

## IFRS in Focus

### Valuation methodologies

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#### Introduction

As part of the IFRS Foundation Education Initiative, the IFRS Foundation staff is developing, with the assistance of a valuation expert group, educational material to support IFRS 13 *Fair Value Measurement*. The material will cover the application of the fair value measurement principles in IFRS 13 across a number of topics. These topics will be published in individual chapters as they are completed.

In December 2012, the IFRS Foundation staff published the first chapter of this educational material *Measuring the fair value of unquoted equity instruments within the scope of IFRS 9 Financial Instruments* ("educational material"). This chapter describes, at a high level, the thought process for measuring the fair value of individual unquoted equity instruments that constitute a non-controlling interest in a private company (i.e. the investee) within the scope of IFRS 9 *Financial Instruments*. This guidance is equally relevant in determining fair value of unquoted equities under IAS 39 *Financial Instruments: Recognition and Measurement*. It presents a range of commonly used valuation techniques for measuring the fair value of unquoted equity instruments within the market and income approaches, as well as the adjusted net asset method.

The purpose of this publication is to provide an overview of the valuation approaches and techniques considered in the educational material. The educational material provides number of examples illustrating the application of the various approaches and techniques. However, the chapter might not be comprehensive enough to support non-valuation specialists who are faced with complex valuations for financial reporting purposes or to assist with assessing whether complex valuations performed by valuation specialists are in accordance with the principles in IFRS 13.

#### Summary

Valuation involves significant judgement and it is likely that different valuation techniques will provide different results. This is because the inputs used, and any adjustments to those inputs, may differ depending on the technique used. The existence of such differences does not mean that any of the techniques is incorrect. IFRS 13 does not contain a hierarchy of valuation techniques for meeting the objective of a fair value measurement and, like IFRS 13, the first chapter of the educational material does not stipulate the use of a specific valuation technique. However, this chapter acknowledges that given specific circumstances, one valuation technique might be more appropriate than others.

For more information please see the following websites:

[www.iasplus.com](http://www.iasplus.com)

[www.deloitte.com](http://www.deloitte.com)

The factors that an investor will need to consider when selecting the most appropriate valuation technique include (the list is not exhaustive):

- the information available to an investor;
- the market conditions (i.e. bullish or bearish markets might require an investor to consider different valuation techniques);
- the investment horizon and investment type (e.g. the market sentiment when measuring the fair value of a short-term financial investment might be better captured by some valuation techniques than by others);
- the life cycle of the investee (i.e. what may trigger value in different stages of an investee's life cycle might be better captured by some valuation techniques than by others);
- the nature of an investee's business (e.g. the volatile or cyclical nature of an investee's business might be better captured by some valuation techniques than others); and
- the industry in which the investee operates.

### Valuation approaches and techniques

The table below presents a summary of the valuation approaches and valuation techniques in the educational material.

Valuation approach	Valuation technique
Market approach	Transaction price paid for an identical instrument in the investee
	Transaction price paid for a similar instrument in the investee
	Comparable company valuation multiples
Income approach	Discounted cash flow method
	Dividend discount model
	Constant-growth dividend discount model
	Capitalisation model
A combination of market and income approach	Adjusted net asset method

In addition, the fair value measurement of those equity instruments must reflect current market conditions. An investor might ensure that the valuation techniques reflect current market conditions by calibrating them at the measurement date. At initial recognition, if the transaction price was fair value and an investor uses a valuation technique to measure fair value in subsequent periods, the investor must calibrate the valuation technique so that it equals the transaction price if that valuation technique uses unobservable inputs. The use of calibration when measuring the fair value of the unquoted equity instruments at the measurement date is a good exercise for an investor to ensure that the valuation technique reflects current market conditions and to determine whether an adjustment to the valuation technique is necessary (e.g. there might be a characteristic of the instrument that is not captured by the valuation technique like a minority interest discount, a discount for the lack of liquidity or a new fact that has arisen at the measurement date that was not present at initial recognition).

Because of the nature of the inputs used in the valuation techniques for unquoted equity instrument (e.g. unobservable inputs such as forecasts or budgets when applying the discounted cash flow method, or performance measures when applying comparable company valuation multiples) and their relevance in the resulting fair value measurements, most of the measurements will be categorised within Level 3 of the fair value hierarchy and such fair value measurements will require an investor to prepare more extensive disclosures according to IFRS 13.

## Market approach

The market approach uses prices and other relevant information that have been generated by market transactions that involve identical or comparable assets. The approach might be used when there are sufficiently comparable company peers or when the background or details of the observed transactions are known.

### 1. Transaction price paid for an identical instrument in the investee

When an investor has recently made an investment in an instrument that is identical to the unquoted equity instrument being valued, the transaction price (i.e. cost) might be a reasonable starting point to measure the fair value of the unquoted equity instrument at the measurement date, if that transaction price represented the fair value of the instrument at initial recognition in accordance with IFRS 13. An investor must, however, use all information about the performance and operations of an investee that becomes reasonably available to the investor after the date of initial recognition up to the measurement date. Because such information might have an effect on the fair value of the unquoted equity instrument in the investee at the measurement date, it is only in limited circumstances that cost may be an appropriate estimate of fair value at the measurement date. The following factors might indicate that the investor's transaction price might not be representative of fair value at the measurement date:

- a significant change in the performance of the investee compared with budgets, plans or milestones;
- changes in expectation as to whether the investee's technical product milestones will be achieved;
- a significant change in the market for the investee's equity or its products or potential products;
- a significant change in the global economy or the economic environment in which the investee operates;
- a significant change in the performance of comparable entities, or in the valuations implied by the overall market;
- internal matters of the investee such as fraud, commercial disputes, litigation, changes in management or strategy; and
- evidence from external transactions in the investee's equity, either by the investee (such as a fresh issue of equity), or by transfers of equity instruments between third parties.

In addition, an investor must consider the existence of factors such as whether the environment in which the investee operates is dynamic, whether there have been changes in market conditions or the passage of time itself. Such factors might undermine the appropriateness of using the transaction price as a means of measuring the fair value of unquoted equity instruments at the measurement date.

### 2. Transaction price paid for a similar instrument in the investee

The transaction price paid recently for an investment in an equity instrument in an investee that is similar, but not identical, to an investor's unquoted equity instrument in the same investee, would be a reasonable starting-point for estimating the fair value of the unquoted equity instrument, if that transaction price represented the fair value of that equity instrument at initial recognition in accordance with IFRS 13. Examples of such transactions include the issue of new classes of shares to other investors and transactions in such shares between other investors.

If an investor considers transaction prices of recent investments involving, for example, other investors, when measuring the fair value of its unquoted equity instruments, the investor must understand any differences between the unquoted equity instruments that it currently holds and the equity instruments for which the other investors are entering into transactions. Such differences might include different economic and control rights (e.g. newly issued preference shares can have different dividend entitlement than the previously issued ordinary shares or there can be different rankings upon liquidation).

### 3. Comparable company valuation multiples

Market approaches are based on the concept of comparables, assuming that the value of an asset (or line of business or company) can be measured by comparing it to similar assets (or lines of businesses or companies) for which a market price is available. When using transaction multiples to measure the fair value of unquoted equity instruments, an investor must consider that those transaction multiples sometimes represent the sale of a controlling interest however the fair value of the investor's unquoted equity instruments must be measured on a non-controlling basis and as such the investor should apply a minority interest discount. In contrast, when using trading multiples, such a minority interest discount will not usually be necessary because those multiples are based on quoted prices and, as a result, are likely to reflect a non-controlling interest basis.

Whether an investor uses trading multiples or transaction multiples, the valuation of unquoted equity instruments consists of the following steps:

- (1) Identify comparable company peers;
- (2) Select the performance measure that is most relevant to assessing the value for the investee (i.e. the performance measure that market participants would use to price the investee). This would typically be by reference to measures of, for example, earnings, book value of equity or revenue. Once the performance measure is selected, derive and analyse possible valuation multiples and select the most appropriate one;
- (3) Apply the appropriate valuation multiple to the relevant performance measure of the investee; and
- (4) Make appropriate adjustments (e.g. for lack of liquidity) to ensure comparability between the unquoted equity instruments held in the investee and the equity instruments of the comparable company peers.

The table below, reproduced from the educational material, summarises some of the more commonly used valuation multiples:

Performance measure	Valuation basis	Valuation multiple	Consideration for using such valuation multiples
EBITDA	Enterprise value <sup>1</sup>	EV/EBITDA	An EBITDA multiple removes interest, tax, depreciation of tangible assets and amortisation of intangible assets from the earnings stream. Depending on the circumstances, an investor might consider EBITDA multiples to be more appropriate for valuing entities whose comparable company peers have different capital structures, different levels of asset intensity and different methods of depreciating and amortising tangible and intangible assets. For example, this multiple might be useful if there are entities within the group of comparable company peers that predominantly lease their operating assets (i.e. less capital-intensive entities) while others own them (i.e. more capital-intensive entities). However, an investor must exercise judgement and consider all facts and circumstances when using this valuation multiple, because it might tend to favour more highly capital-intensive entities.
EBIT	Enterprise value	EV/EBIT	An EBIT multiple recognises that depreciation and amortisation reflect economic expenses associated with the use of an entity's assets that will ultimately need to be replaced, even though they are non-cash charges. However, this multiple might be distorted by any differences in the accounting policies for depreciation and amortisation between the investee and the comparable company peers. EBIT might also be very different between entities growing organically and entities growing by acquisition due to the amortisation of intangibles recognised in business combinations.
EBITA	Enterprise value	EV/EBITA	An EBITA multiple is sometimes used as an alternative to the EBIT multiple when the level of intangible assets and associated amortisation is significantly different between the investee and the comparable company peers.
Earnings (i.e. net income)	Equity value <sup>2</sup>	P/E	A price/earnings multiple is appropriate when the entities have similar financing and tax structures and levels of borrowing. In practice, it is uncommon for entities to have similar financing structures. The price/earnings multiples of entities with different financing structures might be very different. This multiple is commonly used for entities in the finance sector (banking, insurance and leasing) where interest expense or interest income is a relevant operating expense or income line.
Book value	Equity value	P/B	<p>A price/book value multiple is considered a useful indicator for comparing the book value of an entity's equity with its market value (i.e. quoted price). Aside from being a key value indicator in some industries such as hotels or financial institutions, this multiple can also be a tool for identifying potentially undervalued or overvalued companies. This multiple is not suitable for asset-light industries, such as technology companies, because the carrying amounts of the assets in the statement of financial position are usually low compared to their market values as a result of such entities often having unrecognised intangible assets.</p> <p>A variation of this multiple is the Price/Tangible book value (calculated as the book value less acquired or internally developed intangible assets and goodwill), which is sometimes used in the valuation of financial institutions.</p>
Revenue	Equity value	EV/Revenue	A revenue multiple is most useful if an entity's earnings are highly correlated with its revenue, because capitalising revenues can be considered a shortcut to capitalisation of earnings (i.e. this multiple is useful if a certain level of revenues is able to generate a specific earnings level in a given type of business). Multiples of revenue are applied most frequently to start-up companies, service businesses (e.g. advertising companies, professional practices, insurance agencies etc.) and to entities that are loss-making at an EBITDA level or that have profitability levels that are very similar to those of comparable company peers. Multiples of revenue are typically only applied as a cross-check.

1 The intended use of this term in the educational material is to represent the fair value of all equity and non-equity financial claims attributable to all capital providers (i.e. equity and debt holders).

2 Equity value is the fair value of all equity claims. Equity value can also be expressed as the enterprise value less the fair value of all non-equity financial claims on an entity.

An investor might need to adjust the valuation multiples for differences between the investee and its comparable company peers arising from differences, for example, in their operations, risk profiles or cash flow growth prospects.

In addition, the performance measures of the comparable company peers used in the calculation of the valuation multiples, or the investee's performance measure to which the valuation multiples are applied, might need to be adjusted to reflect their on-going capacity to generate economic benefits. In other words, the performance measures might need to be "normalised" (e.g. elimination of exceptional, non-recurring transactions or impact of acquisitions and discontinued operations). However, normalisation should not eliminate the effect of current market conditions on the performance measures.

It is also important to consider whether the investee or the comparable company peers have relevant non-operating assets or non-operating liabilities. Generally, if a non-operating item enhances the value of a comparable company peer, that additional value should be subtracted from the comparable company peer's valuation multiples. If it detracts value from the comparable company peer, then that value should be added back to the comparable company peer's valuation multiples.

If there are a sufficient number of comparable company peers, entities might use an average or median when selecting the valuation multiple to apply to an investee's relevant performance measure.

Similarly to the transaction price approach we might consider a discount for the lack of liquidity or a minority interest discount.

## Income approach

The income approach converts future amounts (e.g. cash flows or income and expenses) to a single current (i.e. discounted) amount. This is typically done using a discounted cash flow (DCF) method, which is applied to enterprise cash flows or, less frequently, to equity cash flows.

### 1. Discounted cash flow (DCF) method

Investors are required to estimate the future expected relevant cash flows and discount them to the present value at the rate of return that accounts for the time value of money and the relative risks of the investment. The table below summarises different DCF approaches:

	Equity value	Enterprise value
Cash flows	Free cash flows to equity (FCFE) are the cash flows available to all equity capital providers. In other words, FCFE are cash flows from assets, <b>after debt payments</b> and after making reinvestments that are needed for future growth.	Free cash flows to firm (FCFF) are the cash flows available to all capital providers (equity and debt holders). In other words, FCFF are cash flows from assets, <b>before any debt payments</b> but after reinvestments needed for future growth.
Discount rate	The discount rate reflects <b>only the cost of raising equity financing</b> (i.e. the cost of equity capital).	The discount rate reflects the <b>cost of raising both debt and equity financing</b> , in proportion to their use (i.e. the weighted average cost of capital, or WACC*).

\*WACC is commonly expressed as follows:

$WACC = D/(D + E) * (1 - t) * kd + E/(D + E) * ke$ ; where:

D = fair value of debt capital;

E = fair value of equity capital;

kd = cost of debt capital (please see below for the further information);

ke = cost of equity capital (often estimated using Capital Assets Pricing Model i.e. CAPM, please see below for the further information); and

t = market participant expectations of the investee's effective income tax rate.

The educational material provides further guidance on determining discount rates for a DCF model (e.g. WACC) describing each of the components of WACC, approaches for estimating investee credit ratings, country equity risk premiums and an illustrative computation. This detailed guidance is not discussed further here.

## 2. Dividend discount model

The dividend discount model (DDM) assumes that an entity's share price equals the present value of all expected future dividends in perpetuity. In other words, share prices are ultimately determined by the cash flows accruing to shareholders in the form of dividends. The DDM is often used when measuring the fair value of investments for which the investee consistently pays dividends. If investors never expect a dividend to be paid, then this model implies that the shares would have no value. To reconcile the DDM with the fact that non-dividend-paying investments do have a market value, one must assume that investors expect that the investee eventually will pay out cash, even if only a liquidating dividend.

## 3. Constant-growth dividend discount model (Gordon Growth Model)

The constant-growth DDM derives the value of a business or entity by reference to a forecast of a dividend stream. As a result, it requires entities to project dividends for every period into the indefinite future. As a shortcut, a simplifying assumption can be made that dividends grow at a stable growth rate. This model is extremely sensitive to assumptions about the growth rate i.e. when growth is bigger than cost of equity, the value of the share would be infinite.

The constant-growth DDM is best suited for entities growing at a rate equal to or lower than the nominal growth in the economy with well-established dividend payout policies that they intend to continue into the future. This method could also be appropriate when the investor has limited financial information from the investee and when growth is relatively stable.

## 4. Capitalisation model

Capitalising is a process applied to an amount representing some measure of economic income in order to convert that economic income amount to an estimate of present value. An important assumption underpinning this method is that the annual income stream that is capitalised is constant in perpetuity or that it grows at a constant annualised rate of growth (or decline). This might not necessarily hold true in the real world, but it is a technique that might prove useful in some cases as a cross-check.

### Combination of Market and Income approach

#### Adjusted net assets method

The adjusted net asset method involves deriving the fair value of a business by reference to the fair value of its assets and liabilities, both recognised in an investee's statement of financial position as well as the fair value of any unrecognised assets and liabilities at the measurement date. This method is likely to be appropriate for:

- a business whose value derives mainly from the holding of assets rather than from deploying those assets as part of a broader business e.g. property-holding companies and investment companies; or
- a business that is not making an adequate return on assets or that is making only marginal levels of profits because it is in the very early stages of its development (e.g. an entity that has virtually no financial history, no developed product or a small amount of invested cash).

Because the adjusted net asset method results in the valuation of a controlling interest, an investor must consider the need for applying a minority interest discount when measuring the fair value of a non-controlling equity interest if the investor has concluded that there is a benefit associated with control. An investor must additionally consider the existence of other factors that might result in the need for an adjustment such as:

- lack of liquidity;
- significant time elapsing between the reporting date and the measurement date; and
- any other facts and circumstances e.g. an investor measuring the fair value of an unquoted interest in a fund must consider whether potential performance fees have been recognised appropriately in the fund's net asset value.

#### Closing remarks

The educational material on measuring the fair value of unquoted equity instruments provides common oversights when applying any of the above described valuation techniques. The guidance is not exhaustive, however it could be used in considering the appropriateness of a valuation technique and highlight the benefits and pitfalls of a particular valuation approach.

Additionally the Education Guidance provides list of other publications used for developing the guidance that could be used by the readers to obtain more details in respect of the valuation methodologies. However, not all the concepts or methodologies include in these reference publications are necessarily aligned with the fair value principles in IFRS 13.

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