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## Valuation consequences of regulatory changes in revenue recognition: Evidence from advertising barter sales

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#### ABSTRACT

This study compares the valuation of advertising barter sales recognized under APB Opinion No. 29, relative to transactions recorded under EITF Issue No. 99-17. EITF 99-17 was the FASB's response to the perception that Internet-related firms were overstating revenue. The results indicate an inverse relation between price-to-sales ratios and the amount of advertising barter recorded under APB 29 by e-tailing firms. In contrast, we find no evidence of a discount for similar transactions recognized under EITF 99-17. This change in value relevance is consistent with increased credibility of recorded revenue. These results have implications for revenue recognition practices and accounting regulation.

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#### 1. Introduction

This study examines the valuation consequences of advertising barter sales recognized under APB Opinion No. 29, *Accounting for Nonmonetary Transactions* (APB 29; APB, 1973), relative to similar transactions recorded under EITF Issue No. 99-17, *Accounting for Advertising Barter Transactions* (EITF 99-17; FASB, 2002). Under APB 29, which governs the accounting for all nonmonetary transactions, advertising barter sales were recorded at fair value. The perception that managers of Internet-related firms were artificially inflating the fair value of these transactions led to regulatory intervention in the form of EITF 99-17, which provides strict guidelines regarding the measurement and recognition of advertising barter revenues.

We utilize this regulatory transition to examine how the change from a principle-based to a rule-based system of measurement with reduced managerial discretion affected investor perception of the quality of reported revenues. Specifically, we examine whether the revenues reported in accordance with EITF 99-17 are more credible than revenues reported in accordance with APB 29. If the market anticipated an 'average' overstatement of revenues under APB 29, and if this perceived overstatement decreased under EITF 99-17, then valuation multiples are likely to change in a predictable manner.

The Deloitte Forensic Center (2007) examined all Accounting and Auditing Enforcement Releases (AAERs) by the SEC between January 2000 and December 2006, identifying 344 AAERs related to financial

statement fraud. These 344 AAERs encompassed 1240 different fraud schemes, of which 41% related to revenue recognition. Recording fictional revenue was the most common type of revenue recognition fraud, followed by recognizing inappropriate revenue from swaps, round-tripping, or barter arrangements. Thus, a key motivation for this study is the concern expressed by the SEC about revenue recognition practices.

In this study, we restrict our analysis to Internet-related firms. This choice is motivated by two main considerations. First, the lack of positive earnings and cash flows in the Internet sector led investors and analysts to look at firm revenues as a primary basis for equity valuation (Stowe, Robinson, Pinto, & McLeavey, 2002). Second, the magnitude of advertising barter transactions in the Internet sector far exceeds that in other industries. For our sample, advertising barter revenue comprises more than 10% of total revenue for nearly one-third of firms reporting barter revenue. An Internet advertising barter transaction occurs when two companies exchange rights for the placement of advertisements on each other's web sites, without any cash involved. The net earnings effect of a barter transaction is zero — while revenue is recorded for the advertising space sold, an equal amount of expense is also recorded for the space purchased. Thus, a major concern among investors and analysts is the amount at which the transactions

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<sup>&</sup>lt;sup>1</sup> The results from a word search (for "barter") on www.10kwizard.com revealed the most hits for firms in SIC codes 4832 (Radio Broadcasting Stations) and 4833 (Television Broadcasting Stations). However, a review of footnote disclosures for 50 of these firms revealed that barter transactions in these industries generally do not involve exchanges of advertising rights (EITF 99-17 addresses *only* advertising barter transactions). Further, as these firms are predominantly profitable, investors are not as reliant on revenues in assessing firm value.

<sup>&</sup>lt;sup>2</sup> While the revenue and associated expense are generally reported in the same accounting period, the timing can be altered to record them at different points in time.

are recorded. Overall, the Internet sector provides an appropriate setting for examining the impact of alternative revenue recognition guidance and the valuation of revenues in general.

Our empirical analysis uses a price-to-sales (PS) valuation model to examine the consequences of the regulatory change in recognition of advertising barter revenue. From a practical perspective, revenue is a natural candidate for use in the valuation of young firms, such as those in the Internet sector, as positive revenue amounts are available for firms with negative earnings and/or book value.<sup>3</sup> Some observers – including EITF members – feel that firms may be rewarded for reporting higher revenue, regardless of the source. For example, EITF 99-17 (paragraph 2) states the following:

Currently, many Internet companies report net losses and net operating cash outflows and there is a belief that the market capitalization of many Internet companies is based on revenues. To the extent that revenues include barter transactions for which there is no ultimate realization in cash and no overall effect on net income, the practice may lead to overstated revenues and artificially inflated market capitalization.

Alternatively, as evidenced by the attention the issue received from analysts and the financial press (e.g., Ciesielski, 2000; Kahn, 2000), it is possible that investors adjust their revenue-based valuations for perceived financial reporting biases. For example, due to concerns over revenue quality, one prominent portfolio manager avoided investing in Internet firms deriving more than 10% of revenue from barter transactions (Krantz, 1999).

