Does Fair value matter for lenders?
A discussion for the case of Italy

Alessandra Allini – University of Naples Federico II - Italy
Riccardo Macchioni – Second University of Naples - Italy
Francesca Manes Rossi – University of Salerno - Italy
Joshua Ronen – Stern Business School – New York University - USA

Abstract

This paper evaluates the decision usefulness of incorporating fair values as measures of assets and liabilities in the body of financial statements in credit-oriented financing systems. Decision usefulness is the primary objective of the financial statements identified in the IASB Conceptual Framework.

Specifically, we argue that fair valuation – while potentially useful in countries that boast advanced capital markets with diffused equity ownership – is not as useful, and even potentially misleading, in countries wherein lenders are the major source of financing. In certain European countries, and especially in Italy, lenders and other creditors supply most of the financing, and hence are the "primary users" of financial reporting.

This paper contributes to the discussion by reviewing the literature on the prediction of default, bankruptcy, credit-rating, and the pricing of credit and identifying the informational inputs used for such predictions and pricing. We then argue that these informational inputs largely ignore fair values, whether measured as exit values or otherwise; hence it appears that fair values, even when provided in financial statements, are not perceived as important inputs into decision and prediction models of creditors. Next, we suggest that the premise that fair values are suitable for all countries and entities, regardless of differences in ownership structure and modes of financing, may need to be re-examined.

We do propose, however, that enhanced disclosures of fair values are likely to satisfy the criterion of decision usefulness in Italy and other similarly situated countries.

Introduction

The aim of this article is to discuss whether FV – as measured using IFRS 13 – accomplishes the objectives of financial reporting in providing relevant information in credit-oriented financing systems, and to question whether a priori assumptions on the superiority of FV are valid. Willing to question the presumed usefulness of FV, we consider the framework for financial reporting as a whole rather than the application of FV in specific cases.

For this reason, our research is framed in the context of the purposes of Financial Reporting as defined by the IASB. According to the Conceptual Framework 2010 (CF), financial reporting should *provide financial information*

about the reporting entity that is useful to existing and potential investors, lenders, and other creditors in making de-cisions about providing resources to the entity (IASB CF, OB2).

Gassen and Schwedler (2010) posit that the Board has narrowed the definition of *decision usefulness* to that of *valuation usefulness*, where valuation usefulness consists of providing *relevant information*. The present study adopts this objective.

To provide relevant information, the presumed predominance of the market-based measures in financial re-porting has gained a growing importance in the standard setters' agendas (Hitz, 2007). Consequently, there has been a shift from historical cost-based measurement towards fair value-based measurements, leading in May 2011 to the issuance of IFRS 13 – Fair Value Measurements.

FV has also gained great attention among academics in discussing its *pros* and *cons* (Penman, 2007; Blacconiere et al., 2011; Mala and Chand, 2012). Whilst the predominance of fair value measurement (FVM) can be supported in an unrealistic perfect market, its presumed usefulness in a realistic (and imperfect) market is still unclear (Hitz, 2007).

Standard setters have perceived risks related to a broad and indistinct adoption of FVM under the financial cri-sis, demonstrating a growing attention to accounting information useful in assessing future cash flows (see project by EFRAG 2011, amendments to IFRS 9 and the Exposure draft on Expected Credit Loss -ED/2013/3, March 2013).

In addition, the new Discussion paper on Conceptual Framework, issued by IASB on July 2013, seems to reopen the debate on measurements from the perspective of users.

Assuming the need for conceptual reasoning to support standard setters and regulators, we question the usefulness of FV measurement from the IASB's Conceptual Framework perspective of the primary users of financial reporting (OB5 CF) in credit-oriented financing systems.

We discuss to what extent FVM can facilitate the provision of useful (hence, relevant) information in those countries where environmental features include 1) the predominance of small/medium sized family companies with high ownership concentration, 2) the absence of separation between shareholders and managers, and, above all, 3) debt financing as the main source of capital (Flower, 2004; Nobes, 2011; Zeff, 2012). In other words, we discuss

situations in which lenders play an active role in the company, being the main source of capital, when a legalistic framework for financial reporting is established to protect them (Arpan and Radebaugh, 1985).

To this end, the study is based in the Italian context, as an example of a Macro-Uniform Government-driven, Tax-dominated, and Code-based country (Nobes, 2011). According to Holthausen and Watts (2001), in these countries, lenders – as primary users – are more interested in evaluating solvability and default probability than in valuing the firm's shares.

A major argument of this paper is that the conceptual assumptions of the *a priori* usefulness of FV in credit-oriented financing systems cannot be validated. Hence, we focus on the literature covering the main accounting informational inputs into prediction models of bankruptcy/default, credit pricing, and credit rating (e.g. Beaver et al., 2010) and concur with those scholars who argue that conservatism plays an efficiency-enhancing role in credit-related decisions (Watts, 2003).

In the literature, fair values are seen as introducing volatility and reducing the ability of earnings to predict the future (Barth et al., 1995). We argue, therefore, that historical costs are more useful for credit-related decisions than the volatile earnings numbers given rise to by hypothetical changes in fair values of assets and liabilities not intended for sale or settlement.

Nevertheless, we argue that fair values should be disclosed in a supplementary fashion so as to avoid volatility and the potential for misstatements in financial statements.

