INTERNATIONAL JOURNAL OF BUSINESS, MANAGEMENT AND ALLIED SCIENCES (IJBMAS)
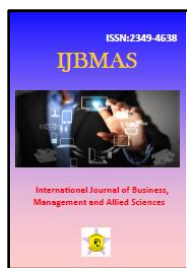
A Peer Reviewed International Research Journal

BANK RISK ANALYSIS

GATTU RADHIKA

Associate professor, Aurobindo Institute of Computer sciences, Chintapalliguda(v), Ibrahim patnam(m), Rangareddy(dt)

ABSTRACT

This paper on bank risk analysis studies the value relevance of fair value gains and losses for an international sample of banks And investigate if the value relevance of fair value gains and losses increases or decreases with bank risk. One possibility is that, as risk increases, the scope for subjectivity in fair value estimates increases thereby potentially rendering the numbers less useful. However another possibility is that the relevance of faithfully reported fair value gains and losses increases as risk increases. I ask which of the two opposing forces is greatest.

The main finding is that the value relevance of fair value gains and losses is positively related to the level of bank risk prior to the crisis. During the crisis there is also evidence of a similar positive relationship, but it is not possible to draw firm conclusions for reasons I discuss.

Key words : bank risk, fair value, gains and losses, estimate

INTRODUCTION

It is possible for the increased subjectivity associated with the implementation of fair value accounting in highly risky situations to result in reported fair value numbers that are less value relevant. On the other hand it is possible that investors will find well implemented fair value estimates more useful for banks with more risky business models. To assess which of these two logical possibilities is the strongest, I model the relation between the value relevance of reported fair value gains and losses and bank risk. I produce separate results for the pre crisis and the crisis period. For reasons discussed below it is difficult to draw firm conclusions for the crisis period.

A novel feature of the study is that I base my analysis on a detailed desegregation of bank net income using hand collected data. I distinguish between the retail and corporate lines of business, and I separate out operating profits, loan loss provisions, fair value gains and losses, and other net income.

For the pre crisis period I find strong evidence of a positive relation between the value relevance of fair value gains and losses and firm risk. For the crisis years I also find some evidence of a positive relationship. However, interpreting the crisis years" results is confounded by a number of factors. The crisis created considerable uncertainty causing discount rates to rise significantly. Moreover the volatility of discount rates also increased. Investors were placed in a position where it was very difficult to form rational expectations, and asset markets became less liquid making fair value calculations more difficult and potentially more subjective.

As a subsidiary to the main contribution, WE examine the effects of accounting choice in relation to the adoption or otherwise of the fair value option (FVO). For some of the bank years in my sample, the

banks could choose, for certain types of assets, whether or not to report such assets on a fair value basis. The model allows for this choice and enables me to test if FVO election is associated with higher value relevance of fair value gains and losses.

DISCUSSION

Institutional Setting and Prior Literature

The demand for fair value information

There is a longstanding debate on the benefits and costs of fair value accounting (alternatively called mark-to-market accounting).

The key theoretical argument for fair value accounting is that fair values are value-American Accounting Association's Financial Accounting Standards Committee, respectively report empirical evidence that the disclosed fair values of investment securities, loans and derivatives have incremental explanatory powers for stock prices. Bleck and Liu (2007) use an analytical model to show that fair value accounting provides greater transparency on the underlying asset values and serves as an early warning sign on the firm's financial health. Their model shows that historical cost can cause the financial markets to be more, as opposed to less volatile.

It is generally accepted that fair value accounting is more appropriate than historical cost accounting when the markets in which the assets are traded are highly liquid (American Accounting Association's Financial Accounting Standards Committee, 2010; Penman, 2011). For example, Penman (2007, 2011) accepts that when the changes in the market values of assets affect the shareholder value on one-to-one basis, such as in the case of the banks'' trading portfolios and hedge funds, fair valuation of assets are appropriate.

However, advocates of fair value accounting would argue that fair value information is value relevant for a much broader range of assets than those that are merely "close to cash". In particular they would argue that fair value information for a wide range of bank assets and liabilities is likely to be value relevant because fair values provide two types of information: information about the bank'S ability to make profits from speculative activities and information about bank risk.

The main area of dispute, with regard to the subjectivity of fair values, is over the value relevance of fair value accounting for assets that are not regularly traded in liquid open markets. Accounting standards distinguish three different hierarchical levels based on the extent unobservable inputs affect the resulting estimate of the fair value of a particular asset or liability. Level one involves the case of assets for which there are quoted prices in active markets. Level two assets require the use of observable inputs for valuation. Level three involves assets that have no observable actual transaction prices available as inputs for the valuation. Fair valuation here is often based on theoretical models for which assumptions need to be made about the value of key model parameters. It is mainly for level three assets that people disagree over the relevance and reliability of fair value estimates.

