REVISITING FAIR VALUE ACCOUNTING AS A MAGNIFIER OF FINANCIAL CRISES

Vule Mizdraković,
Nemanja Stanišić

Singidunum University,
Belgrade, Serbia

Abstract:

In an earlier paper titled 'Mark-to-market accounting as a magnifier of financial crises', we advocated that fair value or mark-to-market accounting magnifies financial crises by creating a feedback loop between figures from financial reports and financial markets. We proposed a simple method for assessing how overpriced the US stock market is, which included a comparison between fixed base indexes of the S&P 500 and nominal US GDP. In this paper, we reiterate the role that fair value accounting is expected to play in both the creating and bursting of financial bubbles, putting it in the context of theories of 'reflexivity' and 'almost self-fulfilling equilibria'. We reassess the level of the US stock market, showing that a substantial stock market bubble (the third in the last two decades) has been formed recently and that significant market corrections may happen in 2016.

Key words:

mark to market, reflexivity, equilibrium, financial bubble.

1. INTRODUCTION

An increasing number of recent accounting regulations (both International Financial Reporting Standards - IFRS and Generally Accepted Accounting Principles - GAAP) regarding the further implementation of fair value in financial reporting practices, might lead us to the conclusion that fair value accounting is a novel approach in assets/obligations valuation. However, fair value accounting has been around for quite some time, though it has expanded greatly over the last three decades. There are some indications that it had already been in use in 1910; it had been used through the 1920s and was abandoned approximately from 1934 to the 1970s (Fabricant, 1936; Stanisic *et al.*, 2012; Ramanna, 2013). It seems that at that time, implementation of fair value accounting had not been obligatory, and it did not have any legal introduction in financial reporting practices. According to Herrmann, Thomas and Saudagaran (2005), the newly established Securities Exchange Commission (SEC) considered fair value to be too soft as a measure to be used in practice. After 1940, fair value has been unofficially banned. The end of the Great Depression, its devastating effects and the termination of fair value accounting from official financial reporting practices might be just a coincidence. However, in our paper titled 'Mark to market accounting as a magnifier of financial

Correspondence:

Vule Mizdraković

e-mail:
vmizdrakovic@singidunum.ac.rs

crises', we have argued why that might not be the case. It is quite clear that we had a relatively peaceful period from the 1940s to the mid-1970s, without frequent financial crises. Incidentally/accidentally, that is the period in which the historic cost model of valuation was the only valuation option in the official financial reporting practice. The most probable reason why the fair value concept was revived once again is the idea that financial markets are efficient and their prevailing prices are reliable measures of value (Ramanna, 2013). Though, we will offer some other explanations in this paper. Up until now, the world economy has faced several financial crises, each one being stronger than the one before. It seems that there is yet another financial bubble on the US financial market ready to burst. Therefore, the main question is as follows: How is fair value causing all this trouble in financial markets? We will try to answer this question by analysing the principles of fallibility and reflexivity, defined by George Soros, in the context of fair value accounting. That will be the following part of this paper. The second one will refer to the divergence between basic accounting principles and fair value concept, with the possible explanation of the reasons why the standard setters have been astray from the common accounting sense when they reintroduced the fair value accounting. In the final part, we will present the results of the reassessment of the US stock market level, showing that yet another market bubble has been recently formed and that a significant market self-correction may take place during 2016.

2. THE THEORY OF FALLIBILITY, REFLEXIVITY AND HUMAN UNCERTAINTY AND FAIR VALUE ACCOUNTING

In his first published book titled *The Alchemy of Finance*, George Soros replaced the principles of rational expectations and efficient markets with the principles of fallibility and reflexivity (Soros, 1983). Those principles will serve as a basis for the explanation of how fair value magnifies the effects of a financial crisis and creates market volatility. The foremost principle refers to the human perception of the facts related to some event and his/hers perspective as a result. In the case of natural phenomena, the facts are, in most cases, observable, so there is no active function of the observer. For example, in determining how many lightning strikes occurred in a storm, the observer's opinion does not change the outcome of the experiment. On the other hand, in the social sciences, the observer's knowledge, opinion and perspective affect the results of the experiment. We believe that the same goes

