



Hedging derivatives in the banking industry: Evidence of investor confusion

Jack W. Dorminey*, Barbara Apostolou¹

Department of Accounting, College of Business and Economics, West Virginia University, Morgantown, WV 26506, United States

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ABSTRACT

Hedging derivatives are complex instruments that require particular scrutiny by bank regulators to ensure that a bank's risk profile is consistent with sound banking practices. The Basel II agreement envisions a system of banking oversight that includes market discipline as a key element of the regulatory framework. A necessary condition in achieving market discipline is that market participants must be able to decipher the underlying conditions from reported results. We examine the relationship between investor confusion and the income effects arising from fair value recognition of hedging derivatives in the banking industry. We use abnormal trading volume as a proxy for investor confusion, and we find a positive and significant relationship between fair value accounting incomes and two alternative measures of abnormal trading volume. The findings suggest that accounting requirements alone may be insufficient to communicate the complexities of hedging derivatives to investors in a way that achieves the market discipline prescribed by Basel II. Bank regulators may need to augment extant efforts for transparency to ensure that risks are adequately communicated to the market.

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Introduction

We examine the relationship between abnormal trading volume and the income effects arising from fair value recognition of hedging derivatives in the banking industry. Using abnormal trading volume as a proxy for investor beliefs, we analyze earnings announcements by banks that adopted ASC 815, which addresses the fair value treatment of hedging derivative activity under US GAAP.² We study hedging derivatives specifically because ASC 815 (originally SFAS No. 133) was intended to increase the transparency of financial statements. Under ASC 815 all hedging

derivatives must be recognized at fair value, with the corresponding fluctuations in fair value reported in either net income or other comprehensive income. Our results show that the income effects³ of ASC 815 are significantly and positively related to abnormal trading volume surrounding earnings announcements. We interpret this finding to mean that the income effects of ASC 815 are associated with investor confusion,⁴ which indicates that the current measures may lead to confusion about bank risk, asset values, and stability.

We evaluate the relationship between investor beliefs and the income effects resulting from fair value accounting of hedging derivatives through an analysis of abnormal trading volume. Price response reflects the aggregate market valuation; trading volume indicates the degree of belief dispersion among individuals (Garfinkel, 2009). Ahmed, Kilic, and Lobo (2006) demonstrate the value-relevance of

* Corresponding author. Tel.: +1 (304) 293 7845; fax: +1 (304) 293 0635.

E-mail addresses: Jack.Dorminey@mail.wvu.edu (J.W. Dorminey), Barbara.Apostolou@mail.wvu.edu (B. Apostolou).

¹ Tel.: +1 (304) 293 0091.

² Fair value recognition of hedging derivatives originally was addressed in Statement of Financial Accounting Standards (SFAS) No. 133, *Accounting for Derivative Instruments and Hedging Activities* (FASB, 1998), which in its amended version is now incorporated in the Accounting Standards Codification (ASC) 815 (FASB, 2010), *Derivatives and Hedging Overview*.

³ Income effects refer to both net income and other comprehensive income measures generated by ASC 815 implementation.

⁴ Investor confusion also is commonly referred to as investor belief dispersion in the accounting literature.

fair value accounting for hedging derivatives in banks through an examination of equity price reactions. Prior studies suggest that trading volume offers insight into the effect of information on market participants not available through an examination of consensus valuation (i.e., price) alone (Bamber & Cheon, 1995; Holthausen & Verrecchia, 1990; Morse, 1980; Ziebart, 1990).

The paper proceeds as follows. First we expand the context and motivation for our study. Second, we describe our data sources and sample selection. We discuss our results in the final section.

Context and motivation

Our motivation for this research is couched in public discussion about the transparency issues associated with financial reporting of complex hedging derivative transactions. Although disarmed in her attempts to secure regulation of the derivatives market, Brooksley Born asserted the dangers of no regulation while she served as chairman of the Commodities Futures Trading Commission (CFTC) from 1996 to 1999. The following is an excerpt from August 28, 2009 interview about her battle to seek government oversight (Born, 2009):

“...we didn’t truly know the dangers in the market because it was a dark market. There was no transparency. But generally, in any financial market, if there is not government oversight to control abuses like fraud and manipulation, to limit speculation, to make sure that a major default won’t cause a domino effect throughout the economy, the public interest is exposed and in danger.”

