Long-Life Asset Centre
Appreciating the value of your long-life assets

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Australian Accounting Standards Board
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27 August 2009

Dear Sir/Madam

Exposure Draft - ED 181: Fair Value Measurement
Question 10
Valuation Techniques
Paragraph 38(c)
Cost Approach

The purpose of this letter is to provide comment on paragraph 38(c) of ED 181. This paragraph of the ED contains guidance on the cost approach valuation technique and from a valuation perspective it is potentially the most critical paragraph for the determination and reporting of fair values of Australia's largest tangible assets.

Infrastructure and other types of long-life assets represent the most important tangible assets that will be subject to the guidelines in this ED. These assets are extremely complex to value and it is recognised that it is not the role of accounting standards and guidelines to provide definitive rules for all aspects of a valuation, but it is important that any statements made are complete and that there are no comments included that conflict with the true requirements of a valuation. We are concerned that the current draft ED potentially falls into both these traps at paragraph 38(c).

In its present draft form it is arguably incomplete in that only two of the three critical elements of the cost approach are addressed. The paragraph also includes a sentence that places a potentially inappropriate ceiling on the fair value of tangible assets.

Preamble

Many of Australia's largest companies and public sector entities, particularly those in the mining and energy sectors, own and operate substantial long-life assets. Long-life assets have very different uses, economic lives and valuation profiles compared to shorter-life assets. Examples of this class of assets includes general infrastructure such as bridges, tunnels, ports and airports, mining smelters and refineries, offshore platforms, pipelines, power stations, electricity and gas transmission and distribution networks and railways.

Due to the specialised nature of most long-life assets the cost approach is generally the applicable valuation technique.

Long-life assets have a wide range of unique valuation attributes. A key example is that, almost without exception, long-life assets take considerable time to plan, build and commission. The relevant time period can be anywhere from 3 to 10 years. During this period, the assets do not generate income and owners incur significant financing costs. It is also common for construction projects for long-life assets to extend well beyond original time estimates due to unforeseen issues and end up being quite a distraction for entities.

Buyers are prepared to pay a premium over and above the cost of constructing or acquiring a new asset to overcome this waiting period and associated risks. Many long-life assets that are already up and running are coveted by market participants for a wide range of reasons, including the fact they can generate significant immediate profits and that construction risks have already been successfully overcome. There have been numerous reported examples in Australia of assets being sold for an amount in excess of their estimated replacement cost. One example is the recent transaction involving the Basslink Interconnector.

The International Valuation Standards recognise these important attributes in their definition of the cost approach through their reference to time, risk and inconvenience factors as being a valid reason for the market value of an asset exceeding its replacement cost.

In summary the cost approach has three critical elements when seeking to value a long-life asset:-

1. Determination of replacement cost
2. Calculation of adjustment for various obsolescence factors
3. Calculation of premium for time, risk and inconvenience factors

ED 181 only mentions the first two of these factors and is therefore incomplete and in fact is potentially misleading as it infers that replacement cost is the fair value ceiling.

Comment

Paragraph 38(c) of ED181 currently has three main components. Each of these components will be discussed in turn although it should be noted at this point that the third component is potentially the most problematic.

Component 1: Replacement Cost

The first component relates to the determination of replacement cost:

"The cost approach reflects the amount that would currently be required to replace the service capacity of an asset (often referred to as current replacement cost). From the perspective of a market participant (seller), the price that would be received for the asset is based on the cost to a market participant (buyer) to acquire or construct a substitute asset of comparable utility, adjusted for obsolescence"

This wording for this component may be enhanced by including a reference to the potential premiums for the time, risk and inconvenience factors. By including the words "adjusted for obsolescence" the sentence strongly implies that it is the complete formula for calculating value using the cost approach. This is somewhat misleading as the third critical element to the cost approach, being the premium for time, risk and inconvenience factors, is not referred to.

It is therefore suggested that the relevant sentence should state as follows:

From the perspective of a market participant (seller), the price that would be received for the asset is based on the cost to a market participant (buyer) to acquire or construct a substitute asset of comparable utility, adjusted for obsolescence and time, risk and inconvenience factors.

