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Asset Values in Workably Competitive Markets

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Orion New Zealand Ltd



NERA

Economic Consulting

Authors

Greg Houston, Director

Hayden Green, Senior Consultant

NERA Economic Consulting
Darling Park Tower 3
201 Sussex Street
Sydney NSW 2000
Tel: +61 2 8864 6500
Fax: +61 2 8864 6549
www.nera.com

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1. Introduction

This report addresses one of the principal subjects of the New Zealand Commerce Commission's (the Commission) recent conference¹ on its Input Methodologies Discussion Paper.² A topic of considerable discussion throughout those elements of the conference proceedings devoted to asset valuation was the implications of the purpose statement at section 52A of the *Commerce Act 1986* (the Act) for the setting of the initial regulatory asset value to be applied to each electricity lines, gas pipelines and airports business. The purpose statement requires that the regulatory scheme embodied in Part 4 of the Act be administered by the Commission so as to promote outcomes that are 'consistent with outcomes produced in competitive markets'.³ In recognition of the foundational nature of this requirement, Commissioners sought the opinion of each of the economic experts present⁴ on the extent to which the optimised deprival value (ODV) approach to the valuation of fixed assets, and its associated concept of the hypothetical new entrant (HNE), were consistent with the outcomes that can be expected from workably competitive markets.

The ODV of an asset is a measure of the cost of replicating the service potential of an existing asset with its modern equivalent, after adjustment for any potential optimisation of its capacity or configuration as may be needed to meet current expected demand, and for depreciation to reflect its part-used state. This cost-based application of the ODV concept is known as an asset's optimised depreciated replacement cost (ODRC), and applies so long as it would be economic to replace the relevant asset in the event that a business was deprived of it.⁵

The ODRC methodology is closely linked to the HNE concept. Specifically, ODRC represents the price that a HNE would be prepared to pay to buy an incumbent's assets,⁶ as compared with the alternative of building or purchasing its own from new, after taking into account that, by purchasing second-hand assets, such a hypothetical entrant would face the prospect of higher maintenance costs and earlier replacement.⁷ Intrinsic to the ODRC methodology is that the HNE would be indifferent (in net present value terms) between the alternatives of buying second hand, and building or buying new assets.

¹ On 14, 15 and 16 September 2009, the Commission held a conference on the development of input methodologies for application or potential application in determining default and/or customised price paths for certain services provided by electricity lines and gas pipelines, and information disclosure in respect of airports.

² Commerce Commission, *Input Methodologies Discussion Paper*,

³ Commerce Commission, *Input Methodologies Discussion Paper*, p.18.

⁴ Our Auckland -based colleague, James Mellsop, has also prepared a report that addresses the consistency of replacement cost-based asset valuations and workably competitive markets, for Auckland International Airport Ltd. We have reviewed that report and agree with its conclusions.

⁵ In circumstances where an asset may not be economic to replace were a business to be deprived of it, the ODV methodology requires that an estimate be made of the economic value (EV) of the asset, as measured by the cashflows that the deprived asset would otherwise be able to generate for the firm.

⁶ Importantly, the ODRC concept abstracts from the existing market structure. In particular, notwithstanding the fact that the network industries to which the Commission's input methodologies are to be applied are likely to be characterised by high sunk costs, barriers to entry and economies of scale, the methodology assumes that any positive economic profit will prompt a (hypothetical) competitor to enter and to supplant the incumbent.

⁷ In principle, the application of the ODV methodology results in the entrant facing exactly the same net present value of cash-flows from these two options, although the profile of those cash-flows will differ.

The Commission has indicated that the standard of competition that underpins s52A (as well as other parts of the Act) is that of ‘workable’ competition.⁸ During the conference, the relationship between the ODRC/HNE concepts and the outcomes produced in workably competitive markets was discussed by a number of experts, with doubt about the consistency of any such relationship being expressed in particular by:

- § Professor Yarrow and Dr Small, who suggested that there may be *little correlation* between asset values derived on the basis of ODRC/HNE principles, and the values that might be observed in a workably competitive market;⁹ and
- § Dr Layton, who suggested that prices derived on the basis of the HNE/ODRC concept would be *systematically above* the price levels one would expect to observe in a workably competitive market.¹⁰

In addition, Commissioner Begg inquired as to whether postulating an alternative model of competition based on long-term contracting might usefully inform the valuation of regulatory assets.¹¹

In our opinion, the reservations expressed by Professor Yarrow and Drs Small and Layton are misplaced. This report addresses the misconceptions that we surmise to lie behind the comments offered by Professor Yarrow and Drs Small and Layton. We also elaborate more generally upon the economic relationships between the ODRC/HNE concepts and workably competitive market outcomes. The remainder of our report is structured as follows:

- § section two describes the relationship between prices, costs and asset values in a perfectly competitive market;
- § section three describes the way in which these relationships can change in the more realistic setting of a workably competitive market;
- § section four assesses the various propositions advanced at the conference by Professor Yarrow and Drs Small and Layton in light of these relationships; and
- § section five concludes.