The next section briefly reviews the introduction of FVM and FV accounting (FVA). In the third section we describe in short the main features characterizing the Italian financial reporting tradition as an example of a Continental country with a credit-oriented financing system. The fourth section discusses the ability of the informational inputs found in the literature to be helpful in predicting bankruptcy/default and in pricing or rating credit. The final section summarizes and proposes that expanded disclosure be provided in the financial reports.

This research contributes to the ongoing academic debate questioning the appropriateness of FV in providing useful information.

2. *Fair value* within the framework of the decision usefulness approach: a brief overview

Studies on the advent of the decision usefulness approach in financial reporting began mainly in the US in the 1960s (Staubus, 1961). This approach was formally and institutionally recognized in the US for the first time in 1966 through the issuance of the Statement of Basic Accounting Theory by an AAA Committee. In its 1973 report "Objectives of financial statements," the Trueblood Commission clarified that the main objective of Financial Reporting is to provide information useful for making economic decisions. Towards this end, the idea that different measurement bases would be necessary for different assets and liabilities is introduced, paving the way to the current value accounting (Wolk et al., 2008). In 1978, the FASB subsequently relied on the Trueblood Committee's report in the preparation of Concept Statement 1.

The formal recognition of the decision usefulness approach in the international arena came later with the adoption of the first version (1989) of the IASC Conceptual Framework (hereafter CF). Afterwards, in September 2010, as part of a joint project, the IASB and the FASB issued the new version of the CF (first part), endorsing a strong decision usefulness orientation to address financial reporting (CF, OB2).

According to the CF, two fundamental qualitative characteristics are required in order to accomplish usefulness: *relevance* and *faithful representation.* Some scholars argue that the new CF moved the focus of concern from the *current* to the *prospective* investors' information needs, thus triggering an increased demand for up to date information (Abdel-Khalik, 2011). In this view, one of the standard setters' main assumptions was based on the presumed attribute of current market prices – under idealized conditions – to incorporate *relevant* information supporting investors in assessing their investments (Hitz, 2007).

The supposed superiority of market-based measures has already resulted in a shift towards the progressive use of FV measurements in many accounting standards. Today, IAS/IFRS require the use of FVA in 11 standards with the option to use either historical cost accounting or FV in five other standards. Since these standards were issued over many years, the Board recognized that some gave details on how to obtain FV, while others contained limited guidance. As a result, there was a lack of a clear measurement system and disclosure objective.

In 2006, aiming to clarify the use of FV, the FASB issued FAS 157. Then, during the process of convergence between the two boards (IASB-FASB), the IASB published a discussion paper for comments on the measurement of fair value (November 2006). The shift toward FV accelerated in 2011 when IFRS 13 was issued, but neither the IASB nor the FASB expanded the application of fair value measurement beyond exiting standards. However, the boards did provide clearer application and valuation techniques to apply when the FV is the required measurement basis, as well as related disclosure.

2.1 The fair value hierarchy

In IFRS 13, the Board establishes a framework for measuring FV and clarifies that FV - as exit-value (IN8) - is a market-based measurement that, for this reason, is more relevant for investors than historical cost accounting information (O'Hara, 2009). However, since it is not always possible to obtain adequate market information, the standard introduces the FV hierarchy in three different levels (as in SFAS 157), each of which is associated with a different degree of reliability, depending on informational inputs available in the market.

Level 1 inputs are *quoted prices (unadjusted) in active markets*. These are considered to be the most reliable (and, indirectly, also the most liquid (Dontoh et al., 2012). At this level, the information asymmetry is low because investors have access to the same information that managers adopt in their measurements. If a current price in an active market is unavailable, the company can refer to the price of a recent transaction or, in case the company considers the last transaction price not *fair*, the company can also adopt a price existing at the time shortly before the balance sheet date.

Level 2 utilizes inputs *other than quoted prices included within Level 1 that are observable for the asset or liability, either directly or indirectly.* Potentially, this level represents a middle ground of reliability, according to the possible observability of market inputs (Song et al., 2010). At this level, some valuation techniques are required: it is possible to refer to the current fair value of another similar items or to apply the discounted cash flow analysis (DCF) or option pricing models.

If market-data is not sufficiently available, then under Level 3 management uses *unobservable inputs that shall reflect the assumptions that market participants would use when pricing the asset or liability, including assumptions*

about risk. Here, non-observable market parameters must be considered in determining FV. The literature argues that the less developed the market in which valuation occurs, the greater the need to apply third level inputs (Benston, 2006, Abdel-Khalik, 2011). The risk is that managers lack incentives to reveal their true predictions, hence leading to a higher risk of bias (Ronen and Yaari, 2002).

Ultimately, managers must exert an increasing investigative effort (and cost) going from Level 1 to Level 3, whilst reliability and verifiability progressively decrease. At the same time, there exists the potential of de-objectifying the measurements obtained with the shift from mark-to-market towards a mark-to-model value. To reduce this risk, expanded disclosure has been suggested to enable users to understand how values have been computed and how informed decisions can be made (Ryan, 2012). Nevertheless, even if FV measures obtained under the third level are supported by a wider disclosure, Penman (2007) questions the possibility for an analyst to discover estimation errors, biased or random. In the same vein, it has also been noted that the use of FV accounting increases information asymmetry and thus reduces market liquidity (Song et al., 2010).