The echoes of her concerns played out in the recent global economic crisis. The notional value of derivatives held by US commercial banks is estimated at \$231 trillion,⁵ and is heavily concentrated in the top ten banks. Current accounting requirements and the bank regulatory environment regarding hedging derivatives are described next.

Hedging derivatives and bank regulation

A fair value framework requires that the book value of an asset or liability be adjusted periodically to market value.⁶ Changes in the derivative fair value are classified either as (1) a net income item or (2) an other comprehensive income item. Income classification depends on type of hedge and hedge effectiveness. We study the fair value treatment of hedging derivatives initially required under SFAS No. 133, *Accounting for Derivative Instruments and Hedging Activities* (FASB, 1998). The effects of SFAS No. 133 (as amended) are incorporated in ASC 815 (FASB, 2011) as of July 1, 2009; thus we refer to ASC 815 hereafter.

In their discussion about the current state of fair value accounting, Laux and Leuz (2009, p. 833) highlight the implementation concerns of fair value: “In sum, the fair value debate is far from over and much remains to be done.” Laux and Leuz (2009) assert that all accounting frameworks suffer from a tradeoff between relevance and reliability.⁷ Ultimately, decision usefulness requires that standards result in measures that are understood and the corresponding effects incorporated by the market participants in valuing the firm. From a financial reporting perspective, the recognition of hedging derivatives is intended to provide useful information about an entity’s risk management activities implemented through derivatives.

The bank regulator’s primary objectives are stability and the conservation of equity capital. The third pillar of Basel II⁸ calls for disclosures related to the measurement and risks associated with a bank’s assets. The disclosures envisioned by Basel II are intended to evoke market discipline as a mechanism to enforce risk restraint on the part of banks through limited access to and higher costs of capital. Market discipline can work only if the reported information adequately measures the risk. Therefore, the manner in which hedging derivative valuation and measurement is implemented and reported is an important consideration in achieving regulatory objectives. Only through transparent reporting of the factors influencing bank risk, asset values, and the stability of equity capital can investors assess appropriate risk premia for banks and provide access to capital accordingly.

In an overview of extant capital market research in fair value accounting, Landsman (2007) concludes that fair value information is useful. Christie (1993) suggests that a fair value framework adds both volatility and a transitory component in reported net income, thus reducing its usefulness in forecasting cash flows. The volatility in valuation and the attendant changes in capital may decrease the clarity with which the underlying risk to bank capital can be assessed. However, Barth and Landsman (2010) conclude that fair value accounting did not lead to the recent financial crisis. They suggest that the transparency of measurement, recognition, and disclosure was likely not adequate for market participants to effectively evaluate the risks associated with some values reported on bank balance sheets. Crucial to our motivation is that Barth and Landsman (2010) assert that efforts to improve the reporting standards are unlikely to fully meet the needs of regulatory bodies in assuring a safe and sound banking sector. Bank regulators, therefore, must independently identify the information helpful in meeting their objectives. Regardless of the ultimate cause of the global derivative-related turmoil that erupted in 2008, the current reporting environment may not achieve the market discipline contemplated by Basel II.

⁷ The FASB supplanted “reliability” with “faithful representation” in its update of the Conceptual Framework (FASB 2010, BC3.20–3.25).

⁸ The Basel II agreement focuses on three main areas known as pillars: (1) regulatory capital computations, (2) scope of supervisory authority, and (3) market discipline as a free market risk management tool. Basel II is an agreement among the members of the Basel Committee on Banking Supervision, which is hosted by the Bank for International Settlements (<http://www.bis.org/bcbs/>).

⁵ Office of the Comptroller of the Currency: <http://www.occ.treas.gov/topics/capital-markets/financial-markets/trading/derivatives/dq410.pdf>.

⁶ In the absence of an objective market value, ASC 815 contemplates the use of modeling techniques to assign a fair value.

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