the Large Negative portfolio (which contains firms with large quarterly losses from special items) and positive for the Positive portfolio (containing firms with quarterly gains from special items). The return difference in both panels is around 2 percent and is highly significant. The results in Panel C provide no evidence that the market response to special items has changed between our two sample periods, as the return difference-in-differences between the Positive portfolio and the Large Negative portfolio is insignificant.

Table 9 compares the market reaction to gains/losses from extraordinary items in the pre- and post-SFAS No. 145 periods. The results in Panel A for the pre-period and in Panel B for the post-period provide no evidence of any market reaction to gains/losses from extraordinary items. Moreover, the results in Panel C show that formal tests of return difference-in-differences between the Positive portfolios and the Large Negative portfolios fail to reject the null of equality in market response between the two periods. Overall, the results in Tables 8 and 9 show no evidence that our results are driven by differences in how the market reacts to all special items or extraordinary items over time.

<sup>16</sup> The only exception is in quarter  $t+1$ , when earnings are used as the performance measure. However, in this case,  $\beta_{33}$  is significantly negative, not positive.

**TABLE 8**  
**Sensitivity Analysis**  
**Tests for Market Response Around Special Items Pre- and Post-SFAS No. 145**

**Panel A: Pre-SFAS No. 145 Period**

SPIQ Portfolios	n	Mean SPIQ (%)	Mean $\Delta NI_t$ (%)	Returns Around Earnings Announcements			Returns Around SEC Filings		
				n	RET	EXRET	n	RET	EXRET
Large Negative	5430	-18.77%	-16.72%	5430	-1.07%	-1.33%	5430	-0.86%	-0.95%
Small Negative	5431	-0.97%	-0.76%	5431	-0.24%	-0.48%	5431	-0.13%	-0.25%
Positive	2702	5.28%	5.71%	2702	0.95%	0.79%	2702	0.18%	-0.03%
Positive – Large Negative		24.04%	22.43%		2.03%	2.11%		1.04%	0.92%
		NA	(38.05)***		(6.98)***	(7.46)***		(4.23)***	(3.82)***

**Panel B: Post-SFAS No. 145 Period**

SPIQ Portfolios	n	Mean SPIQ (%)	Mean $\Delta NI_t$ (%)	Returns Around Earnings Announcements			Returns Around SEC Filings		
				n	RET	EXRET	n	RET	EXRET
Large Negative	8741	-13.49%	-8.43%	8741	-0.72%	-0.84%	8741	-0.21%	-0.47%
Small Negative	8741	-0.49%	0.49%	8741	0.03%	-0.03%	8741	-0.08%	-0.09%
Positive	3906	3.83%	6.00%	3906	1.00%	0.94%	3906	0.21%	0.19%
Positive – Large Negative		17.32%	14.43%		1.72%	1.78%		0.42%	0.66%
		NA	(29.76)***		(7.68)***	(8.18)***		(2.05)***	(3.33)***

**Panel C: Differences in Differences in Returns between Positive and Large Negative Special Items Portfolios (Post – Pre)**

Returns Around Earnings Announcements		Returns Around SEC Filings	
RET	EXRET	RET	EXRET
-0.31%	-0.33%	-0.62%	-0.26%
(-0.84)	(-0.92)	(-1.94)*	(-0.83)

\*, \*\*, \*\*\* Significant at the 10 percent, 5 percent, and 1 percent levels for difference, respectively.

Sample consists of all valid observations in nonfinancial industries from 1996 to 2010 with special items (SPIQ) greater in absolute value than 1 percent of quarterly sales. Observations with debt retirements as a part of special items in the post-SFAS No. 145 period (after 2002) are deleted. SPIQ is scaled by beginning market value. The analysis variable is either raw returns (RET) or Fama-French three-factor adjusted excess returns (EXRET) computed in the three-day window around 8-K release, earnings announcement, and SEC filing. In each year, all observations are divided into three groups. Firms with negative SPIQ are split into two groups (Large Negative and Small Negative), while firms with positive SPIQ are analyzed separately. Figures in parentheses represent t-statistics for the difference using the Satterthwaite method.

**Does Our Sample Selection Procedure Affect Our Findings?**

We also test the robustness of our results to alternative sample selection procedures. For brevity, these tests are not tabulated, but described below.

