# Critical Insights Back Into the Role of Fair Value Accounting within the Financial Crisis

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## Abstract

*The aim of this paper is to review the main results of accounting research literature examining the role of Fair value Accounting (FVA) within the Financial Crisis. This research analyses theoretical and empirical studies on the controversial topic about FVA and its alleged pro-cyclicality in the context of the Financial Crisis in order to offer solid reflections for improving the Fair Value research agenda. This paper consists of a descriptive literature review. Theoretical and empirical research studies were investigated and then systematized in a framework to guide a literature-based analysis and critique of the relevant literature published about this topic. The review reveals that there has been only a limited amount of research into the role of FVA within the Financial Crisis. This topic has not been researched extensively and there is no empirical evidence that FVA caused the financial crunch and the subsequent Financial Crisis.*

**Keywords:** Fair Value Accounting, Financial Crisis, pro-cyclicality, volatility, accounting research literature

## *1. Introduction*

The Global Financial Crisis of 2007-2008 had drawn attention to the role of Financial Reporting in periods of economic downturn. This Financial Crisis of unusual size and negative consequences is an important concern of society, Regulators, Standard Setters and academics, from the general press to policy-makers around the world too. In analyzing the Global Financial Crisis many commentators attribute blame to financial reporting, in particular to the Fair Value Accounting (FVA) as measurement approach especially for reporting financial instruments in the balance sheets of financial institutions. In connection with the mentioned crisis, also other many opinions appeared imputing Fair Value measurements in financial statements to be one or even the main driver of the crisis.

Coincidently or not, this is the first Financial Crisis of unprecedented magnitude and dire consequences in which the accounting system in force takes a Fair Value approach at worldwide scale, intensifying interest in this accounting topic. In fact, the use of Fair Value is a long debated subject during last years and its introduction is frequently mentioned as an important determinant in the string events which led to the recent Financial Crisis. During the crisis period, academic efforts concentrated on empirical and theoretical studies to determine the role played by FVA in propagating the credit crunch but the conclusions diverges and there are of course dissenting points of view.

Actually, despite its perceived merits, FVA has been subject to severe criticisms. Many banks alleged that FVA played a prominent role within the crisis, being a major contributing factor to the credit crunch as noted, for example, the American Bankers Association in its letter to the SEC in September 2008 and the International Monetary Fund (IMF) in the Report on Global Financial Stability (IMF, 2008). In this respect, Fair Value and its application has been a topic of considerable debate and it has come under scrutiny because some critics go as far as to blame the whole crisis mainly on FVA. The reason of this discussion and criticism on FVA within the context of the Financial Crisis deals with the alleged pro-cyclicality effect FVA could introduce in financial statements. On the other hand, there are several important opinions in favor of FVA. For its supporters, the use of market prices for preparing accounting reports is beneficial to investors and authorities, as they provide more relevant information on a firm's current performance. Anyway, the role of FVA in causing the Financial Crisis has not been researched extensively, though FVA still receives broad overall support from the accounting profession, Standard Setters and Financial institutions. As a result, it remains uncertain, whether the assumed pro-cyclical effect of FVA could have played a role in aggravating the Financial Crisis.

This paper consists of a literature review examining particularly studies relate to the influence of FVA on the financial system and its alleged pro-cyclical effects. This study analyzes some theoretical and empirical research evidence that are relevant to the debate surrounding the use of FVA during the crisis period and synthesizes the main results of accounting research literature approaching Fair Value measurement within such a context. We summarize the findings reported in the existing literature on the consequences of the entry into force of Fair Value and, based on these results, we discuss the controversial topic about FVA and its role in the mentioned context.
The originality of the paper, as well as its contribution, consists in offering a comprehensive overview on studies in accounting research literature concerning the mentioned topic. The beginning point of this analysis comprises opinions on FVA within existing literature to answer to the following question: was Fair Value just the messenger of the credit crunch or was it pro-cyclical, contributing to the financial turmoil during the Financial Crisis in addition to reporting on it? Discussing the relevance and reliability of prior studies and how their results can be used, this paper tried to outline some reasons whether FVA should or should not be blamed for the mentioned downturn. Paper starts by formulating the hypothesis that FVA is not to be blamed for the actual Financial Crisis and hereafter tries to show it by going to the roots of the current state of facts in the existing literature. After briefly introducing the concept of Fair Value into the background of financial reporting at international level, the analysis focuses on the genesis of the link between FVA and the Financial Crisis. Therefore, our analysis imposes the use of a literature review methodology to discuss empirical and theoretical studies on FVA's responsibility.

The paper is organized as follows. The next Section briefly illustrates the Financial Crisis begun in 2007 and analyses the distinctive features of the concept of FVA, also introducing the key topic of its role in the mentioned crisis. Section 3 describes the method used for the literature review. The selected studies are analyzed by closely inspecting their research design, research methodology and obtained results, in order to realize a framework to guide a critique of the relevant literature published about this topic. Section 4 summarizes the findings reported in the exiting researches on the role played by FVA during the Financial Crisis. Literature review is used and turned into a critical discussion with the purpose of evaluating current opinions on Fair Value. The following Sections takes this preliminary analysis further, by examining in more detail contributions that prior literature makes to the research themes concerning the role of FVA in the Financial Crisis. Hence these Sections focus on specific topics of the extant research literature, outlining comments stated to each of the themes identified previously. Setting out from the directions that the literature has taken to date, Section 7 presents the main conclusions of the study, limitations and suggestions which may support Standard Setters to devise improved accounting regulation responsiveness to concerns about financial stability. An extended summary of these issues and a number of other conclusions from the review are discussed in this final Section of the article and finally some valuable insights are extracted to draw some comments and to suggest a research agenda. The concluding remarks synthesize the obtained results and serve as a contribution to the actual debate whether FVA played the role of a messenger or a cause of the Financial Crisis.

## *2. Features of Financial Crisis and Fair Value Accounting*

The debate on strengths and weaknesses of the Fair Value concept for accounting purposes has arisen in connection with the credit crunch and Financial Crisis in years 2007-2009.

At the end of 2008 and the beginning of 2009 the global economy was affected by the most serious crisis amplified by an alarming fall down of developed financial markets. The financial shock produced by the bankruptcy of mortgage market due to the subprime mortgage market collapse in United States in august 2007, led to the downturn of global economic growth in dangerous rhythms. The financial bankruptcy extended rapidly in the world and became the first global economic contraction after the second World War.

In the years immediately preceding the Financial Crisis, banks built up large holdings of subprime mortgages and subprime securities (Gorton, 2009). It is widely agreed that these securities were overestimated because rating agencies and banks severely under valuated the level of future subprime defaults. Moreover financial institutions piled up large exposures to risky subprime and structured credit instruments. Then, during the crisis years of 2007 and 2008, prices for mortgage related securities felt significantly and markets for them became illiquid. Banks had to recognize a reduction in the value of some of their financial assets, generally linked to subprime loans and took large accounting write-downs because of the losses that occurred on exposures. The result was banks marking down their assets by significant amounts and selling them to attain cash so that the economic downturn became an apparently never-ending cycle. Hence a vicious circle was set up. Further falling market prices resulted in further devaluations of financial instruments, contributing to the downward and fire sale spiral.

