ANZVTIP 2

MARKET VALUE OF PROPERTY, PLANT AND EQUIPMENT IN A BUSINESS

Please view the video for this Technical Information Paper on YouTube

Technical Information Papers

The principal objective of a valuation Technical Information Paper (TIP) is to reduce diversity of practice by identifying commonly accepted processes and procedures and discussing their use. A TIP is designed to be of assistance to professional valuers and informed users of valuations alike.

A TIP will do one or more of the following:

- provide information on the characteristics of different types of asset that are relevant to their value,
- provide information on appropriate valuation methods and their application,
- assist the consistent application of an International Valuation Standard (IVS) by dealing with matters identified in the Standard in greater detail,
- provide information that is helpful to valuation professionals in exercising the judgements they are required to make during the valuation process in specific situations.

A TIP does not:

- provide valuation training or instruction,
- direct that a particular approach or method should or should not be used in any specific situation.

The contents of a TIP are not intended to be mandatory. Responsibility for choosing the most appropriate valuation approach is the responsibility of the valuer based on the facts of each task.

Whilst TIPs are not mandatory, it is likely they will serve as a comparative measure of the level of performance of a Member. They are an integral part of “Professional Practice”.

The reader should understand that legislation may change and whilst this TIP is accurate and relevant at the time it was completed, relevant referred reading and legislation should be investigated at the time of relying on this TIP.

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Market Value of Property, Plant & Equipment in a Business

1.0 Introduction

The objective of this TIP is to provide information, commentary, opinion, advice and recommendations to Members determining market values of property, plant and equipment where those assets are integral to a business. This TIP covers various situations to assist Members in undertaking such valuations.

It is also intended this TIP will assist users of valuation reports to understand the basis upon which valuations of property, plant and equipment are undertaken in these circumstances. It should be used in conjunction with other TIPs and/or practice standards which are either over-arching or directly applicable to the issues involved.

This TIP is intended to provide guidance in any situation where a market valuation of property, plant and equipment forming part of a business is required. The market value thus derived represents that part of the value of a business that is represented by the property, plant and equipment. The market value determined for the property, plant and equipment should be supported by the cash flows of the business in which they operate unless it can be clearly demonstrated that the assets in aggregate have a higher realisable value separate from the business.

This TIP is not intended to provide guidance on the valuation of non-cash generating assets in the public sector as these are not contemplated under the definition of a business relevant to this TIP.Often these assets are specialised operational assets, the value of which cannot be readily assessed by reference to market prices.

Non-operational, surplus assets that will not continue to be used as part of the business (e.g. assets which are approaching or at the end of their economic life) should be valued based on their market value assuming they will be sold separate from the business. Such a value may be higher or lower than the value as part of the business depending upon the specific circumstances, but should reflect the highest and best use of the assets assuming they will no longer be used as part of the business.

This may include alternative use value in the case of real estate. In respect of plant & equipment such a value should assume that the assets will be sold for removal (commonly referred to as net realisable value).

Where the income approach has been used to assess the enterprise value of a business, the value determined will include all the assets used in the business, including tangible and intangible assets and liabilities (to the extent they are used to derive income).

Tangible assets may include real property and plant and equipment, and intangible assets may include business licenses, patents, patterns, designs, intellectual property, goodwill, etc. Depending upon the purpose of the valuation, an apportionment of value to the various asset classes may be required.

Valuations of assets of a business that assume continuation of the business should not be construed as representing the market value of those assets in the event that the business ceases to exist.

Valuers should exercise extreme care when being asked to undertake a valuation for mortgage purposes or where it is likely that the valuation will be shown by the client to a financier. Valuations of business assets are often heavily dependent on the quality of the existing operator. As such, the mortgage risk in lending money against a

property asset that has been valued as part of a business is often very high, particularly if the transaction being financed involves a sale of the business.
This is why many financiers insist that any valuation for mortgage purposes exclude goodwill. Valuers undertaking such work should be careful to confirm their instructions direct with the financier, and undertake a detailed risk analysis. Valuers should also ensure that they have sufficient expertise to perform such a valuation, given the level of risk involved.

