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# M2M-Fair Value Accounting

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Additional information is available at the end of the chapter

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## Abstract

Since the past 20 years, the value relevance of financial information based on the historical cost method has been widely criticized among the academics and the preparers of financial information. The ongoing debate over the shortcomings of historical cost for ascertaining the worth of assets and liabilities and the rapid spread of fair value measurement for financial reporting has first led to the issuance of Financial Accounting Standard No. 157 *Fair Value Measurements* in September 2006 and then the initialization of fair value measurement project by the International Accounting Standards Board (IASB) and the Financial Accounting Standards Board in 2006 within the convergence project. On May 12, 2011, when the IASB issued IFRS 13 *Fair Value Measurement*, it appears that there has been substantial convergence between IFRS 13 and FASB 157. The purpose of this paper is to comprehensively explain the fair value accounting in accordance with IFRS 13 and describe the types of assets and liabilities that are subject to fair value accounting and their accompanying measurement principles with reference to other IFRSs and the Exposure Draft *Conceptual Framework for Financial Reporting*.

**Keywords:** fair value measurement, IFRS 13, SFAS 157, M2M accounting, conceptual framework

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## 1. Introduction

*Mark-to-market (M2M) or Fair Value Accounting (FVA)*—the measurement of assets and liabilities at the prevailing price in the market—is considered superior when compared to cost-based accounting for both the initial recognition and the subsequent valuation of economic transactions. In this context, the deficiencies in the value relevance of financial information based on the historical cost method and therefore the urgent need of fair value measurement have been widely discussed by the academics and the preparers of financial information in the past 20 years.

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First, Financial Accounting Standards Board (FASB) issued Financial Accounting Standard No. 157: *Fair Value Measurements* in September 2006. Then, especially in the aftermath of the global financial crisis in 2008, the urgent need of common fair value measurement and disclosure requirements in the International Financial Reporting Standards (IFRS) and Generally Accepted Accounting Principles in the United States (US GAAP) has led to a start-up for fair value measurement within the convergence project of International Accounting Standards Board (IASB) and FASB (collectively, the Boards). The goals of the fair value measurement project were [1] to define the fair value more clearly, to set out a single set of measurement requirements and hence reduce complexity and improve consistency, to improve and clarify existing disclosure requirements related to fair value measurements, and to increase the convergence of IFRS and US GAAP. On May 12, 2011, the IASB issued IFRS 13 *Fair Value Measurement* effective for annual periods beginning on or after January 1, 2013 [2]. It appears that there has been substantial convergence between IFRS 13 and FASB 157.

FVA is the practice of accounting that values certain assets and liabilities at their current market value [3]. Especially, for the measurement of financial instruments and the assets and liabilities assumed in a business combination, fair value is accepted to be the most appropriate valuation method. During his speech in the Sixth Symposium on Accounting Research, Paris, France, on December 12, 2016, Hans Hoogervost, the Chairman of IASB, expressed that the cost-based accounting is not a true reflection of long-term equity investments' performance because especially for investors it would be insufficient to reflect the performance of the company and that it would not provide appropriate information to investors' needs. He also stated that the application of fair value accounting would not cause the financial statements to fluctuate, and at the same time, the recognition of gains or losses when the asset is disposed from its cost would have no relation with the prudence principle as those amounts have been accumulated since the previous years.

Also, in the Exposure Draft *Conceptual Framework for Financial Reporting* (ED) ED/2015/3, published on May 28, 2015, the measurement of assets and liabilities was one of the most controversial proposals. After much discussion on this issue, the use of a single measurement basis for valuing assets and liabilities is found to be inadequate in the ED for providing high-quality financial information for the users of the financial statements and the IASB agrees on two measurement bases for assets and liabilities: (1) historical cost and (2) current value (fair value and value in use for assets and fulfillment value for liabilities). It is also emphasized in the ED that the contribution of an asset to the future cash flows of the entity, the way a liability is fulfilled in the future, and the characteristics of assets and liabilities should be taken into consideration for the accurate selection of measurement basis at initial recognition and subsequently [4].

In this study, first, IFRS 13 fair value measurement and then the types of assets and liabilities that are subject to fair value accounting and their accompanying measurement principles with reference to other IFRSs will be explained. Furthermore, the principles that are associated with fair value measurement will also be described in terms of the Exposure Draft *Conceptual Framework for Financial Reporting*.

## 2. Definition of fair value

Fair value accounting is the measurement of certain assets and liabilities at their current market value through the use of present value of future cash flows associated with an asset or a liability [3]. Fair value is based on the exit price and accordingly defined 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*” [IFRS 13:9].

Fair value measurement assumes an orderly transaction between market participants at the measurement date under current market conditions [IFRS 13:15]. An orderly transaction is defined as “*a transaction that assumes exposure to the market for a period before the measurement date to allow for marketing activities that are usual and customary for transactions involving such assets or liabilities; it is not a forced transaction*” [IFRS 13: Appendix A]. The forced transaction referred in this definition could be a forced liquidation or a distressed sale that would not accurately represent the fair value of related asset or liability.

The process of determining the price to be received from the sale of the asset or paid to transfer the liability at the measurement date is a hypothetical forecasting process. It is assumed that the entity will continue its activities in the future in accordance with the concept of “going concern,” and based on this assumption, the fair values of assets and liabilities are determined at the measurement date. Hence, an entity’s ability to continue as a going concern is essential in fair value measurement.

### 2.1. Exit price

The hypothetical transaction from the perspective of market participant establishes a basis for estimated price, known as “exit price.” An exit price of an asset or a liability is an estimate of the price that would be received to sell an asset or paid to transfer a liability, not the price to buy the asset or to incur the liability (transaction price or entry price) [IFRS 13:2.10]. As market or economic conditions change, those estimates are expected to change and for that reason, until the transaction for the asset or liability is actually realized, the actual price may not be known precisely.

The reason why the exit price is essential for fair value measurement is that it is the best indicator that will represent the anticipation of future cash inflows and outflows associated with the asset and liability from the perspective of market participants at the measurement date [FASB 157:C26]. This means that the management’s best estimate of the future economic benefits that are expected from holding an asset is the exit price derived from the market-based data.

The transaction to be fair valued should take place either in the principal market or in the absence of a principal market; the most advantageous market determines the fair value. The *principal market* is the market with the greatest volume and level of activity for the asset or liability from the reporting entity’s perspective. The *most advantageous market* is defined as the market that maximizes the amount from the sale of the asset or minimizes the amount to be paid to transfer the liability in the absence of the principal market [IFRS 13: Appendix A].

