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## Starting from where?

### VALUING THE OPENING REGULATORY ASSET BASE

*Establishing the regulatory asset base, on which regulated firms are allowed to earn a return, is clearly crucial to the process of setting effective price controls. Much has been written on how to update this base over time. Establishing an economically robust starting point – the value of assets inherited at the point of privatisation – is however quite as important, often shrouded in confusion, and subject to serious disagreement between investors and regulators. This bulletin draws on Frontier's experience in advising on how to achieve practical solutions.*

Governments and newly-created regulators often find it difficult to develop full regulatory methodologies in advance of privatisation, given the time pressures they find themselves under to launch the new system. Often, therefore, they simply rely on existing accounting values or arrive at a compromise between conflicting pressures: low valuations will help to hold down consumer tariffs, while high valuations will help to maximise privatisation proceeds. Such compromises may be reached with very limited →

reference to the economic fundamentals, storing up trouble for the future, or leading to claims by investors that they were seriously misled.

Frontier Economics was recently asked to advise on the valuation of electricity assets in an emerging market, in advance of the first price review following their privatisation. The request arose because the regulator and new owners fundamentally disagreed on the appropriate methodology. The regulator favoured a methodology based on the cost of replacing the existing assets today. The new owners argued that the assets should rather be valued at the reserve price established by the government at the time of privatisation, a price that greatly exceeded the regulator's views of replacement cost.

The market value of the assets at privatisation clearly depends on investors' expectations of the profits to be earned from those assets, which in turn depends significantly on what investors see as the potential for cost savings under new management. However, it will also depend on investors' beliefs as to the valuation approach the regulator could be expected to adopt at subsequent price reviews. In this case, there was clearly a mismatch between these expectations – which drove both the reserve price and investors' willingness to bid – and the methodology the regulator then actually proposed to adopt. We approached the problem from two perspectives: an identification of the underlying economic principles on the one hand, and the lessons from international experience with these teething troubles on the other.

Economics tells us that the valuation should reflect the worth of the assets to consumers. This will be the greater of two numbers: their recoverable value, and the cost of replacing them with their modern equivalent asset (MEA). In calculating the MEA value, the actual condition and serviceability of the assets needs to be taken into account. So does the presence of redundant assets, which should be excluded from the resulting asset base. This process of adjustment to the value of the asset base is described as “optimising” the network. The final valuation should include only those assets actually required to deliver the service, with no compensation allowed for assets that are under-utilised or not needed for this purpose.

Economic principles appear therefore to suggest that, in this case, the regulator's approach was appropriate. However, the application of a full MEA methodology would clearly have a damaging impact. If it resulted in valuations far below those used at privatisation (and reflected in the reserve price set by government), this could be considered to represent expropriation by the investors. There was a serious risk that the credibility of the regulatory system could be undermined, with damaging consequences for the industry's ability to raise finance for future investment. Moreover, the logistical difficulties involved in undertaking a full asset valuation from scratch according to this methodology, and the consequent risk of delay to the price review process, had to be taken into account.

#### KEEPING EVERYBODY HAPPY

International experience offered only limited guidance as to the way out of this dilemma.

- In the **United Kingdom** – the first country that might have faced this issue – it simply had not arisen because privatisation values were far below MEA valuations. (In the case of the water industry, they were as much as 90% below.) As a result, regulators, investors and consumers all accepted a valuation of the asset base derived from the market value at privatisation. This allowed investors to recover a fair return on their investment, while holding prices below the levels that would have resulted from a replacement cost valuation.
- **Australia** offered a number of different precedents. Regulators at both the state and federal level have adopted a “standard asset valuation” methodology, which was essentially a modified version of the MEA approach.

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- However, recently this was challenged in the courts, when Epic Energy – the owners of a gas pipeline in **Western Australia** – appealed against a decision by the regulator to set a regulated asset base below the price at which they had purchased these assets from the government. The Supreme Court ruled that the regulator should reconsider, taking issues other than economic efficiency into account. Notably, the court ruled that these issues should include investors’ reasonable expectations, on the grounds that sound commercial investments should not be rendered loss-making as a result of regulatory decisions (in this case, the application of the optimisation process).

Although the Western Australian precedent seemed very relevant, it could not easily be stretched to cover the rather different situation we were analysing. In our case, the assumptions underlying the calculation of reserve prices were, in many cases, unclear. They differed between the assets bought by different companies. And they were inconsistent with the valuations that had applied in more recent sales by government of their holdings in these companies (only 49% of the shares had been sold at the time of the initial privatisation). This was very different from the Western Australian case, where expectations had been set by the prospectus, and the government had published projections of future tariffs. In that case investors could reasonably claim to have been given pretty firm expectations about future returns.

In our case, it was much more difficult to argue that the reserve prices provided the same firm basis for investors’ expectations. For this reason, we focused on seeking a practical solution that could be implemented within the time constraints of the price review.

We rapidly concluded that a full MEA valuation was impractical at this time. It would have required a detailed study of the network, taking at least four months – which would have delayed the price review and increased uncertainty, particularly since there was scope for a good deal of disagreement as to the appropriate optimisation process between the companies and the regulator. So instead, we proposed an interim approach similar to that which had been adopted in a number of South American countries – where assets are valued at the cost of replacing them on a like-for-like basis, but with no attempt being made to allow for the optimisation of the network or to adjust for serviceability.

Plainly this would provide a simpler and quicker method, which could be based on existing records, of establishing a value for inherited assets that could be rolled forward into future price reviews as well.

#### **DON’T FORGET DEPRECIATION**

This methodology, which provides a valuation of the assets that have not been depreciated to take account of their actual condition, requires corresponding adjustments to be made to the depreciation allowance that is built into systems of price control. Conventional accounting approaches, such as straight-line depreciation, provide an allowance for the “consumption” of assets over time and for their replacement. Including a depreciation allowance of this kind in the system of price control therefore compensates the owner for this consumption.

However, there is no guarantee that the resulting allowance, applied to an asset base that had been valued on the artificial assumption that all assets are in “as new” condition will match the costs of maintenance and replacement. Where assets are old, these costs might well exceed allowances. Where they are new, allowances may exceed costs. In neither case is there any certainty that depreciation allowances over the life of the asset will match the costs of replacing it given its actual level of serviceability.

So we proposed an alternative approach to the problem of depreciation. The condition (and value) of the assets is assumed to remain unchanged, and the owner is then compensated for keeping them so. With this approach, the depreciation

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allowance built into price control is set at a level deemed to be equivalent to the maintenance and replacement spending required to keep the assets in their current condition. A further adjustment is made for changes in the underlying value of the assets that might arise from, for example, changes in the costs of replacing the assets. So the asset owners receive an allowance equal to the cost of maintaining the assets, plus compensation for changes in their value. In a highly simplified form, the chart illustrates the different approaches.

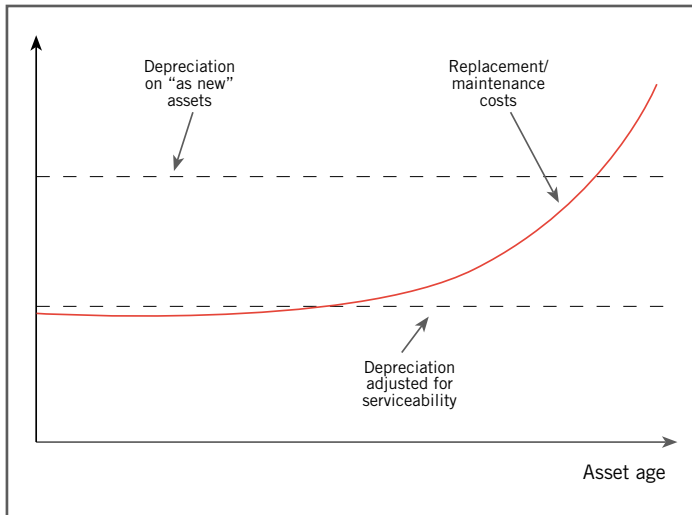


Figure: Setting depreciation allowances to reflect maintenance and replacement requirements.

#### NO SIZE FITS ALL

Every regulatory case is unique. However, this approach is one example of the ways that can be found to resolve the problems that arise when the regulatory value of recently privatised assets remains undefined, without plunging the price review process into prolonged acrimony and uncertainty. The ability to separate the treatment of depreciation from the choice of asset valuation methodology can be particularly important. For instance, if the regulatory value is set at a level that differs from MEA initially, but there is a desire to introduce competition into the sector in the future, it will be necessary for the regulatory asset value to converge to MEA over time. By adjusting depreciation charges accordingly it is possible to engineer a glide path that allows the regulatory asset value to converge on the “competitive” MEA value over a period of time.

<b>CONTACT</b>	<b>Ian Byatt</b> <a href="mailto:ian.byatt@frontier-economics.com">ian.byatt@frontier-economics.com</a>
	<b>William Derbyshire</b> <a href="mailto:william.derbyshire@frontier-economics.com">william.derbyshire@frontier-economics.com</a>
	Frontier Economics, 150 Holborn, London, EC1N 2NS UK
	BOSTON   COLOGNE   LONDON   MELBOURNE
	<a href="http://www.frontier-economics.com">www.frontier-economics.com</a>