TABLE 9

## Sensitivity Analysis

## Tests for Market Response Around Extraordinary Items Pre- and Post-SFAS No. 145

## Panel A: Pre-SFAS No. 145 Period (1996–2001)

XIQ Portfolios	Mean n	Mean XIQ (%)	Mean $\Delta NI_t$ (%)	Returns Around Earnings Announcements			Returns Around SEC 10-Q/10-K Filings		
				n	RET	EXRET	n	RET	EXRET
Large Negative	490	-7.32%	-2.40%	490	0.46%	0.17%	490	-0.37%	-0.56%
Small Negative	490	-0.48%	-0.42%	490	0.34%	-0.05%	490	-0.20%	-0.60%
Positive	325	18.18%	-0.80%	325	0.51%	0.15%	325	0.20%	0.09%
Positive – Large Negative		25.50%	1.59%		0.05%	-0.01%		0.57%	0.64%
		NA	(0.55)		(0.07)	(-0.02)		(0.80)	(0.93)

## Panel B: Post-SFAS No. 145 Period (2002–2010)

XIQ Portfolios	Mean n	Mean XIQ (%)	Mean $\Delta NI_t$ (%)	Returns Around Earnings Announcements			Returns Around SEC Filings		
				n	RET	EXRET	n	RET	EXRET
Large Negative	338	-54.78%	3.82%	338	-0.09%	-0.01%	338	1.14%	-0.07%
Small Negative	338	-2.17%	0.46%	338	0.02%	0.26%	338	0.94%	0.21%
Positive	144	10.84%	4.75%	144	-0.18%	-0.41%	144	0.60%	0.38%
Positive – Large Negative		65.62%	0.93%		-0.10%	-0.40%		-0.54%	0.44%
		NA	(0.25)		(-0.09)	(-0.36)		(-0.68)	(0.58)

## Panel C: Differences in Differences in Returns between Positive and Large Negative Extraordinary Item Portfolios (Post – Pre)

Returns Around Earnings Announcements		Returns Around SEC Filings	
RET	EXRET	RET	EXRET
-0.15%	-0.39%	-1.11%	-0.20%
(-0.11)	(-0.32)	(-1.04)	(-0.20)

Sample consists of all valid observations in nonfinancial industries from 1996 to 2010 with extraordinary items (XIQ) greater in absolute value than 1 percent of quarterly sales. XIQ is scaled by beginning market value. The analysis variable is either raw returns (RET) or Fama-French three-factor adjusted excess returns (EXRET) computed in the three-day window around 8-K release, earnings announcement, and SEC filing. In each year, all observations are divided into three groups. Firms with negative XIQ are split into two groups (Large Negative and Small Negative), while firms with positive XIQ are analyzed separately. Figures in parentheses represent t-statistics for the difference using the Satterthwaite method.

Do our results follow from a small number of serial extinguishers? To assess this possibility, we replicate our tests in Table 4 after partitioning our sample into two approximately equal-size subsamples: one containing firms with two or less retirements in both subperiods and the other more than two retirements in both subperiods. The results suggest that the differential market response to early retirements between the two accounting regimes is observed in both subsamples. Specifically, for both subsamples, there is no stock price response to gains/losses from early retirements in the



pre-SFAS No. 145 period in any of three return windows, and a significant stock price response in the post-SFAS No. 145 period in the earnings announcement and the SEC 10-Q/10-K filing windows.<sup>17</sup> Overall, the differential stock price response across the two accounting regimes relates to all extinguishers, not only to a small subset of them.

Next, we examine the possibility that our findings are not generalizable because our sample selection results in a biased sample. As discussed earlier, we impose restrictions on our sample to increase statistical power (the gain/loss must be material) and to alleviate concerns that alternative explanations underlie our findings (a firm must early retire in both accounting regimes). Such an approach, however, may cast doubt on the generalizability of our finding. To assess this possibility, we analyze the market response to gains/losses from early retirements after removing these sample selection restrictions.

We first relax the restriction that the after-tax gain/loss be greater in absolute magnitude than 1 percent of quarterly sales. Our sample here consists of all firms with extraordinary items (Compustat item XIQ) in the pre-SFAS No. 145 period that also had reported gains/losses from debt extinguishment (Compustat item DTEPQ) in the post-SFAS No. 145 period.<sup>18</sup> The results suggest that removing the first restriction has little effect on our finding. Specifically, we continue to find no market response to gains/losses from early retirements in the pre-SFAS No. 145 period, and a significant market response in the post-period. Next, we further relax the restriction that a given firm needs to have at least one observation in the two subperiods and find that this does not alter the results either. This suggests that our finding is robust to both sample selection criteria.