Component 2: Obsolescence

The second component relates to obsolescence factors:

"Obsolescence encompasses physical deterioration, functional (technological) obsolescence, and is broader than depreciation for financial reporting purposes (an allocation of historical cost) or tax purposes (based on specified service lives)."

This section should be commended for moving away from the potentially confusing term "depreciation" and instead adopting the term "obsolescence". Further and more importantly it should also be commended for stating that obsolescence is a broader concept than depreciation for financial reporting and tax purposes. This is of particular relevance for long-life assets due to their unique valuation profiles.

However, we have one concern in that the wording may imply that the obsolescence will always be greater than the depreciation amounts. This is not always the case and obsolescence is more likely to be considerably less than financial reporting and tax depreciation in the case of long-life assets, particularly during the first phase of their economic lives. Attached to this letter is a brief paper that provides further analysis on this point.

It is suggested that the sentence should read as follows:

*"Obsolescence enco*mpasses physical deteriorat*ion, functional (technological) obsolescence, and is an entirely distinct concept than depreciation for financial reporting purposes (an allocation of historical cost) or tax purposes (based on specified service lives)."*

Component 3: A ceiling on value?

The third component comments on the suitability of the replacement cost approach for tangible assets and appears to put a ceiling on their fair value:

"The current replacement cost approach is generally appropriate for measuring the fair value of tangible assets using an in-use valuation premise because a market participant

would not pay more for an asset than the amount for which it could replace the service capacity of the asset."

The current replacement cost approach is indeed generally appropriate for measuring the fair value of tangible assets using an in-use valuation premise. However this is **NOT** because a market participant would not pay more for an asset than the amount for which it could replace the service capacity of the asset. This second part of the sentence appears to place a ceiling on fair value of a tangible asset at its replacement cost. Such a fair value ceiling is arguably unnecessary and quite misleading for the important class of long-life assets.

We note that in the Board's Basis for Conclusions at paragraph BC63 that "the economic principle of substitution states that a market participant will pay no more for an asset that the amount for which it can replace the service capacity of the asset." It is suggested that this principle only applies where a substitute for the asset is readily available and cannot possibly apply where there are significant other factors involved in substituting the service capacity for an asset.

The ceiling might be appropriate for assets that have replacements that are readily available and easily installed for income producing purposes such as motor vehicles, computers or minor machinery items. However there are numerous situations where a market participant might be prepared to pay an amount in excess of replacement cost to gain the use of an existing asset.

Consider a market participant wishing to purchase an existing pipeline. If they were to build new pipeline they would not only be faced with the cost of constructing the pipeline, they would also have to wait a number of years and endure any number of construction risks and management distractions before the pipeline is ready to use. If they could purchase an existing pipeline they would immediately overcome the time delays and construction risks, a scenario where they would be prepared in many circumstances to pay a significant premium over the base replacement cost.

It is submitted that the Board's comments at BC63 only apply to a certain class of assets and do not apply to many long-life assets. As ED181 is intended to apply to all classes of assets where fair value measurement is required it is important that limitations are not included in the guidelines that might curtail the ability to value certain classes of assets in an appropriate manner.

As a result we suggest that the second part of the sentence be deleted after the word "premise".

Alternatively if this sentence must be included we suggest it should read as follows:

"The current replacement cost approach is generally appropriate for measuring the fair value of tangible assets using an in-use valuation premise because a market participant would not pay more for an asset than the amount for which it could replace the service capacity of the asset subject to time, risk and inconvenience considerations."

We would be pleased to provide further information and support for the views expressed above if required. Any questions or requests for clarification should be made to Peter van der Kraan on (03) 9005 6737 or 0408 225 910 or by email to pvdk@longlifeassetcentre.com.au.