If a principal market exists for an asset or a liability, the fair value should be based on the price in that market whether determined directly through observation or by a valuation technique. Even if its price is potentially more advantageous in a different market at the measurement date, the fair value should be based on the price in the principal market [IFRS 13:16]. According to this statement, the base for determining the fair value should be the data in the actual market, so with the existence of the principal market, the entity does not have to exhaustively search for all possible markets to discover the most advantageous one. Instead, the reporting entity should use the price in the principal market at the measurement date.

Under IFRS 13, *transaction costs* are not taken into account when determining the exit price since they are not considered attributes of assets or liabilities. These costs are attributable to the disposal of an asset or the transfer of a liability. Therefore, they result directly from that specific transaction and vary depending on the way it happens. Hence, they are more transaction-specific but should be adjusted for in the most advantageous market [IFRS 13:25]. Accordingly, when determining the fair value of an asset, the transaction costs should neither be considered as a deduction from the price available in the principal market nor an addition to the liability amount in the case of a liability transfer. Also, transaction costs do not include transportation costs. However, if the location is a characteristic of the asset or liability being measured (e.g., biological assets), the exit price shall be adjusted for the costs incurred while moving the asset from the current position to that market [IFRS 13:26].

## 2.2. Market participants

Fair value is a market-based, not an entity-specific measurement, that is, it should be based on the assumptions of market participants for pricing the asset or liability [IFRS 13:22]. Market participants are the buyers and sellers in the principal (or the most advantageous) market for the asset or liability. They are interested in and could benefit from the ownership of a specific asset or liability. Those market participants have the following characteristics (IFRS 13: Appendix A):

- *“buyers and sellers are independent of each other, not related parties, (the term “related parties” is used consistent with its use in IAS 24),”*
- *“they are knowledgeable in the sense that they have reasonable understanding of the asset or liability and the transaction using all available information,”*
- *“they are able to enter into a transaction (must have legal and financial capacity to do so),”*
- *“they are willing to enter into a transaction (not forced to do so).”*

The reporting entity is required to develop a profile of potential market participants instead of identifying specific market participants. The determination of potential market participants is a critical step in the overall determination of fair value. Although it may be easy to determine this profile, in certain other cases, a reporting entity may need to make assumptions about the type of market participant. In the fair value measurement, it is significant to determine the appropriate market and market participants [5].

### 3. Fair value measurement

The objective of fair value measurement is to estimate 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 [IFRS 13:B2]. The principles to be followed in determining the fair value of assets and liabilities for both initial and subsequent measurement are explained in the next section.

#### 3.1. Measurement

In the measurement of fair value, the entity has to determine all of the following:

- (i) *The unit of account consistent with a particular asset or liability or a group of assets and liabilities that are being measured.*

The determination of how fair value measurement applies depends on the unit of account [IFRS 13:2.4]. The unit of account is the level at which the asset or liability is aggregated or disaggregated in accordance with IFRS applicable for recognition purposes [IFRS 13: Appendix A]. Fair value measurement is applied to a particular asset or liability (e.g., an equity investment, a property, plant and equipment (PPE), or an intangible asset). When measuring the fair value of an asset or a liability, the entity should take into account the particular asset or liability's specific characteristics, such as condition, location, and restrictions, if any.

- (ii) *The appropriate valuation premise to measure for non-financial assets (should be consistent with the "highest and best use").*

Fair value is the amount that reflects the perspective of market participants [IFRS 13:29]. From this point of view, the *highest and best use* is the use of market participants to maximize the value of a non-financial asset or a group of assets and liabilities for which the asset is being used. The concept of the highest and best use is not valid for financial assets and liabilities; it is the basis for the fair value measurement of non-financial assets. The use of a non-financial asset at best and at the highest level is provided either by way of use or by exchange. Therefore, the market participant may benefit economically by using it at the highest level or by selling it to another market participant [IFRS 13:27]. The highest and best use takes into consideration the use of asset that is physically possible, legally permissible, and financially feasible.

- (iii) *The most advantageous market in the absence of the principal market.*

If the principal market is available to and accessible by the entity, fair value measurement is conducted by using prices in that market. In the absence of the principal market, the most advantageous market is used for determining the fair value.

- (iv) *The appropriate valuation technique.*

In the measurement of fair value, an appropriate valuation technique should be used that maximizes the use of relevant observable inputs and minimizes the use of unobservable inputs [IFRS 13:61]. The purpose of applying valuation techniques is to estimate the fair value. The three main approaches used as valuation techniques are listed below:

- **Market approach:** uses observable prices and other relevant information derived from market transactions involving identical or similar assets, liabilities or a group of assets and liabilities, such as a business [IFRS 13:B5]. IFRS 13 provides an example of matrix pricing, which is a mathematical method of valuation technique consistent with the market approach [IFRS 13:B5-7].
- **Cost approach:** reflects the current amount that would be needed to replace the service capacity of an asset, that is, the current replacement cost [IFRS 13:B8].
- **Income approach:** uses the valuation techniques to calculate the present value of future amounts based on current market expectations [IFRS 13:B10]. For instance, option-pricing models, residual income valuation method used to measure the fair value of some intangible assets.

(v) *Inputs to fair value measurement and the fair value hierarchy.*

The fair value standards classify the inputs to fair value measurement in three levels and this classification creates a “*fair value hierarchy*.” The hierarchy gives the first priority to the prices of identical assets and liabilities in the active market (e.g., unadjusted quoted prices). The lowest (third) priority is given to unobservable inputs [IFRS 13:72]. The inputs to valuation methods classified below are essential in the measurement of fair value more than the valuation methods:

- **Level 1:** Inputs are “*observable*” because they refer to the quoted prices in the active market of identifiable assets or liabilities that the entity may access at the measurement date. The quoted price in an active market is unadjusted and provides the most reliable evidence of fair value [IFRS 13:77]. If the asset or liability is traded in more than one market, the prices in the principal market are taken into account. In the absence of principal market, the prices in the most advantageous market are used as fair value.
- **Level 2:** Inputs that are observable directly or indirectly with respect to an asset or a liability, other than quoted prices [IFRS 13:81]. These inputs include (a) quoted prices in active market for similar assets or liabilities, (b) quoted prices in markets that are not active for identical or similar assets or liabilities, (c) observable inputs other than quoted prices such as interest rates, and (d) market-corroborated inputs derived principally from or supported by observable market data by correlation or other means.
- **Level 3:** Inputs are “*unobservable*” [IFRS 13:86] so they have the lowest priority. The use of these inputs is allowed where there is no or less market activity for the asset or liability to obtain relevant observable inputs at the measurement date [IFRS 13:87]. The unobservable inputs are generated by the entity itself using the best information available in the circumstances, which might include the entity’s own data considering all available information about market participant assumptions. However, in case of other market participants’ using different data, the entity’s own data should be adjusted [IFRS 13:89]. Long-dated currency swap, a 3-year option on exchange-traded shares, interest rate swap, and cash-generating unit are examples of Level 3 inputs.

