

Discussing the usefulness of Fair Value from the lenders' perspective

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Abstract: - Fair value measures in financial reporting have been at the center of recent debates, with many scholars considering the issue increasingly relevant and useful. This paper discusses the appropriateness of these measure in countries, like Italy, wherein lenders are the major source of financing and are therefore the 'primary users of financial reporting. 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 like Italy.

The discussion is based on a review of the literature on the prediction of creditworthiness. In the literature, the main informational inputs largely ignore fair values, whether measured as exit values or otherwise. Basically, the idea 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. Possibly, disclosure of fair values instead of recognition is more likely to satisfy the criterion of decision usefulness when lenders are the main users of financial reporting.

Key-Words: Fair-value, usefulness, creditworthiness, disclosure, financial reporting, lenders

1 Introduction

The aim of this article is to discuss whether incorporating fair values (FV) as measures of assets and liabilities in the body of financial statements in credit-oriented financing systems accomplishes the objectives of financial reporting in providing useful information. 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. According to the Conceptual Framework 2010 (CF) and its further ongoing developments, financial reporting should provide financial information about the reporting entity that is useful to existing and potential

investors, lenders, and other creditors in making decisions about providing resources to the entity (IASB CF, OB2). Gassen and Schwedler [43] posit that the Board has narrowed the definition of usefulness to that of valuation usefulness, where valuation usefulness consists of providing relevant information. The present study adopts this perspective.

To provide useful information, the presumed predominance of the market-based measures in financial reporting has gained a growing importance in the standard setters' agendas [48]. Consequently, there has been a shift from historical cost-based measurement towards fair value-based measurements, leading to the issuance of IFRS 13 – Fair Value Measurement in May 2011.

Additionally, in July 2013 the IASB issued a new discussion paper on 'A Review of the Conceptual Framework for Financial Reporting,' further intensifying the debate on measuring assets and liabilities. The emerging view favors a mixed measurement basis – mainly historical cost (HC) and FV – over a single one in the aim of ensuring accurate representation.

FV has also gained great attention among academics discussing its pros and cons ([22]; [60]; [70]). 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 [48]. Assuming the need for conceptual reasoning to support standard setters and regulators, we discuss to what extent FVM can facilitate the provision of useful information in those countries where features include the predominance of listed small/medium sized family companies with high ownership concentration, and debt financing as the main source of capital ([42]; [68]; [86]). In other words, we discuss situations in which lenders play an active role in the company as the main source of capital.

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 [68].

A major argument of this paper is that the conceptual assumptions of the *a priori* usefulness of FV as measures for financial statement in credit-oriented financing systems cannot be validated. According to Holthausen and Watts [49], lenders are more interested in evaluating solvency than in valuing the firm's shares. Hence, we focus on the literature covering the main accounting informational inputs into prediction models of creditworthiness (e.g. [18]) and concur with those

scholars who argue that HC may play an efficiency-enhancing role in loan decisions [84].

If a single measurement basis is desired, we suggest 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 FV and FV accounting (FVA). In the third section we describe the main features characterizing the Italian market as an example of 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 within a single measurement basis. This paper contributes to the ongoing academic debate questioning the appropriateness of FV in providing useful information for lenders.

2 Fair value within the decision usefulness approach

In accordance with the Conceptual Framework (CF) issued by the IASB in 2010, a strong decision usefulness orientation in financial reporting has been recognized (CF, OB2).

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 [1]. 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 useful information to help investors assess their investments [48, 79].

The supposed superiority of market-based measures has already resulted in a shift towards the progressive use of FV measurements. This was further accelerated in 2011 when IFRS 13 was issued, and the IASB provided clearer valuation techniques to apply when the FV is the required measurement basis, as well as related disclosure.

IFRS 13 clarifies that FV - as exit-value (IN8) - is a market-based measurement that, for this reason, is more useful for investors than HC accounting information. 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. The hierarchy provided by the IFRS represents a step towards a unified approach to determine fair value, but has not eliminated the risk related to unfair estimates [40].