Finally, one remaining concern might stem from the fact that our post-SFAS No. 145 period includes observations of firms that retired debt during the financial crisis. As this might affect the market reaction, we deleted all observations from 2008 and 2009 and repeated the regression analysis in Table 5. The results continue to be robust.

## VI. CONCLUSION

Does the placement in the income statement influence the market response to an earnings component? We investigate this question by exploiting a recent change in the reporting requirements for gains/losses from early debt extinguishment. SFAS No. 145 rescinded SFAS No. 4, which required that material gains and losses from early extinguishment of debt be classified as extraordinary items below the line. As a result, in the post SFAS No. 145 period, these gains and losses are classified as extraordinary items only if they meet the criteria in APB No. 30: they are caused by an event that is both unusual and infrequent. Because extinguishment of debt rarely meets these dual criteria, the related gains/losses generally are reported above the line in the post-SFAS No. 145 period. This reporting change allows us to test our research question.

We analyze a sample that spans both the pre-SFAS No. 145 period from 1996 to mid-2002 (258 observations) and the post-SFAS No. 145 period from mid-2002 to 2009 (342 observations). We perform both portfolio return tests and return gains/losses regression tests that assess the market

<sup>17</sup> Interestingly, the stock price response in the subsample of frequent extinguishers is about half of that of the infrequent extinguishers. For example, around earnings announcements *EXRET*, the Fama-French three-factor model return is 8.59 percent for the latter and only 5.07 percent for the former. This may be expected, as investors are likely able to better anticipate and, therefore, are less surprised by the gains/losses from early extinguishments in firms that engage in such transactions regularly.

<sup>18</sup> The sample size for this sensitivity test is significantly bigger than the sample used for our primary tests. Given the large sample size, we are unable to conduct the verification procedure to ensure that all the observations correspond to debt retirements, and rely on prior evidence that suggests that a vast preponderance of extraordinary items in the pre-SFAS No. 145 period did correspond to debt retirements.

response to gains/losses from early debt extinguishment in three-day return windows around SEC 8-K filing, earnings announcement, and SEC 10-Q/10-K filing.

Our primary finding is that the market response to gains/losses from early debt extinguishment varies significantly between the two accounting regimes. In the pre-SFAS No. 145 period, results from portfolio return tests show no market response in any of the three return windows examined. Conversely, in the post-SFAS No. 145 period, the portfolio tests show a significant market response to gains/losses from early extinguishment in both the earnings announcement window and the SEC 10-Q/10-K filing window. A difference-in-differences test shows a significant shift in market response between the two accounting regimes. Results from the return gains/losses regression analysis, which considers a variety of control variables for firm characteristics, the motivation to early retire debt, the macroeconomic environment, capital market conditions, and investor behavior, confirm our portfolio return test result that in the post-period, the market reacts to the same gains/losses that it was ignoring in the pre-period. Moreover, examination of alternative explanations and sensitivity tests demonstrate that our results are robust. This suggests that the change in the position within the income statement of the gains/losses explains the differential market response.

We contribute to the literature on the importance of income statement presentation by demonstrating that the placement of a line item on the income statement has important valuation implications. This seems particularly timely and important in light of the recent “Proposed Accounting Standards Update on Financial Statement Presentation” issued by the FASB (2010). In addition, this finding complements prior results indicating that managers opportunistically engage in expense classification shifting (e.g., McVay 2006; Barua et al. 2010) out of a desire for a higher stock price. Our results suggest that classification shifting may have valuation implications.

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## APPENDIX A

## Income Statement Disclosure of Gains/Losses from Early Debt Extinguishment

## Before and After SFAS No. 145

## Pre-SFAS No. 145 Example

**ARGOSY GAMING COMPANY**  
**CONDENSED CONSOLIDATED STATEMENTS OF INCOME**  
(In Thousands, Except Share and Per Share Data)

	Nine Months Ended September 30,	
	1999	1998
	(unaudited)	(unaudited)
<b>Revenues:</b>		
Casino	\$147,267	\$124,330
Admissions	5,057	4,581
Food, beverage and other	15,265	13,780
	167,589	142,691
Less promotional allowances	-11,020	-9,158
Net revenues	156,569	133,533
<b>Costs and expenses:</b>		
Casino	65,610	57,935
Food, beverage and other	10,612	10,473
Other operating expenses	7,113	6,847
Selling, general and administrative	30,053	24,129
Depreciation and amortization	8,628	8,452
	122,016	107,836
Income from operations	34,553	25,697
<b>Other income (expense):</b>		
Interest income	684	933
Interest expense	-10,732	-14,627
	-10,048	-13,694
Income before minority interests, income taxes	24,505	12,003
Minority interests	-9,587	-7,697
Income tax expense	-600	-195
Net income before extraordinary item	14,318	4,111
→ Extraordinary loss on extinguishment of debt	-3,660	
<b>Net income</b>	<b>10,658</b>	<b>4,111</b>