More criticism has been voiced against FV during the recent financial crisis that began in 2008, both by scholars and practitioners, citing two different causes. First, in an inactive market a reliable market valuation becomes difficult to achieve because FV is not unique and depends on market efficiency (Landsman, 2007). Second, the increased deflation in assets' values has aggravated the problem of pro-cyclicality, inducing a devaluation process (Laux and Leuz, 2009; Jarolim and Oppinger, 2012). Moreover, as stated by Ronen, "*when liquidity seizes up, as it did during the recent financial crisis, exit values diverge from intrinsic values*" (2012, p.152).

In the ongoing academic debate, FV has been addressed by scholars expressing several concerns. Studies questioning the relevance of FV measurement mainly consider the equity investors' perspective, viewing equity investors as primary users of financial reporting. However, the presumed superiority of FV in meeting the usefulness objective, providing relevant information, should be re-considered in the specific context of *non-English speaking countries* (Zeff, 2012) where a less developed and illiquid market, a credit-oriented financing system, and a legalistic framework for financial reporting are prevalent. To this end, a description of the Italian system as an example of such a regime is provided in the following section.

3. Main features characterizing Italy as an example of a credit-oriented financing system

Although one can concede the overall usefulness orientation of external financial reporting, differences may arise when considering the primary users of information and the different aims for which the information is used (Holthausen and Watts, 2001; Flower, 2004). According to the environmental determinism theory (Choi and Mueller, 1992) environmental factors related to the legal system, financing system, capital market, tax system, and accounting profession play an important role that deeply affects accounting systems and, consequently, financial reporting (Nobes, 2011). These factors have led some scholars to distinguish between the so-called *English speaking countries* – where IASB and FASB belong – and *Continental European countries* when framing purposes of financial reporting (Zeff, 2012).

Among Continental European countries, Italy represents a unique setting to observe in relation to its environmental features and accounting tradition, belonging to the so-called class of Macro-Uniform Government-driven, Tax-dominated cluster, and subject to Code-based international influences (Nobes, 2011). A Macro-Uniform class means that accounting practices are designed to meet some government-imposed requirements.

Traditionally, Italian companies are predominantly small and medium sized, characterised by a relatively high family ownership concentration (Melis et. al, 2006). A recent survey made by the Italian Chamber of Commerce in March 2012 reveals that 85% of the overall 5,254,343 Italian companies are family businesses, and that 99% are of small and medium size and companies with more than 250 employees number only 3,718.

In June 2012, the total number of Italian companies listed in the Stock Exchange was 257 (while in 2000 there were 297) with an average market capitalization of € 1.269 million (against a total market capitalization of € 326.249 million) (CONSOB,2012).

In 2012, the average percentage ownership held by the first stakeholder was 45%, with other relevant stakeholders owning 17.3%, and the average float was 37.6% of total shares outstanding. Moreover, the presence of institutional investors is quite low (see Table 1).

Table 1 The presence of institutional investors in Italian listed companies

	2008	2009	2010	2011	2012
Companies with relevant Italian and international institutional investors	48.8	50.5	43.9	37.5	44.0
Average % belonging to relevant Italian and international institutional investors	7.2	6.8	7.1	6.1	6.8
Companies with relevant Italian institutional investors	13.8	11.8	8.5	4.6	4.7
Average % belonging to relevant Italian institutional investors	5.7	4.4	5.1	4.9	5.1
Companies with relevant international institutional investors	41.5	44.1	39.1	33.7	40.5
Average % belonging to relevant international institutional investors	6.6	6.6	6.9	6.2	6.8

Source: 2012 Italian Companies and Stock Exchange Commission

Families are the ultimate owners involved in the management activity and, hence, there exists a weak separation between owners and managers, and family members are regularly appointed into the board of directors or to CEO positions (Prencipe et al., 2008).

As Di Pietra et al. (2008, p. 78) posit, *"The members of the Board of Directors mainly represent the controlling shareholders, often having had previous strong ties with the firm, whereas minority shareholders are typically not well represented (...) Outside directors are very rare".*

The high ownership concentration means that the predominant source for Italian companies to obtain capital is a credit-oriented financing system (Alexander and Servalli, 2011).

At the end of 2012, the average leverage ratio (financial debts on equity) in listed companies was approximately 48% and the amount of bank loans was 79% of the gross domestic product.

Banks and financial institutions – the main capital providers – are the creditors whose interests should be protected (as accomplished through a robust legal orientation that emphasizes guarantees (Arpan and Radebaugh, 1985) and whose information needs should strongly affect financial reporting features (Zeff, 2012). This enforced law's approach views financial reporting as one of the main tools providing information on the company's ability to replace consumed resources without dissipating assets through unwarranted dividend payments to shareholders. Hence, rules are provided in order to avoid damaging expected future income and capital.

In particular, the widespread use of historical cost in Italian financial reporting is rooted in the legalistic concept of capital maintenance to safeguard creditors' interests – providing less volatile income numbers based on which cash flows can be more reliably predicted. In this context, the accounting profession is perceived as a minor player in designing the accounting system due to both the central role of the lawyer and the predominance of credit-oriented small and medium sized firms (Zambon, 2002; Flower, 2004; Alexander and Servalli, 2011).