To sum up, the entity is required to follow the steps explained above to determine the fair value measurement (“see **Figure 1**”).

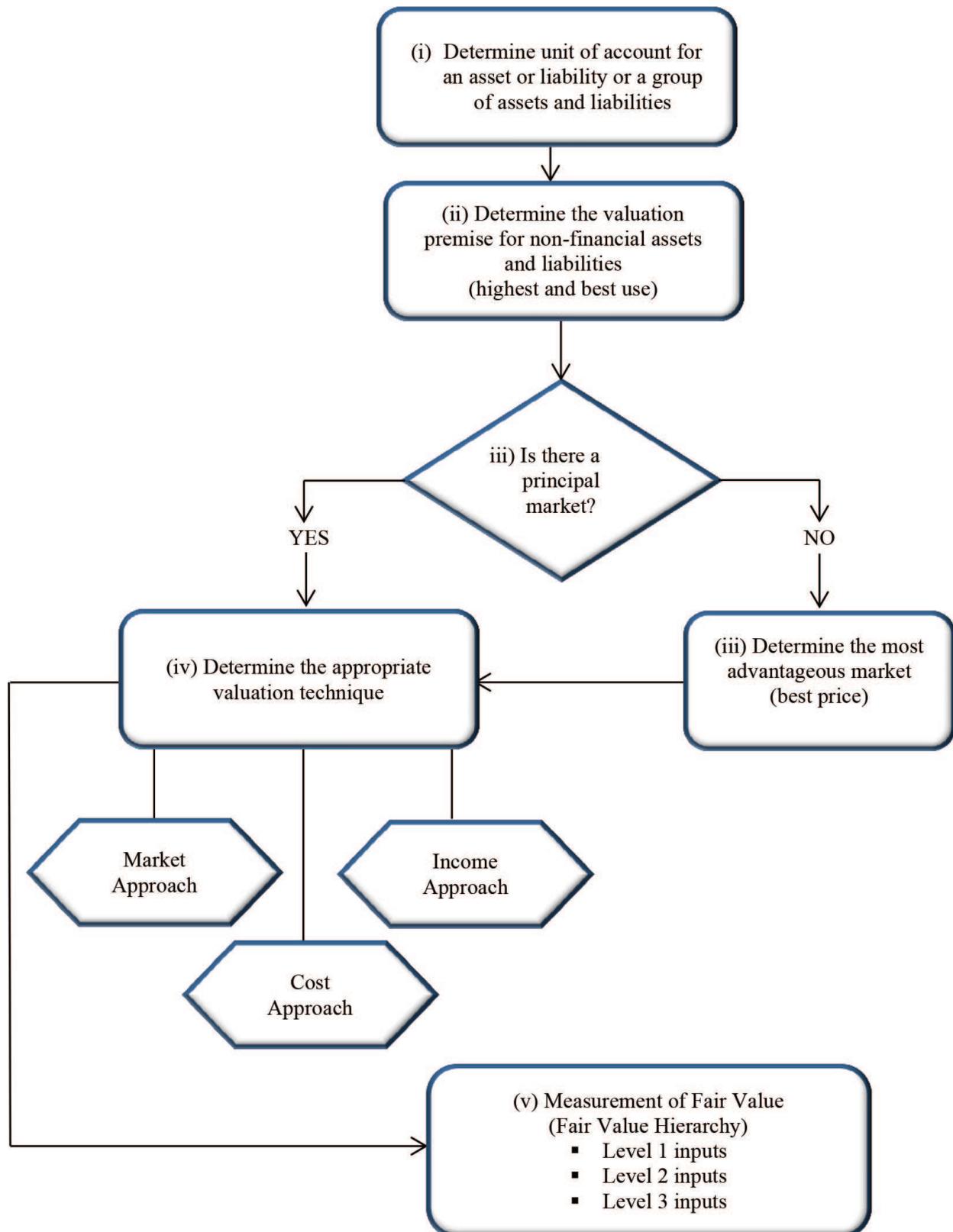


Figure 1. Schematic representation of fair value measurement.

At initial recognition, a general approach is the use of the entry price for the fair value measurement of all assets and liabilities. In many cases, it is assumed that the entry price often reflects the fair value and is thus equal to the exit price at initial recognition. When an asset is acquired or a liability incurred, a change occurs in the transaction involving that asset or liability. The price of such transaction refers to the *entry price* that is paid to acquire the asset or received to assume the liability, whereas the fair value of an asset or a liability is the *exit price* that would be received to sell the asset or paid to transfer the liability. Essentially, the entry price and the exit price are different, in the sense that the prices paid by the buyer and received by the seller are usually not the same because entities do not necessarily sell assets or transfer liabilities at the prices paid to acquire the assets or the prices received to assume the liabilities. There are certain conditions in which the transaction price cannot represent the fair value of an asset or a liability during initial recognition such as [IFRS 13:B4]; a related party transaction, a forced transaction (i.e., seller having financial difficulties), the unit of account for the transaction price does not symbolize the unit of account for the asset or liability being measured or the market in which the transaction is realized and the market in which the reporting entity sells the assets or transfers the liability are different (the principal market or the most advantageous market).

#### 4. Fair value measurements for assets and liabilities (IFRSs)

In accordance with IFRS, certain assets and liabilities are measured at fair value both at initial recognition and in subsequent periods. IFRS 13 addresses *how* to measure the fair value of financial and non-financial assets and liabilities, but it does not prescribe *what* items must be measured at fair value, *when* to measure or *how* to account for subsequent changes in fair value. This section therefore exclusively explains the relevant IFRSs to be considered for each of these requirements. Also, a summary of the measurement of assets and liabilities is given on a tabular form at the end of this section (see **Table 1**).

##### 4.1. Financial assets (IFRS 9)

IFRS 9 divides all financial assets into two groups as soon as the entity becomes a party to the contractual provisions of the instrument—financial assets measured at amortized cost and financial assets measured at fair value where gains and losses are recognized in other comprehensive income (fair value through other comprehensive income, FVTOCI) or recognized in profit or loss (fair value through profit or loss, FVTPL). The entities are required to make this classification for their financial assets at initial recognition by taking into account the entity's *business model* for managing the financial assets and the *contractual cash flow characteristics* of the financial asset. A business model is the way of managing its financial assets by collecting contractual cash flows (hold-to-collect), selling financial assets for trading purpose or collecting contractual cash flows *and* selling financial assets (hold-to-collect and sell) [IFRS 9:4.1.1].