Yours sincerely

Peter van der Kraan CA
Director

Attachment:

Long-Life Asset Centre

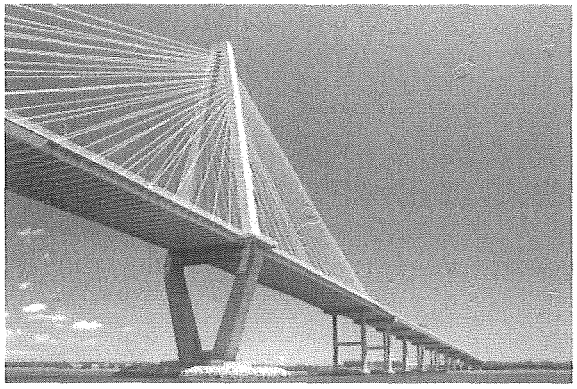
Appreciating the value of your long-life assets

Valuation of long-life depreciable assets:
a distinct class of assets requiring a specific valuation approach

Valuation of Long-life depreciable assets

Determining accurate fair values of long-life depreciable assets is a complex proposition. Long-life assets have very different uses, economic lives and valuation profiles compared to shorter-life depreciable assets. Therefore, it's important that the factors which significantly impact long-life assets are properly taken into account when it comes to their valuation.

There has been a tendency for valuers to use a "one-size-fits-all" depreciation curve to value long-life assets such as railways, smelters, refineries, pipelines, power stations, offshore platforms and other infrastructure. What they should be doing is using a more complex valuation curve that properly takes into account the unique features of long-life assets. This curve will vary greatly from asset to asset. That's because every asset has a different story.



Fundamentally, no real distinction has been drawn between the valuation approach required for long-life depreciable assets and the valuation approach applied to shorter-life assets. Both classes of assets have been valued by applying *reducing balance* (or in rare cases, *straight line)* depreciation to the replacement cost of an asset. The key question is whether this is appropriate - or whether a more considered approach should be applied to long-life depreciable assets?

The simplistic approach adopted to perform valuations of long-life depreciable assets for fair value purposes has potentially resulted in large understatements of values. Many financial statements are potentially materially mis-stated due to this clear example of a convention or habit taking precedence over good practice.

The purpose of this paper is to explore what long-life depreciable assets are, explain why they are a considerably more complex valuation proposition than what has been recognised so far, and outline the Long-Life Asset Centre's approach for enabling a full and true fair valuation of this class of assets.

"The Long-Life Asset Centre has developed powerful insights into the valuation of long-life assets"

What are long-life depreciable assets?

A non-exhaustive list of long-life assets might include general infrastructure such as bridges, tunnels, ports and airports, mining smelters and refineries, offshore platforms, pipelines, power stations, electricity transmission and distribution networks, gas transmission and distribution networks and railways.

These assets share many common attributes:

Significant economic lives

Long-life depreciable assets are expected to have significant economic lives. They are constructed in such a manner to provide many years of service. There are many examples of long-life assets that may provide excellent service for 50 to 100 years such as the Snowy Mountain Hydro-electric power scheme. However, assets may qualify as long-life depreciable assets even if they are only expected to endure for little over 10 years. Generally, though, long-life depreciable assets that are required to be valued have expected economic lives of 20-50 years.

Valuation comment: The fact that an asset has a significant remaining life provides a strong indication that its value will relate closely to its replacement cost.

Limited technological obsolescence

Because long-life assets are designed and constructed to endure for significant periods, they are unlikely to suffer rapid technological obsolescence.

If technology associated with a particular asset changed rapidly, it would generally not be economically viable or sensible to build it to last for a significant period. An example of a long-life depreciable asset that is not subject to rapid technology evolution is a pipeline. However, this factor applies to most long-life depreciable assets.

Valuation comment: If technology for an asset is not advancing, or only progresses slowly, then this factor has a limited detrimental impact on the value of an asset. However, if technology does change rapidly and unexpectedly, this factor can have a large influence on a valuation.

Long build times

A typical feature of a long-life depreciable asset is that they take considerable time to plan, build and commission. The relevant time period can be anywhere from 3 to 10 years. During this period, they do not generate income and owners incur significant financing costs. It is also common for construction projects for long-life depreciable assets to extend well beyond original time estimates due to unforeseen issues that inevitably arise.

Valuation comment: The market may be prepared to pay a premium over and above the cost of constructing or acquiring a new asset to overcome this waiting period. Many long-life assets that are already up and running are coveted by the marketplace for a wide range of reasons, including the fact they can generate significant immediate profits and that construction risks have already been successfully overcome.