Level 1 inputs are quoted prices (unadjusted) in active markets. These are considered to be the most reliable (and, indirectly, also the most liquid, [38]). 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 possibility to observe reliable market inputs [77].

If market-data is not sufficiently available, then under Level 3 management uses unobservable inputs that reflect the assumptions 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 valuations occur, the greater the need to apply third level inputs [1]. The risk is that managers lack incentives to reveal their true predictions, hence leading to a higher risk of bias [75].

Ultimately, managers must exert an increasing investigative effort (and cost) going from Level 1 to Level 3, whilst reliability and verifiability progressively decrease. In addition, there is 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. Nevertheless, Penman [70] questions the ability of analysts to discover estimation errors, biased or random, when FV measures are obtained under the third level, despite being supported by a wider disclosure. More criticism has been voiced against FV during the 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 [54]. Second, the increased

deflation in assets' values has aggravated the problem of pro-cyclicality, inducing a devaluation process ([51]; [55]). Moreover, as stated by Ronen, 'when liquidity seizes up, as it did during the recent financial crisis, exit values diverge from intrinsic values' ([74], p.152). However, some scholars defended FVA, considering it just as a 'scapegoat' of the financial crisis [24] or advocating its power to enhance the trust level that financial institutions can have in financial statements [78].

Standard setters have perceived risks related to a broad and indistinct adoption of FVM during the financial crisis, demonstrating a growing attention to accounting information usefulness in assessing future cash flows (see project by European Financial Reporting Advisory Group - EFRAG 2011, the new version of IFRS 9, including how to evaluate items when there is significant increase in credit risk and how to calculate the expected credit losses).

The ability of FV in meeting the usefulness objective, however, should be re-considered in the specific context of non-English speaking countries [86] where a less developed and illiquid market, a credit-oriented financing system, and a legalistic framework for financial reporting are prevalent. To this end, we frame our discussion in Italy where those characteristics prevail.

3 Credit-oriented financing systems: the Italian case

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 ([15]; [42]; [49]). According to the environmental determinism theory [31], environmental factors related to the legal system, financing system, capital market, tax system, and accounting profession play important roles that deeply affect accounting and, consequently, financial reporting [68]. These factors have led some scholars to distinguish between so-called English speaking countries and Continental European countries when framing purposes of financial reporting [86].

Among Continental European countries, Italy represents a unique setting to observe in relation to its environmental features and accounting tradition as it belongs to the so-called class of Macro-Uniform Government-driven, Tax-dominated cluster, and subject to Code-based international influences [68]. Traditionally, Italian listed companies are predominantly small and medium

sized and characterised by a relatively high family ownership concentration [63]. At the end of 2013, the total number of Italian companies listed in the Stock Exchange was 244 (while in 1998 there were 216) with the average market capitalization of € 1.741 million (against the total market capitalization of € 425.039 million) (CONSOB, National Commission for Stock Exchange, 2014 Report on corporate governance of Italian listed companies).

Table 1 displays data about the ownership concentrations as provided by the CONSOB on Italian companies with ordinary shares listed on Borsa Italiana SpA – Stock Exchange.

At the end of 2013, the weighted mean of percentage held by the largest stakeholder was 34.8%, with other relevant stakeholders owning 10.2 %. The average float was 55% of total shares outstanding. (see Table 1)

Table 1. Ownership concentration Italian companies

	Largest shareholder ¹		Other major shareholder ²		Market ³		Controlling share ⁴	
	Simple mean	Weighted mean ⁵	Simple mean	Weighted mean ⁵	Simple mean	Weighted mean ⁵	Simple mean	Weighted mean ⁵
1998	48.7	34.7	14.7	10.0	36.5	55.3	51.7	35.0
2010	46.2	34.0	17.7	13.5	36.1	52.5	49.6	34.6
2011	46.1	35.7	17.6	11.4	36.3	52.9	49.7	35.7
2012	46.8	34.8	16.9	9.4	36.4	55.8	49.6	34.4
2013	46.8	34.8	16.5	10.2	36.7	55.0	48.9	34.2

Source: Consob.