Elements	Measurement	
	INITIAL	SUBSEQUENT
<b>I. Financial assets (IFRS 9)</b>		
i. Trade and other receivables	<ul style="list-style-type: none"> <li>Transaction price (plus transaction costs) (significant financing component excluded from sales)</li> </ul>	<ul style="list-style-type: none"> <li>Amortized cost</li> <li>Impairment provision for credit losses</li> </ul>
ii. Debt instruments	<ul style="list-style-type: none"> <li><i>Fair value</i> (plus transaction costs)</li> </ul>	<ul style="list-style-type: none"> <li><b>Debt instruments held to collect contractual cash flows</b> <ul style="list-style-type: none"> <li>Amortized cost</li> <li>Impairment provision for credit losses</li> </ul> </li> <li><b>Debt instruments held both to collect contractual cash flows and sell - <i>Fair value</i> (FVTOC)</b></li> </ul>
iii. Equity instruments	<ul style="list-style-type: none"> <li><i>Fair value</i> (transaction costs are not included)</li> </ul>	<ul style="list-style-type: none"> <li><i>Fair value</i> (FVTPL) (FVTOCI is an option for the equity instruments held not for trading purpose)</li> </ul>
iv. Derivatives	<ul style="list-style-type: none"> <li><i>Fair value</i> (transaction costs are not included)</li> </ul>	<ul style="list-style-type: none"> <li><i>Fair value</i> (FVTPL)</li> </ul>
<b>II. Financial liabilities (IFRS 9)</b>		
i. Financial liabilities measured at amortized cost	<ul style="list-style-type: none"> <li><i>Fair value</i> (less transaction costs)</li> </ul>	<ul style="list-style-type: none"> <li>Amortized cost</li> </ul>
ii. Financial liabilities (FVTPL)	<ul style="list-style-type: none"> <li><i>Fair value</i></li> </ul>	<ul style="list-style-type: none"> <li><i>Fair value</i> (FVTPL)</li> </ul>
<b>III. Investments in associates and joint ventures (IAS 28) (IAS 27)</b>		
	<ul style="list-style-type: none"> <li>Acquisition cost (plus transaction costs)</li> </ul>	<ul style="list-style-type: none"> <li><b>Consolidated financial statements</b> <ul style="list-style-type: none"> <li>Equity method</li> </ul> </li> <li><b>Separate financial statements</b> <ul style="list-style-type: none"> <li>Measurement at cost</li> <li><i>Fair value measurement</i> (IFRS 9)</li> <li>Equity method (IAS 28)</li> </ul> </li> </ul>
<b>IV. Investments in subsidiaries (IFRS 10) (IAS 27)</b>		
	<ul style="list-style-type: none"> <li>Acquisition cost</li> </ul>	<ul style="list-style-type: none"> <li><b>Consolidated financial statements</b> – Full consolidation</li> <li><b>Separate financial statements</b> <ul style="list-style-type: none"> <li>Measurement at cost</li> <li><i>Fair value measurement</i> (IFRS 9)</li> <li>Equity method (IAS 28)</li> </ul> </li> </ul>
<b>V. Property, plant, and equipment (IAS 16)</b>		
	<ul style="list-style-type: none"> <li><b>Acquisition</b>— Acquisition cost (financing component excluded unless a qualifying asset)</li> <li><b>Exchange assets</b>— <i>Fair value</i> of the received asset or the asset given up or the carrying amount of the asset given up</li> </ul>	<ul style="list-style-type: none"> <li>Cost model</li> <li>Revaluation model (<i>Fair value</i>)</li> </ul>

Elements	Measurement	
	INITIAL	SUBSEQUENT
<b>I. Financial assets (IFRS 9)</b>		
<b>VI. Intangible assets (IAS 38)</b>	<ul style="list-style-type: none"> <li>• <b>Acquisition</b> — Acquisition cost (financing component excluded unless a qualifying asset)</li> <li>• <b>Business combination</b> — <i>Fair value</i></li> <li>• <b>Exchange assets</b> — <i>Fair value</i> of the received asset or the asset given up or the carrying amount of the asset given up</li> <li>• <b>Government Grant</b> — <i>Fair value</i></li> </ul>	<ul style="list-style-type: none"> <li>• Cost model</li> <li>• Revaluation model if there is an active market (<i>Fair value</i>)</li> </ul>
<b>VII. Investment property (IAS 40)</b>	<ul style="list-style-type: none"> <li>• <b>Acquisition</b> — Acquisition cost (financing component excluded unless a qualifying asset)</li> </ul>	<ul style="list-style-type: none"> <li>• Cost model</li> <li>• <i>Fair value</i></li> </ul>
<b>VIII. Business combinations (IFRS 3)</b>	<ul style="list-style-type: none"> <li>• All assets acquired and liabilities assumed in a business combination are measured at acquisition-date fair value</li> <li>• Contingent consideration — <i>fair value</i></li> <li>• Non-controlling interests (NCI) — <i>Fair value</i> (full goodwill method) — NCI's proportionate share of net assets of the acquiree</li> </ul>	<ul style="list-style-type: none"> <li>• All acquired assets and liabilities are measured according to the relevant IFRSs.</li> </ul>
<b>IX. Agriculture (IAS 41)</b>	Generally measured at <i>fair value</i> less costs to sell	

**Table 1.** Fair value measurements in IFRSs.

If an entity holds a financial asset in order to collect contractual cash flows and the contractual terms of the financial asset give rise to cash flows that are solely payments of principal and interest on the principal amount outstanding on a specified date, then they are called as hold-to-collect business model and measured at amortized cost subsequently [IFRS 9:4.1.2]. *Receivables* and *loans (loan receivables with basic features)* are included within the scope of IFRS 15 *Revenue from Contracts* and are measured at transaction price (including transaction costs) at initial recognition, and then classified and accounted for amortized cost in accordance with IFRS 9 subsequently. Conversely, if the objective of an entity is to generate profits by converting the changes in the fair value of the financial assets into cash, the business model of the entity does not hold these assets to collect the contractual cash flows. In other words, if the entity holds financial assets for only trading purposes, that is, to earn profit from the changes

in the fair value of financial assets by buying and selling, the financial assets are measured at fair value and valuation differences are recognized in profit or loss (FVTPL).

*Debt instruments* are carried at fair value plus transaction costs at initial recognition, and then, for subsequent measurement, as stated previously, the entity's *business model* for managing the financial assets and the *contractual cash flow characteristics* of the financial asset must be taken into consideration. Therefore, debt instruments held to collect contractual cash flows are measured at amortized cost, whereas they are measured at fair value with all changes recorded through other comprehensive income in the shareholders' equity (FVTOCI) if they are held within an entity whose objective is achieved by both holding the financial asset in order to collect contractual cash flows and selling the financial asset. All other debt instruments that do not qualify to be measured at amortized cost or FVTOCI must be measured at fair value through profit or loss (FVTPL) [IFRS 9:4.1.4].