⁸ Commerce Commission, *Input Methodologies Discussion Paper*, p.18.

⁹ See for example, Professor Yarrow, *Input Methodologies Conference, Electricity Distribution Services*, pp.350, 353 and Dr Small, *Input Methodologies Conference, Electricity Distribution Services*, p.350.

¹⁰ Dr Layton, *Input Methodologies Conference, Airport Services*, p.79.

¹¹ Ms Begg, *Input Methodologies Conference, Airport Services*, p.81.

2. Perfect Competition

The purpose of Part 4 of the Act is to promote the long-term benefit of consumers in markets by promoting outcomes that are consistent with outcomes produced in ‘competitive markets’. Although the term ‘competitive market’ is not defined in the Act, the Commission has indicated that it does not interpret this as referring to the theoretical ideal of *perfect* competition. Rather, it interprets the reference to competitive market as being the more readily observable state of *workable* competition.¹² Nonetheless, it is useful to address the question of the consistency of the relationship between a particular asset valuation concept and the outcomes of competitive markets by examining the relationships between prices, costs and asset values in perfectly competitive markets. This is because perfectly competitive markets offer important insight into the interactions between these parameters in *workably* competitive markets.

The theoretical ideal of a perfectly competitive market has several distinguishing characteristics. These include:

- § many buyers and sellers – there are an infinite number of producers and consumers willing to supply and demand the product with their respective willingness varying in accordance with prices;
- § no barriers to entry, exit or expansion – in a perfectly competitive market, it is costless for suppliers to enter, expand production, or exit the market (this implies that there are no sunk costs);
- § homogeneous products – the characteristics of goods and services do not vary across suppliers;
- § perfect information – prices and quality of products are assumed to be known to all consumers and producers; and
- § transactions are costless – buyers and sellers incur no costs in making an exchange.

In such a market, because buyers and sellers are so numerous, any particular firm can sell its goods or services at the market clearing market price, but a firm will experience no sales whatsoever if it were to set a higher price. It follows that every firm is a price taker and so faces a perfectly elastic (flat) demand curve, where the price is determined by the equilibrium of *market* supply and demand. Moreover, because it is costless to enter, to expand and to exit a firm cannot expect to receive a price that is above its average costs of supply. In other words, equilibrium is reached when a firm’s price is equal to its average cost,¹³ and it earns a normal economic profit, ie, the return that would be made if it was to divert the relevant resources to their next best use.¹⁴

¹² Commerce Commission, *Input Methodologies Discussion Paper*, p.18.

¹³ Note that this will also be equal to its average revenue, its marginal revenue and its marginal cost of supply.

¹⁴ To be clear, normal economic profits are to be distinguished from ‘accounting profits’. For example, a normal economic profit will include a reasonable risk-adjusted return on deployed capital and will therefore almost always involve a positive accounting profit.

Any form of change in demand or supply conditions that results in prices above or below this level will be met with an immediate or rapid supply-side response that eliminates those margins. If an escalation in market demand (say, the demand for steel due to strong economic growth) results in prices in excess of average costs, labour, land and capital will be immediately or rapidly diverted to the market and transformed into products that are instantly consumed. There is no need for firms to devote precious time and significant transactions or other costs to constructing extensive new plant and equipment to supply the additional output. Rather, firms are assumed to be able to supply that additional output immediately, and in infinitely small quantities.

It follows that there is no lag between any form of change in demand or supply conditions, and the market price adjusting up or downwards, and so suppliers (across the whole market) responding by producing more or less. This perfectly efficient supply-side adjustment process obviates the possibility of goods or services being in surplus or short supply at any time, ie, excess supply or demand resulting in a ‘disequilibrium’ in the market. It also means that profits that are either above or below normal are not sustainable in such a market, since either circumstance will prompt a correction.