The mandatory adoption of IASs since 2005 represented a watershed event that critically changed the financial accounting tradition, moving the focus from the safeguard of creditors' interest to the ability to support decision-making. Actually, complying with the CF of the IASB, financial reporting should provide useful information to a wide range of users to support decision-making, like investors, lenders, and creditors, even if a primary user is clearly identified. Even including creditors within primary users, the Board refers "to their decision to extend credit and not to the protection of creditors through the limitation of dividends" (Flower, 2004: 44).

Consistent with Gassen and Schwedler (2010), the required *decision usefulness* includes *valuation usefulness*, and valuation usefulness implies the need to provide *relevant information*.

To this end, the IASB implicitly assumes the relevance of FVM to support decision-making, as fair values reflect the prices formed within a reasonably efficient market (Barlev and Haddad, 2003; Landsman 2007).

However, the conceptual assumption of the *a priori* usefulness of FV should also be questioned from the perspective of the primary users in those countries where credit is the main source of capital and where a legalistic framework for financial reporting is prevalent (Alexander et al., 2012).

Framing most of the problems already discussed in the literature through the lens of the decision usefulness perspective of lenders – as the more relevant users of financial statements - logically leads to the questioning of the presumed (un)usefulness of FVM in countries such as Italy. To support our arguments, we identify required informational inputs into credits-related decisions by examining the literature on bankruptcy/default, credit pricing, and credit rating.

4. Review Credit-Decisions-Related-Literature

In a credit-oriented financing system, financial reporting is largely driven by the demands of lenders interested in evaluating *default/bankruptcy probability* or *solvency* rather than the firm's shares (Holthausen and Watts, 2001).

Most of the largest Italian banks, in accordance with requirements provided by Basel II[1], have developed sophisticated systems in an attempt to assess credit risk arising from their activity (internal rating-based IRB) and to obtain a more efficient capital allocation (Angelini et al., 2008). Banks must provide internal estimates of probability of default of the borrower. To this end, different models to measure the credit risk of a loan - some publicly available and some partially proprietary – have been developed, mostly based on consideration of economic factors and companies' characteristics which could affect their future cash flows.

This credits risk assessment is based on accounting measures, largely obtained trough financial reports, as inputs into actuarial models (Butera and Faff, 2006). That is, financial accounting information is considered relevant in making decisions since it aids in determining the payout distribution associated with their lending, in determining the opportunity cost of capital, and in establishing how much and for how long to lend as well as in determining the interest rates that should be written into the contracts (Beaver et al., 2010). Also, scholars have developed many analytical models covering a wide variety of lender applications. Most of these models involve the use of financial statements and related accounting variables, since such data are seen to provide objective measures based on publicly available information (Beaver, 1966; Cohen et al., 1966; Altman, 1968; Lev, 1971; Libby, 1975; Ohlson, 1980).

Financial reporting should provide information useful to assess a company's ability to repay future debts and to predict cash flow as well as to assess the related risks and the realization of expectation (Ronen, 2008). Even though markets can affect firm cash flows, only the firm can predict its result and provide relevant and reliable information through financial reporting. As a consequence, in a credit-oriented financing system, accounting measures must be able to support the ability to assess short- and long-term solvency by incorporating models able both to predict default and bankruptcy and to price credit.

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[1] Basel II is the capital adequacy framework "International Convergence of Capital Measurement and Capital Standards" (Basel Committee on Banking Supervision, 2005) revised in December 2010 (Basel III) with new rules on liquidity requirements for banks, which will become effective starting in 2015.

To this end, we focus on three strands of literature covering the main accounting informational inputs used to support these prediction models in order to establish the (un)usefulness of FVM.

4.1 Prediction of default and bankruptcy

Researchers identify three main models to predict default and bankruptcy: a market-based model (e.g. Merton, 1974; Bharath and Shumway, 2008); an accounting model (e.g. Beaver, 1966; Ohlson, 1980), and a mixed model created from a combination of the previous two (Hillegesit et al, 2004; Beaver et al., 2010).

Scholars supporting market models posit that market prices can ensure a timeliness and comprehensive set of information, of which financial statement data is only a subset. In addition, these models can also provide estimates of volatility. Market models draw mainly from the *Merton approach* (1974) and the *option pricing theory* of Black and Scholes (1973). Measures adopted in such models mostly rely upon market value-based variables rather than financial statement variables.

Beaver et al. (2010, p, 128), in fact, reveal how in the empirical applications of such models "*the market variables are not directly observable and therefore must be inferred from the current value of equity and the historical series of equity returns.*" To this end, measures like the market equity, the asset volatility, the face value of debt, the risk-free rate and the risk premium on equity are usually included.

Prior research also shows that the typically market-based variables are logarithm of market capitalization of equity, prior years security returns, lagged cumulative security residual return, and lagged standard deviation of security residual returns (eg. Campbell et al., 2008).

In this respect, a first consideration is that these (market) variables are not based on fair value quantifications in the financial statement, whilst they derive from measures external to the financial statement.