Because of the falling prices and thus the decreasing value of firm's financial instruments in combination with regulatory capital requirements, companies may have been forced to sell securities in illiquid markets. These compelled sales have made the market even more illiquid and volatile, resulting in further price falls. As a result, in the illiquid market of 2007, financial instruments valued at Fair Value were sold below "theoretical or fundamental value" (their underlying future cash flows or amount for which they would eventually be sold) (SEC, 2008) in order to meet regulatory capital requirements, causing market prices to fall even more. Then, to maintain their solvency ratios at the required level, banks were forced either to sell part of their assets, to raise new capital under depressed valuation conditions, or to reduce lending with the resulting negative effects on the financial system. Additionally, increased volatility, which due to FVA where recognized in the financial statements (OIC, 2008), led to more uncertainty for investors, decreasing their confidence in the market and resulting in: further market illiquidity, prices fall, decreased value of firm's assets and deteriorated financial stability.

Anyhow, the uniqueness of the crisis has attempted to identify its determinants and the solutions to deal with. A central topic concerning the origins of the Financial Crisis is that there was a real estate bubble (Barberis, 2011) that by 2006, due to both the lending system and the valuation of real estate and subprime securities, forced real estate process to unsustainably high levels. The crisis is frequently attributed to the bursting of US housing and credit bubbles, but such a complex situation shows a multidimensional outline. Severe crisis as the concerned one is not and cannot be caused by a single determinant, but implies the failure of the whole financial system to estimate the risks connected to both the fast growth of structured risks of mortgages and the lack of market liquidity (Ryan, 2008). Apart from the factors mentioned above, another factor often referred to as a key determinant of the Financial Crisis was the introduction of FVA. In fact, since the 2007 market turmoil, Fair Value and its application in financial reporting during the crisis has been a topic of considerable debate.

The most recent Financial Crisis is the first one in which the accounting system in use calls for a serious analysis to determine whether the introduction of the Fair Value measurement just coincided with the crisis or whether it is a cause of credit crunch. On this issue, for example, Laux and Leuz (2010) and Barth and Landsman (2010) investigated the real influence of FVA within the mix of factors assumed to contribute to the crisis, motivated by the fact that FVA was accused of being one of the most important causes of the crisis, even adding to the global economic contraction. About this, some critics argued that FVA exacerbated the severity of the 2007 Financial Crisis and in particularly the main assertions are that FVA contributes to excessive leverage in boom periods and leads to excessive write-downs in busts. In particular, during the credit crisis of the US in 2007 which quickly transformed into a global Financial Crisis, FVA has been partly blamed and many studies have called for a suspension or substantial reform of it. FVA was originally adopted because assets and liabilities measured at Fair Value are more relevant for decision making and financial reports based on historical costs are irrelevant when Fair Value exceeds the historical cost of the items (Foster and Shastri, 2010). Nevertheless during the years of the crisis FVA hasn't lived up its expectations to increase transparency in financial reporting (Krumwiede, 2008; Laux and Leuz, 2009) in spite of its imposing purpose. Hence, FVA has received some of the worst criticism and highest attention among financial reporting matters in recent times since subsists a number of FASB and IFRS Standards which order to evaluate at the market value much of the assets and liabilities reported in balance sheets.

As most assets and liabilities were evaluated at Fair Value, when markets becoming increasingly more volatile and illiquid, the valuations of complex financial instruments became more volatile and inaccurate and also the values reported on the balance sheets were subject to growing volatility. Therefore, Fair value is believed to enhance relevance but reduce reliability (Dietrich *et al.*, 2001) distorting investors view on financial performance and stability (Magnan, 2009).

FVA is also quoted for introducing price bubbles into financial statements (Penman, 2007), leading financial institutions to react to market changes in an abnormal way (Foster and Shastri, 2010) and thus aggravating the recent Financial Crisis (Trussel and Rose, 2009). Just for this reason the use of Fair Value is a long debated subject during last years and some critics argue that it caused the Financial Crisis even point towards FVA for financial instruments as being one of the major aggressors of it. From this point of view, it is difficult to deny that the use of Fair Value involves some problems, especially in very complex periods from the market's perspective. By assigning too much relevance to markets, Fair Value measurement would thus be culprit of amplifying economic cycles and bringing additional volatility into financial reports. This criticism questioning FVA when it applied to illiquid securities is based on the idea that market process is faulted because Fair Value emphasizes both booms and busts magnifying values in banks' balance sheets at the top of the cycle and decreases them by the same measure at the bottom.

This is the pro-cyclicality criticism concerning FVA within the debate focused on its role during the years of the crisis. Under FVA, entities are obliged or permitted to measure particular assets and liabilities at their Fair Values as at the reporting dates recognizing changes in Fair Values' gains and losses in income statements. As we know, according to the Standard Setters the Financial Accounting Standard Board (FASB) and the International Accounting Standard Board (IASB), Fair Value was already defined as "the amount for which an asset could be exchanged, or a liability settled, between knowledgeable, willing parties in an arm's length transaction", other than in a forced or liquidation sale (FASB, 1991; IASB, 2010). Actually, the International Financial Reporting Standard (IFRS) 13 *Fair Value Measurement* (IASB, 2011) defines Fair Value as the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date (i.e. an exit price). That's why Fair Value allows for certain assets to be valued at the amount for which they could be exchanged in an open market transaction. Therefore when market prices are used to determine Fair Value, FVA is also called mark-to-market accounting. Technically, three levels of Fair Value measurement are devised: Level 1 is applied when the current price in a liquid market for exactly the same instrument can be obtained ("mark to market"), Level 2 represents the current price in a liquid market for a similar instrument, which has to be used to obtain the Fair Value of the instrument to be valued, and finally Level 3 uses valuation models ("mark to model").

Consequently the term "Fair Value" is commonly referred to the market value when available and it encompasses the estimated value, using models, when the financial instrument is not traded in an active market (IASB, 2008). Fair Value is a current market based hypothetical value but this market value is not always directly observable, so that the problem with its application arises when the market for an asset that a company values at Fair Value becomes illiquid. Hence, when market prices quoted in an active market are not available, the owner of the asset or liability should provide the best available estimate of a current market price, by exercising judgments about the methods and assumptions to be used. Without a market exchange to base the Fair Value, the value of the asset is determined through the use of complex models that the company must come up with. As the illiquidity of certain financial products became more severe, financial institutions turned increasingly to model-based valuations that, despite improved disclosure requirements, were therefore accompanied by growing opacity in the reporting across the Fair Value measurement. Under stressed liquidity conditions, financial institutions made wider use of unobservable inputs in their valuations, growing uncertainty among financial institutions, supervisors, and investors regarding the valuation of financial instruments under such conditions.

