VALUATION FOR BIOLOGICAL ASSETS WITH HISTORICAL COST ACCOUNTING OR FAIR VALUE ACCOUNTING ?

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Abstract

The valuation for biological assets is regulated by IAS 41. Interesting debate is what valuation models it is better to use: historical cost accounting or fair value accounting? I will discuss advantages and disadvantages in this case.

Keywords: *Historical cost, fair value, biological assets, predictive earnings, valuation.*

1. Introduction

The reformation of the accounting standards regarding fair value accounting has generated an intense discussion in recent years. Many accounting groups and institutions around the world, such as The International Accounting Standards Board (IASB), the U.S.A. Financial Accounting Standards Board (FASB), and the Accounting Regulatory Committee and the European Financial Reporting Advisory Group in the European Union (EU) have enabled the convergence of international accounting regarding standards based on market prices. The FASB released many standards requesting appreciation or exposure of fair values estimates for assets and liabilities, mainly for financial instruments.

For example, affirmations of Financial Accounting Standards number 87 in 1985 on employer's accounting for pensions, number 105 in 1990 on exposure of information about financial instruments, number 107 in 1991 on exposures about financial instruments.

The International Accounting Standards Committee released International Accounting Standard (IAS) requesting measuring at fair value and value changes to be recognised in profit or loss. The very important document has been the IAS 32 on exposure and presentation of financial instruments and the IAS 41 on Agriculture, released in 2000. The EU admited the whole existing IAS in the form of Commission Regulation (EC) 1725/2003, with the exception of IAS 32 and 39, that were admited in 2004 under Commission Regulations (EC) 2086/2004 and (EC) 2237/2004.

Fair value is defined as the amount for which an asset could be exchanged, or a liability settled, between knowledgeable, willing parties in an arm's length transaction (e.g. IAS 39, IAS 41, SFAS 107). In 2006 the SFAS 157 redefined fair value as the price that would be received to sell the asset or paid to transfer a liability in an orderly transaction between market participants at the measuring date.

Notwithstanding this persistent trend regarding fair value, the reformation has induced controversy among practitioners, especially over financial instruments (Day, 2000; Economist, 2007).

There are sceptics (e.g. Joint Working Group of Banking Associations on Financial Instruments, 1999) and with enthusiastic supporters of fair valuation (e.g. Chartered Financial Analyst Institute, 2007). The European Central Bank (2004) summarizes the potential drawbacks and advantages of a fair value accounting framework from the point of view of financial institutions. André et al. (2009)[1] argued that, as long as the market has been growing, no one was shocked by fair value accounting. Then, it started to reflect the market downturn in banks' balance sheets and it began to be stigmatized.

Most tests performed reflect lower predictive earnings power for farms using historical cost with respect to those using fair value.

Our research question is: What valuation is useful for biological assets: historical cost accounting or fair value accounting?

2. Valuation for Biological Assets with Historical Cost or Fair Value

The main purpose of this article is to deliver empirical proof on the existing academic debate about the predictive capacity of historical cost versus fair value based accounting information. We execute an empirical research of the significance of fair value and historical cost of biological assets for forcasting future gains and cash flows.

The evolution regarding fair value considers the demands of users of financial accounting and the efforts of accounting standard-setting bodies to reverse the pattern of declining relevance of financial information (Barlev and Haddad, 2003). Relating the fair value of assets and liabilities in the balance sheet draws the

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[1] André, P., Cazavan-Jeny, A., Dick, W. Richard, Ch. and Walton, P. "Fair value accounting and the banking crisis in 2008: shooting the messenger", *Accounting in Europe*, 6(1-2), (2009) 3-24.

attention of shareholders to the value of their equity and to periodic changes in this value, as is considered by the market mechanism. Fair value describes changes in assets values that will be realized in subsequent operations. In this respect, Aboody et al. (1999) got that upward revaluations of fixed assets by UK firms are positively associated with future performance, share prices, and changes. Given the growing process of globalization and economic integration, as well as the growing importance of financial markets, shareholders and stakeholders must a better assessment of the true performance and management of the firm, than allowed through historical cost. Two primary criteria requested by accounting standards are relevance and reliability. Relevance of accounting information is given and estimated in accounting research as its degree of association with share prices or share changes. Equity market value is realized as the valuation benchmark to assess the utility of accounting information for shareholders and financial users. According to Barth et al (2001) and Landsman (2007), the existing research proves an overall conclusion that fair value based information is more relevant than historical cost based information.