An important feature of many level three assets is that they often involve complex financial instruments that are very difficult to understand or explain. The design of some of these assets is commercially sensitive. Many of the financial instruments are based on highly complex mathematical ideas. In the specific context of accounting for banks, the scope for discretion tends to increase with bank risk. This is because, in general, riskier banks make use of more exotic financial instruments that are notoriously difficult to value. These are typically the levels 2 and 3 assets and liabilities. My understanding from an informal conversation is that this is an area where auditor partners encounter considerable difficulties. Prior research has found that the costs of capital are higher for the levels 2 and 3 assets and liabilities relative to the level 1 asset and liabilities.

Accounting standards involving fair value accounting

The fair value accounting rules are contained in IAS 39 for banks that apply International Accounting Standards. The fair value accounting rules in US GAAP are FAS 157, that provides a fair value measurement framework, FAS 115 on securities'' fair value gains and losses, FAS 133 on derivatives'' fair value gains and losses, and FAS 159 on fair value option accounting.

FAS 157 establishes the definition of fair value, establishes a hierarchical fair value measurement framework

that classifies measurement inputs according to how observable the market inputs are, and expands the disclosure on fair value measurements. IAS differs from US GAAP in that IAS requires only two levels of fair value measurements: "active" versus "non-active". US GAAP requires three hierarchical levels of fair value measurements (levels 1 to 3), which have been defined earlier.

IAS 39 and FAS115 require all debt and equity securities to be classified as held to maturity, trading or available for sale. When a bank intends to hold a security until its maturity, the security is recorded at amortized cost on the balance sheet while gains and losses are recognized in the income statement when the security has been sold. When a security is bought for the purpose of short term trading, it is booked at fair value on the balance sheet and changes in its fair values are recognized in the income statement as gains and losses.

First of all, banks are governed by tight regulations designed to ensure the stability of the financial system and to protect depositors .

Liquid assets in the reserve requirements, which vary across countries. Basel II rules impose significant risk disclosure requirements on banks.

Song et al. (2010) find that the lower value relevance of fair value assets caused by any subjectivity of fair value estimates are offset by strong corporate governance.

Thirdly, the banking industry is one that hinges heavily on the banks" reputation and credibility. Banks have to develop and maintain a reputation for high integrity to avoid mass withdrawals of bank deposits. In the absence of deposit insurance by the government, a bank cannot withstand a bank run because its capital structure is highly leveraged and its long term assets are funded by short term liabilities. This need for bank management to maintain its reputation in the face of market pressures arguably deters them from manipulating fair value accounting. The role of market discipline is reflected in the third pillar of the Basel II document (BIS, 2006) and in the literature (Levine, 2004; Fonseca and Gonzalez, 2010).

Hypotheses Development

H1: (Null) Prior to the credit crisis, fair value gains and losses are not value relevant.

H1: (Alternative) Prior to the credit crisis, fair value gains and losses are value relevant with a positive coefficient of more than one.

Despite the considerable literature that explores the value relevance of fair values, to my knowledge there have been no studies of the drivers of the value relevance of fair values. I hypothesise that the economic importance of fair value gains and losses is related to the level of bank risk. The sources of fair value gains and losses are largely the investment banking and trading activities of banks. Studies have shown that expansion into non-interest income generating activities such as trading make the banks more risky.

H2: (Null) Prior to the credit crisis, the value relevance of fair value gains and losses is unrelated to bank risk.

H2: (Alternative) Prior to the credit crisis, the value relevance of fair value gains and losses increases with bank risk.

Crisis effects

In the pre-crisis period I assume that any changes in the market values of banks would largely have been driven by changes in their reported financial performance, and/or changes in beliefs about their future operating performance. Also the pre-crisis period followed a long period of relative economic calm, and so the assumption that investors are able to form rational expectations seems to be a reasonable working assumption for this period.

During the crisis the riskiness of the banking sector increased significantly, and then the sector experienced further fluctuations as sentiment responded to further news about economic conditions in the major Western economies. The crisis has been huge in magnitude and its ramifications are still being worked through today. The assumption that these conditions are consistent with the ability of investors to form rational expectations has become questionable. From 2008 up to the present day markets are driven by a general level of panic/fear combined with a tendency to overreact to gossip and rumour.

Because of these uncertainties I simply let the data speak, and I test following hypotheses.

H1a: (Null) following the credit crisis, fair value gains and losses are not value relevant.

H1a: (Alternative) Following the credit crisis, fair value gains and losses are value relevant with a positive coefficient of more than one.

H2a: (Null) Following the credit crisis, the value relevance of fair value gains and losses is unrelated to bank risk.