Referring to the accounting models, scholars indicate that the most accurate and the more critical accounting determinants of the likelihood and severity to predict default are *profitability, leverage, and expected cash flow* because they have a lower percentage of error, cannot be easily altered and represent permanent aspects of the firm (Altman, 1968; Beaver, 1966; Libby, 1975; Ohlson, 1980; Begley et al., 1996; Kyung Sung et al.,1999).

In particular, Beaver (1966) shows that the more critical factor seems to be the net liquid asset flow supplied to the reservoir (i.e., cash flow from operations or net income). He documents that profitability (net income to total assets), leverage (total debt to total assets), the cash flow to total liabilities, and the liquid asset ratio produce the lowest error percentage in predicting the likelihood of default.

Confirming the usefulness of profitability ratios, Altman (1968) shows that a measure of cumulative profitability (retained earnings to total assets), earnings before interest and taxes (EBIT) to total assets combined with a liquidity measure — working capital (current assets minus current liabilities) to total assets – and a leverage ratio have higher predictive power.

Libby (1975) conducted a study designed to determine whether some accounting ratios provide useful information to loan officers in the prediction of business failure. He revealed that selected ratios related to profitability, activity, liquidity, asset balance, and cash position were able to predict correctly 54 over 60 cases of bankruptcy, with a greater emphasis on net income on total assets.

By using a multivariate estimation model, Ohlson (1980), in examining eight ratios, finds that leverage, cash flow (funds provided by operations to total liabilities), changes in net income, and negative net worth are statistically significant in affecting the probability of default.

More recently, Beaver et al. (2010) find that return on assets (EBIT to total assets), the ability of cash flow from operations pre-interest and pre-taxes to service the principal and interest payments, EBITDA to total liabilities, and leverage (total liabilities to total assets) are key elements in measuring the financial strength of the firm up to five years prior to the critical event.

Lastly, the third strand considers a mix of the previous models by using a combination of the two sets of inputs. Scholars suggest that both market and accounting variables may provide incremental information in estimating bankruptcy probabilities (Duffie and Lando, 2001; Hillegeist et al. 2004; Chava and Jarraw, 2004).

Empirically, however, results are mixed. In particular, in contrast with Tinoco and Wilson's findings (2013) which showed that combined accounting, macroeconomic, and market variables act as complements in default prediction models (2013), some scholars, in combining accounting and market models for predicting default, conclude that the

accounting measures have the same predictive power of market variables (even when the latter capture some information not captured by the accounting variables) (Beaver et al., 2010; Jackson and Wood, 2013).

A summary statement of the main contributors related to the informational inputs used in prediction models is provided in the Table below.

Table 2 Contributors to informational inputs used in models predicting bankruptcy/default

Models	Main references	Main informational inputs
Market-based models	Black and Scholes (1973); Merton (1974)	*asset value, asset volatility; face value of debt; the risk-free rate; the risk premium on equity (inferred from the current value of equity and the historical series of equity returns)*
	Duffie et al. (2007)	*market value of equity; market value of the firm's assets; volatility; firm's book measure of short-term debt ; volatility-adjusted leverage measure*
	Bharath and Shumway (2008)	*abnormal operating accruals (using coefficients from industry-level cross sectional models)*
	Campbell et al. (2008)	*market capitalization; volatility; market-to-book ratio*
Accounting models	Beaver (1966)	*profitability (net income to total assets); leverage (total debt to total assets); cash flow to total liabilities; the liquid asset ratio*
	Altman (1968)	*retained earnings to total assets; EBIT to total assets; working capital to total assets; leverage ratio*
	Libby (1975)	*net income to total assets; current assets to sales; current assets to current liabilities; current assets to total assets; cash to total assets*
	Ohlson (1980)	*leverage; cash flow; changes in net income; negative net worth*
	Begley et al. (1996)	*Liquidity (current assets on current liabilities; current assets less inventory on current liabilities; current assets less inventory on total assets; funds from operations on total liabilities)*
	Kyung Sung et al. (1999)	*Under normal conditions: cash flow to total assets; productivity of capital; Under crisis conditions: cash flow to liabilities; productivity of capital; fixed assets to stockholders equity and long term liabilities*

	Beaver et al. (2010)	EBIT to total assets; EBITDA to total liabilities; leverage
Combined models	Duffie and Lando (2001); Hillegeist et al. (2004); Chava and Jarraw (2004); Beaver et al. (2010)	Mixed accounting and market variables

This review allows us to point out two first remarks: even assuming that informational inputs are obtained by using several accounting items with different measurement bases, we can argue that there is no model that utilizes strictly fair values of assets and liabilities as presented in the financial statements without also utilizing historical costs and at the same time obtaining higher reliability.

Further, market variables, when used alone or in combination with accounting informational inputs, are not based on fair value quantifications from financial statements. Rather, they are derived from external measures. Extended discussion will be provided in Section 4.4.

4.2 Predicting bond default

Bond rating is strictly used to predict bond default and credit worthiness (Beaver et al., 2010).

Standard & Poors describes their issuer bond rating as "*a forward-looking opinion about an obligor's overall financial capacity (its creditworthiness) to pay its financial obligations*" (Standard & Poor's 2010).

