

Chapter Two

Fair value measurement and Impairment

2.1. Fair value measurement

the objective of a fair value measurement is to estimate the price at which an orderly transaction to sell the asset or to transfer the liability would take place between market participants at the measurement date under current market conditions.

2.1.1. Definition

Fair value is a market-based measurement.

Because fair value is a market-based measurement, it is measured using the assumptions that market participants would use when pricing the asset or liability, including assumptions about risk. As a result, an entity's intention to hold an asset or to settle or otherwise fulfill a liability is not relevant when measuring fair value.

2.1.2. Measurement of fair value

Fair value focuses on assets and liabilities because they are a primary subject of accounting measurement.

2.1.3. Fair value at initial recognition

the fair value of the asset or liability is the price that would be received to sell the asset or paid to transfer the liability.

When determining whether fair value at initial recognition equals the transaction price, an entity shall take into account factors specific to the transaction and to the asset or liability.

Example:

Assume that the XYZ Company purchases securities on May 1, 2006 as an investment in available-for-sale securities:

Purchase From Company A, common stock	100 shares at Br 50 per share
Purchase From Company B, common stock	300 shares at Br 80 per share
Purchase From Company C, preferred stock	200 shares at Br 120 per share
Purchase From Company D, 10% bonds	Face value of Br 15,000

Recording Initial Cost

A company records all investments in securities initially at the acquisition price of the securities plus any other costs necessary for the transaction. Whenever bonds are purchased between

interest payment dates, the purchaser pays the previous bondholder for the interest earned to date.

Assume that, the accrued interest on the D Company bonds purchased by the XYZ Company with the face amount of Br 15,000, five months, 10%. How much of Accrued interest for the company?

Solution;

Given;

Face Amount Br 15,000

I= 10%

T = 5months=5/12

Required;

I =?

Interest = Principal $\times$ Rate $\times$ Time

Interest = 15,000 $\times$ 10% $\times$ 5/12

Interest= Br 625

The payment for the bonds includes the Br 15,000 cost of the bonds plus the Br 625 accrued interest. Then, calculate, the total cost of the securities purchased by the XYZ Company;

Solution;

Purchase From Company A, common stock	100 shares at Br 50 per share	Br 5,000
Purchase From Company B, common stock	300 shares at Br 80 per share	Br 24,000
Purchase From Company C, preferred stock	200 shares at Br 120 per share	Br 24,000
Purchase From Company D, 10% bonds	Face value of Br 15,000	Br 15,000
accrued interest		Br 625
total cost of securities		Br 68,625

The company records the purchase:

Investment in Available-for-Sale Securities 68,000

Interest Revenue-----625

Cash-----68,625

Recording Interest and Dividend Revenue

If the XYZ Company receives dividends during 2006 of Br 3,000 on its investments in the stock of A, B, and C Company records the following:

Cash-----3,000

Dividend Revenue-----3,000

Recognition of Unrealized Holding Gains and Losses

On its ending balance sheet, a company reports any investments in available-for-sale securities at fair value. The fair values are determined by the year-end market prices on a securities exchange. To illustrate, assume that the total fair value of the available-for-sale securities held by the XYZ Company is Br 71,000 on December 31, 2006 as follows:

Security	Cost	31/12/06 Fair Value	Cumulative Change in Fair Value
100 shares of A's Company common stock	Br 5,000	Br 6,000	Br 1,000
300 shares of B's Company common stock	Br24,000	Br 23,500	Br (500)
200 shares of C's Company preferred stock	Br 24,000	Br 26,000	Br 2,000
Br 15,000 face value of D Company 10% bonds	Br 15,000	Br 15,500	Br 500
Totals	<u>Br 68,000</u>	<u>Br 71,000</u>	<u>Br 3,000</u>

The XYZ Company records the Br 3,000 increase (unrealized holding gain) in the value of the securities at the end of 2006 as follows:

Allowance for Change in Value of Investment-----3,000

Unrealized Increase/Decrease in Value of Available-for-Sale-Securities-----3,000

suppose that on December 31, 2007, the fair value of the available-for-sale securities held by XYZ Company is Br 66,000 as follows:

Security	Cost	31/12/07 Fair Value	Cumulative Change in Fair Value
100 shares of A Company common stock	Br 5,000	Br 6,100	Br 1,100
300 shares of B Company common stock	Br24,000	Br 22,700	Br (1300)
200 shares of C Company preferred stock	Br 24,000	Br 23,200	Br (800)
Br 15,000 face value of D Company 10% bonds	Br 15,000	Br 14,000	Br (1000)
Totals	<u>Br 68,000</u>	<u>Br 66,000</u>	<u>Br (2,000)</u>

To record the Br 2,000 Decreased unrealized holding loss in the value of the securities at the end of 2006 is;

Unrealized increase/ decrease in Value of available-for sale-securities---2000

Allowance for change in value of investment-----2000

The company reports the Br 5,000 change (decrease) in the Unrealized Increase/Decrease account as an unrealized holding loss in its other comprehensive income for 2007. It also reports the \$2,000 debit balance in the Unrealized Increase/Decrease account as a subtraction from stockholders' equity in the accumulated other comprehensive income section. To record the change;

Unrealized Increase/Decrease in Value of Available-for-Sale Securities-----5,000

Allowance for Change in Value of Investment-----5,000

2.1.4. Valuation methods

There are several commonly used methods of valuation.

A. CAPITALIZATION OF EARNINGS/CASH FLOWS METHOD

This method is used to value a business based on the future estimated benefits, normally using some measure of earnings or cash flows to be generated by the company.

Example

ABC Company has five-year weighted average Net earnings on an after-tax basis of Br 591,000. An appropriate rate of return for this type of business is 21.32 % after-tax. Non-operating assets of Br 771,000. Then calculate total amount and Marketable controlling interest value of ABC Company based on the capitalization of earnings method:

Solution;

Given;

Net earnings to equity is Br 591,000

Capitalization rate is 21.32% or $21.32 \div 100 = 0.2132$

Value of non-operating assets is Br 771,000

- i. Calculate Total Amount;

Total amount = Net earnings to equity = Br 591,000 = Br 2,772,000

Capitalization rate 0.2132

- ii. Calculate Marketable controlling interest value;

Marketable controlling interest value = Total amount + Value of non-operating assets

Marketable controlling interest value = Br 2,772,000 + Br 771,000 = Br 3,543,000

B. Discounted earnings/cash flows method

The Discounted Earnings Method is sometimes referred to as the Discounted Cash Flow Method.

Example

Assume that, projected annual cash flows to be received at the end of:

Year 1, Br 10,500

Year 2, Br 40,700

Year 3, Br 80,600

Year 4, Br 110,100

Year 5, Br 150,300

The pre-tax discount rate is 24 percent; the pre-tax capitalization rate is 24 percent.

Calculate the value of the business

a) Calculate the present value of the annual cash flows:

End of Year	Future value	Pre-tax Discount Rate		Present Value = $\frac{FV}{(1+i)^n}$
1	Br 10,500	24%	$PV = \frac{10,500}{(1.24)^1} =$	Br 8468
2	Br 40,700	24%	$PV = \frac{40,700}{(1.24)^2} =$	Br 26,470
3	Br 80,600	24%	$PV = \frac{80,600}{(1.24)^3} =$	Br 42,274
4	Br 110,100	24%	$PV = \frac{110,100}{(1.24)^4} =$	Br 46,569
5	Br 150,300	24%	$PV = \frac{150,300}{(1.24)^5} =$	Br 51,268
	Br 392,200			Br <u>175,049</u>

Solution;

End of Year 5 value is Br 150,300

The discount rate is 24%

Required; End of Year 5 terminal value?

