Journal of Contemporary Accounting & Economics xxx (2014) xxx–xxx

Contents lists available at ScienceDirect

Journal of Contemporary Accounting & Economics

journal homepage: www.elsevier.com/locate/jcae

Volatility and risk relevance of comprehensive income

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ARTICLE INFO

Article history:
Received 31 March 2013
Revised 19 December 2013
Accepted 23 December 2013
Available online xxxx

Keywords:
Income volatility
Risk
Capital markets
Comprehensive income

ABSTRACT

Motivated by concerns that the volatility of comprehensive income leads to the perception of increased risk we investigate the volatility and risk relevance of comprehensive income relative to net income for a sample of non-financial firms over the period 2005–2010. We find that comprehensive income is more volatile than net income and that comprehensive income is associated with market-based measures of risk (volatility of stock returns and beta). However, the volatility of comprehensive income incremental to net income is not associated with market risk and is not priced. These results have important implications for the FASB in deciding whether to report comprehensive income in a single statement of performance.

1. Introduction

The reporting of comprehensive income in a single statement of performance is a controversial issue. The Exposure Draft on *Reporting Comprehensive Income* (FASB, 1996) requires a clear display of comprehensive income and its components in a statement of performance. Despite this preference, SFAS 130, *Reporting Comprehensive Income*, allows the option of a single or multiple statement of performance reporting. Opponents of a single statement presentation argue that the inclusion of other comprehensive income items along with core business results will confuse users of financial statements and will lead to significant misinterpretation of an entity's performance.

The potential misinterpretation of comprehensive income is related to volatility and the perception of increased risk. Prior research on the volatility of comprehensive income examines fair value accounting in the banking industry (e.g., Barth, 1994; Barth et al., 1996; Hodder et al., 2006). However, there is little evidence on the volatility of comprehensive income and its consequences for non-financial firms.

The objective of this paper is to inform the comprehensive income reporting debate, by examining the risk relevance of the volatility of comprehensive income relative to the volatility of net income. Three specific research questions are addressed. First, is comprehensive income more volatile than net income? Second, is the incremental volatility of comprehensive income over net income associated with market risk? Third, is the incremental volatility of comprehensive income capitalized into share prices?

With regard to the first research question, comprehensive income is more volatile than net income. For the second research question, both comprehensive income and net income exhibit strong positive correlation with marker measures of risk (i.e., volatility of stock return and beta). However, the incremental volatility of comprehensive income is not significant. For the third research question, if income volatility captures elements of risk that are priced by the capital market, then higher volatility should be associated with greater risk. This implies, *ceteris paribus*, higher expected returns and decreased share prices. While the volatility of comprehensive income is capitalized in share prices, the incremental volatility is not.

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1815-5669/$ - see front matter © 2014 Published by Elsevier Ltd.
http://dx.doi.org/10.1016/j.jcae.2014.01.001

We contribute to prior literature in two major respects. First, most prior research has been concerned with the volatility of financial firms (Barth et al., 1995; Hodder et al., 2006). We contribute to the literature by providing evidence from non-financial firms. Yen et al. (2007) note that 34% of industry sector comment letters on the *Reporting Comprehensive Income* exposure draft (FASB, 1996) negatively comment on excess volatility of comprehensive income. Hence, the motivation for examining the volatility and risk relevance of comprehensive income for non-financial firms is to assess the stated objections of moving to a single statement of comprehensive income. This evidence should be useful to the IASB/FASB project *Financial Statement Presentation*. Second, because machine-readable data was not available, prior research has tended to use constructed measures of comprehensive income or *as-if* data, rather than *as-reported*. Chambers et al. (2007) report that the difference between *as-if* and *as-reported* comprehensive income is statistically significant. We use *as-reported* figures and we employ an extensive sample of observations from non-financial firms over the period 2005–2010.

The remaining paper is organized as follows. Section 2 describes the background and prior research. Section 3 describes the sample, descriptive statistics and results. Section 4 reports the results of additional tests and the last section concludes the paper.