The evidence in this paper suggests that advertising barter sales recognized under the general provisions of APB 29 resulted in an *inverse* relation between the PS ratios of firms in the e-tailing segment and the portion of revenue comprised of barter sales. There is no evidence of such a discount for firms in the content/communities and search/portal segments. We attribute this to investor skepticism regarding the quality of barter revenue reported by e-tailers under the general guidance of APB 29. Skepticism regarding barter revenue should be less for firms in the content/communities and search/portal segments since barter transactions relate to advertising, which is generally the main source of revenue in these sectors. In contrast, we find that barter transactions recognized under EITF 99-17 were valued similar to other sources of operating revenue across all segments. We interpret this evidence of change in value relevance as being consistent with increased investor confidence in the reliability of barter revenues reported by e-tailers.

This study makes several contributions. First, we extend the literature on revenue recognition. Recent studies by Altamuro, Beatty and Weber (2005) and Zhang (2005) focus on the association between stock returns and reported earnings in the presence of aggressive revenue recognition policies. In contrast, we focus on an accounting issue that does not affect earnings, but instead impacts the amount of revenue reported. By focusing on firms for which sales were widely regarded as an important value driver, we are able to examine investors' perceptions regarding the quality of reported revenue, independent of earnings quality issues. Our results contribute to the ongoing debate on revenue recognition issues that continue to be of concern to policy makers, auditors, and firm managers alike.

Second, this study extends prior research on regulatory changes that examines the value relevance of accounting data following the adoption of new reporting standards (e.g., Ayers, 1998). However, this

study differs from prior research because the nature of the regulatory regime shift examined is such that the *same transactions* are subject to the *same basic recognition principle* (i.e., fair value), but to largely different levels of guidance regarding measurement.

Third, our research setting contributes to the debate over principlebased versus rule-based approaches to accounting standard setting. A principle-based approach provides few, if any, exceptions and minimal interpretive and implementation guidance. Three primary benefits to a principle-based approach are cited (FASB, 2002). First, higher quality accounting standards should improve the transparency of financial information. Second, less detailed standards should be more responsive to emerging issues. Third, the approach should facilitate convergence with international accounting standards. However, with less guidance, managers have more latitude to make opportunistic financial reporting choices. To the extent that APB 29 allowed wide latitude regarding the recognition and measurement of advertising barter transactions, it is representative of a principle-based approach to standard setting. In sharp contrast, the exacting criteria detailed in EITF 99-17 make it representative of a rule-based approach. Our evidence that rule-based guidance can result in greater value relevance than principle-based guidance suggests that the reliability of accounting data may be diminished when accounting standards provide sufficient flexibility for company managers to achieve desired outcomes.<sup>4</sup>

Finally, this study extends recent research on sales-based valuation multiples (e.g., Liu, Nissim, & Thomas, 2002; Lie & Lie, 2002). In particular, we explicitly consider issues associated with the quality of recorded revenue.

One issue related to this study deserves further mention-the decrease in Internet firm stock prices over the sample period. The Internet Stock Index (ISDEX) decreased by nearly 82% between its peaks on March 10, 2000 and April 2, 2001 (i.e., our valuation date for revenues recognized under EITF 99-17). Thus, a possible concern with our use of Internet firms is whether stock prices can be regarded as a proxy for intrinsic value. In this regard, we put forth two arguments in support of why market mispricing is unlikely to be driving our observed results. After dropping 45% between March 10, 2000 and April 17, 2000, the ISDEX stabilized and remained at or near the April 17 level for almost seven months. Accordingly, we use stock prices at April 17, 2000 to examine the valuation of revenues recognized under APB 29. Between November 8, 2000 and April 2, 2001, the ISDEX decreased by 69%. However, large price declines were not unique to the Internet sector. The NASDAQ Composite Index (S&P 500) fell by 52% (20%) over the same period, indicating that the price decline was attributable to market-wide conditions, not conditions specific to

The paper proceeds as follows. In Section 2, we provide a brief background of the standards in place and a discussion of prior research. Section 3 describes the research methodology and empirical model. Section 4 discusses the sample selection procedure and data. Results are presented in Section 5, while Section 6 concludes.

#### 2. Background and prior research

An advertising barter transaction occurs when two firms exchange rights to place advertisements on each other's media properties (web sites, newspapers, radio stations, etc.). APB 29 establishes fair value as the single basic principle for valuing *all* nonmonetary transactions, while allowing wide latitude regarding the source of fair value data.

For advertising barter transactions, there is no direct effect on net cash flows and the net earnings effect is zero—revenue is recorded for

<sup>&</sup>lt;sup>3</sup> The PS ratio is a commonly-used valuation tool. For example, Merrill Lynch (2001) reports that more than one-fourth of their survey respondents consistently use PS ratios for investment decision making. Several investment experts and the associated popular literature on investments have also touted the importance of using PS ratios as a valuation tool (O'Shaughnessy, 1998). In addition to unprofitable firms, practitioners consider PS ratios appropriate for valuing firms with large recurring revenue bases and high levels of intangibles (Martin 1998).

<sup>&</sup>lt;sup>4</sup> Given that our analysis is based on a specific industry sector, we recognize that the ability to generalize our results is somewhat limited. In the case of advertising barter, the EITF became involved because the general principles were seen as being ineffective in constraining manipulation. To this extent, the study provides evidence about a particular set of rules.

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