*Post-SFAS No. 145 Example*

**ARGOSY GAMING COMPANY**  
**CONDENSED CONSOLIDATED STATEMENTS OF INCOME**  
(In Thousands, Except Share and Per Share Data)

	<b>Three Months Ended</b>	
	<b>March 31,</b>	
	<b>2004</b>	<b>2003</b>
	<b>(unaudited) (unaudited)</b>	
<b>Revenues:</b>		
Casino	\$ 266,007	\$ 240,857
Admissions	5,360	3,005
Food, beverage and other	26,460	24,760
	<u>297,827</u>	<u>268,622</u>
Less promotional allowances	(33,738)	(32,290)
Net revenues	<u>264,089</u>	<u>236,332</u>
<b>Costs and expenses:</b>		
Gaming and admission taxes	91,578	79,857
Casino	32,574	34,146
Selling, general and administrative	44,176	35,789
Food, beverage and other	18,601	17,798
Other operating expenses	9,863	10,506
Depreciation and amortization	14,225	12,683
	<u>211,017</u>	<u>190,779</u>
Income from operations	53,072	45,553
<b>Other income (expense):</b>		
Interest income	21	51
Interest expense	(18,051)	(18,947)
→ Expense on early retirement of debt	(25,277)	—
	<u>(43,307)</u>	<u>(18,896)</u>
Income before income taxes	9,765	26,657
Income tax expense	(5,805)	(11,996)
<b>Net income</b>	<u>\$ 3,960</u>	<u>\$ 14,661</u>

## APPENDIX B

## Variable Definitions for Equation (1)

Variable	Definition
$\Delta NI_t$	Seasonally adjusted earnings surprise for quarter $t$ (the quarter of the debt extinguishment). $\Delta NI$ is defined as $(NI_t - NI_{t-4})/MCAP_{t-1}$ , where $NI_t$ is income before extraordinary items (Compustat variable IBQ) for the quarter of the gain/loss from early debt extinguishment, $NI_{t-4}$ is income before extraordinary items from four quarters prior, and $MCAP_{t-1}$ is the market capitalization at the end of the prior quarter.
$DEBT_{t-1}$	Total debt (sum of short-term debt DLCQ and long-term debt DLTTQ) scaled by market capitalization (PRCCQ * CSHO) at the end of quarter $t-1$ .
$\Delta DEBT_t$	Change in total debt (sum of short-term debt DLCQ and long-term debt DLTTQ) in quarter $t$ , scaled by market capitalization (PRCCQ * CSHO) at the end of quarter $t-1$ .
$\Delta INT_t$	Change in total interest expense (XINTQ) between quarter $t$ and quarter $t-1$ , scaled by market capitalization at the end of quarter $t-1$ .
$MTR$	Firm-specific marginal tax rate obtained from <a href="#">Graham and Mills (2008)</a> at the end of quarter $t$ .
$SGR$	Sales growth between quarter $t$ (SALEQ) and quarter $t-4$ .
$ZSCORE$	The Altman Z-Score is measured at the end of quarter $t$ (using Compustat quarterly data) as: $1.2 * (WC/ATQ) + 1.4 * (REQ/ATQ) + 3.3 * (4 * OIADPQ/ATQ) + 0.6 * (CSHOQ * PRCCQ/LTQ) + 0.999 * (4 * SALEQ/ATQ)$ . Note that quarterly income statement data are annualized by multiplying by 4.
$BOND$	Moody's seasoned BAA corporate bond yield at the end of quarter $t$ .
$\Delta BOND$	Change in $BOND$ compared to one year before.
$VIX$	Chicago Board Options Exchange Market Volatility Index at the end of quarter $t$ .
$SENTI$	Monthly market sentiment index from <a href="#">Baker and Wurgler (2007)</a> at the end of quarter $t$ .
$DGAIN$	The after-tax gains or losses from extinguishment of debt. For the pre-SFAS 145 period, $DGAIN$ is hand-collected from 10-Q or 10-K. For the post-SFAS 145 period, $DGAIN$ is equal to the pre-tax gain or loss from debt retirement (DTEPQ) from the Compustat FUNDQ database, adjusted for taxes using the firm-specific tax rate. $DGAIN$ is deflated by lagged market value.

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