Beaver et al. (2010) document that firms with lower quality bond ratings assigned by the three major rating services – Standard & Poor, Moody's, and Fitch – experience higher levels of default. Graham and Harvey (2001) find that bond rating is the second most important factor, after the maintenance of financial flexibility, in supporting decisions to obtain loans.

The literature speculates that the rating systems are based on either statistical methods, constrained expert judgment-based techniques, or exclusively expert judgments.

These systems usually include a mix of quantitative and qualitative elements– accounting and non-accounting measures, management experience, industry perspectives, and macroeconomics variables (Elsas and Krahnen, 1998; Machauer and Weber, 1998; English and Nelson, 1999; Treacy and Carey, 2000).

Due to their explanatory role, many bond ratings agencies rely upon financial ratios as a major source of information with which to assess bond default (Horrigan, 1966; Pogue and Soldofsky, 1969; Kaplan and Urwitz 1979; Altman and Rijken, 2004; Gray et al., 2006; Tanthanongsakkun and Treepongkaruna, 2008).

Scholars show that, in particular, two accounting ratios – the return on assets ratio (EBIT to total assets) and the leverage (total liabilities to total assets ratio) – are key elements in the predictive model of bond ratings (Pogue and Soldofsky, 1969; Pinches and Mingo, 1973; Barth et al., 1998; Altman and Rijken, 2004).

In the study conducted by Orgler (1970), the scoring model uses includes several accounting ratios. Among them, he finds that the better explanatory predictive power is provided by the sign of historical cost-based income (net loss or net profit).

By using four different accounting ratios from Cohen et al. (1966), Boritz and Kennedy (1995) confirm that the equity to debt ratio is unequivocally the most useful variable used to assign the final rating. Starting from the bond ratings assigned to Australian firms by Standard & Poor, Gray et al. (2006) examine the impact of various accounting ratios. The ordered probit model indicates that (the historical cost-based) EBIT interest coverage, operating earnings, and long-term debt leverage have the most pronounced effect on bond ratings.

Finally, Li (2008) confirms that operating profitability (EBITDA based on historical costs) is positively correlated with bond rating, providing preliminary evidence that it is a valid proxy for credit risk.

4.3 Credit Pricing

Credit pricing is yet another important and recurring decision that requires the prediction of default and creditworthiness of companies. The literature points to two sets of determinants of credit pricing. The first set includes country risk factors and characteristics of borrowing firms at the time of financing (e.g. Edwards 1986; Guedes and Opler, 1996; Leeth and Scott, 1989). The second set emphasizes the positive role played by accounting data in borrowing (Kaplan and Urwitz, 1979; DeFond and Jiambalvo, 1994; Sweeney, 1994). Some scholars document that the main accounting determinants of the amount of credit granted and the rate attached to it are leverage and the volatility of the firm's assets (Merton 1974; Das and Sundaram, 2000; Beatty, 2008; Callen et al., 2009; Mvula Chijoriga, 2011). In addition, Asquith et al. (2002) confirm that performance-pricing features typically

track the borrower's creditworthiness using ratios such as debts over EBIT or EBITDA, leverage (long term debts as a proportion of total assets), and interest coverage.

Considering the relevant key accounting measures lenders rely on, the next section discusses the main arguments surrounding the usefulness of FV measurements in lending decisions.

4.4 Discussion of the literature

The literature review shows that profitability and debt structure play an important role in the cited prediction models. It also emphasizes the distinctive role played by the income statement in facilitating loan decisions or monitoring debts and solvency. Profitability variables used in those models are mainly concerned with net income or with operating results – using EBIT or EBITDA.

Consistent with Dhaliwal et al. (1999), a reasonable inference is that these informational inputs support the claim that comprehensive income – obtained by including mainly gains or losses arising from fair value changes recognized as other comprehensive income (OCI) – is not seen to be a useful measure as input into models predicting default or the rating and pricing of credit. Moreover, the literature also suggests that profit margins are good proxies in assessing a company's profitability if they are based on actual – not expected – trading and do not fluctuate continually (Leftwich, 1983; Ronen, 2008; Penman, 2010).

On this basis, since fair value gives rise to "funny revenues and expenses", profits that are the byproduct of those fair values are uninformative about future profitability. As changes in value, profits do not predict future value changes to the extent that value follows a random walk (Ronen, 2008). Furthermore, an undesirable by-product of circular reasoning is that market bubbles or busts get transplanted into the income statement, creating excess non-salutary volatility that distorts results and expectations (Ronen, 2012); such volatility would degrade the ability of lenders to predict future flows in order to assess credit worthiness and the probability of default.

Prior research establishes that implied volatility is a biased estimator of future expectations and an inefficient predictor of future returns volatility, affecting in this way prediction ability of models (Lamoureux and Lastrapes, 1993; Christensen and Prabhala, 1998). Barth et al. (1995) provide evidence for the bank sector that earnings calculated using fair value estimates of investment securities gains and losses are significantly more volatile than

earnings calculated using historical cost securities gains and losses. And, importantly, volatility affects ratings. In this respect, Altman and Rijken (2004) find that the value of Standard & Poor's models is greatest when ratings do not fluctuate with near-term performance, and Watts (2003) confirms that fair value accounting seems likely to make accounting measures too noisy. According to Dechow et al. (2010), rating agencies have incentives to provide high ratings to new securities and have little incentive to review the ratings assigned. So, rather than being compelled frequently to change their ratings, they would prefer less volatile accounting measures.