*Equity instruments* are carried at fair value (transaction costs are not included) at initial recognition. The default subsequent measurement for whether quoted or unquoted equities is always the fair value with value changes recognized in profit or loss (FVTPL). IFRS 9 also provides second option, namely "other comprehensive income" option for those equity instruments that are not held for trading and want to present changes in other comprehensive income (FVTOCI). For the unquoted equity instruments, there is no option of measurement with historical cost. *Derivatives* are carried at fair value with value changes recognized in profit or loss (FVTPL).

#### **4.2. Financial liabilities (IFRS 9)**

IFRS 9 classifies and divides all financial liabilities into two—financial liabilities measured at amortized cost and financial liabilities measured at fair value where gains and losses are recognized in profit or loss (FVTPL). In accordance with IFRS 9, all financial liabilities are initially measured at fair value. Financial liabilities held for trading are measured through profit or loss and all other financial liabilities are measured at amortized cost unless the fair value option is applied [IFRS 9:4.2.1]. Trade payables, bank borrowings, and loan payables with standard interest rates are examples of financial liabilities that are likely to be classified at amortized cost. FVTPL examples are interest rate swaps and commodity future/option contracts.

#### **4.3. Investments in associates and joint ventures (IAS 28)**

According to IAS 28 *Investments in Associates and Joint Ventures*, the investment in an associate or a joint venture is initially recognized at cost (acquisition cost) including transaction costs. On acquisition of the investment in an associate or a joint venture, the goodwill is included in the carrying amount of the investment (implicit goodwill). After acquisition, the implicit goodwill is amortized in the following periods, considering the changes in the relevant accounts. To account for additional depreciation or amortization of the investee's depreciable or amortizable assets, appropriate adjustments to the investor's share of the profits or losses are made based on the excess of their fair values over their carrying amounts at the time the investment was acquired. [IAS 28:23]. For example, for depreciation expense calculated based on the depreciable assets' fair values at the acquisition date or for impairment losses such as for goodwill or property, plant, and equipment, appropriate adjustments should be made to the investor's share of the associate's or joint venture's profit or loss [IAS 28 (2011):32].

In its consolidated financial statements, an investor uses the equity method for investments in associates and joint ventures [IAS 28 (2011):16]. IAS 28 allows the investor to choose an accounting method offered in IAS 27 *Separate Financial Statements* to account for its investments in associates and joint ventures in its separate financial statements. These methods are [IAS 27 (2011):10] as follows:

- measurement at cost or
- fair value measurement in accordance with IFRS 9 or
- using the equity method described in IAS 28.

On the other hand, IAS 28 permits a venture capital organization, mutual fund, unit trust, and similar entities, including investment-linked insurance funds, to measure investments in associates and joint ventures at fair value through profit or loss in accordance with IFRS 9.

#### 4.4. Property, plant, and equipment (IAS 16)

An item of property, plant, and equipment should initially be recorded at cost [IAS 16:15]. PPE is recognized in the statement of financial position through acquisition, in exchange for a non-monetary asset or assets or a combination of monetary and non-monetary assets or self-construction. The cost of PPE acquired in exchange for another asset is measured at the carrying amount of the asset given up unless the fair value of the received asset or the asset given up is reliably measurable [IAS 16:24]. IAS 16 permits two accounting models for subsequent measurement—cost model and revaluation model. In the revaluation model, PPE whose fair value can be reliably measured is carried at a revalued amount, that is, its fair value at the revaluation date of the asset less subsequent depreciation and impairment [IAS 16:31].

#### 4.5. Intangible assets (IAS 38)

The recognition of intangible assets can be done through the following ways:

- **Acquisition:** Intangible assets are initially measured at cost when acquired externally [IAS 38:24].
- **Business combination:** Intangible assets acquired in a business combination are subject to IFRS 3 *Business Combinations* and therefore the cost of that intangible asset is its fair value at the acquisition date. There is a presumption that the fair value (and therefore the cost) of an intangible asset acquired in a business combination can be measured reliably [IAS 38:35].
- **Government grant:** Intangible assets may be acquired free of charge or at a very low price by way of a government grant. In accordance with IAS 20 *Accounting for Government Grants and Disclosure of Government Assistance*, an entity may choose to recognize both the intangible asset and the grant initially at fair value [IAS 38:44].
- **Exchange of assets:** An intangible asset may be recognized in exchange for an asset or a combination of assets. If (a) the exchange transaction is commercial or (b) the fair value of the received asset or the asset given up is reliably measurable, such intangible asset is measured at fair value [IAS 38:45].

- **Internal generation (self-creation):** intangibles internally generated within an entity are classified into (a) research phase and (b) development phase. Expenditures incurred in the research phase are to be recognized as expense and reported in profit or loss, whereas the costs associated with the development phase are capitalized only after technical and commercial feasibility of the asset for sale or use have been established [IAS 38:54 and 38:57]. Therefore, the cost of an intangible asset internally generated is the sum of the expenses capitalized from the development phase [IAS 38:65]. IAS 38 permits two accounting models for subsequent measurement similar to PPE—cost model and revaluation model. In the revaluation model, if the intangible assets have an active market they may be carried at a revalued amount based on fair value less any subsequent amortization and impairment losses [IAS 38:75]. But such active markets are not very common for intangible assets [IAS 38:78]. Examples for such intangibles that may have active markets are production quotas, fishing licences, and taxi licences.

#### 4.6. Investment property (IAS 40)

*“Investment property is property (land or a building or part of a building or both) held (by the owner or by the lessee under a finance lease) to earn rentals or for capital appreciation or both”* [IAS 40:5]. Investment property is initially measured at cost, including transaction costs [IAS 40:20 and 40:23]. IAS 40 provides two accounting models for subsequent measurement—cost model and fair value model. The best evidence of fair value for an investment property is the current prices in an active market for similar property in the same location and condition and subject to similar lease and other contracts [IAS 40:45]. The entity may consider current prices for properties of a different nature or subject to different conditions, recent prices in less active markets with adjustments to reflect changes in economic conditions, and discounted cash flow projections based on reliable estimates of future cash flows in the absence of such information [IAS 40:46]. Although there are two options for subsequent measurement in IAS 40, the entity shall measure the investment property using the cost model in IAS 16 in case its fair value is not reliably determinable [IAS 40:53].