End of Year 5 terminal value = End of Year 5 value = Br 150,300 = Br 626,250

The discount rate 0.24

b. Calculate the present value of the terminal value:

The present value of the terminal value = End of Year 5 terminal value = Br 626,250 = 213,619
$$\frac{\text{End of Year 5 terminal value}}{(1+i)^n} = \frac{626,250}{(1.24)^5}$$

c) Calculate Total Value of Business?

PV of annual cash flows Br 175,049

PV of terminal value + 213,619

Total value of business Br 388,668

MARKET APPROACH

The market approach is the most common approach employed by real estate appraisers.

Dividend paying capacity method

It is similar to the capitalization of earnings method. The difference between this method and the capitalization of earnings method. This method of valuation is based on the future estimated dividends to be paid out or the capacity to pay out.

Example (Pre-Tax Basis)

ABC Co. has a five-year history of weighted average profits of Br 250,000. Its weighted average dividend payout percentage over the last five years has been 30%. Then how much of dividend pay-out ratio?

Solution;

Weighted average profits is Br 250,000

Weighted average dividend payout percentage is 30%

Required; Dividend Payout Ratio =?

Dividend Payout Ratio =

Weighted average profits × *Weighted average dividend payout percentage*

Dividend Payout Ratio = Br 250,000 × 30% Amount of Dividend = Br 75,000

Assume that; the weighted average dividend yield rate over the last five years is 7.5 percent.

What is the value of ABC Co. under the dividend payout method?.

Br 75,000 = Br 1,000,000

.075

2.1.5. Fair value hierarchy

IFRS 13 introduces a fair value hierarchy that categorizes inputs to valuation techniques into three levels. The highest priority is given to Level 1 inputs and the lowest priority to Level 3 inputs. An entity must maximize the use of Level 1 inputs and minimize the use of Level 3 inputs.

2.1.6. Disclosure

An entity shall disclose information that helps users of its financial statements assess both of the following:

(a) For assets and liabilities that are measured at fair value on a recurring or non-recurring basis in the balance sheet after initial recognition, the valuation techniques and inputs used to develop those measurements.

(b) for recurring fair value measurements using significant unobservable inputs (Level 3), the effect of the measurements on profit or loss or other comprehensive income for the period.

To meet the objectives in paragraph 91, an entity shall consider all the following: (a) the level of detail necessary to satisfy the disclosure requirements; (b) how much emphasis to place on each of the various requirements; (c) how much aggregation or disaggregation to undertake; and (d) whether users of financial statements need additional information to evaluate the quantitative information disclosed.

2.2. Impairment

Impairment occurs when it is probable that the company will be unable to collect all the amounts due. The company writes down the amortized cost of the security to the fair value and includes the amount of the write-down in net income as a realized loss. The fair value becomes the new “cost” and is not changed for subsequent recoveries in fair value. However, increases and decreases in the fair value of available-for-sale securities are included in stockholders’ equity.

Suppose that the ABC Company has a bond investment categorized as held to maturity, which has a carrying value (amortized cost) of Br 21,500 and a fair value of Br 6,500. If it considers the decline in value to be other than temporary, the company records the decline of Br 15,000 (Br 21,500-Br 6,500) as follows:

Realized Loss on Decline in Value-----15,000

Investment in Held-to-Maturity Debt Securities-----15,000

The Br 6,500 becomes the new “cost” of the security.

2.2.1. Definition

an “impairment” as a loss in the future economic benefits or service potential of an asset, over and above the systematic recognition of the loss of the asset’s future economic benefits or service potential through depreciation.

2.2.2. Measurement of impairment

The new impairment model introduces a three-stage approach. Stage 1 includes financial instruments that have not had a significant increase in credit risk since initial recognition or that has low credit risk at the reporting date.

Stage 2 includes financial instruments that have had a significant increase in credit risk since initial recognition (unless they have low credit risk at the reporting date) but are not credit - impaired.

2.2.4. Disclosure

Major disclosures for investments in securities by FASB Statement:

1. Trading Securities. Disclose the change in the net unrealized holding gain or loss that is included in each income statement.
2. Available-for-Sale Securities. For each balance sheet date, disclose the aggregate fair value, gross unrealized holding gains and gross unrealized holding losses, and (amortized) cost by major security types. For each income statement period, disclose;
(1) The proceeds from sales and the gross realized gains and gross realized losses on those sales, (2) the basis on which cost was determined (e.g., the average cost method), (3) the gross gains and gross losses included in net income from transfers of securities from this category into the trading category, and (4) the change in the net unrealized holding gain or loss included as a separate component of other comprehensive income.
3. Held-to-Maturity Debt Securities. For each balance sheet date, disclose the aggregate fair value, gross unrealized holding gains, gross unrealized holding losses, and amortized cost by major security types. For any sales or transfers from this category, the disclosures must include the amortized cost, the related realized or unrealized gain or loss, and the circumstances leading to the decision to sell or transfer the security.

Investments

Trading Assets. Trading assets are stated at fair value, with gains or losses resulting from changes in fair value recognized currently in earnings.

Available-for-Sale Investments. Investments designated as available-for-sale include marketable debt and equity securities. Investments that are designated as available-for-sale are reported at fair value, with unrealized gains and losses, net of tax, recorded in stock- holders' equity. The cost of securities sold is based on the specific identification method. Realized gains and losses on the sale of debt securities are recorded in interest and other, net. Realized gains or losses on the sale or exchange of equity securities and declines in value judged to be other than temporary are recorded in gains (losses) on equity securities, net. Marketable equity securities are presumed to be impaired if the fair value is less than the cost basis continuously for at least six months, absent evidence to the contrary.

Example:

Disclosure of Marketable Securities:

ABC corporation Trading assets outstanding at fiscal year-ends were as follows:

	2003		
	Cost	Net Unrealized Gains	Estimated Fair value
Debt instruments	Br 2,147,000,000	Br 174,000,000	Br 2,321,000,000
Equity securities offsetting deferred compensation	Br 244,000,000	Br 60,000,000	Br 304,000,000
Total Trading Assets	Br 2,391,000,000	Br 234,000,000	Br 2,625,000,000

Available-for-sale investments at December 27, 2003 were as follows:

	Adjusted Cost	Gross Unrealized Gains	Gross Unrealized Losses	Estimated Fair Value
Commercial paper	Br 9,948,000,000	-	Br (1,000,000)	Br 9,947,000,000
Bank time deposits	Br1,900,000,000	-	-	Br 1,900,000,000
Floating rate notes	Br 1,078,000,000	-	-	Br 1,078,000,000
Corporate bonds	Br 703,000,000	-	-	Br 703,000,000
Marketable strategic	Br 467,000,000	Br 47,000,000	-	Br 514,000,000

equity securities				
Preferred stock and other equity	Br 224,000,000	Br 9,000,000	-	Br 233,000,000
Other debt securities	Br 352,000,000	-	-	Br 352,000,000
Total available-for-sale investments	<u>Br 14,672,000,000</u>	<u>Br 56,000,000</u>	<u>Br (1,000,000)</u>	<u>Br 14,727,000,000</u>

Available-for-Sale Investments

Available-for-sale investments at December 25, 2004 were as follows:

	Adjusted Cost	Gross Unrealized Gains	Gross Unrealized Losses	Estimated Fair Value
Commercial paper	Br 9,024,000,000	-	Br (4,000,000)	Br 9,020,000,000
Bank time deposits	Br 1,936,000,000	-	-	Br 1,936,000,000
Floating rate notes	Br 3,419,000,000	-	Br (1,000,000)	Br 3,418,000,000
Corporate bonds	Br 794,000,000	-	-	Br 794,000,000
Marketable strategic equity securities	Br 589,000,000	Br 118,000,000	Br (51,000,000)	Br 656,000,000
Preferred stock and other equity	Br 200,000,000	-	-	Br 200,000,000
Other debt securities	Br 234,000,000	-	-	Br 234,000,000
Total available-for-sale investments	Br 16,196,000,000	Br 118,000,000	Br (56,000,000)	Br 16,258,000,000