## *3. Research Methodology*

The employed research methodology mainly relies on literature review particularities. Similar to other scholars (Matis and Bonaci, 2008, 2011; Bonaci and Tudor, 2011) the present study develops a critical description of accounting research literature on the role of FVA in the Financial Crisis, considering studies that use an empirical approach or a theoretical one. Compiling this retrospective that focuses on the research literature, this paper proposes a descriptive review.

We do not specifically aim to discover new points of view, but we try to offer a foundation and a framework expected to ease the conceptualization and the assessment of the role of FVA in the context of the Financial Crisis. Therefore, we have chosen to focus on Fair Value in financial reporting during the Financial Crisis, considering and clearly analyzing themes discussed in existing theoretical and empirical studies. In this respect, we suggest new ways of interpreting the theoretical details of the mentioned matter.

This study uses literature review methodology in order to develop an evaluative account of what has been published within accounting research literature on FVA by only considering studies that suggest a discuss about the role of Fair Value approach during the Financial Crisis. In our study qualitative information is combined and interpreted, so that a descriptive review is used within the context of our research (Webster and Watson, 2002). The primary data for this review consists of a collection of different types of literature which embodies a wide variety of empirical and theoretical findings, opinions and interpretations. There is a large volume of literature concerning FVA that could be reviewed. Although the present study does not encompass all sources concerning Fair Value, but confines the review to the ones resulting from a selection method described as follows. How many publications are included in such a review is dependent upon the aim of the analysis, the research's matter and the used selection process (Cooper, 1998). Since the literature relating to FVA is voluminous, we used some decision rules in choosing resources. The research for relevant papers for our study, on the extant literature investigating FVA and its role in the Financial Crisis, passed subsequent main steps.

First, an extensive online search of accounting papers was undertaken. The search is limited to contributions published from 2007 because the Financial Crisis began midway through 2007 and especially by 2007 the status of Fair Value measurement had changed entirely, having acquired both an expanded significance and a considerable position of controversy within the financial reporting policy process. On the basis of the stated time restriction, the review focuses on archival data to provide large-sample empirical and conceptual evidence about the role of FVA within the context of the Financial Crisis. We present in this study merely a review of studies undertaken after the Financial Crisis occurred in order to assess specific literature concerning the particular influence of FVA on the Financial Crisis.

FVA was a much debated issue even before the crisis period began but the initial studies focused on value relevance, attempting to discover whether FVA adds relevant information to financial reports. These empirical studies investigated the value relevance and reliability of FVA relative to historical cost accounting (Dietrich *et al.*, 2001; Khurana *et al.*, 2003). For example, Barth *et al.* (1991, 1994) compared the relevance and reliability of these alternative measures and in particular examined the value relevance and reliability of the Fair Value of US banks' investment securities, finding that Fair Value measurement are relevant and reliable to investors. Furthermore Petroni and Wahlen (1995) established that the Fair Value of equity investments are relevant and reliable to investors for property-liability insurance companies and lastly Barth et al. (1996) found that Fair Value of securities, loans and long-term debts under SFAS 107 *Fair Value Disclosures for Financial Instruments* improves informativeness for investors. Because of the particular interest on the Financial Crisis, the category of studies we reviewed also differs from the previous ones focused on predicting and discovering the general consequences that the introduction of FVA had before the Financial Crisis occurred. For instance, Barth (1995) and Barth *et al.* (1995) investigated the impact of FVA on banks' financial statements and found an increase of volatility in earnings and in regulatory capital.

In this study, source papers included refereed research studies, empirical papers, articles from academic and professional journals, conference reports, etc.. So that papers of interest to this review were also likely to be published in journals outside of the accounting literature. Therefore, several academic databases (Thomson Reuters Master Journal List, EBSCO Business Source Premier, Emerald, Science Direct Elsevier, Wiley, JSTOR) and Google Scholar were searched to find articles to be drawn together in a set of relevant literature as broad as possible. By including Google Scholar, it was possible to consider not only journal publications, but also working papers, conference papers, scientific reports, PhD and Master theses, etc.. The reason of the choice of this search engines relies on the possibility to cover a wide collection of academic papers and other types of publications.
To provide particular attention on the role of FVA in the Financial Crisis, other specific boundaries are placed on what is reviewed. For this purpose, the keywords "Fair Value" and " Financial Crisis" were used to select publications to inspect.

Limited publications were identified using these search keywords because only papers that refer to both of those expressions in the title were extracted and selected using search engines offered by the mentioned database. Moreover, whereas a paper was not concerning the topics of our research, it was excluded for the literature review.

Then this study relies on the literature review of current relevant papers screened by both “Fair value” and “Financial Crisis” as keywords. Although, we select other few articles strictly related to the role of FVA in the Financial Crisis identifying other expressions that refer specifically to similar ideas such as the effects of FVA’s application in the financial system (i.e. volatility, pro-cyclicality, etc…) or the role of financial reporting during the Financial Crisis. So that whereas a paper was considered significant for its perspective on broad issues relating to the mentioned topics of our research, it was screened for the literature review.

As a result, publications were identified for inclusion in this review and the analysis of the papers provides a comprehensive outlook of this literature. To get some perspectives on the current state of the literature concerning the role of FVA in the Financial Crisis, the study implements a guiding framework of some of the most important issues relating to this topic as shown in Table I. So that, given the aim to provide a practical understanding of the main issues in FVA during the Financial Crisis, this paper outlines a range of pertinent research themes meriting further critique, and it offers a simple but effective template for guiding further investigations of the extant literature in an academically and practically relevant way.

In order to offer a complete picture of the literature regarding FVA and its role in the Financial Crisis, methodology imposed each study to be analyzed by looking at particular aspects. More precisely, all the extracted publications were examined by focusing on the following specific elements: research design (theoretical or empirical), the aim of the study, the object of the study and the obtained results. Each of these themes will be described as they are addressed in Table I. The purpose of such a study in the area of literature review is to summarize and discuss the main results achieved in prior literature. Besides developing a valuable summary of sources in the approached area, the employed research methodology imposes a certain discussing pattern that combines both synthesis and criticism.

Table I shows the most relevant results of the analysis described above and it illustrates how different publications concerning the role of FVA in the Financial Crisis can be classified in two main categories: theoretical and empirical studies. The following section takes this preliminary analysis further, by examining in more details the substantive contribution that this literature makes to the research topics related to the role of FVA in the Financial Crisis.