It follows that there is therefore a strong relationship between prices and underlying costs in a perfectly competitive market. Specifically, a firm cannot expect to make any more money than is necessary to cover its average costs of supply (which will also be equal to its marginal costs), because if above normal economic profits are seen, market supply will instantly adjust and realign prices with underlying supply costs. This in turn has important implications for the way in which capital assets are valued in such a market. Specifically, the cost-based market price necessarily will include a normal return on any capital assets that are used to supply the good or service in question. This means that:

- § the value of new capital assets implied by the market price will reflect their current market value, ie, the replacement cost of modern equivalent assets; and
- § the value of second hand capital assets implied by the market price will reflect their optimised depreciated replacement cost (ODRC).

In a perfectly competitive market a strict relationship exists between the replacement *cost* (or the ODRC, as the case may be) of assets and the *value* of assets, as represented by the revenue (ie, the price) that they ultimately are able to produce when deployed. Specifically, the replacement cost of assets and their market value will be perfectly aligned. Firms will seek a return on the ODRC of their assets, ie, assets will be valued at a price that a HNE would be prepared to pay to buy those assets as compared with the alternative of building a new network, but neither higher nor lower.¹⁵ To understand why, it is helpful to consider what would happen if a firm incurred capital costs (or set prices based on a value for those assets) that were above or below this level:

- § if a firm valued its assets *in excess* of the ODRC and sought to earn a return on that capital, the resulting price would exceed the market price and it would not be able to sell any output; and

¹⁵ Recognising that by purchasing second-hand assets it will face the prospect of higher maintenance costs and earlier replacement. The ODV methodology is designed to make the HNE indifferent between these alternatives.

§ if a firm valued its assets *below the* ODRC and sought to earn a return on that capital, the resulting price would be below the prevailing market price and it would experience demand that it could not meet, without incurring costs (of expansion to meet that demand) that would require it to raise prices.

In summary, in a perfectly competitive market, there is a strong symbiotic relationship between prices, costs and the underlying asset values. Prices will be perfectly aligned with the costs of supply, and any assets deployed to supply the good or service will consequently be valued at their replacement cost (or their ODRC equivalent for second hand assets).¹⁶ Moreover, as I explain in the following section, these fundamental relationships between prices, costs and asset values continue to apply – albeit with less precision – in the more realistic setting of a workably competitive market.

¹⁶ In other words, if one was to determine a regulated asset base in a perfectly competitive market (recognising that such a need would never arise), then the ODV methodology would be the appropriate principle to apply.

3. Workable Competition

The distinguishing characteristics of perfect competition are seldom (if ever) seen in markets. Sellers generally are not pure price takers, and parties are almost never perfectly informed. Goods rarely are homogeneous. Barriers to entry and expansion may exist. Firms may not be able rapidly to adjust supply up or down by acquiring or disposing of assets in response to changing market conditions. Entry and exit may not be easy or swift, with supply-side constraints hindering both processes. For these reasons, decisions about *whether* and *how* to impose regulation are generally made by reference to a *workably* competitive market benchmark,¹⁷ specifically:

- § regulation is typically limited to those instances in which the existence of substantial market power results in prices that exceed materially those that would be expected to prevail if the market were workably competitive; and
- § where regulation is imposed it generally seeks to bring about prices that provide a regulated business with the reasonable prospect of recovering its efficient costs and to obtain a return on capital commensurate with the risks associated with its investment.

Unlike perfect competition, in a workably competitive market if firms are seen to be earning more than normal economic profits, it may take time for new entrants (or existing competitors seeking to expand) to purchase or construct the assets required to augment supply in pursuit of those profits. For example, it may not be possible to add those assets in small increments – additions may instead be ‘lumpy’. There may also be other entry barriers to overcome. In other words, instantaneous supply-side adjustment generally is no longer possible once the various assumptions underpinning the perfectly competitive market scenario are relaxed.

Rather, because entry and exit are no longer costless and resources cannot be reallocated immediately, it is feasible for firms to earn both above and below normal economic profits for a period without immediately prompting new entry, expansion or exit. Market prices may therefore depart from the underlying costs of supply for periods of time, while the supply-side adjusts. Put another way, it is possible for the market to experience periods of ‘disequilibrium’ during which firms make above or below normal economic profits until such time as entry, expansion or exit occurs, as the case may be, to restore equilibrium. For example:

- § if market demand increases (eg, due to shift in demand in a downstream market), then excess demand may result, and give rise to prices in excess of the underlying costs of supply; and
- § if market demand decreases (eg, due to fall in demand in a downstream market), then excess supply may result, and produce prices below the underlying costs of supply.