for fair value estimation. For example, let us consider the valuation of a remote gas station[1]. An accountant/valuer plays both passive and active roles in the process of valuation. He/she will observe the market, take into consideration a very few facts and use his/her perception to estimate the fair value of the gas station. However, that is not the end of the process; the estimated value will enter the financial statements of that firm, and if not estimated correctly, it will cause further complications. If we presume that the firm is a subsidiary of another entity, the estimated value will have an effect on its financial statements, as well. It is important to realise that the price at which the gas station has been acquired is a fact, but estimated fair value is not a fact, it is the result of the cognitive and manipulative functions of the accountant/valuer. We will try to faithfully explain these terms, but we strongly suggest reading the above-mentioned book.

First of all, let us define where the equilibrium in fair value estimation lies. The price of a new asset can be defined as the equilibrium between the costs of production and the value to the buyer (Hulten & Wykoff, 1981). Apparently, it is difficult to obtain this equilibrium, but the price of the used asset is even harder to determine. That process includes the estimation of the present value of the asset by the seller and the estimated value for the buyer. Therefore, equilibrium is a moving target, since the opinions and perceptions of the seller and the buyer constantly change. Also, their actions will determine the final result. Clearly, valuation is a very complex and dynamic process because the participants interact with each other and the environment interacts with them, as well. This economic model is a feedback system of expectations, which maps individual beliefs into actions and market realizations, which in turn shape new market expectations (Hommes, 2013). The previous author claims that realized market price p_t depends on the individual forecasts $p_{j,t+1}^e$ for tomorrow of all participants:

$$p_t = F(p_{1,t+1}^e, \ p_{2,t+1}^e, \cdots p_{H,t+1}^e) \qquad (1)$$

The outcome of the valuation process will be affected by the knowledge, expertise and experience of the accountant. There is no such thing as perfect knowledge in the social sciences, and the definition of market value[2]

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1   International accounting standards do not proscribe that fair value estimation by a professional valuer is mandatory. Therefore, estimation for financial reporting purposes can be performed by an accountant.

2   Both the IFRS (International Financial Reporting Standards) and the IVS (International Valuation Standards) consider market value as a close equivalent to fair value. International Financial Reporting Standard 13 – Fair value measurement, does not even include the previous requirement in the definition of fair value.

supports that:

…the estimated amount for which a property should exchange on the date of valuation between a willing buyer and a willing seller in an arms-length transaction after proper marketing wherein the parties had each acted knowledgeably, prudently, and without compulsion (International Valuation Standards Committee, 2003).

Among other assumptions (willing, arms-length transaction, proper marketing, prudent and compulsion) that lead to the estimation of the fair value amount and not its determination, the key word is knowledgeable. International Valuation Standard 1 – Market Value Basis of Valuation considers the knowledgeable seller or buyer as the one who is reasonably informed about the property. Therefore, because of the absence of perfect knowledge, we cannot consider fair value as a fact. There are very few facts that the accountant can provide in the process of valuation; all other information he/she uses is based on his/her estimates and perception. We will name a few: current condition; physical, functional and economic obsolescence; the remaining age; residual value; adequate comparables; gross and net operating income; vacancy; capitalisation rate, *etc*. On the other hand, the structure of a human brain is very susceptible to fallibility because our consciousness can process only seven to eight subjects simultaneously (Soros, 2013).

Furthermore, before performing a valuation, the accountant will have to determine if the property is in its highest and best use (HABU). HABU is the fundamental premise in obtaining the fair value. It is defined as 'the most probable use of a property, which has to be physically possible, appropriately justified, legally permissible, financially feasible and which results in the highest value of the property being valued' (International Valuation Standards Committee, 2003). In some cases, this is a major assumption, which depends on the opinion of the valuer/accountant and his/her knowledge in the field of accounting, finance and law. Knowledge can be represented by true statements, which are based on facts. Price can be a fact, but estimation is not a fact: it is susceptible to our opinions and perception. Therefore, we can conclude that the valuer/accountant suffers from fallibility.