¹ Means of the ordinary shares held by the largest shareholders of all Italian listed companies. ² Means of the ordinary shares held by all major shareholders other than the largest. ³ Means of the ordinary shares not held by major shareholders (i.e. by shareholders with less than 2%). ⁴ Means of the ordinary shares held by the largest shareholders in companies not controlled by a shareholders' agreement and held by the coalition in companies controlled by a shareholders' agreement. The controlling stake is assumed zero in widely held companies. ⁵ Weighted by the market value of ordinary shares.

The high ownership concentration means that loans represent the predominant source for Italian companies to obtain capital, confirming the typical features of credit-oriented financing systems [2].

Further, the average leverage ratio (financial debts on equity) for listed companies was approximately 48%, and the amount of bank loans was about 80% of the gross domestic product (CONSOB, 2014 Report on Corporate Governance of Italian listed companies).

Table 2 shows the capital and financial structures of the 15 European countries belonging to the "old Europe": data clearly reveal that Italy can be considered as a case study representative of a generalized situation in which companies substantially base their activities on external resources.

In addition, Table 3 displays data on the financial structure of Italian non-financial listed companies for the years 2011-2013, documenting the large presence of debts. The mean of Debt/equity ratio is 1.43% in 2013, with the min of -6.80% and the max of 67.65%. The data show a dominance of short term debts (mean ratio of 73% at 2013) in comparison with long term debts (mean ratio of 27%). Additionally, both the mean (25.79% in

2013) and the median (21.83% in 2013) of banks debt ratio is quite high, even with a slightly decreasing trend during the three years as a result of credit restriction policies imposed by the European Central Bank.

In the same vein, data related to the net financial position and the debt/equity ratio confirm that in Italy banks and financial institutions are the main capital providers for listed companies.

In this context, banks and financial institutions are the main creditors whose interests should be protected, even within a robust legal orientation that emphasizes guarantees [9] and whose information needs should strongly affect financial reporting features [86]. The approach of this enforced law 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 HC 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. ([2] ; [42]; [85]).

Table 2. Average capital and financial structures of EU companies (2013)

	N	% Shareholders equity	% non current liabilities	% current liabilities
Austria	65	41.56%	31.38%	27.06%
Belgium	87	36.49%	40.14%	23.37%
Denmark	112	50.71%	25.13%	24.15%
Finland	115	40.13%	29.18%	30.69%
France	538	33.19%	33.52%	33.29%
Germany	532	32.17%	36.78%	31.06%
Greece	176	33.81%	30.76%	35.43%
Ireland	51	42.99%	32.97%	24.03%
Italy	222	30.89%	39.78%	29.32%
Luxembourg	42	47.54%	30.18%	22.28%
The Netherlands	107	27.68%	38.21%	34.11%
Portugal	43	28.17%	44.95%	26.89%
Spain	110	29.81%	42.45%	27.74%
Sweden	371	39.99%	33.55%	26.46%
UK	699	36.84%	32.07%	31.08%
Total average value	3,270	36.78%	34.75%	28.46%

Note: the table provides average balance sheet data on the capital structure of public listed companies in EU 15 firms that present consolidated accounts and have data available for the year ending at December 2013 in the Compustat Global - Fundamentals Annual. We have excluded companies where data were not completely available. The last row shows the average values for EU15.

