Fair Value Measurement of Assets and Issue of Capital Maintenance

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Abstract: This paper is focused on the issue of measurement in financial accounting and reporting. One of the most important issues of the last twenty maybe thirty years in the accounting theory and practice is using the fair value measurement. The fair value measurement is strongly orientated to the market environment and this exclusive and one-sided orientation leads in some cases to reporting of unrealized gains. The aim of this paper is to answer whether fair value is in compliance with definitions of asset from conceptual framework to IFRS and whether using of fair value measurements can disrupt the principle of capital maintenance.

Key-Words: —accounting, measurement, impairment, fair value, cost, asset, liability.

1 Introduction
1.1 Aim of the research, research method and research scope
The aim of this paper is to evaluate the relation between fair value measurements and the general, conceptual foundations and principles derived from the conceptual framework of International Financial Reporting Standards. The initial research hypothesis is that the fair value measurement does not in all cases correspond to the definition of assets and using fair value may endanger the capital maintenance in some cases. This paper is based on the deductive analysis of the assets definition, definition of capital maintenance and current approaches to measurement. The analysis will start from current measurement approaches and definitions in the conceptual framework taking into account the expected development of these phenomena.

Measurement problems are especially difficult to solve when the market price of assets is not available and there is no active market. Therefore, the research focuses on the area of non-financial assets for which there are problems with the valuation relevant to this research and most polarized.

1.2 Literature review
Much research dealt with the information potential of measurement and accounting. This can also be explained by the activities developed by the regulatory setting bodies, FASB issued SFAS 157 in late 2006, followed by SFAS 159 in early 2007. IASB issued the Discussion paper Measurement Bases for Financial Accounting-Measurement on Initial Recognition [5] and the Discussion paper Measurement Bases for Financial Accounting-measurement on Initial Recognition and the Discussion paper „Fair Value Measurements Part 1: Invitation to Comment and relevant IFRS guidance“ [6] and a discussion paper on Fair Value Measurements also in late 2006, having the American standard as a source of inspiration, the exposure draft on fair value measurement guidance being on the 2009 agenda.

A lot of discussions about measurement followed. Danbolt and Rees [3] approached the British real estate and investment fund industries as experimental settings in order to show that fair value accounting for their real estate sample is considerably less value relevant than for the investment companies. Ronen [10] and Whittington [12] theoretically analyzed advantages and disadvantages of fair value. Theoretical research has the highest rejection degree of fair value accounting within the general category of studies dealing with the concept of fair value [1]. The general category of studies had a growing tendency for ‘against studies’, but this is also more explained thorough Abacus’ 2008 special issue that stimulated a series of debates at the conceptual level of fair value, coming up with a series of new approaches of the authors that suggested fair value replacement ([2]; [10]; [11] etc.). Ryan [9] directly addresses the financial crisis, and even if he discusses the critical aspects of SFAS 157’s fair value definition and measurement guidance and explains the practical
Difficulties that have arisen in applying this definition and guidance to subprime positions during the crisis, together with raising a potential issue regarding the application of SFAS 159’s fair value option, makes it clear that fair value does not, and moreover could not, represent the root of the current, or any other potential financial crisis. Currently, not only fair value issues are being discussed, but also the use of different measurement bases other than fair value.

E.g. Dean [4] discussed issues concerning the use of exit value, Lennard [7] dealt with entry value, and Macve [8] with deprival value issues. Within the next part of the paper we will focus on the above mentioned measurement approaches and will point out the pros and cons of their use.

2 Problem Formulation
2.1 Measurement bases in conceptual framework - the starting point of the research

The reconstruction of the conceptual framework is taking place at present. The framework was partially amended in 2010 but the section of valuation remained unchanged and the original part of the conceptual framework remained in force. There is a question why the IASB has kept aside even this conceptually important part and why it has given preference to amending other parts of the conceptual framework. The need for articulation of the general bases of valuation is currently very urgent and a fundamental basis for valuation cannot be replaced even by the newly created IFRS 13, because this standard focuses only on the fair value measurement.

The applicable Framework to International Financial Reporting Standards introduces different measurement bases that are used to different degrees and in various combinations in financial statements. These measurement bases are historical cost, current cost, realisable value, present value. Historical costs are based on costs which were paid to acquire assets at the time of their acquisition. Current cost (replacement cost) measurement answers the question: “What would an enterprise pay if the same asset or an equivalent asset was acquired currently?” Realisable value handles the question: “What could an enterprise currently obtain by selling the asset?” Current cost and realisable value are aimed at present conditions on the market. Current cost (replacement cost) expresses the position of a buyer and the realisable value the position of a seller. These measurement bases differ from one another in the transaction costs which were spent by the buyer or the seller. The ground for these measurement bases are the current conditions on the market. Present value answers the question: “What profit will an asset bring in the future?” Assets are carried at the present discounted value of the future net cash inflows that the item is expected to generate in the normal course of business. This measurement basis informs about the future profits from assets and takes account of the money time value.