**Table I: Existing Literature on the Role of FVA during the Financial Crisis**

| Research Design | Methodology | Aim of the study | Object of the study | Obtain results | References |
|---|---|---|---|---|---|
| Theoretical | Critical and descriptive analysis | Impact on Financial Crisis | Economic impacts | Volatility/ pro-cyclicality | Boyer (2007) |
| Theoretical | Critical analysis | Impact on Financial Crisis | Application effects | Pro-cyclicality | Carosio (2008) |
| Empirical | Sample-simulation model | Impact on Financial System | Volatility/pro-cyclicality | No significant role | IMF (2008) |
| Theoretical | Theoretical analysis | Impact on Financial Crisis | Application effects | No pro-cyclical effects | Ryan (2008) |
| Empirical | Statistical evidence | Impact on Financial Crisis | Pro-cyclical effects | No significant role | SEC (2008) |
| Theoretical | Theoretical analysis | Impact on Financial Crisis | Accounting issues | Descriptive results | The Economist (2008) |
| Theoretical | Descriptive analysis | Impact on Financial Crisis | Application effects | No role/defending issues | Véron (2008) |
| Theoretical | Theoretical analysis | Impact on Financial Crisis | Accounting issues | No role/defending issues | Wallace (2008) |
| Theoretical | Theoretical analysis | Impact on Financial Crisis | Accounting issues | Descriptive results | Andrè *et al.* (2009) |
| Theoretical | Critical analysis | Impact on Financial Crisis | Accounting issues | Pro-cyclicality | Banca d'Italia (2009) |
| Theoretical | Theoretical analysis | Impact on Financial Crisis | Application effects | Volatility | Bignon *et al.* (2009) |
| Empirical | Statistical evidence | Effects of Relaxing FVA | Application effects | Dampened pro-cyclical effects | Bowen *et al.* (2009) |
| Theoretical | Critical analysis | Impact on Financial Crisis | Application effects | No pro-cyclical effects | FCAG (2009) |
| Theoretical | Theoretical review | Impact on Financial Crisis | Application effects | No role/defending issues | Laux and Leuz (2009) |
| Theoretical | Case study | Impact on Financial system | Application effects | Volatility/pro-cyclicality | Magnan (2009) |
| Theoretical | Theoretical analysis | Accounting impacts of FVA | Accounting issues | No role/defending issues | Pozen (2009) |
| Theoretical | Critical analysis | Impact on Financial Crisis | Accounting issues | Little or no role/defending issues | Barth and Landsman (2010) |
| Empirical | Statistical evidence | Effect of amendment to IAS 39 | Accounting issues | No role/Defending issues | Bischof *et al.* (2010) |
| Theoretical | Theoretical analysis | Impact on Financial Crisis | Descriptive evidence | No role/defending issues | Bonaci *et al.* (2010) |
| Empirical | Statistical evidence | Accounting impacts of FVA | Application effects | Dampened pro-cyclical effects | Bout *et al.* (2010) |
| Theoretical | Literature review | Impact on Financial Crisis | Application effects | Descriptive results | Glavan (2010) |
| Theoretical | Theoretical review | Impact on Financial Crisis | Application effects | No role/defending issues | Laux and Leuz (2010) |

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|---|---|---|---|---|---|
| Theoretical | Critical analysis | Impact on Financial Crisis | Application effects | Volatility/Pro-cyclicality | Menicucci (2009) |
| Emprical | Statistical evidence | Relation with Regulatory capital rules, pro-cyclicality and financial contagion | Application effects | No role/defending issues | Shaffer (2010) |
| Empirical | Statistical evidence | Impact on Financial Crisis | Application effects | Pro-cyclicality | Van Schijndel (2010) |
| Theoretical | Literature review | Pro and con arguments on FVA | Application effects | Descriptive results | Brinza (2011) |
| Theoretical | Critical analysis | Impact on Financial Crisis | Accounting issues | No role/defending issues | Prochazka (2011) |
| Empirical | Statistical evidence | Impact on legal capital system | Pros and cons of FVA | Distorted effects | Strampelli (2011) |
| Empirical | Statistical evidence | General impacts of FVA | Application effects | No pro-cyclical effects | Badertscher (2012) |
| Empirical | Descriptive evidence | Accounting impacts of FVA | Application effects | Descriptive results | Benjamin *et al.* (2012) |
| Empirical | Descriptive evidence | Effect of amendments to IAS 39 and IFRS 7 | Accounting issues | No role/Defending issues | Jarolim and Oppinger (2012) |
| Theoretical | Literature review | Impact on Financial Crisis | Application issues | No role/Defending issues | Pinnuck (2012) |
| Theoretical | Descriptive analysis | Effect of SFAF 157 | Fair value measurements | Descriptive results | LaCalamito (2013) |
| Empirical | Statistical evidence | Impact on real economy | Economic impacts | Accelerating role | De Jager (2014) |

### *4. Theoretical and Empirical Studies on Fva's Role in the Financial Crisis*

In the last few years, after the Financial Crisis started, the interest of academic literature and professional journals in the consequences of FVA increased. The introduction of FVA generated significant commentaries even if there is no consensus on its influence during the Financial Crisis in the conclusions drawn from the different studies. The dispute over the role played by FVA is still an important topic not only for academic researchers, but also in the financial press and on politicians' agendas. The study of FVA has became highly topical because its application especially during the recent Financial Crisis has received more negative comments than positive feedback. FVA is perceived to have contributed to the severity of the 2007 Financial Crisis and significant remarks could really be seen as a blame assignment.

There have been a number of allegations about the suggestion that FVA was to blame for exacerbating the credit crunch and that mark-to-market accounting aided to undermine markets for illiquid assets. In the last few years, the debate on FVA especially in the academic literature has been further intensified by the extensive but so far inconclusive dispute over the positive and negative effects to be expected. The mentioned literature comprises a series of different analysis, highlighting both positive and negative aspects. Some papers defended the concept of Fair Value and its application within the Financial Crisis; others reveal criticism towards FVA and its role in such a context. In fact there are two opposing viewpoints in the existing literature about the influence of FVA during the Financial Crisis. According to the Fair Value's opponents there is no doubt that the application of FVA has exacerbated the crisis. On the contrary, Fair Value's proponents consider that this accounting regime played no direct role in the mentioned period. Empirical evidence to solve this debate is only beginning to come out. As the extant literature overview shows, Fair Value is a key topic on which the already vast and still growing accounting research literature brought its contribution (Glavan, 2010). There is a wide amount of literature relating to both general implications and specific measurement issues of Fair Value in the financial reporting but the role of FVA in causing the Financial Crisis has not been researched extensively.