This TIP recognises the International Valuation Standards prepared by the International Valuation Standards Council. The guidance in this paper presumes that the reader is familiar with the IVSs.

2.0 Definitions

The following defined words and terms have particular relevance to the market value of property, plant and equipment in a business and appear in this TIP. Other words and terms that are also defined in the IVS Glossary and / or the joint API / PCA / REIA 2007 Glossary of Property Terms may be used but are not listed below in the interests of brevity. The definitions vary from those used by the Australian Accounting Standards Board and Members therefore need to be cognisant of any differences when preparing valuations for financial reporting purposes. A valuation completed in accordance with this TIP may, in many instances, be equivalent to fair value as defined and measured in AASB 13 *Fair Value Measurement* for financial reporting purposes; however, Members should take care before making such a representation.

Business	A commercial, industrial, service, or investment entity (or a combination thereof) pursuing an economic activity.
Cost Approach	A valuation approach based on the economic principle that a buyer will pay no more for an asset than the cost to obtain an asset of equal utility, whether by purchase or by construction.
Economic Life	The total period of time over which an asset is expected to generate economic benefits for one or more users.
Economic Obsolescence	A loss of utility caused by factors external to the asset, especially factors related to changes in supply or demand for products produced by the asset that results in a loss of value.
Enterprise Value	The total value of the equity in a business plus the value of its debt or debt-related liabilities, minus any cash or cash equivalents available to meet those liabilities.
External Obsolescence	A loss of utility caused by economic or locational factors external to the assets that results in a loss of value.
Functional Obsolescence	A loss of utility resulting from inefficiencies in the subject asset compared to its replacement that results in a loss of value.

Highest and Best Use	The use of an asset that maximises its potential and that is physically possible, legally permissible and financially feasible.
Income Approach	A valuation approach that provides an indication of value by converting future cash flows to a single current capital value.
Market Approach	A valuation approach which provides an indication of value by comparing the subject asset with identical or similar assets for which price information is available.
Obsolescence	A loss of utility of an asset caused by either physical deterioration, changes in technology, patterns of demand or environmental changes that results in a loss of value.
Physical Obsolescence	A loss of utility due to the physical deterioration of the asset or its components resulting from its age and normal usage that results in a loss of value.
Replacement Cost	The current cost of a similar asset offering equivalent utility.
Reproduction Cost	The current cost of recreating a replica of the asset.
Service Potential	The capacity of an asset to continue to provide goods and services in accordance with the entity's objectives.

3.0 Highest and Best Use

In undertaking market valuations of property, plant and equipment in a business Members should consider whether the current use of those assets represents their highest and best use.

If an asset potentially has a higher and better use than the current use, Members may need to assess and report the value of the asset for its alternative use, but in doing so Members should also consider the costs that may be incurred in changing use or decommissioning the asset as well as the potential impact on the future use and therefore value of other interdependent assets.

API/PINZ TIP- Valuations for Mortgage and Loan Security Purposes requires that where assets have a lower value for alternative uses the Member should report both values. It is noted however that circumstances may occur where the agreed scope of work does not include that requirement.

4.0 Valuation Approaches

In assessing valuations of property, plant and equipment in a business, the market approach, cost approach and income approach are all considered appropriate methods of valuation depending on the nature of the assets and the information available.

4.1. Market Approach

It is generally difficult to find and analyse sales of specialised property, plant and equipment. Such assets are usually sold as part of the business along with all its other tangible and intangible assets and liabilities. They may also be sold as part of a group or portfolio of assets and as a result apportionment of the business acquisition price to the various assets may not be available or reliable.

Where comparable sales evidence exists for real property being transacted as part of a business, the market approach can be used to determine the value to an owner occupier. The value of the property for its alternative use or value with vacant possession may be different.

The implication for Members is that comparable sales of properties sold for redevelopment or with vacant possession may not provide a true indication of the value of a property for use in a business.

In some cases the value as part of a business may be lower than the property's value for its highest and best use. International Valuation Standards require valuations to be assessed on a highest and best use basis, but Members should consider possible costs that may be incurred in changing the use of the asset as well as the potential impact on the use and therefore value of other inter-dependent assets.

For plant and equipment this may mean assessing the value of individual assets or production units using a market approach and weighting that value for installation and any enhancements and/or modifications.