When markets are illiquid, mark-to market values can potentially incorporate illiquidity risks, thus exacerbating price fluctuations and hence contributing to increases in volatility, creating a domino model of contagion (Adrian and Shin, 2010; Dontoh et al., 2012). This in turn degrades the ability to assess credit risk by distorting time series of income numbers that are impacted by market value changes.

Further, in illiquid markets, the predominant use of mark-to market values relies on internally generated estimates (the third level of IFRS 13) which incorporate management assumptions that are difficult or impossible to verify. The reliance on management assumptions in the valuation process opens the door for intentional bias and error rendering these estimates a noisy proxy for the unobservable true value of the underlying assets and liabilities and thus is potentially misleading (Martin et al. 2006, Ronen, 2008).

Such distortions in the reported stream of income numbers that incorporate these estimation distortions serve to further frustrate attempts to predict and assess credits risk.

On this basis, the American Accounting Association's Financial Accounting Standards Committee (2000) reports that fair value numbers with difficult-to-obtain market prices (e.g., loans and corporate debt issues) are not trustworthy.

These arguments suggest that accounting informational inputs to support models supporting credit-related decisions seem to largely avoid fair values. The literature also appears to suggest that fair values, even when provided in financial statements, are not perceived as important inputs into those decisions and prediction models, since they increase volatility, restatements and risk of error and bias.

In a somewhat similar vein, Watts (2003) posits that conservatism plays an efficiency-enhancing role in the debt contracting process and in credit-related decisions due to the fact that lenders are concerned with downside risk and

tend to focus on the lower ends of the earnings and net assets distributions. Net assets are more verifiable under conservative assessment – shifting mainly towards the use of HC evaluations – since they allow lenders to more efficiently monitor the borrower's solvency.

Few empirical findings seem to confirm the above arguments.

Flegm (2005) argues that HC-based evaluations have an inherent objectivity which can prevent unethical behavior as has transpired recently in Enron's scandal (Benston, 2006). Gwillam and Jackson (2008) corroborate this result, showing how the use of mark-to market accounting contributed to create accounting "manipulations" in Enron.

Bushman et al. (2010) find that the bid-ask spread in the secondary loan market is lower for more conservative borrowers. Beatty et al. (2008) focus on information needs of lenders and, by using four measures of conservatism (market to book ratio over time, skewness in cash flows, default risk, and inclusion of negative non-operating accruals in earnings) document that lenders adopt several adjusting GAAP in contract calculations to achieve higher conservative financial reporting.

Even assuming that FV can provide useful measures for credit related decisions, it should be noted that unless the company is close to default, it operates as a going concern where assets other than inventory are not intended to be sold. The going concern assumption implies that fair values would not be good predictors of cash flows relevant to credit decisions, since FVM does not reflect the value of the assets' employment within the firm. Rather, it considers the perspective of external and hypothetical markets (Ronen, 2012).

More recently, Beaver et al. (2010) questioned the power of financial statements to predict default. In comparing the accounting and market prediction models, the authors argue that the latter (using the Merton model) relies on market values of assets, which must be inferred from equity measures because they are not observed.

This could be seen to imply that if market values of assets were incorporated in financial statements, the use of the market value-based models would become more useful. However, exit values – the currently prescribed measure of fair values – would not be the proper quantification for a going concern from the perspective of either creditors or shareholders; rather, cash flows expected to be collected and discounted at the cost of capital rate would better serve the needs of creditors and shareholders (Ronen, 2012).

As Penman posits (2010), fair values as exit values consist of liquidation values. Under the going concern assumption, "*the exit price for the ongoing business process is the price it can sell its products for after adding value through the business process – revenues in the net income statement*" (Penman, 2010, p.176).

Little empirical research has been conducted verifying whether fair values, either by themselves or in combination with historical costs, indeed improve credit decisions.

However, some findings seem to confirm our suspected (un)usefulness of FV measures for lenders' decisions.

Eccher et al. (1996), after controlling for profitability, liquidity, and some historical cost-based ratios, provide evidence that the incremental information in the fair value of securities becomes marginal.

More recently, Argiles et al. (2011) conducted an empirical investigation in the Spanish market that showed no significant differences between historical cost and fair value measurements when assessing future cash flows.

From the lenders' perspective, scholars (Chisnall, 2001; Anagnostopoulos and Buckland, 2005; Heaton et al., 2010; Liao, 2013) also confirm that the change from historical-cost-based accounting into the fair-value-based system to measure capital adequacy ratio (CAR) required by the Basel Accord makes CAR less relevant due to the increased and unnecessary volatility of earnings.

Khurana and Kim (2003) in examining whether fair value is more informative than historical cost in explaining equity values, indicate that historical cost of loans and deposits is more informative than fair value for a small subset of bank holding companies.

Using a sample of 4114 bank dependent firms during 1988-2001, Chen et al. (2006) test the predictive power of fair values, revealing that it reduces the ability to predict future cash flows.