From the literature review, it appears that the amount of studies expressly focused on the role of FVA in the Financial Crisis are very limited in comparison with those concerning FVA's general accounting issues. Even considering a limited number of publications as we did in our study, we shall make an incursion into the specialized literature, trying to find some answers regarding the advantages and disadvantages of application of FVA and the implications of its features in the Financial Crisis. Although a lot of selected journals have no paper in this particular research topic in the considered period, researchers approaching FVA and the Financial Crisis still seem to raise the highest interest. From the selected sources, this study ended up some papers that directly deal with the role of FVA in the Financial Crisis both with a theoretical and empirical approach. The topic is favorable for both methodological view since Financial Crisis provides sufficient data for empirical researches while all conceptual issues relating to FVA are best appreciated in the theoretical analysis. Both approaches are of a great value and provide us with important insight into the nature of the influence of FVA on the Financial Crisis. What follows is a summary of theoretical and empirical evidence, accompanied by a review of the argument from both sides of the mentioned debate. From the literature analysis, it first emerges that the empirical studies are less than those theoretical. Theoretical studies regarding Fair Value were developed in the accounting research literature even before the 2007 Financial Crisis, but only afterwards they started to be followed by a series of empirical and conceptual studies exploring links between FVA and the credit crunch during the crisis years. As mentioned above, most of the studies are theoretical and they mainly have searched for arguments based on accounting theory to explain strengths and weaknesses of FVA in general and in crisis times specifically. As well, the crisis periods stimulated added accounting research focused on pro-cyclicality problems. The upcoming debate surrounding Fair Value and the economic crisis has led researchers and regulatory institutions to form advices about a potential for pro-cyclicality of FVA. The renewed interest in the field of accounting and financial reporting, combined with a growing attention for the possible links between the use of Fair Value measurement in financial reporting and the Financial Crisis have generated a significant increase in the number of theoretical and empirical studies on this subject. Anyway, it appears that there is a restricted amount of studies that adopt an empirical approach and some of these are mainly dedicated to scrutinize the influence of Fair Value measurement on the companies' financial reporting using empirical data from their financial statements. Very few studies tested whether a potential for pro-cyclicality of FVA exists and ever fewer evaluate the extent of FVA's possible effect on deepening the Financial Crisis.

The theoretical stream of literature is largely dedicated to provide an analytical conceptual assessment of pro-cyclicality of FVA and to investigate where FVA possibly led to increased volatility and a negative amplification of business cycles during the Financial Crisis (Laux and Leux, 2009, 2010; Magnan, 2009; Banca d'Italia, 2009; Carosio, 2008; Menicucci, 2009). Some papers (Magnan, 2009; Financial Stability Forum (FSF), 2009) concludes that FVA implies valuations that incorporate pro-cyclicality because they are more perceptive to economic lifecycles. Furthermore, according to these conceptual studies the pro-cyclical effect of FVA created incentives for management to engage risk-full investments and would have produced a distorted sight for investors, because unrealized gains especially of financial products were recognized and not sufficiently corrected downwards for risk factors.

There have been several other theoretical papers focused on theorizing what impacts FVA might have on financial reporting. Already before the 2007 Financial Crisis, Barth (1994, 2004) found that a mixed-measurement accounting system (in which not all assets and liabilities are valued at Fair Value) could have amplified negative growth thus accompanied a pro-cyclical effect and caused an increase of volatility in earnings with the use of FVA in comparison to historical cost accounting. Depending on the applied distribution of Fair Value and historical cost valuations of assets and liabilities, a mixed-measurement accounting system may accompany a pro-cyclical effect. Within this stream of conceptual literature, few other studies (Ryan, 2008; Financial Crisis Advisory Group (FCAG), 2009) generally conducted a research about the impact of Accounting Standards on the current Financial Crisis and analyzed particularly certain Accounting Standards mostly related to FVA and its pro-cyclical consequences.

Within the empirical literature, the majority of the papers investigated pro-cyclical effects arising from FVA's implementation. In response to the upcoming debate concerning FVA in relation to the Financial Crisis, most of the studies (SEC, 2008; IMF, 2008; Bout *et al.*, 2010; Chouinard and Youngman, 2008; Bowen *et al.*, 2009; Van Schijndel, 2010) investigated empirically the potential pro-cyclical effects of FVA during a crisis period and how much financial institutions valued their assets and liabilities at Fair Value or historical costs.

For example, the empirical researches conducted by SEC (2008) and IMF (2008) based on empirical data collected from a sample of financial institutions whereas it was unable to find any available research that provided large empirical evidence on a possible pro-cyclical attribute of FVA. In response to the upcoming debate concerning FVA in relation to the Financial Crisis, the SEC examined the pro-cyclicality of FVA and concluded that it didn't play a significant role in causing the Financial Crisis. Similarly the work by the IMF (2008) highlights the pro-cyclical impact of FVA on the capital ratios of banks, and identifies measures that could mitigate it. The authors demonstrate pro-cyclicality by simulating bank balance sheets over the business cycle under different accounting regime and they found that the pro-cyclicality is amplified when financial instruments are measured at Fair Value. As a result, the IMF (2008) argued that not FVA itself, but risk management and investment decision rules using Fair Values caused the pro-cyclicality of economic lifecycle. In another empirical research Bout *et al.* (2010) studied the potential pro-cyclicality of FVA and they concluded that FVA accompanied only a minimal pro-cyclical effect on the investigated financial institutions' balance sheets and income statements.

In the following paragraphs, this literature review will attempt to systematize theoretical and empirical studies regarding critics and defending assertions about FVA, both in normal and crisis times. In fact, the Financial Crisis has exacerbated the debate further between positions adopted by some participants in favor and against FVA.

## *5. Criticisms against FVA*

Despite some accounting professionals, Standard Setters and Regulators decline the concerns regarding pro-cyclicality of FVA (SEC, 2008; IMF, 2008; FCAG, 2009), a number of researchers have started to examine the matter and to acknowledge potential pro-cyclical effects Fair Value could have on firms' balance sheets and on the financial system in general and especially during a crisis period. In this respect, any responsibility attributed to FVA during the Financial Crisis could arise either from problems with the accounting model itself or from its implementation in such a context and these themes were explored within the 2007 market turmoil, whereas the impact of FVA differs from normal conditions. A number of both academic and non-academic studies argued that FVA exacerbated the Financial Crisis (The Economist, 2008) and aggravated it, undermining equity positions of financial institutions. For example, Van Schijndel (2010) empirically investigated the pro-cyclical effects of FVA on net income and on equity of a sample of European financial institutions and from the results it is argued that FVA has introduced pro-cyclicality into the financial statements of these financial institutions.

The opponents of FVA assert that financial reporting based on Fair Value measurement has accelerated the Financial Crisis and significantly worsened its impact on companies. Fair Value is facing the criticism especially from the banking sector. Bankers believe that in a downturn FVA forces to recognize losses and to trigger fire sales of assets, which in turn drives prices and valuations down even more. For example, according to the President of the American Bankers Association (2008): "The problems that exist in today's financial markets can be traced to many different factors. One key factor that is recognized as having exacerbated these problems is FVA". In particular, some critics mainly led by banks and financial industry stakeholders (American Bankers Association, 2009) have also established that FVA for financial instruments in banks' balance sheets, first contributed to excessive credit expansion (Wallison 2008; Whalen, 2008). In the search for the "guilty" of the Financial Crisis, some political and industry commentators have blamed FVA too. A frequent claim is that it contributes to excessive leverage in boom markets and similarity overstated write-downs of assets during a bust. Furthermore critics move forward the belief that banks are forced to sell distressed securities at fire-sale prices, leading to a downward spiral that hurts banks and investors.