Table 3. Financial structure of Italian non-financial listed companies (2013-2011)

Ratio of Italian non financial listed companies	Year	Mean	Median	St. Dev	Min	Max
Short Term Debts/Total debts	2013	73.00	79.00	24.00	12.00	100
	2012	71.00	78.00	24.00	13.00	100
	2011	66.00	71.00	25.00	70.00	100
Long term Debts/Total debts	2013	27.00	21.00	24.00	0.00	88.00
	2012	29.00	22.00	24.00	0.00	87.00
	2011	34.00	30.00	25.00	0.00	93.00
Bank Debts/Total debts	2013	25.79	21.83	21.81	0.00	97.15
	2012	27.05	23.23	21.71	0.00	91.62
	2011	27.16	22.61	21.95	0.00	92.35
Interest Coverage ratio (EBIT/Interests)	2013	13.08	5.13	29.55	0.02	315.96
	2012	12.08	4.92	26.36	0.02	263.50
	2011	13.58	6.00	24.67	0.01	201.92
Net Financial Position (Euro)	2013	-170,669	-24,891	-656,362	-1,203,047	7,044,000
	2012	-264,466	-31,100	-1,127,282	-3,000,000	12,429,000
	2011	-365,492	-35,184	-1,577,831	-1,003,230	18,996,000
Debt/Equity ratio	2013	1.43	0.56	5.11	-6.80	67.65
	2012	1.70	0.60	11.04	-23.93	163.63
	2011	1.96	0.63	14.64	-30.75	212.41

Source: Elaboration on data available on AMADEUS (BvD)

Based on the abovementioned features, the conceptual assumption of the *a priori* usefulness of FV should 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 [3]. Framing most of the problems already discussed in the literature through the lens of the decision usefulness perspective of lenders logically leads to the questioning of the appropriateness of FVM in countries such as Italy. To support our arguments, we identify required informational inputs into credit-related decisions by examining the literature on bankruptcy/default, credit pricing, and credit rating

4 The lenders' information needs: an overview

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 value [49].

Most of the largest Italian banks, in accordance with requirements provided by Basel II and Basel III, 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 [7]. 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 that could affect their future cash flows.

This credit risk assessment is based on accounting measures, largely obtained through financial reports, as inputs into actuarial models [26]. That is, financial accounting information is considered useful in making decisions since it aids in determining the pay-out distribution associated with their lending, in determining the opportunity cost of capital, in establishing how much and for how long to lend, and in assessing the ability to repay future debts ([73]; [18]).

Several analytical models covering a wide variety of lender applications have been developed. Most of them involve the use of financial statements and related accounting variables, since such data are

seen to provide objective measures based on publicly available information ([5]; [19]; [59]; [69]). Even though markets can affect firm cash flows, only the firm can predict its result and provide useful information through financial reporting. As a consequence, in credit-oriented financing systems, accounting measures should enhance the ability of prediction models to assess short- and long-term solvency of firms.

To this end, we review the literature covering the main accounting informational inputs used to support such prediction models in order to evaluate the (un)usefulness of FVM.

4.1 Informational inputs in models predicting creditworthiness: a review

Researchers identify three main models to predict default: a *market-based model* (e.g. [21]; [39]; [64]), an *accounting model* (e.g. [19]; [69]), and a *mixed model* created from a combination of the previous two ([18]; [47]).

Market models are based on the idea that market prices can ensure a timely and comprehensive set of information of which financial statement data is only a subset. They draw mainly from the Merton approach [64] and the option pricing theory of Black and Scholes [23]. Measures adopted in such models mostly rely upon market value-based variables rather than financial statement variables [18] [39]. To this end, measures like market equity, asset volatility, face value of debt, risk-free rate, and risk premium on equity are usually included.

Conversely, accounting models mainly rely on accounting measures. Scholars supporting the power of financial statements to predict default argue that market models rely on market values of assets, which must be inferred from equity measures as they are not observed [18].

Profitability, leverage, and expected cash flow have been considered as the most accurate and more critical determinants of the likelihood of default and its severity. In fact, these measures result in a lower percentage of error, cannot be easily altered, and represent permanent aspects of the firm ([5]; [19]; [20]; [52]; [59]; [69]).

Recently, Beaver et al. [18] find that the financial strength of the firm can be assessed by 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) allowing to predict up to five years prior to the critical event.

Lastly, the third strand considers a mix of the previous models by using both market and accounting variables. This approach may provide incremental information in estimating bankruptcy probabilities ([28]; [47]). Empirical results appear mixed overall. In particular, Tinoco and Wilson [82] show that combined accounting, macroeconomic, and market variables act as complements in default

prediction models, while other scholars 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 ([18]; [50]).

Table 4 provides a summary of inputs adopted in prediction model discussed above.

Table 4. Accounting and market informational inputs in models predicting default

Models	Main references	Main informational inputs in predicting default
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
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	Hillegeist et al. (2004); Chava and Jarrow (2004); Beaver et al. (2010)	Mixed accounting and market variables

Another field strictly related to creditworthiness concerns models predicting bond rating [18]. This kind of assessment, coupled with maintenance of financial flexibility, strongly influences the possibility to obtain loans [44].

The literature speculates that the rating systems are based either on statistical methods, constrained expert judgment-based techniques, or the exclusively expert judgments. This system usually includes a mix of quantitative and qualitative

elements, namely accounting and non-accounting measures and macroeconomics variables (e.g. [82]). Nevertheless, bond ratings include financial ratios in their assessment as a major source of information ([6]; [81]).

Scholars show that two accounting ratios are especially valid proxies for bond rating: EBIT to total assets and the leverage - computed as total liabilities to total assets ratio ([6]; [14]; [72]; [57]).

In addition, Gray et al. (2006), while examining the impact of various accounting ratios, find that their 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 [57] confirms that profitability expressed by EBITDA (based on HC) is positively correlated with bond rating, providing preliminary evidence that it is a valid proxy for credit risk.

Credit pricing is yet another important and recurring decision that requires the prediction of default and, broadly, creditworthiness of companies. The literature points to two main sets of determinants. The first set includes country risk factors and characteristics of borrowing firms at the time of financing (e.g. [41]; [45]). The second set emphasizes the positive role played by accounting data in borrowing ([35]; [80]).

Scholars also confirm 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 ([16]; [27]; [33]; [64]; [66]). Moreover, Asquith et al. [10] 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.

Two inferences so far can be drawn from the literature review: first, no models have been provided by scholars that utilize 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.

4.2 The usefulness of FVM in lending decisions

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

Consistent with Dhaliwal et al. [36], 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 ([71]; [73]).

On this basis, since fair value gives rise to 'funny revenues and expenses,' profits that are the by-product 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 [73]. 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 [74]; such volatility would degrade the ability of lenders to predict future flows in order to assess creditworthiness 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 the forecasting ability of such models [32]; [53]. Barth et al. [13] 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 HC securities gains and losses.

And, importantly, volatility affects ratings. In this respect, Altman and Rijken [6] find that the value of Standard & Poor's models is greatest when ratings do not fluctuate with near-term performance, and Watts [84] confirms that fair value accounting seems likely to make accounting measures too noisy. According to Dechow et al. [34], rating agencies have incentives to provide high ratings to new securities and have little incentive to review the ratings assigned. So, rather than being frequently compelled to change their ratings, they would prefer less volatile accounting measures and more predictable earnings.

When markets are illiquid, mark-to-market values can potentially incorporate illiquidity risks, thus exacerbating price fluctuations and hence contributing to increases in volatility. This could create a domino model of contagion [38], and, 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 ([61]; [73]). Such distortions in the reported stream of income numbers that incorporate these estimation distortions serve to further frustrate attempts to predict and assess credit risks.

A reasonable conclusion so far is that models supporting lender decisions seem to largely avoid accounting informational inputs incorporating FVM. Debtholders are more likely to demand conservative accounting: timely recognition of losses and deferred recognition of gains, which increases the ex-ante probability of gaining control rights when things go wrong. Beatty et al. [10] focus on information needs of lenders and document that lenders adopt several adjustments to GAAP in contract calculations to achieve more conservative financial reporting.

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.

Furthermore, the going concern assumption implies that fair values would not be good predictors of cash flows useful 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 [74].