¹⁷ As Professor Alfred Kahn explains, ‘the single most widely accepted rule for the governance of the regulated industries is to regulate them in such a way as to produce the same results as would be produced by effective competition, if that were feasible’. See: Kahn, A., 1988, *The Economics of Regulation, Principles and Institutions, Volume 1 – Economic Principles*, Massachusetts Institute of Technology, p.17.

In workably competitive markets, prices and underlying supply costs will therefore *not* be perfectly aligned at all times. However, in time, the supply-side will adjust, with firms entering or exiting to restore economic profits to the level of normal returns. It is for this reason that the mere existence of above normal profits is not considered sufficient to impose regulation. By definition, in a workably competitive market, such profits are a short-term phenomenon that will be eliminated once the supply-side adjusts.

Notwithstanding the potential for short-term disequilibria, there remains a strong relationship between prices and underlying costs in a workably competitive market. The principal difference from the perfectly competitive market outcome described above is the *time* taken for that adjustment to occur. Specifically, market corrections are not instantaneous and there may be periods of disequilibrium where prices exceed costs (and vice versa) before normal economic profits are restored. This has important implications for the way in which capital assets are valued.

We explained above that, in perfectly competitive markets, assets will always be valued at the applicable ODRC, since any departure from this value would result in prices that are either above or below the prevailing market price, which is unsustainable in such a market. In other words, the replacement *cost* (or ODRC) of those assets will always reflect the *value* of those assets, as represented by the revenue they are capable of delivering when deployed. However, this relationship does not always strictly hold at all times in a workably competitive market. Rather, there will be periods in which prices (and so the market *value* of assets) exceed the underlying costs of supply (and so the replacement *cost* of assets), and vice versa.

To illustrate this point, consider the market for air travel, which for the purposes of this illustration we take to be workably competitive. In order to compete in this market a business needs to procure aircraft. This makes the business highly capital intensive and so gives it some structural characteristics in common with the infrastructure businesses that are subject to the Part 4 regime. Aircraft are expensive, take a significant time to manufacture, and are highly specific to the airline industry.¹⁸ It is therefore difficult for airlines seamlessly to ramp their supply up or down by purchasing or disposing of aircraft in response to changing market conditions. Consequently, demand fluctuations can cause the market value of new and second hand aircraft to depart temporarily from their replacement costs or ODRC, as suppliers of air travel (ie, airlines) simultaneously attempt to increase or reduce their capacity.

During recessionary times, when demand for air travel is low and prices are falling, there is likely to be an excess supply of aircraft available on the second-hand market. Aircraft manufacturers may have surplus stock, and second-hand aircraft are likely to be cheap and widely available. The price that a HNE would be expected to pay to an incumbent airline to procure its assets at such a time is likely to be likely to be *below* the replacement cost (or ODRC) of those assets. In other words, the market *value* of the assets may temporarily fall *below* the ODRC of the assets in a workably competitive market.

Conversely, during boom times, when demand for air travel is high and prices are rising, there may well be temporary excess demand for aircraft. Aircraft manufacturers may not be

¹⁸ Although aircraft can be redeployed to other routes, they cannot be used for anything other than the provision of airline services, ie, they cannot be retrofitted to become trucks or trains.

able to keep pace with new orders, resulting in second-hand aircraft becoming relatively expensive and/or difficult to obtain. The price that an HNE would be expected to pay to an incumbent airline business to procure its assets at such a time is likely to be likely to *exceed* the replacement cost (or ODRC) of those assets. In other words, the market *value* of the assets may temporarily rise *above* the ODRC of the assets in a workably competitive market.

However, because it is not possible for prices to be persistently above or below the cost of supply in the long-run in workably competitive markets, it follows that asset values cannot be persistently above or below ODRC. In times of excess supply, airlines will respond by deferring or cancelling orders or exiting the industry, and manufacturers will slow down their production plants. Likewise, manufacturers will respond to excess demand by ramping up their production, and airlines will seek to procure second-hand aircraft. In each instance, the resulting supply-side adjustment will restore prices and profits to normal levels, and asset values will reflect their replacement costs, or ODRC.