The process of fair value estimation might be comprehended as the cognitive function of a valuer. That is his/her attempt to understand, and most of all, to measure the value of the asset/obligation. This can be perceived as a passive function. The previous process is yet another attempt of social scientists to invent some kind of fixed relation between a participant's thinking and the actual course of events (Soros, 2013). But, there is also a manipulative function. According to Soros, if the observer plays an active role in observing the phenomena, according to his/her interests, than he/she is influencing the final result of the process. That is what an accountant/valuer does when estimating the fair value of a gas station. He/she is influencing the market by estimating the value; his estimations and perception will be used as a fact in other valuations or as an exact value of the asset in financial statements, and the circle of fallibility begins. This is called the principle of reflexivity. The truth is that in the process of valuation, we only have dependent variables, but we are pretending that some of them are independent. As an example, a valuer uses comparable properties and their offered prices and makes corrections: usually lowering the value of the property being sold by using his/her perception of how much the owner will lower the value of the property. By doing so, the independent variable of one function is the dependent variable of the other; thus implying a circular relationship (the shoelaces theory). Even if the accountant/valuer does use contractual prices, he/she still makes the corrections needed in order to level the quality, age, location and other characteristics of properties. By doing that, the contractual prices as facts no longer serve as independent variables in the process of valuation. The interests of a valuer in the process surely exist, to some extent, whether he/she wants to admit it or not. Therefore, the valuer performs a manipulative function besides the cognitive function.

There is also a problem of uncertainty. We can divide reality into its objective and subjective sides, where thinking and perceptions belong to subjective reality. It is very hard to predict human reactions and responses to incentives; therefore, there is a high uncertainty of how a person will react. Human uncertainty exists in both functions, cognitive and manipulative. It is very important to notice that in the case of valuation, there are multiple participants who interact with each other and the system in which they operate. The reactions of buyers and sellers regarding the property being sold, or in any other market, are truly hard to predict. Therefore, a reflexive system exists. The necessary conditions of this system are defined by Beinhocker, and we will only name them here: environment, agent, goal (interest), cognitive and manipulative function, complexity and internal model (Beinhocker, 2013). The last condition requires further elaboration; to that end, we shall cite the author…: 'If I perceive state A (cognitive function) and take action X (manipulative function) then state B

will result, bringing me closer to (or further from) my goal G' (Beinhocker, 2013). This decision model updates itself in response to interactions between participants and their environment, which creates feedback between the perception of the environment and the participants' internal decision model.

We would like to finish this analogy of the theory of fallibility, reflexivity and human uncertainty and fair value accounting by adding that the implementation of fair value might create positive and negative feedback loops. Positive loops drive participants' views further away from reality. Only a small incentive is enough for valuers to perceive the value of the property as being much higher than it actually is. The negative feedback loops do the opposite: they correct participants' moves, and they do it much faster in comparison to positive ones. The link between the importance of self-reinforcing feedback loops and imperfect knowledge in the financial markets is considered to be Soros's main achievement (Bronk, 2013). Also, positive and negative feedback loops sometimes tend to even make participants' views pessimistic. Positive and negative loops are the basis of the boom and bust process, much like what happened in the 2008 financial crisis. The incentive in that crisis, and the main misconception, was 'easy credit'. The value of collateral (the gas station in our case) was perceived as an independent variable and the availability of credit as dependent, whereas in realty, a reflexive relation exists between the two (Soros, 2013). In the time of welfare, credit becomes cheaper, and real estate values rise; therefore, when the trend picks up, the valuer/accountant feels this as an incentive, which clouds his/her reasoning. That is how the value of the gas station could be inflated if fair value accounting is used for financial statement purposes, or it can be significantly deflated in the period of market contractions or recessions.