The comparable sales should be adjusted to reflect any variations from the subject asset.

In some cases it may be appropriate to use a combined approach to value: the market approach (where comparable sales can be found) and the cost approach for the installation component that brings those assets into use within the business.

In applying the cost approach to the installation component of an asset's value, Members should take into account any obsolescence in order to determine the depreciation to be applied to the installation cost component.

Members should also have regard to the market place by understanding the context of each sale and should be aware of, but not rely upon, asking prices for equivalent assets in developing a complete understanding of the market place.

4.2. Cost Approach

The cost approach is the most commonly used valuation approach to determine the value of specialised assets. Under the cost approach the current replacement cost is calculated and then any loss in value caused by physical deterioration and functional and economic obsolescence is deducted to arrive at the market value of the asset.

4.2.1. Forms of Obsolescence:

Members should consider three forms of obsolescence:

1. Physical obsolescence. This is the loss in value resulting from the consumption of the useful life or service potential of the asset caused by wear and tear, deterioration, exposure to various elements, physical stresses, and similar factors.

a. It should be noted that the consumption of the economic life or service potential of an asset may be constant over the life of an asset and on other occasions this may occur more quickly at different stages of the asset's life. This can result from variations in the intensity of use to which the asset is subjected at different stages of its life. These variations in the consumption of economic life or service potential of an asset will likely be reflected by variations in the level of maintenance costs.
b. The economic life of an asset may be expressed in terms of years of service but may also be expressed in terms of units of production. When assessing remaining economic life Members should have regard to the condition of the asset at the time of assessment which may alter the total life of the asset as compared to its expected life when new.

2. Functional (sometimes called technological) obsolescence is the loss in value resulting from inefficiencies in the subject asset compared to a more efficient or less costly asset. Excess operating costs and/or excess capital costs can be used to measure the extent of functional obsolescence.
3. Economic obsolescence (sometimes called external obsolescence) is the loss in value caused by factors which are external to the asset itself. Such factors often relate to the economics of the industry in which the business operates or the business in which it is employed. New legislation (or fear/risks of it) may also contribute to economic obsolescence.
    a. Economic obsolescence may result from over capacity. The replacement cost of a plant that has a capacity equal to demand may be significantly lower than the reproduction cost of the plant as installed. The extent of economic obsolescence in these circumstances can be measured by comparing the reproduction cost of the subject assets to the replacement cost of the assets required to meet the expected demand. If the plant's capacity is limited by an asset within the plant rather than by external factors then the obsolescence may be regarded as technological (i.e. functional) and may be curable.
    b. Economic obsolescence can also be a result of other external factors such as increased raw material costs or reduced product sales/value. These factors may be specific to a particular location or more generally experienced throughout an industry sector.
    c. It is important when investigating the impact of economic obsolescence that Members understand and consider the connection with the profitability of the business. This might be evident from the acquisition price (in a business transaction scenario), or reported business value. To the extent that a contemporaneous transaction involving the sale of the business indicates a lower value than that of the property, plant and equipment used by that business, this may provide an indication of economic obsolescence.
    d. Economic obsolescence may also be observed for some assets (predominantly real estate) by considering whether the business could afford to pay a market rent for the assets and still return a profit.

Having regard to the various forms of obsolescence discussed above, Members should be wary of using depreciation tables which only reflect physical deterioration or methods which purport to represent all forms of obsolescence in one calculation without having regard to the circumstances and use of each asset.

Members should be careful to individually assess all forms of obsolescence for each asset as different assets within the same business may be impacted differently by obsolescence.

Valuations determined having regard to all three forms of obsolescence under the cost approach will result in an opinion of market value of the asset.

In applying the cost approach to real property, Members should assess the market value of the land and add the value of the improvements after assessing all forms of obsolescence (including economic obsolescence).

4.2.2. Guidance on the Identification and Quantification of Obsolescence

Specialised assets are rarely leased and therefore, it is difficult to identify market rental income or income capitalisation rates from the market.

Whilst these assets are typically used to produce income, the income that is produced is consolidated in the overall business enterprise income and as such may be produced by a combination of real estate, plant and equipment, and intangible assets functioning together as an integrated business.