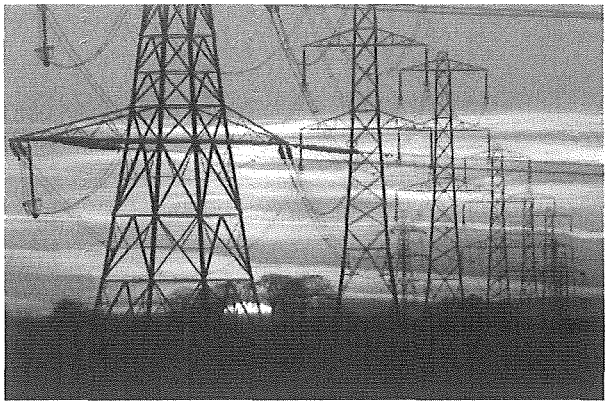
Built to unique specifications

Most long-life depreciable assets are purpose-built to perform a specific function at a specific location. The most obvious example may be a bridge or a tunnel, but the same reasoning extends to items such as large-scale mining smelters constructed on mine sites in isolated areas.

Valuation comment: This factor may exert quite a positive influence on a valuation where the asset is operating in an in-demand industry. Conversely, if the requirement for the asset is low, this factor might mean the asset carries little value due to the limited alternative uses.

Not transportable

Long-life depreciable assets are generally constructed in such a manner that they are absolute fixtures and thus cannot be viably relocated.



Valuation comment: This factor may exert a restrictive influence on a valuation due to the limited alternative uses, particularly where the requirement for the asset is low.

Rarely traded as stand-alone item

Long-life depreciable assets are rarely traded in their own right. They are normally traded as part of the transfer of ownership of an overall business. These assets do not generally stand alone as assets and must be supported by a business structure or government obligation. The unique specification and non-transportable factors described above also contribute to this common attribute.

Valuation comment: This factor is the key reason why special care must be taken when valuing long-life depreciable assets as it is extremely rare for sales evidence to exist in respect of a particular asset, thus precluding any meaningful comparisons.

Productivity is the key

Fashion trends and appearance issues are not important to most class of long-life depreciable asset owners. Owners of these assets are almost solely interested in how productive the asset is and how profitably it can be operated.

"We know that long-life assets require a significantly more considered approach to enable a legitimate valuation"

Valuation comment: Many other assets lose significant value early in their lives due to fashion and other consumer sentiment factors. These factors rarely have a direct influence on the valuation of a long-life depreciable asset.

How do shorter-life assets differ from long-life depreciable assets?

Those assets that the plant and equipment valuation profession are very familiar with, being the shorter-life assets, do not share any of these attributes. Assets commonly valued are motor vehicles, computers and basic machinery. These assets do not generally have extended economic lives, they are readily available, no separate expenditure is incurred on design, engineering and procurement, they are readily moveable, are subject to rapid technology advances and they trade in very active and liquid markets where there is ample sales evidence of likely trading values.

Reducing balance depreciation is a reliable tool for valuing shorter-life assets

The ample sales evidence that is available for these shorter-life assets leads to one key conclusion: The valuation profile always follows a reducing balance depreciation profile. This is proved time and time again and valuers have great confidence when applying the reducing balance curve for valuation purposes. And so they should - but only for shorter-life assets.

It is the failure of the shorter-life assets to exhibit those attributes described above for long-life depreciable assets that make them consistently fit the reducing balance depreciation profile.

Most people are aware that a new motor vehicle will lose a considerable amount of value in its first year and other early years of its economic life. This is because motor vehicles are subject not only to rapid technology advances but also perceptions of the market as to what is considered fashionable and what is required to stay up to date. Long-life depreciable assets are not affected by these considerations. A pipeline, for example, is not subject to rapid technology change and it is hard to imagine its appearance and fashion considerations having an impact on its value.

"We have implemented a true valuation model rather than a simple allocation of replacement cost model"

Should reducing balance depreciation be used to value long-life assets?