3. THE DIVERGENCE BETWEEN BASIC PRINCIPLES AND MAIN GOALS OF ACCOUNTING AND FAIR VALUE MEASUREMENT

Based on the previous section, it can be concluded that fair value is not an objective measure, and most of all, it is not reliable. On the other hand, accounting information has to have certain qualities in order to be used for financial reporting purposes. In this chapter, we will discuss whether fair value fulfils these prerequisites, and after that we will consider the main goals of accounting.

Basic accounting principles and fair value

General purpose financial statements should be prepared with the presumption that the entity will continue its business in the next, at least, twelve months from the end of the reporting period. This is the going concern principle. If the entity will cease to operate or liquidate its business, the statements should not be prepared according to the going concern basis and some other basis will be used. In that case, the value of the assets is estimated under force sale conditions (forced sale values). Let us recall that market value is the amount that can be obtained on a certain date with proper marketing (International Valuation Standards Committee, 2003). This period can vary according to market conditions and the asset characteristics. Therefore, this period is not strictly specified by valuation regulation. But, hypothetically proper marketing usually requires the period of six to twelve months (for liquidation values, the period is even less). On the other hand, the definition of fair value does not even consider proper marketing, and it is probably presumed[3]. The presumption period required by the going concern principle and proper marketing period do not collide. According to Herrmann *et al.* (2005), the predictive value of fair value over historical cost is particularly significant in situations when the entity is no longer a going concern (acquisition or liquidation). Therefore, if we use fair/market value for the estimation of an asset's value, do we violate the principle of going concern and prepare general purpose financial statements under some other basis?

The principle of reliability focuses on the level of neutrality of accounting information. Reliable information is free from error and bias and faithfully represents what it means to represent. Therefore, in order to be reliable, fair value has to be measured objectively without the personal prejudice of the accountant/valuer. That is very hard to achieve in the process of fair value measurement. Whenever personal beliefs are included in the process of measurement, manipulations can appear. By using Benford's Law and digital analysis, it has been found that examined fair values of marketable securities appeared to be manipulated upward, while historical costs of the various assets analysed exhibited no such signs (Jordan *et al.*, 2013). The possible explanation of the previous might be the accounting recognition of such upward revaluation, which is to be recognized as an increase of income. Also, in 2007 and 2008, the asset prices rose significantly,

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3   It is interesting to note that valuers do not have to develop exposure and marketing time when performing valuation for financial reporting purposes.

and the fair value gains on certain securitized assets were recognised as net income, which was used to calculate executive bonuses (Ramanna, 2013). The result of such manipulation will be boosted income. That can have further implications on the financial market, according to the previously explained principle of reflexivity.

The information presented in financial statements should be readily understandable by the users who possess reasonable knowledge of business and economic activities and accounting. The International Accounting Standards Board issued International Financial Reporting Standard 13 – Fair Value Measurement, which explains fair value, sets out a framework for measuring fair value and requires special disclosures about fair value measurements. Clearly, this standard is proof that further clarifications regarding the definition of fair value and its measurement are needed by professional accountants. But, aside from investors, are the other users of financial statements truly aware of the nature and different aspects of fair value?

The accounting information, such as the fair value of our gas station, has to be verifiable. Such information should have the ability to ensure through consensus among measurers that the information represents what it purports to represent. That means that some other valuer or accountant should be able to prove the disclosed value in the repeated process of valuation. Three different accountants will certainly agree on the original cost of the asset, but they will not give the same fair value. As we have already noted, the fair value measurement requires the use of different kinds of presumptions and is dependent on the accountant's/valuer's perception.

Neutrality is the request that accounting information is free from bias intended to acquire a predetermined result. The manipulative function of the accountant/valuer does not permit the neutrality of fair value. Some authors consider that the main disadvantage of historical cost regarding neutrality is that it allows write-downs if fair value is less than book value (in the case of impairment), but historical cost does not allow the same for write-ups (Dietrich *et al.*, 2000; Herrmann *et al.*, 2005). That is actually the sign that historical cost is in accordance with the principle of conservatism.