#### 4.7. Accounting for government grants and disclosure of government assistance (IAS 20)

A government grant may be in the form of a transfer of non-monetary assets, such as land or other resources and it is usual to determine the fair value of the non-monetary asset and to record for both grant and asset at that fair value. In some cases, an alternative method may be used to recognize the asset and the grant at nominal value [IAS 20:23].

#### 4.8. Business combinations (IFRS 3)

IFRS 3 *Business Combinations* define a business combination as a transaction or an event in which an acquirer obtains the control of one or more businesses. Acquisition method is applied to account for business combinations [IFRS 3:4]. In this method, all assets acquired and liabilities assumed in a business combination are measured at acquisition-date fair value [IFRS 3:18]. When measuring all the identifiable assets acquired and the liabilities assumed at fair value in the acquisition method, goodwill or a gain from a bargain purchase may arise. However, there is no explanation for how to determine the fair value of identifiable assets

acquired and the liabilities assumed of an entity in IFRS 3. In this respect, the principles under IFRS 13 and relevant IFRSs (standards for assets and liabilities) should be taken into account.<sup>1</sup>

The measurement of an acquirer's pre-combination investment in an acquiree for the case of business combination achieved in stages is done in accordance with other relevant IFRSs (IFRS 9 *Financial Instruments*, IAS 28 *Investments in Associates and Joint Ventures*, and IFRS 11 *Joint Arrangements*). The acquirer re-measures any previously held interest at fair value and takes it into account in the determination of goodwill [IFRS 3:32]. As a result of this re-measurement, the gain or loss is either recognized in profit or loss or other comprehensive income consistent with the previous measurement basis [IFRS 3:42].

In the measurement of non-controlling interests (NCI), IFRS 3 allows an accounting policy choice among the following:

- fair value (sometimes called the full goodwill method), or
- the NCI's proportionate share of net assets of the acquiree.

IFRS 3 allows the acquirer to measure the acquisition-date fair value of a non-controlling interest on the basis of active market prices for the equity shares not held by the acquirer. In the absence of an active market, the acquirer would measure the fair value of the non-controlling interest using other valuation techniques [IFRS 3:B44].

#### 4.9. Agriculture (IAS 41)

Biological assets with the exception of bearer plants, agricultural produce at the point of harvest, and government grants related to these biological assets fall within the scope of IAS 41 *Agriculture*. Under IAS 41, biological assets are generally measured at fair value less costs to sell. However, there are instances when cost can approximate fair value, including when (i) little biological transformation has taken place since the costs were originally incurred or (ii) the impact of biological transformation on price is not expected to be material.

## 5. Measurement principles in the Exposure Draft *Conceptual Framework for Financial Reporting*

The existing *Conceptual Framework* was initially published by International Accounting Standards Committee in 1989 and describes the basic concepts for the preparation and presentation of financial statements. It is not a standard itself, but has helped the IASB for developing future IFRSs and revising existing ones, as well as a very important reference for the users and preparers.

The *Conceptual Framework* has been widely criticized for its being unclear, for not covering some important concepts and for not being reflective of the IASB's current thinking as

<sup>1</sup>The exceptions would be: contingent liabilities (IAS 37), income taxes (IAS 12), employee benefits (IAS 19), indemnification assets (IFRS 3.27-28), reacquired rights (IFRS 3.29), share-based payment transactions (IFRS 2), and assets held for sale (IFRS 5).

it has been left unchanged and therefore out of date since its inception [6]. Thus, in 2004, the IASB and FASB initiated a joint comprehensive project on the Conceptual Framework (the "Project") with the aim of reviewing and revising the existing one. However, during late 2010, the only one phase of the Project has been finalized and introduced as two chapters (Chapters 1 and 3), namely "The Objective of General Purpose Financial Reporting" and "Qualitative Characteristics of Useful Information" and the Project was abandoned due to the priorities given to other urgent projects. In 2011, the IASB carried out a public consultation and following the feedbacks from many respondents to that consultation, the Project was given the first priority in the IASB's work plan. Consequently, the IASB restarted the Project in 2012 as an IASB-only project. The aim of the Project was to clarify the subjects that are not yet covered, or to explicate the shortcomings in the existing one and focus on the elements of the financial statements, measurement, reporting entity, presentation, and disclosure. In July 2013, a Discussion Paper (DP) *A Review of the Conceptual Framework for Financial Reporting* was issued that set out the IASB's preliminary views on possible amendments to the existing Conceptual Framework [7]. The feedbacks received on this Discussion Paper constitute the infrastructure of the Exposure Draft [8].

Finally, on May 28, 2015, the IASB published the Exposure Draft *Conceptual Framework for Financial Reporting (ED)* ED/2015/3, proposing revisions and amendments for some topical areas in the current one. The purpose of the ED is to fill in the gaps, update the parts that are out of date, and clarify the guidance in some areas. To achieve this, the ED provides key proposals in eight chapters that are mainly on the definitions of an asset and a liability, a guidance on measurement and de-recognition and a framework for presentation and disclosure [9].

*Measurement* is one of the main proposals discussed initially in the Discussion Paper and then in the ED because the existing Conceptual Framework provides very little guidance on measurement and when particular measurements should be used [DP 6:1]. Measurement is the process of quantifying the amounts of an entity's assets, liabilities, income, and expenses in monetary terms [ED 6:2]. As shown in **Table 1**, there exist various measurement bases for the assets and liabilities in accordance with particular IFRSs. However, many respondents have criticized about the lack of measurement guidelines in the existing Conceptual Framework when difficulties were encountered for the measurement of particular assets or liabilities. Hence, the IASB decided to include this significant issue widely by releasing a "measurement" chapter (Chapter 6) in the ED.

According to Section 6.10 of the DP "the objective of measurement is to contribute to the faithful representation of relevant information about the resources of the entity, claims against the entity and changes in resources and claims, and about how efficiently and effectively the entity's management and governing board have discharged their responsibilities to use the entity's resources." Accordingly, initially Basis for Conclusions Exposure Draft for Financial Reporting and the measurement chapter in the ED focuses on different measurement bases, the information that these measurement bases provide and their advantages and disadvantages [ED 6:4–6:47 and BC 6:15–6:37] [10], and the factors to consider when selecting a measurement basis such as relevance, faithful representation, enhancing qualitative characteristics, and factors specific to initial measurement [ED 6:48–6:73 and BC 6:41–6:68] (see **Figure 2**).