Academic discussion is usually interested in financial instruments and framed within the agency theory, assuming information asymmetry between market participants and the existence of perfect versus imperfect market conditions. Barth and Landsman (1995) established that in perfect and complete markets a fair value accounting based balance sheet reflects all value-relevant information. But, in more realistic market settings management discretion applied to fair valuation reduce from balance sheet and income statement relevance. Watts (2003) states that fair valuation is subject to more manipulation and, accordingly, is a poorer measurement of worth and feat than historical cost. He states that any attempt to ban accounting conservatism is sure to fail and that accounting can not overrun with the market in valuing the firm (Watts, 2006). Ball (2006) proves that fair valuation does not necessarily make investors better off, and that its utility has not been showed. Rayman (2007) sets that fair value accounting is liable to produce nonsenses and baffling information, if it is based on expectations that turn out to be false. Ronen (2008) demonstrates that endures from a lack of reliability and can be subject to manipulation. In the same vein, Liang and Wen (2007) are critical of the beneficial repercurssions of moving to fair value because it follows more managerial manipulation and induces less competent investment decisions than cost valuations.

Plantin and Sapra (2008) deduct that, when there are imperfections in the market, there is the danger of the appearance of an additional source of volatility as a result of fair valuation, and thus a rapid shift to full mark-to-market regime may be detrimental to financial intermediation and therefore to economic growth. Bleck and Liu (2007) prove that accounting makes it easier to prevent bad investment projects, hindering their liquidation hence adding volatility to hit the market at a later date and producing a crash in the asset price, growing overall volatility and decreasing performance (i.e. reducing profitability). It is an important decision that it can get.Gigler et al. (2006) concluded that even in the case of a mixed attribute report (i.e., some items are valued at market while others are carried at), fair value performs better: it demonstrates stronger signals of financial distress. Finally, Choy (2006) proves that for fair value to be relevant, necessary and sufficient conditions must be satisfied.

Almost all existing empirical studies on fair value test is relevant when implemented to financial instruments, analyzing associations between accounting numbers and share prices. They prove conflicting findings; while Nelson (1996) does not find fair value relevance, Barth (1994), Barth et al. (1996) and Bernard et al. (1995) do. Ahmed and Takeda (1995), Carrol et al. (2003), Eccher et al. (1996) and Barth and Clinch (1998) do get relevance, but under certain conditions. A recent study of Hann et al. (2007) gets fair value pension accounting does not improve the informativeness of the financial assertions and even impairs it.

Laswad and Baskerville (2007) get no association between cash flow and unrealized earnings from revaluation of assets to fair value. Ahmed et al (2006) get that addmission of derivative financial instruments at fair value is relevant, while revelation is not. Danbolt and Rees (2008) get that fair value is consistently more significant value than historical cost, although this significant value can be expressed via asset values and need not be incorporated into income computations. They get proof consistent with gains manipulation under fair value.

The IAS 41 brings the discussion into the agricultural accounting domain. Most authors are critical with the claim of fair valuation for biological assets and value changes to be admited in the profit and loss statement. Penttinen et al. (2004) require that fair valuation would inflict unrealistic fluctuations in the net profits of forest enterprises. Herbohn and Herbohn (2006) and Dowling and Godfrey (2001) request the increased volatility, manipulation and subjectivity of reported earnings under this standard. Both studies are accomplished in the context of the Australian Accounting Standards Board 1037 (similar to IAS 41) and give empirical evidence of Australian entities preference for cost valuation or delaying the adoption of fair value. Specifically, Herbohn and Herbohn (2006) compute coefficients of variation of profits, and of gains and losses from timber assets, of eight public companies and five state and territory government departments. The authors state the volatility caused by the fair value measuring. Elad (2004) makes complaint that the IAS 41 is a major departure from historic cost accounting; this could signal the decease of the French *Plan Comptable Général Agricole* (PGCA) model,

involve the admission of unrealized gains and increase profit volatility. Argilés and Slof (2001) greet fair value measuring for biological assets because it avoids the complexity of computing their costs. The majority of small family farms in in the EU has no resources and skills to perform accounting procedures and valuations. The nature of farming makes historical cost valuation of biological assets inherently difficult because they are affected by procreation, growth and death, as well as joint-cost situations. Allocation of indirect costs is another source of complexity for cost calculation in farms. This is an especially acute problem for small family households. The American Institute of Certified Public Accountants (1996) and the Canadian Institute of Chartered Accountants (1986) advise historical cost, considering the possibility of realizable value as an alternative. The 1986 French PGCA accedes to the historical cost principle. Kroll (1987) states that the complexity in asset valuation and accounts is an significant barrier to its use in the French PGCA. Elad (2004) explains that where there is not an active market for a biological asset, simplicity is not a merit of fair value.