The accountant should be objective and neutral, as previously noted. However, if he/she faces two acceptable alternatives for reporting an asset, conservatism guides the accountant to choose the alternative that will result in the lower asset amount. An independent valuer aims to estimate the highest achievable amount that can be acquired for the asset being sold. Likewise, by using HABU, as a fundamental basis for fair and market valu-

ation, the result of the process is the highest value of the asset being valued. Therefore, it is arguable whether fair value accounting is in accordance with the principle of conservatism.

Finally, general purpose financial statements should be comparable. Their users should be able to compare business entities from the same industry and analyse their performance, for example. If one entity uses fair value accounting and the other historical cost accounting, both balance sheet and income statement will not be comparable between the analysed entities.

Main accounting goals and fair value

Financial statements should represent what really happened in the previous period of a certain business entity. Standard setters should always have in mind two main goals of accounting. The first goal is the calculation of the financial result and the second one is reporting on the value of the assets, liabilities and equity on the statement day. The financial result is a product of the use of all assets in the business of a certain entity. Since some of the assets lose their value gradually over a certain period of time, the depreciation and amortisation of those assets have to be calculated. The purpose of these values is to distribute the value of the assets used over their lifetime. In that way, we accomplish two main goals of accounting: accurate calculation of financial results, and on the other hand, calculation of the present value of the entity's assets.

The first value is shown on the income statement and the other on the balance sheet, which indicates the present value of the assets used by a certain entity. If we inflate the value of the assets, on the left hand side of balance sheet, we have to increase its right side as well. The increase of the value is the perception of the accountant/valuer: there is no clear source of that value (it is not equity and certainly not obligation). The equity increases if the entity creates value through its business by having positive financial results. That increase of equity is verified because the entity used its assets and created the value that is recognised on the market, *e.g.* a product has been sold or a service has been provided.

On the other hand, the positive results of revaluation are recognised as an increase of the revaluation surplus, which is a part of the entity's equity. That positive revaluation result appears when the fair/ market value of the asset is greater than its book value. We will try to elaborate on the previous statement. In this situation, the entity can sell the revalued asset and gain more value than by us-

ing it. Nevertheless, the entity continues to use that asset (again going concern), probably because it considers that it can gain more value from its use in regular business. That gain in the future will be recognised on the market and in income statement if the entity performs well. Only then, the result will increase the equity, if it is not distributed previously to the owners.

By using the fair value for financial purposes, we are prematurely recognising the results that the entity will earn in the future and prematurely increasing the equity. In that way, we are doubling and magnifying the entity's results. As previously noted, in a time of recession, the pessimistic views of valuers can decrease the value of assets unreasonably. Through asset valuation, accountants/valuers are actually performing business valuation. They are anticipating future transactions and events that will happen in the future (discounted cash flow method). The nature of that process is speculative, and if we add self-interest managerial decisions into the mix, the results of that process are questionable. Therefore, the concept of fair value is in a collision with the purpose of financial statements, which is to present financial transactions that occurred in the previous reporting period.

If we take into consideration the previous arguments, we are wondering: Why did accounting standard setters depart from the main purpose of accounting when they proscribed the valuation methods to be used? That could be due to the fact they were not accountants. Allen and Ramanna (2013) conducted research regarding the effect of the professional and political characteristics of the Financial Accounting Standards Board (FASB) members and SEC representatives on the reliability and relevance of proposed standards. They noticed that FASB members from financial services (investment banking/ investment management) are more likely to propose standards that decrease reliability in favour of relevance, and they tend to propose fair-value methods[4]. Also, it is interesting to note that not until 1993 did the FASB include any financial service veterans. The situation was far different in 2013, when those members constituted more than a quarter of the board (Ramanna, 2013).

We will recall once more that the purpose of accounting is the calculation of financial results and presentation of the value of total assets on the statement date. That information is intended for the general public, rather than some specific user of financial statements. The fair value of the assets is significant information for the investors; as it can help them in making the right decision. However,

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4   Interestingly, the authors did not find any connection between regulators' careers in auditing with reliability and/or relevance (Allen and Ramanna, 2013).

specific requirements of the main stakeholders should not be fulfilled by the general purpose financial statements. Those statements should provide reliable information based on facts, which can be used for estimating future transactions. The accounting information should not be an estimation or speculation itself.