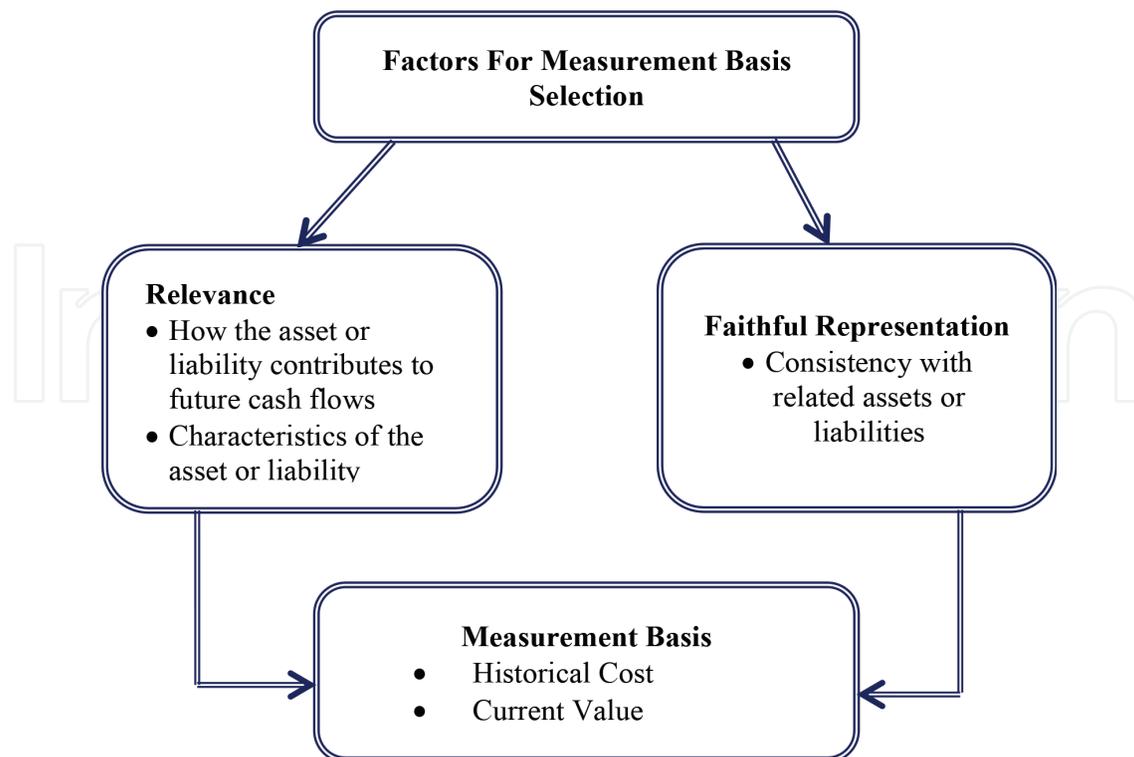


Figure 2. Measurement in Exposure Draft Conceptual Framework.

When developing both the Discussion Paper and the Exposure Draft, the IASB considered whether the *Conceptual Framework* should advocate a single or a default measurement basis but with the consideration of the objective of financial reporting, the qualitative characteristics of useful financial information and the cost constraint, mixed measurement approach is suggested and then proposed in Discussion Paper and Exposure Draft, respectively. It is worth stating the respondents' most common opinions on this issue as [ED 6:74 and 6:75] follows:

- a. "in most cases, the most understandable way to provide the relevant information is to use one measurement in both the statement of financial position and the statement(s) of financial performance, and to use the other measurement basis for disclosure only";
- b. "in some cases, more relevant information is provided by using a current value measurement basis in the statement of financial position and a different measurement basis to determine the related income or expenses in the statement of financial performance."

As a result, selecting measurements by considering either the statement of financial position alone or the statement(s) of profit or loss and other comprehensive income alone does not provide relevant financial information to financial statement users. Instead, it must be taken into consideration that measurement affects both the statement of financial position and the statement(s) of profit or loss and other comprehensive income [ED 6:76].

Paragraphs ED 6:74–6:77 and BC 6:68 discuss situations in which more than one measurement basis is needed to provide relevant information about an asset, liability, income, or expenses.

After a long discussion on this issue, the IASB agreed on two categories:

- Historical cost [ED 6:6–6:18 and BC 6:19–BC 6:23] or
- Current value [ED 6:19–6:46 and BC 6:24–BC 6:30]

Cash flow-based measures would then be identified as measurement techniques to estimate the measure of an asset or a liability on a defined measurement basis. Therefore, the ED does not identify those techniques as a separate category of measurement basis, but a tool to estimate either a cost-based measure or a current measure [BC 6:17]. Paragraphs A1–A10 discuss cash flow-based measurement techniques in ED.

### **5.1. Historical cost**

Historical cost measurement provides monetary information about assets, liabilities, income, and expenses based on the information obtained from the transaction or event occurred on that date. It does not reflect changes in prices; instead, it reflects changes such as the consumption (depreciation or amortization) or impairment of assets and the fulfillment of liabilities [ED 6:6].

The ED defines the historical cost of a financial asset (sometimes referred to as amortized cost) and a non-financial asset as the acquisition value plus the transaction costs and the historical cost of a financial liability (again, sometimes referred to as amortized cost) and a non-financial liability as the value of the consideration received to take on the liability less the transaction costs [ED 6:7–6:9]. The subsequent measurement of financial assets and financial liabilities is done at amortized cost that reflects the adjustments for accrual of interest, payments or receipts, and impairment. It is clear that the ED categorizes the amortized cost basis of measurement for financial assets and financial liabilities as a historical cost measurement basis [BC 6:22]. Non-financial asset is adjusted for subsequent depreciation and impairment and non-financial liability is adjusted for accrual of interest, fulfillment of the liability, and onerous liabilities. However, these adjustments for all assets and liabilities do not reflect subsequent changes in prices caused by other factors [ED 6:9].

Historical cost measurement is found to be simpler, easy to understand, and less expensive than using current value measurement bases. On the other hand, historical cost can be difficult to determine when there is no observable transaction price for the asset or liability being measured and subjective to estimate consumption and identify impairment losses or onerous liabilities. Additionally, reporting the similar assets or liabilities that are acquired or incurred at different times in the financial statements at very different amounts can reduce comparability both between reporting entities and within the same reporting entity. For those reasons, the historical cost of an asset or a liability can sometimes be as difficult to apply as a current value [ED 6:15–6:17].

### **5.2. Current value**

Measures based on current value provide monetary information about assets, liabilities, income, and expenses using information that is updated to reflect conditions at the measurement date [ED 6:19]. Current value measurement bases include the following:

- fair value [ED 6:21–6:33] and
- value in use for assets and fulfillment value for liabilities [ED 6:34–6:46].