Argilés and Slof (2001) state that the IAS 41 conceptual framework has already been widely and successfully implemented in the EU through the Farm Accountancy Data Network (FADN). The latter has been satisfying the role of a quasi-standard-setting body in the absence of previous statements on agricultural standards from other authorities (Poppe and Beers, 1996).

Hence, an evaluation of the convenience of fair value for agriculture should balance its benefits and drawbacks. Simpleness is the main benefit of using for biological assets with respect to historical cost. But there is no unanimous accord in previous literature with regard to if volatility in return and gains, relevance, return smoothing and profitability are improved or worsened with fair value. This article concurs to this discussion giving empirical evidence in valuation of biological assets in agriculture. The predictive power of fair value versus historical cost valuation with respect to return and cash flow comparing two samples of firms each one using different valuation criteria. Comparing data from two samples of farms based on historical cost and the other fair value for biological assets, we get no significant differences in future cash flow predictive power.

In-depth interviews maintained with agricultural accountants assist to explicate these results, as generalized flawed accounting practices are got. The real setting in which agricultural accounting is produced, precise and certain cost computations cannot be looked for.

Choy (2006) states that the predictive power of fair value has never been tested, in spite of the fact that both the Statement of Financial Accounting Concepts (SFAC) No. 2 and the current project of the IASB (2006b) stress the demand for predictive value of financial information. FASB Concepts Statement No. 1 also states that one of the three objectives of financial reporting is to help users to assess future cash flows. SFAC No. 5 emphasizes that to be significant information must have predictive value.

Forseeable gains and cash flows may help managers to anticipate financial problems, adjust lists, negotiate funding, adjust resources, exercise judgement in financial reporting, growing or decrease production. Improved accuracy may also lessen agency problems, because managers are considered to be more accountable. Empirical research has established that firms with lower forecast errors have lower implied costs of capital (Gebhardt et al., 2001) and assessments in the stock market (Lang et al., 2003).

Financial affirmations are utilized as a basis for measuring future performance and assessing future cash flows prospects (SFAC No. 5). Firm managers, as well as any other user of accounting information, may benefit from more predictable accounting information.

The comparative predictive power of fair value and historical cost accounting valuation methods has not been previously analyzed. To our knowledge, only Chen et al. (2006) analyze the predictive power of fair value, obtaining that it reduces the capacity to forecast future cash flows.

They studied this relation indirectly, comparing the association between accounting numbers and future cash flows over time, assuming that accounting has been developing to fair value. Kim and Kross (2005) obtain a growing relationship between gains and one-year-ahead operating cash flows over time, but they attribute it to the growing conservatism in accounting rather than to the influence of fair valuation.

Slightly related to these issues, Beaver et al. (2005) get a small decline in the ability of financial ratios to forecast bankruptcy from 1962 to 2002, and an incremental explanatory power of market-related variables over this period. They explicate the deterioration in predictive ability of financial ratios in terms of an inadequate amelioration of FASB standards.

For this purpose we use two samples of farms, one using fair value and the other applying historical cost. As we found no conclusive theoretical support with respect to this issue in the studied research, we do not formulate a defined hypothesis on the higher/lower predictive power of historical cost with respect to fair value.

Watts (2006) states that fair value is irrelevant because it lacks verifiability, but relevant historical cost accounting request precise and certain cost computations.

Different estimation methods have been used by Carnes et al. (2003), Kim and Kross (2005), Dechow et al. (1998) and Chen et al. (2006) to assess predicting gains.

3. Conclusions

We conclude that the discussion is moving from historical cost to the fair value principle. There is a lack of accord about the benefits and drawbacks of this movement.

We conclude as Watts (2006) that fair value is irrelevant because it lacks verifiability, but relevant historical cost accounting request precise and certain cost computations.

A request against the requirement of IAS 41 of fair valuation for biological assets exceeds in the existing literature. Most authors argue that it is a major departure from the convenient valuation method required and will entail serious drawbacks for the agricultural sector.

Analyzes showed in this disclose that farm cash flows are not less predictable with fair valuation than with historical cost.

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