It is often difficult therefore to separate this business enterprise income into the particular components that represent income in respect of the individual tangible assets.

Specialised assets do not sell regularly in the secondary market and as a result it is difficult to identify and analyse comparable sale transactions.

Transactions involving the sale of specialised assets are relatively infrequent and when they do occur, the property, plant and equipment are sold as part of a business. In such situations, the individual values attributable to the property, plant and equipment are typically not disclosed to the marketplace.

In some cases Members may have access to contracts of sale that provide an indication of the values attributed by the parties to the transaction to the individual assets. However such allocations may be arbitrary or influenced by other considerations such as tax and as a result may not be a true reflection of the market value of each component.

For these reasons, the cost approach is commonly used to value specialised assets. The identification and quantification of all forms of obsolescence is a fundamental procedure in a cost approach valuation.

The quantification of functional and economic obsolescence is however often challenging for the following reasons:

- It is difficult to visually identify the existence and effects of functional and economic obsolescence.
- The data needed to quantify some forms of obsolescence are often only available from the owner of the assets and therefore independent verification may be difficult.
- With regard to economic obsolescence, the causes of the obsolescence are, by definition, factors that are external to the subject asset.
- The identification and quantification of some forms of obsolescence is often comparative in nature and therefore requires data in respect of both the subject asset and comparable assets.

Functional and economic obsolescence may be identified from reviewing financial documents or operational reports but may also be identified from comparison with and knowledge of comparable assets.

With regard to economic obsolescence, it will most likely be necessary to analyse asset-specific financial data in order to identify the causes of obsolescence.

Negative movements in gross margin can be an indicator of economic obsolescence. The gross margin is represented by the difference between a business' revenues and its cost of raw materials. These inputs can be measured using units of production where the current year's gross margin can be compared to previous years.

Functional obsolescence

Common examples of functional obsolescence include:

- excess operating/maintenance costs
- excess capital costs

Examples of excess operating costs include:

- the subject asset may require ten operators while a comparative asset only requires five.
- the subject asset may produce ten units per period while a comparable asset produces twenty units per period.
- the subject asset may produce more scrap/waste material than a comparative asset.

In each case the present value of the excess operating costs in terms of labour, efficiency or raw materials is used to arrive at a measure of functional obsolescence.

An example of excess capital costs is where the subject asset is considered to be over-engineered for its required function. This can arise where methods (and costs) of construction or materials of construction have improved (reduced) since the subject asset was originally put into service. In such cases the Reproduction Cost of the subject asset will be higher than its Replacement Cost.

Functional obsolescence can be quantified and captured by:

- reducing value by an amount equal to the present value of the excess operating costs embodied in the subject asset(s)
- reducing value by an amount equal to the excess capital cost embodied in the subject asset(s) (i.e. by adopting the lower of Replacement Cost and Reproduction Cost)
- reducing value by an amount equal to the estimated capital costs to cure the functional deficiency embodied in the subject asset(s)

Economic obsolescence

IVSC TIP 2 The Cost Approach for Tangible Assets requires Members to address all forms of obsolescence, including economic obsolescence.

As a basic premise, the market value of specialised property, plant and equipment in a business should be supported by the cash flows of that business.

Cost approach valuations should therefore reflect the extent to which values are affected (if at all) by the cash flows of the business to which they belong. In the case of assets used for non-cash generating activities, economic obsolescence is measured having regard to the extent to which the assets are capable of meeting the service obligations required of the entity that owns them (service potential).

When assessing market value under the cost approach, assessing the impact of economic obsolescence has traditionally been seen as the responsibility of the entity's directors or auditors. However, given the requirements of IVSC TIP 2 Members should seek to address economic obsolescence rather than reporting a value subject to that test being completed by others. IVSC TIP 2 provides guidance on how economic obsolescence can be addressed.

A valuation that reflects the impact on value of all forms of obsolescence (including economic obsolescence) will result in an opinion of market value. By implication therefore a valuation that does not consider and reflect economic obsolescence or service potential will not result in an opinion that represents market value until such tests have been completed.