If we suppose that basis of current cost is its presumptive usefulness for buyers and realisable value for sellers, the expected discounted value of the future net cash inflows from the item in the normal course of business can achieve the current market value. However, the current market value of an asset need not reflect future profits from the asset. Future profits are connected with an individual way of exploitation of an asset in accordance with the intention of business.

2.2 Fair value measurement before IFRS 13

Fair value is not introduced in the framework although it has been used increasingly. So we can ask: “What is the place of the fair value concept in the indicated context?” The fair value concept is used by a number of Standards when measuring particular segments of assets. However, the analytical foundation is missing in the IASB standards, or in their framework. The absence of theoretical explanation brings a lot of questions.

Fair value was firstly defined in 1982 in the then version of IAS 20. The definition was nearly identical with the definition introduced in the glossary of terms of IASB Standards: “Fair value - the amount for which an asset could be exchanged, or a liability settled, between knowledgeable, willing parties in an arm's length transaction.”

Using the fair value concept for measurement at the balance sheet date requires revaluation of individual items of assets and liabilities at the recorded fair value at the balance sheet date. The items measured in fair value reflect the current level of price at the market. This approach to the measurement enables not only impairment (as it was also when applying the concept of historical cost, while respecting the prudence principle), but also increase of the asset value. Revaluation of assets is the basis for measurement of assets at their disposal (for example at their consumption or sale) and in determining the eventual depreciations (for depreciable assets) the following year.

The fair value measurement is not always used consistently. It seems that fair value measurement is
frequently used with no clear theoretical foundations.

Most of the IFRS standards which use the revaluation at fair value deal with the issues of determining fair value in a greater detail. If there is an active market price, the entities shall apply this price, if there is no active market price; fair value is determined on the basis of:

- inactive market prices taking into account any changes in economic conditions,
- current cost of similar assets, taking into account differences,
- discounted future net cash flows,
- particular Standards can introduce other means of fair value determination in accordance with particularity of their area.

Current IFRS do not specify the hierarchy that would determine the order in which the entity should use the estimates unless the active market price of the particular item is known. This issue was the main reason for issuing a new standard IFRS 13 - Fair value measurement, but unfortunately not the motive for revision of the conceptual framework.

2.3 IFRS 13 - Fair value measurement

The aim of IFRS 13 is to explain how to measure fair value. IFRS 13 does not deal with the fact when fair value measurement should be or can be applied. IFRS 13 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). This definition in fact states that fair value should be determined as an exit price, so from the perspective of the seller. This clarification unifies the approaches to fair value determining, but may bring certain risks in some situations. When using the fair value measurement upon initial recognition, it makes sense to base the measurement of non-financial assets on the entry price at an (if possible) active, to the entity relevant market. The use of the exit price for non-financial assets would mean to measure including the anticipated sales margin, which is very risky. Currently the use of fair value is required upon initial recognition especially by IFRS and only for financial instruments, biological assets, and agricultural production.

IFRS 13 establishes a fair value hierarchy that categorises into three levels to increase consistency and comparability in fair value measurements and related disclosures. Level 1 lies at the top of the hierarchy, where inputs are quoted prices in active markets. Level 2 inputs are in the middle of the hierarchy, where data are adjusted from similar items traded in active markets, or from identical or similar items in markets that are not active. Level 2 inputs do not stem directly from quoted prices. Level 3 inputs are unobservable and generated by the entity itself. An asset retirement obligation for an oil well, for example, would include expected risk-adjusted cash flows, using the company’s own data. Another example of a Level 3 input is a financial forecast developed by using the reporting entity’s own data. Determining the fair value hierarchy is undoubtedly a step towards the unification of approaches to determine fair value, but it does not change the risk of fair value estimates.

The paper’s aim is not to defend the use of the historical cost. The reasons for using fair value are clear to everybody, who has done practical accounting. The historical cost is in many cases irrelevant (also in the case of going concern accomplishment). It is important to understand when another measurement basis is necessary to be found. When solving this issue the definition of an asset is the leading point with which the way of valuation will have to be in compliance.