4. THE RELATIONSHIP BETWEEN THE S&P 500 AND GDP

In our paper from 2013 titled 'Mark-to-market accounting as a magnifier of financial crises', we have proposed a simple method for estimation when the US financial market is overpriced. We have assumed that the economy of a country creates the value that is measured by the gross domestic product (GDP) of that country. If business entities within that economy grow, the GDP will grow and *vice versa*. The successful business of those entities should be recognised by their investors, and therefore, the market value of those entities will increase.

We have assumed that business entities' earnings, GDP and the market value of those entities should align in the long-term. However, real life figures shows volatility, which started in 1995, the year in which fair value accounting was fully imposed (Stanisic *et al.*, 2012). Fig. 1 shows the gap between the nominal US GDP and S&P 500 returns in the period 1950–2016.

The two figures almost align until 1995; after that year, the S&P 500 values are extremely volatile. There were three peaks, in April 2000, October 2007 and July 2015. The lowest values in that period occurred in January 2003 and January 2009. It should be noted that the lowest values were recorded right after the year end, when financial statements were published. It is clear that the new bubble has been formed and that we can expect the burst effect as the market self-corrects itself. As we analyse fig. 1, we can recognise all of the phases of the positive and negative feedback loops explained by Soros. It takes time for the momentum to build up; it has one or a few crises when the belief in the misconception fades, but inertia is too strong and the bubble is created. The burst is much faster and much more violent, and the market participants even get pessimistic, which is documented by the decrease of S&P 500 values even lower than GDP in 2009.

5. CONCLUDING REMARKS

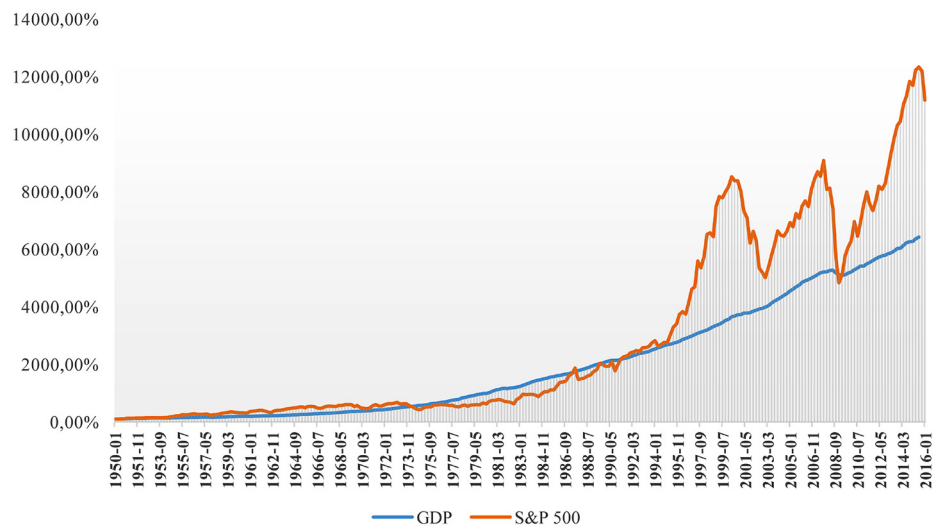In this paper, we made our arguments regarding the implementation of fair value accounting as the basis for

Figure I. The movement of nominal US GDP and S&P 500 from 1950. to 2016.

asset valuation. By using the theory of fallibility, reflexivity and human uncertainty principles, we have explained why fair value is not a reliable, verifiable, objective, neutral and conservative value to be used for financial reporting purposes. However, we do agree that fair value has high relevance power when used for the investment decision-making. On the other hand, that information should be reserved for valuation reports, not financial statements. The effects of fair value accounting implementation on financial markets had been noticed during the Great Depression, but we are witnesses of those effects once again. By using the correlation of nominal GDP and the S&P 500 from 1950 to 2015, we have noticed the creation of yet another asset bubble. We suppose that the burst effect of that bubble will happen during 2016.

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