To this end, 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; instead, cash flows expected to be collected and discounted at the cost of capital rate would better serve the needs of creditors and shareholders [74].

Even though little empirical research has been conducted verifying whether fair values, either by themselves or in combination with other measurement bases, indeed improve credit decisions, some findings seem to confirm our suspected (un)usefulness of FV measures in prediction models.

Investigating Spanish listed companies, Argiles et al [8] found no significant differences between HC and FVM when assessing future cash flows.

Assuming the lenders' perspective, Chen et al. [29] test the predictive power of fair values in a sample of 4114 bank-dependent firms, revealing that it reduces the ability to predict future cash flows.

Nissim and Penman [67] document that fair value accounting in some cases may introduce distortions that reduce accounting quality. Allen and Carletti [4] show that under mark-to market accounting, there can be distortions and contagion that cause banks to be liquidated unnecessarily. Hence they conclude that the historic cost to evaluate assets is preferable.

In the same vein, scholars ([46]; [58]) posit 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 increases volatility of earnings in CAR, leading to less useful values.

In accordance with Beaver et al. [18], we can posit that the market-based measures are endogenous variables which are a proxy for the predictive power attainable by capturing the total mix of information but are not suitable as a substitute for accounting based information. These arguments lead us to speculate that the disclosure of fair values in a supplementary fashion would be superior to having more financial statements or quantification of assets 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 Should fair value be recognized or simply disclosed?

The literature discussed above led us to argue that FVM – due to their intrinsic volatility and reduced trustworthy – are mostly not useful in predicting a company's solvency. In countries where companies count mostly on lenders, it would be more useful to evaluate items consistently with a single measurement basis, namely HC values, while disclosing FV. According to Penman [71], HC in accounting data guarantees representational faithfulness and avoids the distorted results caused by reporting unrealized gains and losses under FVA, including the possible increase in systemic risk [76]. However, disclosing additional information about fair values in footnotes should allow for obtaining information on market values. In fact, an expanded disclosure on fair values in addition to HC in the financial statement would allow preserving coherence within financial reports [62] and would lead to the reconciliation of relevance and faithfulness representation [30].

Specifically, assuming that historical quantifications alone may not suffice for forecasting both future cash flows and risk [73] and that 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, we propose to disclose FVM using exit value. As a result, the overall financial position of a company would be most meaningfully reflected.

Lenders would find exit value information in the notes which would provide the opportunity '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)' ([73], pp. 186-187). This approach may also enable comparisons that could help evaluate managerial competence and forecasting ability, and allow researchers to investigate to what extent fair value is able to improve credit decisions either alone or in combination with historical cost.

Further, disclosing exit values in a supplementary fashion helps in quantifying the firm's opportunity cost of continuing to operate its assets.

A large strand of literature already posits that adding information can lower the cost of information and, hence, increase coverage [37]. Miller and Puthenpurackal [65] also report that lenders demand economically significant premiums on bonds for foreign firms that have no prior history of on-going disclosure.

In addition, high levels of disclosure can possibly attract new investors who are more confident that stock transactions occur at 'fair' prices, and thereby increase the liquidity in the firm's stock [12].

Previous research has posited that equity investors value some items similarly whether they are disclosed or recognized [17] and they consider footnote information as relevant and at least partially reliable [11]. Thus, firms with expanded disclosures tend to experience cheaper cost of capital ([25]; [56]).

However, it necessary to avoid an overload of disclosures, so only information that will serve users' needs should be added, preferably in tabular or other well-structured formats increasing their usability [76]. 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 assessing creditworthiness. Lastly, our proposal seems consistent with the projects (both on CF and disclosure) being discussed by international standard setters.

Our paper offers avenues for further research on the role played by FVM in credit oriented financial systems. In particular, future research could survey credit analysts' opinions about the usefulness of fair value information. Research could also test

empirically if disclosing FV is relevant for loans decisions. Laboratory experiments aiming to test how credit financial analysts use HCM and FVM when assessing the creditworthiness of firms are also a fertile area of future research.

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