With respect to *fair value*, it is explained in the ED that the asset or the liability is measured using the same assumptions that market participants would use when pricing each if those market participants act in their economic best interest. In other words, fair value reflects the perspective of market participants [ED 6.22]. Also, transaction costs are not taken into account for fair value measurement of both assets and liabilities. The description of fair value in the ED is consistent with its description in IFRS 13 *Fair Value Measurement* [BC 6.25].

Fair value measurement produces information that has a predictive value, because it reflects market participants' expectations and is priced in a manner that reflects their risk preferences. However, users may not always find information about estimates of changes in expectations of market participants relevant. On the other hand, fair value measurement creates a comparability advantage both between reporting entities and within the same reporting entity as it is determined from market participants' perspective, instead of the perspective of the entity, and is independent of when the asset or the liability was acquired or incurred, identical assets will be measured at the same amount. Furthermore, if there exists an active market for the fair value of an asset or a liability, the fair value measurement is simple, easy to understand, and verifiable. In the absence of a fair value, valuation techniques (sometimes including the use of cash flow-based measurements) may be needed to estimate that fair value but they are not only costly and complex but also subjective and difficult to verify both the inputs and the validity of the process itself. As a consequence, due to the entities' measuring identical assets or liabilities at different amounts, comparability decreases [ED 6:28–6:33].

According to paragraph ED 6:34, "*value in use and fulfillment value are entity-specific values. Value in use is the present value of the cash flows that an entity expects to derive from the continuing use of an asset and from its ultimate disposal. Fulfillment value is the present value of the cash flows that an entity expects to incur as it fulfils a liability.*" They reflect the same factors in their measurement as fair value based on factors on entity-specific assumptions rather than assumptions by market participants [ED 6:35]. The descriptions of *value in use and fulfillment value* are derived from the definition of entity-specific current value in IAS 16 *Property, Plant and Equipment*.

In other IFRSs, value in use is used only in determining whether an asset measured at historical cost is impaired, but in the ED it is a separate measurement basis because [BC 6:26]:

- although value in use is used in determining recoverable historical cost, it differs conceptually from historical cost; and
- there may be situations in the future when the IASB decides that an entity should measure an asset using value in use instead of fair value.

Cash flow-based measurement technique is used for both value in use and fulfillment value which may be not only costly and complex but also subjective and difficult to verify both the inputs and the validity of the process itself. As a consequence of this technique, the entities may measure identical assets or liabilities at different amounts which reduces the comparability

[ED 6:43]. Besides, using the perspective of reporting entity may cause differences in the measures of identical assets and liabilities in different entities which again decreases the comparability. By contrast, this problem is not seen in fair value measurement because fair value uses market participant assumptions, in theory, different entities should arrive at identical estimates of fair value for identical items [ED 6:44].

The treatment of transaction costs in the ED is consistent with IFRS 13. The transaction costs incurred in acquiring an asset or taking on a liability are a feature of the original transaction so should be a part of it. Furthermore, if the measure base used is the fair value, fulfillment value, or value in use of an asset or a liability, the measure would not reflect those transaction costs as they do not affect the current value of that asset or liability [BC 6:35].

All things considered, when selecting a measurement basis, whether at initial recognition or subsequently, it is important to consider important factors such as relevance and faithful representation. Additionally, comparability, understandability, and verifiability are enhancing qualitative characteristics for the users of financial statements. To provide relevant information, the following factors should be considered [ED 6:54]:

- Contribution to future cash flows which will depend in part on the nature of the business activities conducted by the entity (e.g., if a property is realized by sale, it will produce cash flows from that sale, but if a property is used in combination with other assets to produce goods and services, it will help produce cash flows from the sale of those goods and services).
- The characteristics of the asset or the liability such as its sensitivity to the changes in the market and effects on the cash flows and other various risk factors that may be attached to the particular asset or liability.

## 6. Conclusion

Historical cost measurement is exposed to many criticisms that the financial statements prepared on a cost basis do not provide relevant information to the financial statement users due to its lack of fair and true presentation of entities and also causing a gap between the entity's book value and market value. In the past 20 years, there has been an ongoing debate and extensive discussion regarding the value relevance of information when the assets and liabilities are measured at fair value. On the other hand, the most important critique of the fair value is that if there is no active market for assets and liabilities, it may lead to subjective evaluations and cause fluctuations in profit or loss and other comprehensive income.

In other IFRSs where the principles for the measurement and reporting of assets and liabilities are stated, it is also found to be inadequate to use single measurement basis for valuing assets and liabilities and therefore proposes more than one measurement basis (i.e., historical cost, fair value, and net-realizable value). Within this context, IFRS 13 has been issued and in this standard, the fair value is more clearly defined, single set of measurement requirements are established, and hence complexity is reduced and consistency is improved. It also aims to

improve and clarify existing disclosure requirements related to fair value measurements and additionally increase the convergence of IFRS and U.S. GAAP.

When assets and liabilities measured at fair value according to relevant IFRSs are analyzed, it is seen that fair value is predominantly used as measurement basis for equity instruments, business combinations, investment properties, and agricultural products. The characteristics of these assets measured at fair value are that significant portion of them have active markets and provide cash flows to the entity through the sale of the asset instead of consumption. Although the revaluation model is proposed for property, plant, and equipment and intangible assets acquired for use in business operations, valuation differences are recognized in other comprehensive income rather than profit or loss. Furthermore, the application of the revaluation model for intangible assets is limited. The absence of an active market for these assets and the difficulties in implementing other valuation techniques make the implementation of revaluation model based on the fair value very limited.

Also, in the Exposure Draft *Conceptual Framework for Financial Reporting*, two measurement bases are agreed on rather than a single one. Selecting the appropriate measurement basis, the contribution of an asset to the future cash flows of the entity, the way a liability is fulfilled in the future and the characteristics of assets and liabilities should be taken into consideration. From that perspective, the measurement of assets acquired for use in business activities rather than sale at historical cost, and that the measurement of assets held for sale at fair value would provide more relevant information to the needs of financial information users. For instance, property, plant, and equipment that is used in operations should be carried at historical cost and will provide more relevant information than its current market price. This application also refers to the notion of prudence principle emphasized in the ED. On the other hand, for all assets the use of a cost-based measurement may not be relevant to the users of financial statements such as derivatives in the group of assets held for sale should be measured at fair value.

To conclude, it is important to recognize that IFRS 13 is the standard that defines fair value and provides a framework for applying fair value measurements when required by IFRS with the intention of increasing consistency, comparability, and hence decreasing complexity. Also, the Exposure Draft *Conceptual Framework for Financial Reporting* finds inadequate to use single measurement basis for providing relevant financial information and therefore proposes two measurement bases: historical cost and current value (i.e., fair value and value in use for assets and fulfillment value for liabilities).

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