We have established that long-life depreciable assets exhibit a large number of critically different attributes than shorter-life assets.

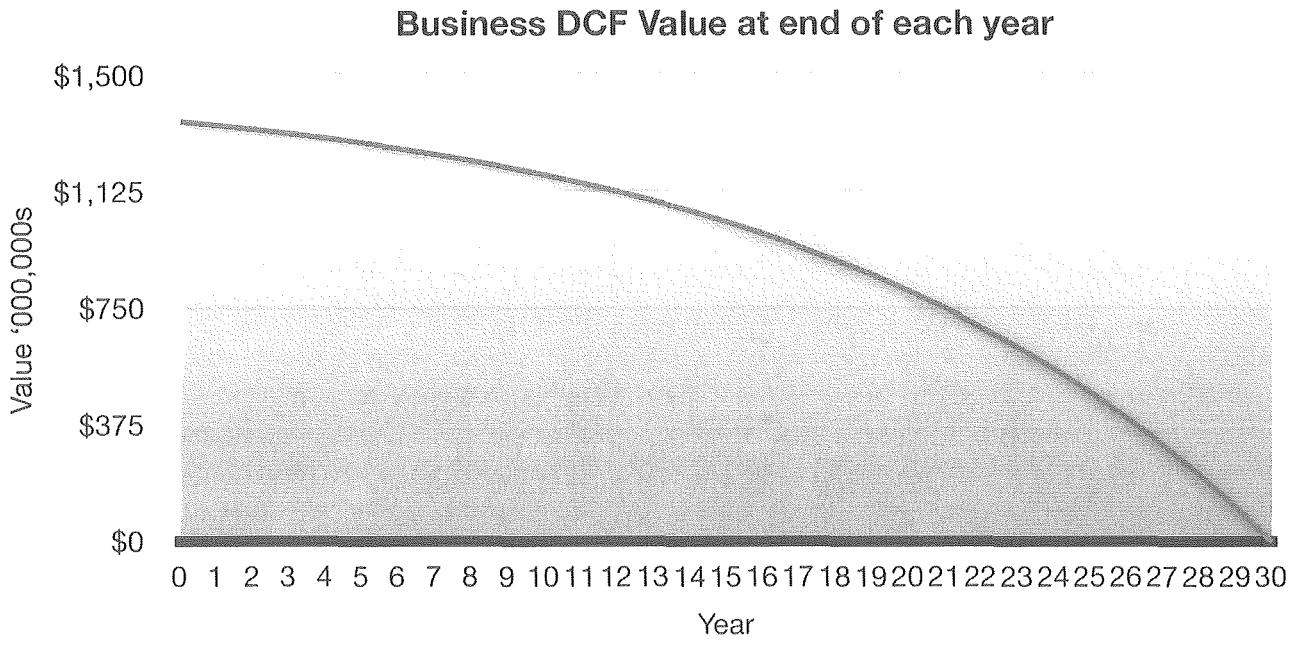
This begs a very simple question: Does a valuation methodology that has been proven to work for shorter-life assets necessarily provide reasonable valuation results for the fundamentally different class of assets - long-life depreciable assets?

It was mentioned above that long-life depreciable assets are rarely traded as separate items. On the rare occasions that they are traded as separate items it is invariably an unusual or forced transaction and not representative of the market. Therefore, it is very unlikely that there is any market evidence available that supports the application of the reducing balance depreciation curve in a valuation of a long-life asset.