Economic obsolescence relates to a decrease in the value of an asset due to influences that are external to the subject asset (sometimes referred to as external obsolescence) and occurs when the asset owner can no longer earn an appropriate rate of return on the ownership/operation of the subject asset.

Because economic obsolescence is usually a function of external factors that affect an entire going concern business (i.e. all tangible and intangible assets) rather than individual assets, it is sometimes measured using the income approach or by using the income approach to help identify the existence of economic factors that may be having an impact on value.

When the operating level of an asset is significantly lower than its capacity, and this situation is expected to continue for the foreseeable future, this form of economic obsolescence can be measured using the cost approach.

In its simplest form this can be measured by adopting the cost-to-capacity concept. The economic obsolescence penalty can be calculated on a percentage basis by comparing the actual operating level to the rated capacity using the cost-to-capacity concept. This is based on the logic that a prudent purchaser will only pay for capacity that can be used profitably.

The penalty factor is deducted after physical deterioration and functional obsolescence because economic obsolescence is independent of the asset(s).

It should be noted that the cost of assets of different capacities tends to vary exponentially rather than linearly because of economies of scale. For example, in the case of plant & equipment, the cost of a conveyor of 100 metres in length will typically be less than twice the cost of a conveyor of 50 metres in length (all other things being equal) due to the economies of scale available in constructing a larger asset.

In the case of new businesses, the business may yet to have achieved a level of profitability which provides an appropriate return on the assets employed and capital outlay. The test of adequate profitability (or economic obsolescence) will therefore necessarily have regard to a longer term projection of expected cash flows rather than those experienced in the start-up phase. Observation and analysis of sales of comparable businesses may be helpful in determining whether the subject business can support the assessed values of the tangible assets.

Notwithstanding the requirements if IVSC TIP 2 it is recognised that Members may not always have access to the information necessary to determine the enterprise value of a business however it is prudent to investigate factors that may indicate economic obsolescence and discuss these with the client prior to drawing a conclusion as to the value of the assets. For instance it would be prudent for Members to inform themselves of the details of relevant discoverable information (such as a recent sale of the business that owns the assets) which might alert the Member to the possible existence of economic obsolescence.

In circumstances where Members have not addressed the impact of economic obsolescence this should be clearly disclosed in the report. The valuation should include appropriate disclosures to ensure that readers understand that the valuation cannot be relied on as a measure of market value until economic obsolescence has been addressed. It is recommended that Members include a disclosure in their reports similar to the following:

"This valuation does not address the potential impact on value of economic obsolescence and therefore cannot be relied on as a conclusive measure of market value. Management and/or their advisors should consider the reported values in relation to the business as a whole in order to satisfy themselves that the valuations as reported do not require any adjustment in respect of economic obsolescence."

4.3. Income approach

In assessing valuations of real property assets in a business, capitalisation and discounted cash flow analysis (cash inflows and outflows) may be appropriate methods of valuation.

Whilst direct market evidence of sale prices may not exist for specialised assets, Members may use other market evidence or benchmarks to assess the value of assets in a business, either in their entirety or as individual components.

Examples may include assessment of rents of specialised assets having regard to likely returns required within the market for assets employed within similar industry sectors.

In other cases capitalisation of net profit may be appropriate to assess the enterprise value of the business however Members are cautioned that valuations assessed on this basis include both tangible and intangible assets, and an apportionment may be required.

There are few instances where the income approach can be used to value individual plant and equipment assets without also capturing other assets such as intangibles and working capital. It may be possible to use the income approach for leased plant and equipment assets that generate an income stream or a group of assets that can produce a saleable product.

It is recognised however that it is rarely possible to identify an income stream and allocate it to individual plant and equipment assets. As a result, it is generally very difficult, if not impossible, to assess values for individual plant and equipment assets by reference to the income approach. It is also arguable that any cash flow based valuation will, by default, include more than just the plant and equipment assets.

5.0 Additional Resources

A short video has been prepared by an industry expert to introduce and support the TIP. View the video for this TIP on YouTube.

6.0 Effective Date

This TIP is effective from 1 July 2015.

The above TIP, ANZVTIP2, replaces the superseded Guidance Note “ANZVGN12 Property Plant and Equipment” which operated until 30 June 2015.

View the superseded Guidance Notes.