H2a: (Alternative) Following the credit crisis, the value relevance of fair value gains and losses increases with bank risk.

The fair value option

A potentially important area of choice in relation to fair value accounting is the FVO granted by IAS 39 and FAS 159. These two standards grant firms an option to use or not use fair value accounting for certain types of assets (examples are securities held for repurchase/resale). The factors that may affect a firm'S FVO choice include the firm'S earnings and capital levels prior to the FVO election, the firm'S level of earnings volatility and its degree of derivative usage. Firms may apply the FVO opportunistically to manage earnings and capital levels or they may make the choice with the genuine intention to reduce earnings volatility and to meet the accounting standards.

H3: (Null) The value relevance of fair value gains and losses is the same for FVO adopters and the non-FVO adopters.

H3: (Alternative) The value relevance of fair value gains and losses is higher for FVO adopters than for the non-FVO adopters.

Echoing the results for total income, there is a general reduction in the magnitude of the coefficient of the disaggregated earnings components during the crisis period. However the goodness of fit of the model actually increases slightly. It is possible that the reduction in the response coefficients could have been driven to some extent by a material increase in the cost of equity capital of banks after 2007. For present purposes it is especially interesting to note that fair value gains and losses remain positive and significant during the crisis period. Moreover the decrease in the response coefficient for fair value gains and losses is actually lower than the drop for the other components of bank income. Contrary to the view that fair value information is less relevant during the crisis, these results indicate that fair value information becomes more relevant compared to the other components of bank income. I believe this is an important and novel finding.

CONCLUSION

Fair value accounting is a hotly debated topic among standard setters, accounting professionals and academicians. The value relevance of fair value accounting has been used by its proponents as the key defence for its use. I use a bank returns model based on an international bank sample to show that the value relevance of fair value gains and losses depends on both the risk characteristics and the accounting choices of the banks. Prior to the crisis, the more risky the banks are, the greater the value relevance of their fair value gains and losses. This shows that fair value accounting is especially relevant and applicable to the banks that engage in more risky taking activities. Prior studies provide evidence that non-interest income activities such as trading make the banks more risky. The value relevance of fair value gains and losses is higher for banks that look for and engage in more risky activities such as trading.

I also test whether the FVO accounting choices of banks affects the value relevance of their fair value gains and losses. I find that for banks that elect the FVO, their fair value gains and losses become more value relevant.

For the crisis period there is clear evidence that fair value gains and losses are value relevant. There is also some evidence of a positive relationship between bank risks and the value relevance of fair value gains and losses for the crisis period although the results are mixed. The caveats are that during crisis, many factors confound the results. These factors include a significant   increase in the cost of capital for the sample as a whole, an increase in the subjectivity of fair value gains and losses, a decline in investor rationality, a change in the information environment and a change to the accounting standards. As this is almost a "perfect storm" it is hardly surprising that the results for the crisis period are not clear cut.

REFERENCES

1. Adams, R., Mehran, H., 2003. Is corporate governance different for bank holding companies. *Economic*

Policy Review 9, 123-142.

2. Adrian, T., Shin, H.S., 2010. Liquidity and leverage. *Journal of Financial Intermediation* 19(3), 418–437.

3. Ahmed, A.S., Kilic, E., Lobo, G.J., 2006. Does Recognition versus Disclosure Matter? Evidence from Value-Relevance of Banks‟ Recognised and Disclosed Derivative Financial Instruments. *The Accounting Review* 81(3), 567–588.

4. Allen, F., and E. Carletti. 2008. Mark-to-market accounting and liquidity pricing. *Journal of Accounting and Economics* 45 (2/3): 358–378.

5. American Accounting Association'S Financial Accounting Standards Committee. Wahlen, J.M., Boatsman, J.R., Herz, R.H., Jonas, G.J., Palepu, K.G., Ryan, S.G., Schipper, K., Schrand, C.M., Skinner, D.J., 2000. Response to the FASB Preliminary Views: Reporting Financial Instruments and Certain Related Assets and Liabilities at Fair Value. *Accounting Horizons* 14(4), 501-508.

6. American Accounting Association'S Financial Accounting Standards Committee. Ohlson, J.A., Penman, S., Bloomfield, R., Christensen, T.E., Colson, R., Jamal, K., Moehrie, S., Previts, G., Stober, T., Sunder, S., Watts, R.L., 2010. A Framework for Financial Reporting Standards: Issues and a Suggested Model. *Accounting Horizons* 24(3), 471-485.

7. American Bankers Association (ABA). 2008. Letter to Robert H. Herz, Chairman, Financial Accounting Standards Board (November 13). Available at: http://www.aba.com/NR/rdonlyres/DC65CE12-B1C7-11D4-AB4A-00508B95258D/56797/ABAlettertoFASBOTTINovember132008.pdf