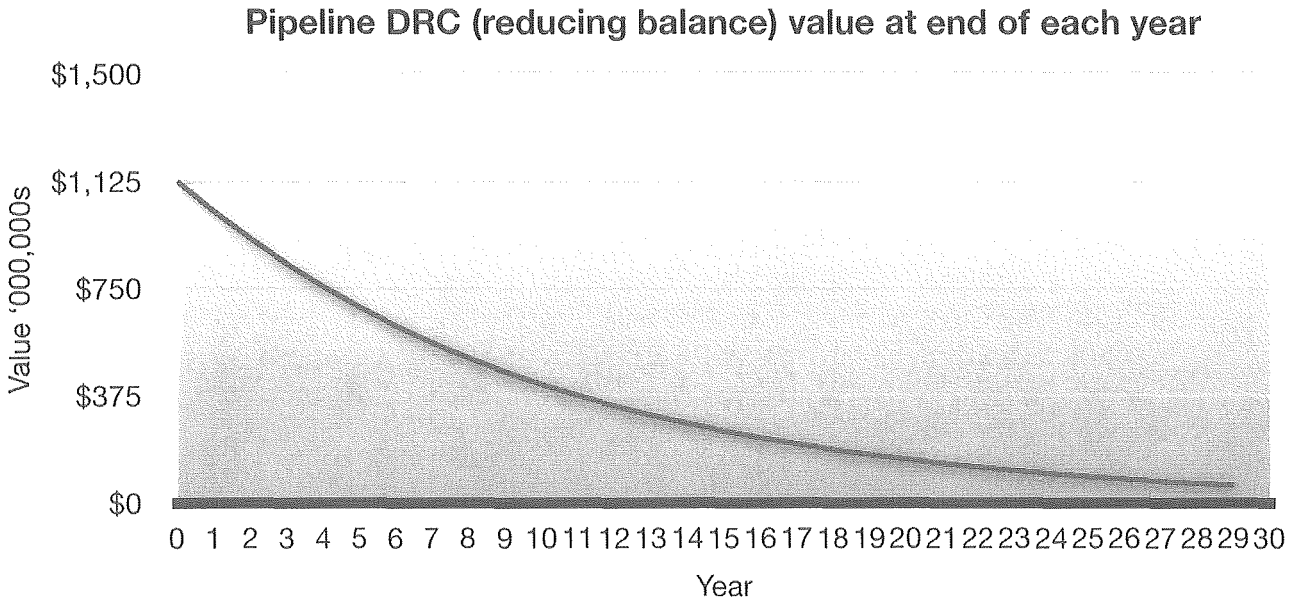
The valuation logic gap

The simplest way to illustrate the risks associated with applying the reducing balance depreciation curve (and the straight line curve for that matter) to a valuation of a long-life depreciable asset is to analyse a business that owns only one asset for a fixed period of 30 years. In this example the business owns a pipeline that cost $1.125bn to construct. The business has entered a contract that provides a fixed rate of return over the 30 year life of the pipeline.

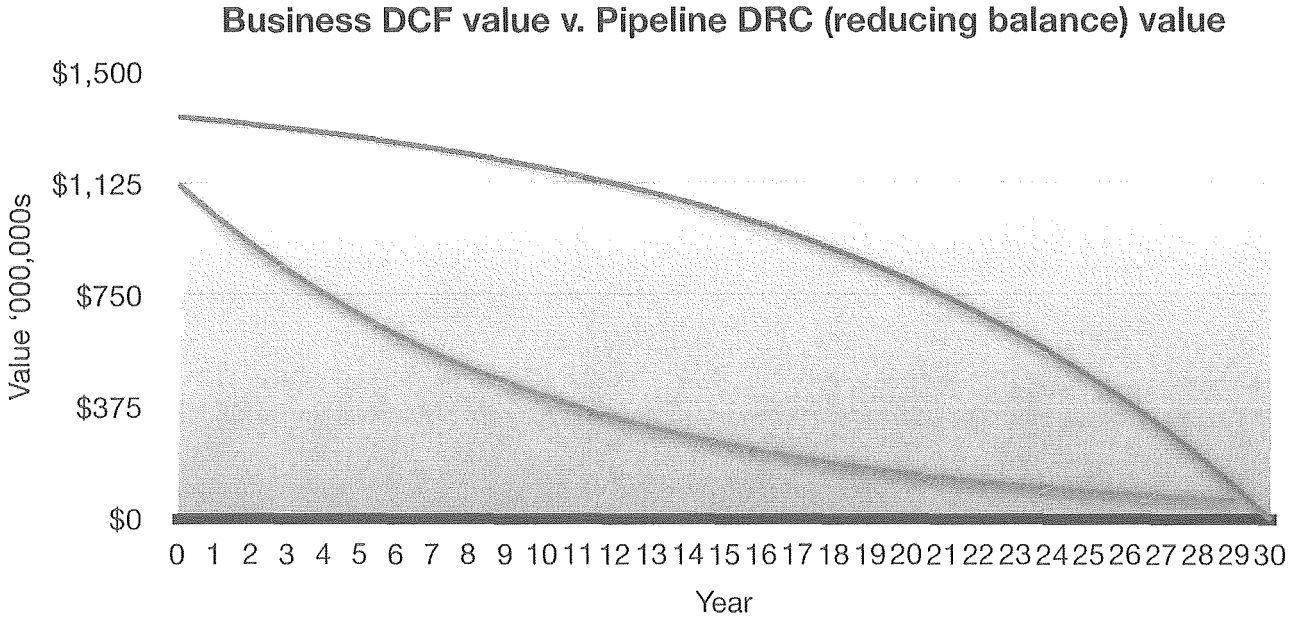
A valuation of the business using a discounted cash flow (DCF) analysis at the end of each year would have the following profile:



The value of the pipeline at the end of each year using the depreciated replacement cost (DRC) approach and adopting the reducing balance depreciation profile would be as follows:



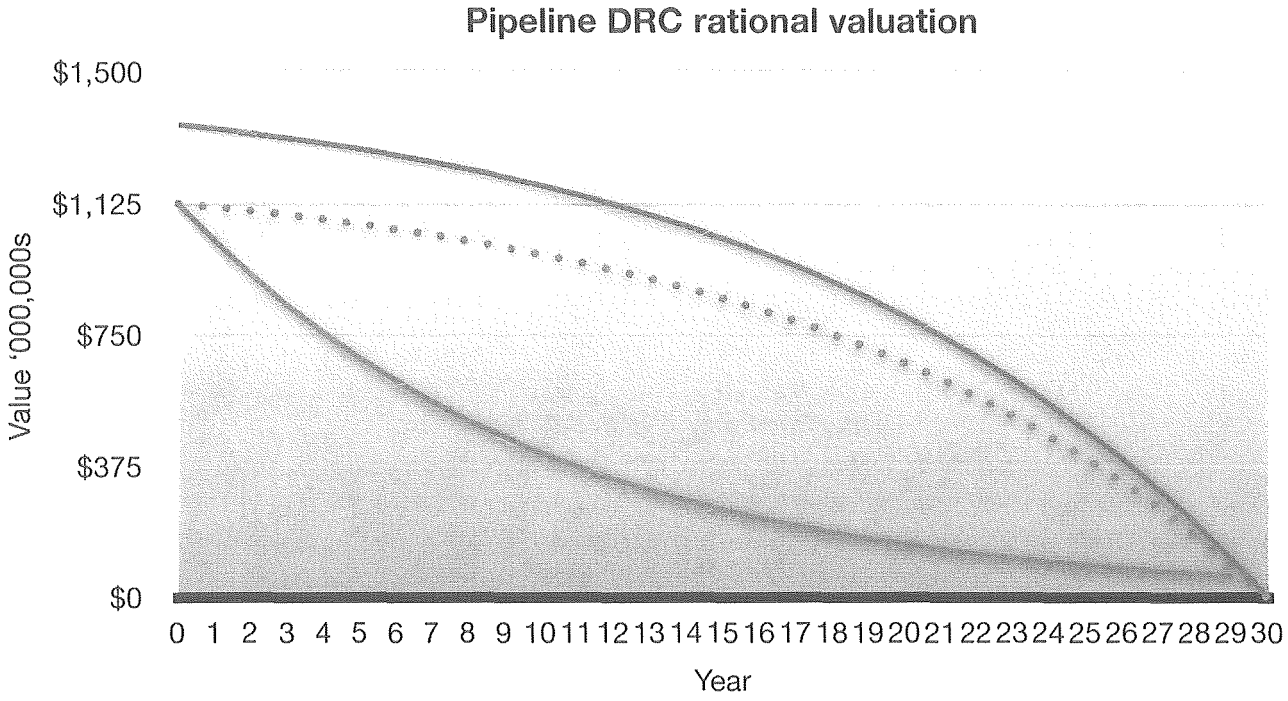
Now overlaying the pipeline value over the business value a clear divergence in values appears over the life of the business:



"Many long-life assets have been undervalued for financial reporting purposes"

There is no logical explanation for the value of the contract (being the only other asset in the business) to relatively increase in value over the first part of the business term as the pipeline reduces in value and then to rapidly decrease in value as the business draws to an end.