Nissim and Penman (2007) document that fair value accounting is not likely to significantly improve the information in bank financial statements and, in some cases, may introduce distortions that reduce accounting quality. Lastly, Allen and Carletti (2008) reveal that when mark-to market accounting occurs, there can be distortions and contagion that causes banks to be liquidated unnecessarily. Hence they conclude that the historic cost to evaluate assets is preferable.

Hence, consistent with Beaver et al (2010, p.132), we can argue that the market-based measures are endogenous variables. *"In this sense, they are not a substitute for the accounting-based information, but rather a*

proxy for the predictive power attainable by capturing the total mix of information (…) these two sources of information may not act in a strictly competitive manner."

These arguments lead us to posit that the disclosure of fair values in a supplementary fashion would be superior to having more financial statements or quantification of assets that are affected by hypothetical changes in fair values, especially when the intention is not to sell the assets, but rather to use them in operations.

5. Fair Values Should Be Disclosed, Not Recognized.

Adopting a usefulness objective, we have reasoned that FVM – affected by volatility – are mostly not useful in predicting a company's solvency. "*The key attribute is that the numbers reported in financial statements should be trustworthy; numbers that are not trustworthy are not relevant for decisions"* (Beston, 2006, p.106).

In those countries where companies count mostly on lenders, it would be more useful to evaluate items consistently with HC values: according to Penman (2010), HC in accounting data guarantees representational faithfulness and avoid the distorted results caused by reporting unrealized gains and losses under FVA, including the possible increase in systemic risk (Ryan, 2008).

However, disclosing additional information about fair values in footnotes for those items intended to be sold or settled in the market in the short term should allow for obtaining information on market values. In fact, an expanded disclosure on fair values supporting HC in the financial statement presents several advantages:

- to preserve coherence within financial reports and ensuring a higher level of relevance (McCarthy, 2004)

- to avoid the volatility in net income

- to reconcile relevance and faithfulness representation (Cho et al. 2010).

Summarizing, the overall financial and economic situation of a company would be most meaningfully reflected.

Exit value information provided in the notes related to trading assets can be relevant as it informs lenders about exit values, allowing them "*to assess the minimum values that the firm can regain by their assets in adverse circumstances (i.e. when the demand for the firm's product and services slackens)"* (Ronen, 2008: 186-187).

Moreover, an information system should include an accurate reporting of the probabilities of events in order to reduce the range of possible decision error (Ronen, 1971). In this respect, disclosing exit values in a supplementary fashion provides help in quantifying the firm's opportunity cost of continuing to operate its assets

As scholars have pointed out in the past, detailed financial information is more useful for lending decision-making as more detailed data sets create a sense of security and are, therefore, preferred (Abdel-Khalik, 1973). A large strand of literature already posits that adding information can lower the cost of information acquisition and, hence, increase coverage (Diamond and Verrecchia, 1991; Kim and Verrecchia, 1994). Miller and Puthenpurackal (2002) also report that lenders demand economically significant premiums on bonds for foreign firms that have no prior history of on-going disclosure.

In addition, as Bailey et al. (2006) suggest, high levels of disclosure can possibly attract investors who are more confident that stock transactions occur at "fair" prices, and thereby increase the liquidity in the firm's stock. Previous research has posited that equity investors value some items similarly whether they are disclosed or recognized (Beaoudin et al., 2011) and has already empirically demonstrated that investors consider footnote information as relevant and at least partially reliable (Frost, 1991; Backmon and Vickrey, 1997). The literature has also highlighted that firms with more expanded disclosures tend to experience cheaper cost of capital (Botosan, 1997; Leuz and Verrecchia, 2000; Karamanou and Vafeas, 2005).

However, for users with a reduced ability in interpreting accounting data, financial reporting with very detailed disclosures can be excessive, so only information that will serve users' needs should be added. Scholars have suggested that disclosure in tabular or other well-structured formats can promote the usability of information (Ryan, 2008). Standard setters are aware of the so-called *disclosure overload.* To this end, for those companies financed by lenders' capital, the addition of a specific section related to fair values should be required in order to avoid having useful information obfuscated by disclosure overload.

According to the discussion paper on disclosure (issued by EFRAG in July 2012), "*the purpose of the notes is to provide a relevant description of the items presented in the primary financial statements,*" and consequently, "*as a complement to reported numbers, [..] notes should provide information such as [...] (c) alternative measurements where this information would be relevant.*"

As information in the annual reports should be disclosed in accordance with qualitative characteristics to enhance the usefulness of information that is relevant and faithfully represented (IASB CF), *comparability*, *verifiability*, *timeliness* and *understandability* must also be taken into account. Consequently, disclosure of their values related to assets held for trading must also show changes that occurred in comparison with the previous financial year.

As this paper has discussed at length, disclosing fair values - rather than recognizing them as accounting data - can enhance the understanding of financial position and, hence, better serve lenders in predicting bankruptcy, credit default, and in credit pricing and rating. Lastly, disclosing fair values is consistent with the project being discussed by international standard setters. As already observed by Ronen (2008), historical quantifications alone may not suffice for forecasting both future cash flows and risk; by adding information about exit values, they enable comparisons with expectations that help evaluate managerial competence and forecasting ability, and can update predictions of future cash flows and risk. Moreover, the proposed disclosures allow researchers to investigate to what extent fair value is able to improve credit decision either alone or in combination with historical cost.

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