Other discussions concerning FVA and its pro-cyclicality have been published by IMF (2008), FSF (2009), Carosio (2008) and Banca d'Italia (2009). They argue that Fair Value can increase income volatility, undermine public confidence and adversely affect economic stability. These and other studies (Plantin, 2008b; Matherat, 2008) also state that measuring financial instruments using Fair Value may have unplanned consequences such as amplifying economic cycles as FVA could bring additional volatility into financial reports, and hence into financial markets. Fair Value based earnings are more volatile than historical cost earnings. Still another argument against FVA is the induced volatility of earnings, because some believe that this volatility may not be correlated to management's performance and this would make more difficult for users to predict future performance. Overall FVA information is highly volatile and sensitive to market prices so that it can enhance or distort investor's insight of values during market bubbles.

In particular, remarks against FVA are related to pro-cyclical effects inducing artificial volatility in illiquid financial markets on balance sheets of banks (Plantin *et al.*, 2008a; European Central Bank (ECB), 2004; Menicucci, 2010). The idea on which the allegations are based is that the market process could be distorted in some way, which resulted in financial institutions taking needless write-downs based on depressed market prices for the moment. Even in an efficient market, prices of financial securities can deviate from their fundamental values due to a liquidity crunch. Although this "artificial" volatility is supposed to be a consequence of the adoption of FVA, bad credit grant decisions and weak risk-management concerning regulatory capital requirements are considered the certain cause of the crisis by a few of studies (IMF, 2008; SEC, 2008). In response to the upcoming debate concerning FVA in relation to the Financial Crisis, the SEC has examined the pro-cyclicality of FVA and suggested that especially banks' income statements were negatively influenced through the use of FVA which therefore can incorporate pro-cyclicality. The Fair Value is pro-cyclical in the sense that it speeds up the market decrease by encouraging sales in order to fulfill the conditions.

From the category of studies that do not encourage the use of Fair Value, the opponents of it argue that it is less verifiable by investors because its measurements are subject to greater estimation error and manipulation by management. There have been two main arguments as to why this exacerbated the Financial Crisis. First, for financial institutions, distorted Fair Values of financial instruments in balance sheets contributed to a perception by the market of uncertainty about the banks' value. The second main argument is based on a link between accounting and bank capital regulation, which can increase contagion, resulting in further price falls and destabilization of the financial markets. The financial crisis has demonstrated that FVA can affect the relevance of accounting information and also companies' assets integrity affecting the legal capital system (Strampelli, 2011).
Besides these main concepts, a few studies (SEC, 2008; FSF, 2009; IMF, 2008) have proposed some further remarks indirectly related to pro-cyclicality. As Barth (2004) just stated, all these studies underline that regulatory capital requirements, in combination with FVA, amplifies negative growth in illiquid markets. Banks' regulatory capital requirements are more frequently violated under FVA than under historical cost accounting, especially during a Financial Crisis, where financial institutions are forced to sell assets in distressed markets because of regulatory capital requirements. The criticism led by practitioners and bank and insurance Regulators has been followed up by some academic studies (Whalen, 2008; Plantin *et al.*, 2008a; Bignon *et al.*, 2009; Wallison, 2008).

For some authors (Plantin *et al.*, 2008a; Wallison, 2008) it is obvious that FVA accelerated the recent turmoil, inducing pro-cyclicality and contributing to favor the vicious circle of asset fire sales during the Financial Crisis. Also several reputed economists have argued that FVA overstates the intrinsic pro-cyclicality of the financial system, leading to larger booms and more dangerous busts. For example Allen and Carletti (2008) and Plantin *et al.* (2008a) compare FVA to historical cost accounting and examine their implications for capital markets. They highlight the possibility that decreasing prices cause forced sales, which depress prices even further, leading to downward liquidity spirals in asset prices. In particular, Allen and Carletti (2008) emphasize that when markets are illiquid, FVA may cause unnecessary bank insolvencies and contagion through distorted market prices.
Within the criticism against FVA, we also must mention the one made by Wallison (2008) who argues that FVA has been the principal cause of an unprecedented rise in instability among financial institutions and the bad economic crisis in the United States. Moreover, the author believes that FVA is highly pro-cyclical and should be abandoned or at least significantly modified. The same remark on pro-cyclical feature of FVA and the necessity to change the mark-to-market accounting based on Fair Value especially for the financial institutions was expressed by other supporting views from academics who believed that FVA could potentially lead to a breakdown of the entire banking system. In particular, according to Magnan (2009) FVA may have amplified the Financial Crisis and accentuates the disconnect between financial reporting and business reality. Moreover he concluded that FVA may have contributed to a failure contagion effect among financial institutions and may have been considered a contributor to the crisis more than just a messenger of it. On the basis of other empirical findings, the model proposed by De Jager (2014) shows that FVA in banks is an accelerator that amplifies the financial cycle upswing and causes changes in the demand for financial instruments and changes in demand in the real economy.

## 6. Evidence Defending FVA

A number of papers have investigated FVA in normal economic conditions and some empirical evidence exist about the increase in value relevance that FVA provides for users of financial statements, in comparison to historical cost accounting (Barth, 2001, 2004; SEC, 2008).

In normal economic conditions Fair Values for assets or liabilities record current market conditions and thus offer timely information, thereby improving transparency and encouraging prompt corrective actions (Barth *et al.*, 2001). From the literature analysis, it first emerges, as noted Plantin *et al.* (2008a), that the use of market prices for preparing accounting reports is beneficial to investors and authorities because it transmits more relevant information on the firm's current risk than the historical cost. This should induce higher market discipline and allow financial statement users to make better capital allocations. On this subjects, a large amount of both academic and non academic studies argue that the use of market prices for preparing accounting reports is beneficial to investors and authorities, as it gives more significant information. From this perspective, proponents of Fair Value, including principal members of the FASB, IASB and SEC, believe that Fair Value is the most relevant measure for financial instruments providing investors with more transparent, timely and accurate information. At the same time supporters of FVA argue that it leads to more efficient markets, while historical cost accounting delays or hides the disclosure of important information and produces inefficient market decisions (Boyer, 2007). Within the stream of literature defending Fair Value there are several important opinions in favor of it. A large number of studies carry out a relevant analysis of the role of FVA in the Financial Crisis and they discuss against arisen special comments on FVA due to its alleged pro-cyclicality.

Brinza (2011) realize a concise and relevant summary literature that deals with pro and con arguments regarding Fair Value in the context of a Financial Crisis. In the opinion of the author the inexistence of active markets doesn't justify the abandonment of Fair value but it asks for the development of valuation methodologies. FVA hasn't generated the Financial Crisis and its renunciation will not solve the problems induced by this crisis. As Véron (2008) stated, a restriction of Fair value not only will reduce the effects of present Financial Crisis, but on the contrary it would risk to make them worse, decreasing the level of trust that investors, and not only them, have in financial situations of financial institutions.