2. Background and prior research

Comprehensive income is the sum of net income and other comprehensive income. Other comprehensive income comprises items not immediately recognize in net income as required or permitted by US GAAP. These items include: unrealized holding gains and losses from available-for-sale securities, foreign currency translation adjustments, excess of additional pension liability over unrecognized prior service costs and the change in fair value of cash flow hedges.

Pressure on the FASB for the reporting of comprehensive income has come from internal and external motivations (Johnson et al., 1995). The internal motivation arises from the Boards' financial instruments project. To ease tension over concerns that fair value increases the volatility of income, the FASB has allowed price changes of certain financial instruments (e.g., available-for-sale securities and cash flow hedges) to bypass income. There is concern that items that are bypassing income are important in the assessment of financial performance. In addition, a single statement of performance might reduce complexity of reporting financial instruments. The external motivation for the FASB arises because of financial analysts' support of reporting of comprehensive income in a single statement (AIMR, 1993; CFA, 2007). Furthermore, the AAA (1997) argues that comprehensive income brings discipline to managers and analysts as it requires them to consider all factors affecting the owners' wealth.

Theoretical support for comprehensive income comes from excess earnings approaches to valuation, including the traditional residual income formula (Preinrich, 1938; Peasnell, 1982; Ohlson 1995; Feltham and Ohlson, 1995). While valuations rely on the forecasting of future payoffs, current income is the realisation of past forecasts. Hence, for measuring forecast errors comprehensive income is useful for equity valuation (AAA, 1997). An important task of analysts is to decide which components of comprehensive income are not predictable.

Despite having a preference for 'all inclusive' income and a single statement of comprehensive income, the FASB has not been able to achieve this objective. The FASB's Exposure Draft: *Reporting Comprehensive Income* (FASB, 1996) requires a clear display of comprehensive income and its components in a statement of performance. However, the final standard SFAS 130, *Reporting Comprehensive Income* (FASB, 1997) does not specify the statement in which comprehensive income must be displayed. Accounting Standards Update (ASU) No. 2011-05, *Comprehensive Income* (*Topic 220*)*: Presentation of Comprehensive Income,* eliminates the reporting of comprehensive income in the statement of changes in equity (FASB, 2011). However, the option of a single statement of performance or two statements of performance is retained.[1]

Opponents of the single statement of performance argue that information in comprehensive income is redundant because it can be found elsewhere in the financial statements. However, Hirst and Hopkins (1998) provide evidence that display matters. They show that comprehensive income in a single statement is more effective in communicating value relevant information than reporting it in a statement of change in equity. Maines and McDaniel (2000) show that display of comprehensive income is also important for nonprofessional investors. Hunton et al. (2006) find that preparers are more likely to engage in earnings management involving available-for-sale securities when comprehensive income is reported in a statement of changes in equity than when comprehensive income is reported in a performance statement.

Opponents also argue that multiple performance measures will confuse users. However, Tarca et al. (2008) show that financial statement users can accurately use 'below-the-line' items in a multiple column, single statement of comprehensive income.[2]

Opponents also state that the volatility inherent in the components of comprehensive income causes a perception of increased risk. Respondents to the exposure draft (FASB, 1996) argue that items identified as other comprehensive income are not performance related. Furthermore, opponents claim that including items of other comprehensive income in a performance statement is confusing and misleading (FASB, 2009, para. 40). While large banks and insurance companies are the

[1] A single statement must present the total and components of net income, the total and components of other comprehensive income and a total for comprehensive income. In a two-statement approach, an entity must present the components of net income and total net income in the first statement. That statement must be immediately followed by a financial statement that presents the components of other comprehensive income, a total for other comprehensive income, and a total for comprehensive income.

[2] This supports the matrix view of reporting proposed by Barker (2004).

Please cite this article in press as: Khan, S., Bradbury, M.E. Volatility and risk relevance of comprehensive income. Journal of Contemporary Accounting & Economics (2014), http://dx.doi.org/10.1016/j.jcae.2014.01.001