2.4 Market versus Entity-Specific Measurement Objectives

Measurement in accounting may be based on the market-specific measurement objective or on the market value measurement objective. The entity specific measurement objective reflects specific conditions under which the entity acquires an asset (or for which it incurs a liability) and individual benefits (benefit outflow), which are expected from the asset (liability) due to the expected use. The specific terms of the entity for the measurement of the acquired asset reflect the purchase costs or production costs and with the subsequent measurement of the asset also value-in-use, the selling (exit) price net realizable value (selling price less cost to sell), replacement costs etc.

The market specific measurement objectives are based on the market prices, which may be achieved at the market when buying or selling an asset in an arm’s length transaction at the measurement date and are independent of the individual conditions of the entity. Dean [4] states: “Market based valuations within that set have taken many forms: for example, exit price (selling), entry price (replacement price), deprival value and a catch-all fair value accounting.” Requirements for a market-based measurement, which is independent of the specific conditions and intentions of the entity, are reflected e.g. by the definition of fair value used in the currently applicable IFRS.
2.5 Single or mixed measurement approach
Theoretically, accounting rules might be based on the choice of a single measurement basis setting, which would be universally used in measurements in all situations, or may use mixed measurement approaches.

2.5.1 Single measurement approach
Only one starting point can be provided for the purpose of measurement that (according to the standard setters) best satisfies the criteria of financial accounting and reporting. These measurement bases are a "pure" base of measurement as historical cost, replacement cost, value in use or fair value. The objective would always be to estimate the selected measurement basis, other bases being allowed only as proxies where direct measurement was impossible [12].

The consistency of the measurement, comparability and meaningful aggregation of the accounting data are the advantages of this approach. The adoption of a single measurement method is predicated on the belief that such a measurement will always be the most relevant and will be measurable reliably. Such a "perfect" measurement basis has not yet been found. Macve believes that it is impossible to prove that any individual measurement approach is Pareto superior to others—ideally they probably need a range of alternative measures in order to triangulate the information they receive from various sources [8].

2.5.2 Mixed measurement approaches
Currently, virtually all systems of accounting regulation (IFRS no exception) do not use a single measurement approach, required and preferred in all cases, but the mix of measurement approaches. The advantage of this approach is that it is not necessary to use a single measurement approach for all situations, which, considering the information needs of users but also for example the reliability of establishing such measurement, might not be appropriate in a particular situation.

However, disadvantages of using mix measurement approaches are obvious—it leads to aggregation of the data measured by different approaches, the explanatory power of such aggregation is weak, plus the use of different measurement approaches entails various risks. To report the items which are measured by different measurement approaches separately is therefore a minimum requirement, which should be held. Separate reporting of items bound to various estimating risks enables the users of financial information to analyse and assess it independently.

Measurement approaches are in practice differentiated according to both the moment at which the measurement is performed (e.g. initial recognition of the particular item or subsequent measurement) and according to nature of the subject of the measurement (e.g. long-term assets in terms of meeting the prerequisites of going concern; inventories and derivatives or securities held for trading are measured differently.)

2.6 Assets definition
The selection of the measurement basis should be in compliance with the definitions of assets. The Framework covers these definitions. An asset should be incorporated in the balance sheet if there are expected future economic benefits from the asset which is controlled by the enterprise and it is probable that any future economic benefit associated with the asset will flow to the enterprise; it is a result of past events; it can be measured with reliability.

The process of recognition and classification of assets (which determines their valuation) should follow the definition of assets.

To clarify this process we can use the following scheme:

| Management intention – the usefulness of an asset - fulfillment of asset definition |
| Management intention determines the classification of the asset |
| Asset classification determines asset treatment to measurement of the asset |

The issue is which valuation approach best corresponds with the definition of assets and the expected benefit, which will be brought by an asset.

2.7 Concepts of capital and capital maintenance
There are two approaches to the concept of capital maintenance in the conceptual framework. The used measurement basis influences the concept of capital and capital maintenance.

A financial concept of capital is adopted by most enterprises in preparing their financial statements. Under this concept a profit is earned only if the financial amount of the net assets (or equity of the enterprise) at the end of the period exceeds the financial amount of net assets at the beginning of the period, after excluding any distributions to, and contributions from, owners during the period. This
concept allows the use of historical costs measurement.

Another concept of capital is a physical concept. Under this concept a profit is earned only if the physical productive capacity of the enterprise at the end of the period exceeds the physical productive capacity at the beginning of the period, after excluding any distributions to, and contributions from, owners during the period. The physical capital maintenance concept requires the adoption of the current cost basis of measurement.