Prochazka (2011) and Bonaci *et al.* (2010) examined the actual debate whether FVA played the role of a messenger or a mover in the financial crunch and they concluded that there are some limitations to FVA but its utilization should not be blamed for the economic and financial downturn because there aren't any solid arguments sustaining the opinions that Fair Value is the cause of the Financial Crisis. In this respect, Boyer (2007) argued that most of the financial crises originate from the pro-cyclicality of risk took by financial institutions and the adoption of FVA by banks would extend this scenario because an extra volatility may be created making credit still more cyclical and increasing banks' financial fragility.

Among proponents of FVA some believe that it did not play a significant role in amplifying the vicious circle. Barth and Landsman (2010) analyzed the role played during the Financial Crisis by the reporting of Fair Values and their conclusion is that FVA had little or no role in the Financial Crisis, in line with other studies such as Ryan (2008), SEC (2008), Laux and Leuz (2010) and Pozen (2009). Similar conclusions supporting FVA during the crisis period are drawn by Véron (2008) who argued that the pro-cyclical effects of FVA do not undermine its relevance for the purposes of investors. The same topic is also undertaken by the study of Andrè *et al.* (2009) whereas they carried out an exhaustive analysis of the role of FVA in the current crisis showing the effort to "*shoot the messenger*" and assessing the consequences noticed by Regulators. They also assert that if FVA had been applied previously, the negative consequences of the crisis would have been reduced (Michael, 2004). Additionally, Jarolim and Oppinger (2012), stated that the Financial Crisis was not caused by an incorrect accounting or inadequate corporate disclosure and the trigger of it can be referable to the large securitization of assets and related risks.

On the basis of these and other theoretical findings, consistent evidence illustrated how Fair Value did not cause investors to purchase speculative derivative contracts or risky investments but rather it served to quickly identify criticalities, giving investors more time to react and more transparent financial data to temper or to shorten the crisis. In fact under FVA all gains and losses are recognized immediately in the financial statements instead of being allocate over the entire life of the asset or liability, thus accounting reports present a more realistic view of the current operations of the company. There is a widespread agreement about the relevance of FVA: historical cost information is based on market value at which assets were initially acquired and liabilities were initially incurred whereas Fair Value is based on current market prices so that changes in Fair Value reflect the effect of changes in market conditions when they take place. In this respect a paper by Chouinard and Youngman (2008) highlights that FVA has the potential to amplify economic cycles, both on the upside and on the downside.

When markets are illiquid it is difficult to obtain reliable estimates of market value and FVA can cause financial statements to paint a picture that does not represent the underlying economic fundamentals of a firm. Nevertheless, according to these authors, FVA remains a superior method than the alternatives.

Another important issue which came up during the debate was how FVA prevents the dubious practices of managers in hiding the consequences of their actions from the sight of investors. FVA is considered an opportunity to do away with the profit-smoothing manipulation which was possible within the use of historical cost accounting (Plantin, 2008b; Brinza, 2011; Véron, 2008). In that sense, also Rummell (2008) pointed out that critics had confused the cause and the consequences and, as other supporters of FVA, the author states that FVA is just a messenger, which report information on what has actually happened. A different point of view is held by other authors. For instance, Bischof (2010) shows that the suspension of Fair Value measurement leads to a significant increase in information asymmetry, and he supports claims that FVA for financial assets provides useful information for capital markets. Moreover the study seems to attest that a direct relaxation of capital requirements may have been a more appropriate regulatory measure to address the consequences of the financial crisis rather than a relaxation of FVA. Similarly the empirical evidence of Bowen *et al.* (2009) suggests that FVA data may provide timely and informative disclosure about the banks' financial soundness. Results are consistent with opposing views related to relaxing FVA and show modest evidence that banks benefiting from relaxing FVA are less susceptible to pro-cyclicality contagion during a Financial Crisis.

Basically, another significant aspect underlined by specialized literature is that Fair Value must be correctly interpreted. For example, the FCAG (2009) considered that a possible pro-cyclicality does not exist, even if some failings and weaknesses in Standards relating to FVA cannot be denied. In another research (IMF, 2008), the pro-cyclical effect of FVA is tested with the use of simulations based on empirical data collected from U.S. and European banks. The IMF underlined that FVA is the most used valuation method for financial assets and liabilities. The empirical analysis showed that management's risk investment decisions based on Fair Value could magnify economic cycles both in times of economic growth and economic downturn, thus creating a pro-cyclical effect. Overstated profits in good times produce mistaken incentives; on the contrary, valuation in downturns may conduct to excessively rigid credit conditions, affecting negatively the growth when credit expansion would be better. While these studies have all found FVA of financial securities to be incrementally informative, there have been other studies in specific contexts that have found no evidence (Barth and Landsaman, 2010).

Other empirical studies investigated the relationship between FVA and pro-cyclicality and some checked that spirals of fire sales or widespread contagion during the Financial crisis didn't occur as a direct consequence of FVA. For example, Badertscher *et al.* (2012) and Shaffer (2010) found no evidence of pro-cyclical behavior. They argued that the impact of unrealized Fair Value write-downs on regulatory capital is minimal and there is modest evidence of any corresponding selling behavior implying pro-cyclical effects. Specifically, Badertscher *et al.* (2012) investigated whether FVA encourages pro-cyclicality by using a sample of bank holding companies and verified no evidence of banks' fire-sale of assets during the Financial Crisis. As a result, these authors concluded that FVA does not contribute to pro-cyclicality. Also the analysis conducted by Shaffer (2010) suggests that FVA didn't trigger the Financial Crisis. According to this study, there are no evidence to claim that FVA promotes banks to sell assets at distressed prices and causes a pro-cyclical effect accelerating the decrease in investment asset prices.

Regarding the assumed pro-cyclicality of FVA, also Barth and Landsman (2010) consider unlikely that it added to the severity of the 2007 Financial Crisis in a major way. They believe that the claim that FVA aggravated the crisis is largely unfounded because it can be relevant only to those banks' assets that are measured at Fair Value or for which Fair Value applies when determining impairment. The majority of bank holding companies' assets are not carried at Fair Value on the balance sheet and moreover, when FVA is applied, its model differs from pure mark to market accounting. As well the studies of Laux and Leuz (2010) and Shaffer (2010) provide evidence supporting the view of Barth and Landsman (2010) in this respect. According to the comprehensive study by Laux and Leuz (2010), in fact, the possible downward spirals of fire sales are not the consequence of FVA and there is little support to believe that FVA leads to excessive write-downs of banks' assets. Finally, IMF (2008) found that the application of FVA makes more transparent the effects of economic volatility on balance sheets but, under certain risk management frameworks, FVA could exacerbate cyclical movements in asset and liability values. Nevertheless, despite concerns about pro-cyclicality, volatility and measurement difficulties, FVA can provide a measure that best reflects the current financial condition of a financial institution.

### *7. Concluding Remarks*

During the crisis period, academic and non-academic efforts concentrated on theoretical and empirical research concerning the role played by FVA in propagating the financial turmoil. The conclusions diverged and the findings of these studies highlight critical issues that need further guidance and clarifications about the adoption of Fair Value. For some authors it is obvious that FVA accelerated the Financial Crisis, inducing pro-cyclicality and contributing to close the vicious circle of asset fire sales. The opposing opinion is that FVA did not play this significant role, because in practice bad credit grant decisions and weak risk management seem to be the cause of the Financial Crisis. In fact, despite some acknowledged weaknesses, FVA still receives wide support from Standard Setters, accounting profession and financial institutions (FSF 2009, IMF, 2008; Ryan, 2008; SEC, 2008) and the overall consensus is that pro-cyclical features of FVA cannot be considered the principal cause of an unprecedented instability of the financial system. Hence, the purpose of this study is to outline, classify and interpret the extant prior researches on the role of FVA in the Financial Crisis, in order to offer a synthesis of the current status of the literature and a solid critical support for further researches.

From the analyzed studies, it first emerges that the role of FVA in causing the Financial Crisis has not been researched extensively. From the literature review, it appears that studies expressly focused on the role of FVA in the Financial Crisis are very limited in comparison with those concerning FVA's general accounting issues. Nevertheless, papers dedicated to the role of Fair Value in the Financial Crisis are very few and there is a wide amount of literature relating to both general implications and specific measurement issues of Fair Value on financial reporting. Most of the studies are theoretical and the review also reveals that there has been only a limited extent of empirical researches into the stewardship function of Fair Value during the Financial Crisis. However, this does not imply that the role of FVA is negligible but it remains uncertain whether the alleged pro-cyclical effects of FVA could have played a role in aggravating the Financial Crisis. Some prior studies seem to be still unable to find any statistical available research that provides empirical findings on a possible pro-cyclical effect on FVA. The review of the existing literature finds out that there is no vast evidence that FVA improved the severity of the Financial Crisis (Pinnuck, 2012) and actually there are very few studies that adopt an empirical approach. Thus, further research is required to determine if FVA exacerbated the crisis period and clearly additional efforts are necessary to exactly judge the role of FVA during the Financial Crisis (Glavan, 2010).

Anyway, some general observations emerge from the literature review. Based on our analysis of the evidence in the literature, there are very little reasons to believe that FVA is one of the major aggressors of Financial Crisis as many commentators point to. The critique of FVA, which emerged as reaction of financial crunch, is in some extent legitimate. However, the opponents do not offer any practical alternative. At present FVA more than ever to be blamed rather must be correctly interpreted. Even if weaknesses in the Fair Value model may introduce unintended volatility and pro-cyclicality, it is still the preferred accounting approach for financial institutions. In other words, the Fair Value approach has the role to increase a company's transparency if it used properly. Therefore, the general conclusion in normal times, when markets are liquid and efficient, is that FVA is sufficiently reliable and relevant to be reflected in corporate valuations and can be considered to be beneficial to users in their decision-making in efficiently-operating markets. If refers to current market value, FVA provides more timely and transparent information to investors for assessment of financial position and performance of entities. The role of FVA within the Financial Crisis is just to capture and to report the changes appeared in the market prices; so if market prices suffer from economic downturn, FVA just portrays the reality.

Another important aspect suggested by dedicated literature is that such a serious crisis is not caused by a single concerned determinant, but implies the failure of the entire financial system to estimate the real risk connected to the fast growth of structured risks of mortgages. From the literature analysis it's possible to conclude that FVA played little or no role in the Financial Crisis and it cannot be considered the guilty, but only a messenger of it. FVA provides useful information during stable market conditions, but its usefulness may become uncertain during financial markets' turmoil (Joggi *et al*., 2010).This conclusion is in contrast to the view proposed by a number of critics of Fair Value but it is consistent with other scholarly analyses according to which the claim that FVA exacerbated the crisis is largely unfounded (Ryan, 2008; Shaffer, 2010; Laux and Leuz, 2010). However, our suggestions have to be interpreted carefully because it should be need more research to understand the real effects of FVA in booms and busts. The significant issue is that the prerequisite of Fair Value measurement has changed during the Financial Crisis because an active trading market didn't exist.

FVA loses many of its attractive properties when prices from active markets are no longer available and hence models have to be used, which in turn could be very difficult to determine and to verify Fair Values. Despite some disadvantages just mentioned above, Fair Value remains the best available accounting model for reporting certain items in financial statements and it is surely possible that FVA and the conditions of its implementation could be further improved.

The responsibility of FVA in causing the Financial Crisis has not been researched extensively and few existing studies consist of a literature review that examines theoretical and empirical researches on the influence of FVA on the financial system. The main contribution this paper makes, is related to further understanding role and effects of accounting matters concerning Fair Value within the context of the Financial Crisis. This study identifies and systematizes useful references for further directions future research could take so that the result is a useful bringing of Fair Value into the spotlight of the Financial Crisis. From these considerations, this literature review is both timely and relevant for the consolidation of knowledge and the growth of research in this area.

Thus, a possible research agenda could be proposed as follows:

- there is the need for a more thorough analysis of effects of Fair Value's application within the Financial Crisis in order to understand how the accounting implications should be managed during a turmoil period;
- as the effects of FVA's application during the Financial Crisis are little empirically tested, future investigations can be focused on more empirical analyses which have not only theoretical but also practical relevance;
- defending issues in favor of Fair Value don't mean this concept is a perfect one but additional efforts are needed to accurately determine a series of amendments that will be realized in the future;
- a further and in-depth examination of specific accounting characteristics of Fair Value appears to be of interest for research or professional purposes since Fair Value provides more transparent information to investors and it imposes the banks to recognize the existence of some real troubles earlier, making possible to take measures and giving them solutions. A knowledge of these issues would also help Standard Setters to devise improved accounting regulation.

This paper can be of great importance for both researchers and practitioners interested in analyzing the relationship between FVA and Financial Crisis because it suggests essential insights for additional research discussing critically whether FVA incorporates pro-cyclicality. In particular this study offer a concise summary of the current research literature in the mentioned topic and it offers some conclusions for developing future studies of theoretical and practical relevance. Moreover the main contribution this paper makes relate to further understanding role and effects of accounting matters concerning Fair Value in a broad sense within the context of the Financial Crisis. The reduced amount of literature that directly deals with FVA in the context of the Financial Crisis is the main limitation of this paper. The specificity of the debate surrounding FVA and the Financial Crisis narrows the coverage. However, the adopted research methodology has allowed us to collect enough papers focused on the role of FVA in Financial Crisis in order to offer a synthetically and comprehensive portrait of this matter under investigation.

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