Accordingly a more rational valuation curve for the pipeline might take the following form:



The difference between the pipeline's value calculated using the reducing balance DRC and the rational valuation curve is a glaring valuation logic gap.

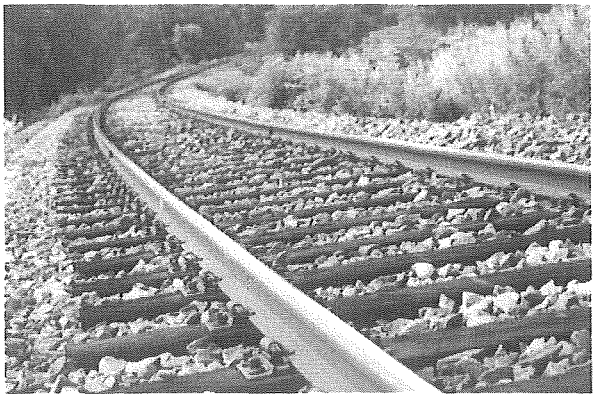
At year 14 in this example the difference between the two pipeline values is $607m. If this were the point the pipeline was valued for fair value purposes it is possible that the value of the pipeline may have been understated by $607m.

The above analysis concerns only one of the limitations of the current approach towards the valuation of long-life assets in Australia. There are a number of other critical factors that are seemingly ignored by the current approach. Significant examples are the potential premiums for matters such as the lengthy build-time of these assets, associated construction and other risks, and also the general inconvenience of managing the completion of a long-life asset. Other factors include a proper comparison of the relative operating costs of the asset, a consideration of the level of importance of the asset (which may involve the introduction of deprival value concepts) and a proper analysis of where the asset sits in context of the business of its owner, its industry and the national and worldwide economies.

Long-Life Asset Centre Approach

The Long-Life Asset Centre recognises the need for a better approach to the application of the DRC method for valuing long-life depreciable assets. It has developed detailed methodologies that properly take into account the unique attributes of each long-life depreciable asset that include a weighting of each remaining productive year of an asset's economic life and the identification and calculation of premium values for construction risks and build time.

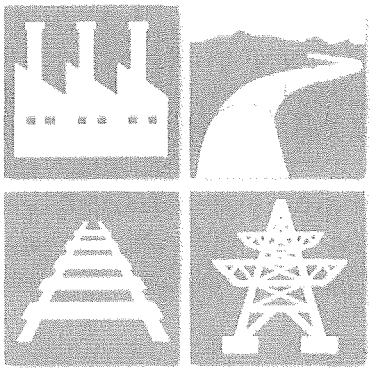
The valuation model combines areas of expertise such as economic, financial analysis, legal, cost accounting and engineering in order to calculate the appropriate rate of depreciation of a long-life depreciable asset. This depreciation is invariably quite different to that provided by the simple reducing balance and straight line methods.



It is only by using the advanced valuation methodologies that a true determination of the market value of long-life depreciable assets can be achieved.

Valuations of this important class of assets should not be dictated by habit and convention but by the manner in which they should be valued.

Contact the Long-Life Asset Centre for a full analysis as to why long-life depreciable assets should be valued differently and how you can update the valuations you have previously obtained.



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The Long-Life Asset Centre was founded in Australia by tax specialist, chartered accountant and valuation expert Peter van der Kraan. Formerly a Senior Tax Manager at KPMG, Peter was also Chief Operating Officer for four years at national valuation firm Rushton Valuers. Peter has spearheaded research into the valuation of Long-Life Assets. With almost 20 years experience in tax consulting and valuations, Peter now leads the team at the Long-Life Asset Centre that draws together the areas of expertise required to value long-life depreciable assets.