2.8 Research issues
The following questions based on the above stated overview of the measurement treatments in this research are to be answered:
I. Does the measurement base correspond with the definition of assets?
II. What is the reliability of the measurement base?
III. What is the relevance of the measurement base?
IV. How does the measurement base fulfill the requirement for capital maintenance?
… and finally the question:
V. Is it appropriate to use only one measurement base - is it appropriate to use a single measurement approach?

3 Problem Solution
We need a classification of measurement treatments and approaches to solve the above mentioned questions (only measurement bases used in IFRS are included):
A. Entity-specific measurement objectives:
   • Historical cost
   • Current cost (replacement cost) = entry value
   • Realizable value = exit value
   • Present discounted value of the future net cash inflows (present value)
B. Market measurement objectives:
   • Fair value
   The measurement basis will be assessed mainly from the perspective of valuation of non-financial assets (see scope of the research above).
   A. Entity-specific measurement objectives
   Questions:
   I. Does the measurement base correspond with the definition of assets?
   II. What is the reliability of the measurement base?
   III. What is the relevance of the measurement base?
   Answers: The present value of expected benefits from an asset best corresponds with the definition of an asset. Expected cash flows are based on expectations of managers and on the basis of their intentions. This method would be highly relevant for users of financial statements only if the measurement would be reliable. But that is not true. Valuation is based on expectations that may not be met, the plans, which may change over time is less conclusive and does not exclude subjective manipulations. Historical cost measurement expresses the minimum benefits that expected from the asset manager at the time of acquisition. This measurement treatment is a reliable but less relevant over time. Current cost is from this point of view more appropriate for long-term nonfinancial assets and realizable value is more appropriate for inventories.
   Question:
   IV. How does the measurement base fulfill the requirement for capital maintenance?
   Answer: Historical cost does not fulfill requirements on physical capital maintenance. Current cost (entry value is the most relevant from this point of view, but only in case that revaluation surpluses are accounted for a part of other comprehensive income. Realizable value is not appropriate. Using of present value is questionable.
   B. Market measurement objectives
   Question:
   I. Does the measurement base correspond with the definition of assets?
   Answer: Fair value is not based on expectations of managers and on the basis of their intentions; therefore this measurement does not correspond with the definition of an asset. The market expectation that forms the market price is not relevant from this point of view. Fair value does not always need to give an adequate view of the expected usefulness of assets in a particular enterprise.
   Questions:
   II. What is the reliability of the measurement base?
   III. What is the relevance of the measurement base?
   Answers: Fair value increases the comparability and reliability of the measurement in comparison with the generally formulated measurement basis in the Framework. The aim of the fair value measurement is to restrict the manipulation with the current cost measurement. An enterprise has to base its measurement on an independent transaction under usual conditions.
   On the other hand, the effort to increase the comparability and reliability can lead to such measurement that bears no information about the particular condition of the use of the asset in an enterprise.
If an active market does not exist, an enterprise uses the fair value alternative assessment. The reliability and comparability of such measurement approaches are sharply falling down and in some cases recognition of revaluation surplus can lead to unrealized gains which can be never realized.

Question:
IV. How does the measurement base fulfill the requirement for capital maintenance?

Answer: Fair value (but only as entry value - this approach does not fulfill the definition of fair value in IFRS 13) is the most relevant from this point of view, but only in case that revaluation surpluses are recognised as a part of another comprehensive income. Fair value as exit value is not so useful in this case.

The Last Question: Is it appropriate to use only one measurement base - is it appropriate to use a single measurement approach?

Answer: None of the measurement approaches meet all the above mentioned criteria; therefore we can say that it is not possible to recommend the choice of a single measurement approach from the perspective of the executed test.

4 Conclusion

If we compare the accomplished analysis with current approaches to valuation used in the particular IFRS standards, it leads to the following conclusions.

If the standards use historical cost for the measurement of non-financial assets (e.g. IAS 16, IAS 38, IAS 2, IAS 40), this measurement does not provide information to physical capital maintenance and the valuation is not very relevant, but it is conclusive. Historical cost corresponds to the definition of assets only at the time of purchase.

If the standards use fair value for the measurement of non-financial assets (e.g. IAS 16, IAS 38, IAS 40, IAS 41), this measurement is most relevant for physical capital maintenance, but only in case that revaluation surpluses are recognized as a part of another comprehensive income. This requirement is not fulfilled by IAS 40 and IAS 41. Fair value corresponds (through market expectations) with the definition of assets only indirectly and is reliable and conclusive only if there is an active market. The initial research hypothesis was proved. Moreover, inconsistencies were found between the definition of assets and some valuation approaches used in IFRS.

Acknowledgement

This paper is one of the research outputs of the project P403/11/0002 registered at Czech Science Foundation (GA CR).

References: