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# Fair Value of an Entity's Property, Plant and Equipment for First-Time Adoption of Accounting Standards for Private Enterprises — A Business Valuator's Perspective

ASPE

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## Introduction

The Canadian Accounting Standards for Private Enterprises ("ASPE") provide financial statement preparers a one-time option that allows an entity to measure an item of property, plant and equipment at its fair value as of the date of transition from Canadian GAAP to ASPE[1]. This option may be applied to any individual item of property, plant and equipment at the date of transition to ASPE.

Estimating the fair value of tangible assets for purposes of the one-time option for entities transitioning to ASPE can also be beneficial for other possible uses, including calculating contributory charges to be applied in determining intangible asset values and measuring the impairment of goodwill and long-lived assets.

This article explores some of the practical issues involved in the fair value measurement of property, plant and equipment in the context of applying ASPE.

1 ASPE 1500.12.

## Definition of "fair value"

Guidance with respect to fair value measurement is contained in the Appendix to ASPE 3063. Fair value is defined as "the amount of the consideration that would be agreed upon in an arm's length transaction between knowledgeable, willing parties who are under no compulsion to act."[2] This implies that the transaction is not a forced or distress sale.

The definition is reasonably consistent with the definition of "fair market value," which is the standard of value generally used for notional market valuations (e.g., income tax rollovers, application of the buy-sell clause in a shareholders' agreement, etc.). However, the accounting standard-setters wished to separate the "fair value" concept applied for accounting purposes from the "fair market value" concept that has evolved from jurisprudence, and most often relates to transactions or deemed transactions under the *Income Tax Act*.

## Valuation approaches

There are three general approaches considered in the valuation of a tangible or intangible asset, a business or a security:

- Cost;
- Income; and
- Market.

Various methods or techniques are applied under each of these approaches. For example, for property, plant and equipment, the Cost Approach can be determined to be replacement cost — new or depreciated replacement cost. Under the Income Approach, possible fair value measurement techniques include discounted cash flow ("DCF") analysis and the capitalization of cash flows or earnings. Under the Market Approach, a technique using guideline transactions can be applied if sufficient information is known regarding reasonably contemporaneous arm's-length market transactions of substantially comparable properties.

2 ASPE 1582, "Business Combinations," paragraph .03(i), and ASPE 3063, "Impairment of Long-Lived Assets," paragraph .03(b).

Any of these three approaches, or a combination of two or more, can be appropriate, depending on the nature of the asset and the information available, as will be further explained below.

## Hierarchy of approaches

The Appendix to ASPE 3063 sets out the following hierarchy to be applied in the selection of the approach(es) to be used in estimating fair value:

> A2 "Quoted market prices in active markets are the best evidence of fair value and are used as the basis for fair value measurement, when available."
>
> A3 "When quoted market prices are not available, estimates of fair value are based on the best information available, including prices for similar items and the results of other valuation techniques. Valuation techniques used would be consistent with the objective of measuring fair value."

The accounting standards therefore formulate a preference for the market approach using market prices for identical items (e.g., marketable securities traded on a stock exchange). However, this type of information is rarely available when dealing with property, plant and equipment.

The market approach can also be applied using prices for similar items — for example, each real estate property is different from the next, but similar properties that sold in a recent time horizon within a reasonably proximate geographical territory can provide meaningful information about the value. Certain adjustments may be required to take into account differences between the subject property and the comparable properties or guideline transactions. When buying a home, for example, we analyze the prices of other houses sold in the area and make adjustments for differences including size, number of bedrooms/bathrooms, how recently it was renovated, etc. Similarly, for tangible assets on a company's balance sheet, such as commercial real estate, adjustments have to be made for differences between the subject property and the comparables. Such adjustments can often be subjective, involving a degree of estimation uncertainty. Therefore, such analysis often requires the assistance of a valuator specialized in real estate or machinery and equipment, for example, with experience and expertise in the type of property being valued.

"Other valuation techniques" include those that fall under the Cost and Income approaches. The Appendix to ASPE 3063 discusses the application of present value techniques to estimate the fair value of a long-lived asset, which entails estimating future cash flows resulting from the use of the asset. Such estimates are generally based on assumptions as to the amount and timing of these future cash flows and involve a degree of subjectivity in developing the cash flow projections as well as the associated discount rate. The related estimation uncertainty results in a preference for observable market inputs, as reiterated in the Appendix to ASPE 3063:

> A25 "If prices for an asset or liability or an essentially similar asset or liability can be observed in the market, there is no need to use present value measurements because the market assessment of present value is already embodied in the price. However, if observed prices are unavailable, present value measurements are often the best available technique with which to estimate what a price would be. An enterprise typically will be able to estimate the expected cash flows from an asset or liability, but the appropriate risk premium consistent with fair value may be difficult to determine."

## Auditor requirements

In preparing fair value estimates, management must be aware of auditor requirements in order to ensure that the final number will satisfy the test of auditor scrutiny. Canadian Auditing Standard ("CAS") 540[3] sets out the auditor's responsibilities relating to accounting estimates, including fair value [accounting] estimates, and related disclosures in the financial statements. The variation in the nature and reliability of information available to management affects the degree of estimation uncertainty inherent in fair value measurement. The auditor must consider the subjectivity of assumptions used by management and the possibility of management bias (unintended or intended) in the preparation of fair value accounting estimates. The auditor must then evaluate whether the significant assumptions used by management are reasonable and determine the impact on his or her assessment of any risk of material misstatement.

It follows, then, that management must seek to maximize the use of observable inputs (such as market lease rates) in fair value measurement because they are likely to be more objective and less subject to bias. Unobservable inputs (such as management's projection of future raw material prices in a DCF analysis when determining the future cash flows of a plant) may be more subjective and thus more difficult to corroborate by the auditor.

3 "Auditing Accounting Estimates, Including Fair Value Accounting Estimates, and Related Disclosures."

## Market participants and highest and best use

In preparing cash flow projections for the purpose of developing a fair value estimate, management must consider what market participants would do in similar circumstances as discussed in the Appendix to ASPE 3063:

> A7 "Cash flow estimates incorporate assumptions that market participants would use in their estimates of fair value whenever that information is available without undue cost and effort. Otherwise, an enterprise may use its own assumptions. The use of an enterprise's own assumptions about future cash flows is compatible with an estimate of fair value, as long as there are no contrary data indicating that market participants would use different assumptions. If such data exists, the enterprise must adjust its assumptions to incorporate that market information."

This implies that fair value estimates should be based on the highest and best use for the asset, whether or not management intends to use the asset in that particular way. For example, an entity may currently be operating a real estate property in downtown Montreal as a parking lot. However, if market participants would likely determine that the highest and best use for this property would be a high-rise office tower, then the latter may be the appropriate basis for determining the fair value of the property. The concept of "highest and best use" for real estate property generally requires that the use be reasonably probable, physically possible, in compliance with zoning and building regulations, and financially feasible, in addition to being the use that produces the highest value for the property.

In determining the fair value of assets that are not being used optimally *in situ* ("value in use" where located), the valuator must assess whether the assets would be worth more if they were dismantled and sold, assuming they are movable ("value in exchange"). For example, a textile mill may have certain machinery and equipment in Canada that could be worth more in Asia after taking into consideration any transaction, transportation and other costs to move them where they would be used.

## Present value techniques

Two techniques are explained in the Appendix to ASPE 3063: the traditional approach and the expected present value technique.

The traditional approach uses a single set of cash flows, representing management's best estimate of the most likely amounts, discounted at a single rate of return that reflects the expected level of risk for the asset and its relevant cash flow projection.

The expected present value technique, on the other hand, uses multiple scenarios to project a range of possible outcomes. Each scenario is weighted according to its estimated probability, and an appropriate discount rate is applied that reflects the risk inherent in the asset being valued but not the risk attaching to the variability of cash flows already reflected in the scenarios (otherwise there would be double-counting). The expected present value technique would be used when there is a range of possible outcomes and when a single set of cash flows cannot be reasonably estimated.

## Conclusion of value

In arriving at a conclusion of value, the valuator assesses the strengths and weaknesses of the value indications derived from the application of the different approaches. Applying professional judgment, the valuator would place more reliance on those methods for which the most information from reliable sources is available (e.g., observable inputs), taking into consideration the hierarchy set out in the accounting standards.

## Example—real estate

Real estate is another asset that frequently appears on financial statements, for which fair value may differ materially from book value. Management may be tempted to use municipal values from the property tax assessment as an estimate of fair value, but this "shortcut" approach may not be appropriate since municipal valuations often do not reflect fair market values, as can be observed by comparing actual sale prices of properties transacted to their municipal values. The latter are generally updated only every three years and therefore may not reflect current real estate market trends, which can sometimes evolve rapidly. Therefore, we generally recommend that a real estate appraiser specialized in the geographic area and in the type of building (e.g., commercial, industrial or residential) be retained by management when there is a significant item of property to be valued. They can access databases containing data relating to historical real estate market transactions that are not easily accessible to the public. They also have the expertise required to interpret the data and make adjustments for differences between the comparable transactions and the subject property, as previously noted.

The Appraisal Institute of Canada and the American Institute of Real Estate Appraisers provide a definition[4] of "market value" that is generally consistent with "fair value" under the accounting standards and reads as follows:

> "The most probable price which a property should bring in a competitive and open market as of the specified date under all conditions requisite to a fair sale, the buyer and seller each acting prudently and knowledgeably, and assuming the price is not affected by undue stimulus."

Real estate appraisers also use the three general valuation approaches previously noted, that is, Market ("direct comparison"), Income and Cost.

The Direct Comparison Approach is premised on the theory that an informed purchaser would pay no more for a property than the cost of acquiring another equivalent property. The value estimate is based on sales or listings of comparable properties having similar characteristics and within a relevant geographic area. The appraiser may apply a discount, or premium, to make adjustments for differences in size, location, current interest rates, and other factors, between the comparables and the subject property.

The Income Approach is based on the theory that value is the present worth of the future income stream that the property is capable of producing when developed to its highest and best use. Under this approach, two methods can be applied. The direct capitalization method and the DCF method. The Direct Capitalization Method involves calculating a market level of rent for the property (often expressed as $/sq.ft.) based on lease terms for similar properties, an assumed percentage rate of vacancy/bad debts, and operating expenses. The resulting notional annual net operating income is capitalized at an appropriate rate of return, which takes into account the likely terms of mortgage financing, to arrive at the value of the property. The DCF Method consists of projecting the most probable net income over a certain period and assuming a resale of the property in the last year of the projection, then discounting the related cash flows using an appropriate risk-affected discount rate.

The Cost Approach involves estimating the cost to build a new building of equivalent utility to the subject being appraised, at current prices, less an allowance for depreciation (physical, functional and economic), and adding the estimated land value.

4 The definition to be applied in a particular assignment may vary by jurisdiction, e.g., when an appraisal is provided in the context of litigation.

## Example—plant assets

We were involved in determining the fair value of an operating plant in the context of the measurement of an impairment loss on long-lived assets (after determining that the plant had failed the recoverability test under former CPA Canada Handbook Section 3063). All of the tangible fixed assets of the plant were considered together as one group, being the lowest level for which identifiable cash flows were largely independent of those of other assets and liabilities.[5]

Given that the plant did not have an observable market value, we had to use other valuation techniques. We adopted two valuation approaches: (i) the income approach, using discounted cash flow analysis and the expected present value technique, and (ii) the cost approach, using depreciated replacement cost.

### *Income approach*

We determined that it was necessary to apply the expected present value approach rather than the traditional approach, because management had identified several possible scenarios regarding the future cost of raw material inputs, depending on certain events in the industry and the outcome of certain negotiations with a supplier.

Our application of the expected present value technique entailed the following steps:

- Obtaining from management a projection of expected future cash flows under three possible scenarios, based on management's estimate of market participants' likely expectations of the plant's future results of operations;
- Obtaining management's estimate regarding the probability of each of the three scenarios developed;
- Reviewing the projections and analyzing the significant underlying assumptions;
- Discussing the assumptions with management and obtaining supporting data from management and independent industry sources (e.g., historical financial results and industry trends);
- For each year of the cash flow projection, multiplying the cash flow under each scenario by the probability of occurrence of that scenario, arriving at an expected cash flow for the year;
- Developing an appropriate discount rate to apply to the projected cash flows, being the weighted average cost of capital ("WACC") for the plant;
- Applying the WACC to the expected cash flows to discount them to their present value; and
- Aggregating the present value of the expected cash flows to a single sum, being the fair value of the plant at the valuation date.

5 ASPE 3063, paragraph 12.

Our development of the WACC[6] involved determining the rate of return that a market participant would require on the plant assets, taking into account the fact that the uncertainty relating to raw material price volatility had been considered by way of the three scenarios developed by management, but that there was a price for bearing the uncertainty, which was addressed through a risk factor.

We used what is generally referred to as a "Build-Up Method" to calculate the cost of equity. We considered the Capital Asset Pricing Model[7] ("CAPM") for calculating the cost of equity, but due to an unreliable *beta*[8], the Build-Up Method was utilized.

The Build-Up Method is based on the principle that a discount rate comprises a number of identifiable risk factors which, when added together, result in the total return required on an investment in the subject assets.

It incorporates a multi-step process in "building up" the average market return for an equity investment. The first step is to determine the risk-free rate as at the valuation date. To this rate is added (a) the equity risk premium that an equity investor would require in order to receive a market rate of return on equity, and (b) an investment-specific risk premium (or discount) relating to the risk perceived in the subject of the valuation (including size).

An acceptable rate of return will change with time and situation. However, the factors to be considered in the determination thereof include a number of internal and external factors having a bearing on the subject of the valuation.

6 The formula for determining the WACC is well-established in financial theory and can be illustrated by the following equation (for a company with a simple financial structure comprising equity and debt):

$$\mathbf{WACC = (KB_{eB} \times WB_{eB}) + (KB_{dB} \times WB_{dB})}$$

*Where:*

$K_{eB}$ = Cost of Equity

$WB_{eB}$ = Equity weight (value of Equity divided by Invested Capital)

$KB_{dB}$ = After-tax cost of debt

$W_{dB}$ = Debt weight (value of interest-bearing debt divided by Invested Capital).

7 A model in which the cost of capital for any stock or portfolio of stocks equals a risk-free rate plus a risk premium that is proportionate to the systematic risk of the stock or portfolio. The CAPM is a cornerstone of capital market theory that divides risk into two components: systematic risk and unsystematic risk. Systematic risk is the risk that is common to all risky securities and cannot be eliminated through diversification; the measure of systematic risk in stocks is the beta coefficient. Unsystematic risk is the risk specific to an individual security (that is a function of characteristics of the industry or the individual company), that can be avoided through diversification. The fundamental assumption of the CAPM is that the expected return on a security is a function of that security's systematic risk and that unsystematic risk is assumed to be eliminated because investors have the ability to hold large, well-diversified portfolios.

8 *Beta* is a measure of systematic risk of a stock; it is the tendency of a stock's price to correlate with changes in a specific index. *Beta* is a function of the relationship between the return on an individual security and the return on the market as measured by a broad market index such as the S&P/TSX.

### *Internal Factors*

These relate to the particular assets being valued and could include the following considerations, for example:

- Longevity, experience and track record of management team;
- Dependence on key personnel;
- Dependence on major customers;
- Competition, market share, scope of service;
- Diversity of client base;
- Financial condition, liquidity and leverage;
- Projection risk relating to aggressiveness of cash flow forecasts;
- Physical condition of the assets; and
- Historical profitability/(losses).

### *External Factors*

These relate to the external (non-controllable) forces that impact the plant, for example:

- General economic conditions expected to prevail during the projection period;
- General market and merger and acquisition conditions;
- Interest rates;
- Industry conditions;
- Market demand;
- Cyclicality of the industry;
- Impact of foreign exchange; and
- Impact of government regulation.

We did not consider the variability of raw material input prices in determining the applicable discount rate, as this factor had already been considered by management in developing the three possible cash flow scenarios. Having considered all of the above factors, we applied the resulting WACC to the expected cash flows to estimate the combined fair value of the plant assets (as a group) at the valuation date.

### *Cost approach*

To corroborate our conclusions arrived at under the income approach, we obtained an estimate of the plant assets' depreciated replacement cost from an engineering firm that specialized in development projects in the relevant industry. Given the highly-specialized and technical nature of the work involved in applying this method, we felt that it was outside the scope of our expertise as Chartered Professional Accountants and Chartered Business Valuators, and therefore found it necessary to retain the services of a competent specialist.

Based on our understanding, the specialist's work involved:

- a visit to the plant to visually inspect the property and equipment;
- discussions with management regarding the operating history of the plant assets;
- estimating current market values of the plant assets, where observable prices for equivalent assets existed;
- when market prices were unavailable (due to the specialized nature of the equipment), obtaining the original cost of the plant assets from the company's accounting records and using indexation techniques to estimate an equivalent value in current dollars (based on price indices applicable to the industry sector); and
- applying a depreciation factor to take into account the physical condition and age of the plant assets relative to their useful life.

We compared the conclusions arrived at under both approaches. There was a significant difference, with the income approach yielding approximately half of the value under the cost approach. We concluded that the income approach was more representative of the value that a market participant would assign to the plant assets, given that the industry trends were unfavourable and that it was unlikely that the market participant would build a new plant. (Had the reverse been the case, more weight might have been given to the depreciated replacement cost approach).

## Conclusion

Estimating the fair value of property, plant and equipment for purposes of the one-time option available to entities transitioning to ASPE may likely involve the application of specialized valuation techniques. Management may consider the necessity of retaining a valuation specialist to assist in the fair value measurement of such assets to ensure that the amounts reported on the entity's balance sheet will reflect the appropriate values and the related auditor requirements will be satisfied.

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He has given expert evidence on valuation matters in numerous cases across Canada and in the U.S. and appointed by the courts as their valuation expert. He has acted for the Canada Revenue Agency, Justice Canada, the Competition Bureau, the Attorney General of Ontario, the Public Trustee of Ontario and the Quebec Financial Markets Authority and was also Special Assistant to the Minister of National Revenue. He was awarded the Governor General's Canada 125 Medal and was inducted into the ASA's College of Fellows in 2006.