In summary, in a workably competitive market there remains a strong relationship between prices, costs and the underlying asset values. Although market fluctuations can result in prices departing from costs, and asset values departing from ODRC, the resulting disequilibria are only temporary. In the long-run, a supply-side adjustment can be expected that realigns prices with the underlying costs of supply, and asset values with their ODRC, such that normal returns are earned by market participants.

4. Implications

During the conference, the relationship between the ODRC/HNE concepts and workably competitive market outcomes came under scrutiny by a range of economic experts. Professor Yarrow and Dr Small questioned how informative the ODRC/HNE concepts can be for the determination of initial asset values if a workably competitive market outcome is to form the relevant benchmark. In particular, they suggested that there may be little correlation between asset values derived on the basis of ODRC/HNE principles and the values that one might observe in a workably competitive market. Professor Yarrow contended that:¹⁹

‘[T]here is virtually no correlation to be expected between the costs of the hypothetical new entrant and what might be a market value under a workable competition standard because of the nature of the market’

Similarly, Dr Small opined that:²⁰

‘My concern is the tightness of the link that you seem to be requiring between what that value is and a workably competitive market standard. And if I could put it this way; workably competitive markets, as I said before, are generally not in equilibrium, they’re generally out of equilibrium ... on one reading ... the competitive market can give you any value.’

Professor Yarrow and Dr Small seem to be suggesting that there is *no* correlation between the market *value* of assets and their replacement cost (or ODRC) in workably competitive markets, and so the use of an ODV involves total subjectivity. We agree that, in workably competitive markets, asset values can and do depart temporarily from the replacement costs that would be faced by a HNE. However, such departures neither diminish the relevance of the HNE/ODRC concepts to the process of determining regulatory asset values nor introduce complete subjectivity to that process.

The relationship between the market value of assets and their replacement cost in workably competitive markets is not one of ‘no correlation’ that ‘can give you any value’. Rather, there is a strong symbiosis between these parameters. If businesses cannot make normal economic returns that meet the replacement costs of the relevant assets, then market entry will be delayed and/or exit hastened. Conversely, if businesses are seen to be making greater than normal economic returns, entry will occur to erode those margins. In long-run equilibrium, once new entry or exit has occurred and the incentives for further entry or exit have ceased, it must be the case that an HNE just makes normal returns.

This then has implications for the value of an incumbent’s assets. Specifically, the value of assets must be driven by the cost structure of the new entrant, adjusted to take account of the difference in the cost of operating old assets versus new assets (if that new entrant were to be procuring second-hand assets). This is the formal definition of ODRC. In workably competitive markets, asset values either will already correspond to their ODRC or, if the market is in temporarily disequilibrium, a re-alignment process will be underway. In other

¹⁹ Professor Yarrow, *Input Methodologies Conference, Electricity Distribution Services*, p.353.

²⁰ Dr Small, *Input Methodologies Conference, Electricity Distribution Services*, p.350.

words, there clearly *is* consistency between the asset values derived on the basis of ODRC/HNE principles, and the values that one might observe in a workably competitive market.

A further misconception that arose during the conference was that regulated prices that are derived on the basis of the HNE/ODRC concepts are not consistent with workably competitive market outcomes, since they will be systematically *above* the price levels one would expect to observe in such a market. For example, Dr Layton suggested that:²¹

‘[T]he hypothetical new entrant test is actually inconsistent with a workably competitive market, and my reasoning for that is essentially what the hypothetical new entrant is asking is how high can you push prices before someone else is going to come into this regime? And this is not necessarily the price you would have if you actually had a workably competitive situation in the market already.

So this is asking how far can we go before an existing provider would actually have a competitor come in and be willing to enter the market? It’s a hypothetical case, that’s why it’s called the hypothetical new entrant, but I don’t think that’s in fact going to give you the returns, or the prices, or the charges that you would do if you were in a workably competitive market.’

For the reasons we discuss above, there clearly is consistency between the asset values derived on the basis of ODV/HNE principles, and the values and prices that would be observed in a workably competitive market. We also explained in section 3 that fluctuations in the balance between supply and demand may also result in the market value of assets being above *or* below the ODRC of those same assets in workably competitive markets for periods of time. However, there is no reason to think the value of assets derived on the basis of HNE/ODRC principles will be systematically above *or* below the market value one would observe in such a market. In other words, in a workably competitive market, one would expect that the market value of assets would, on average, be equal to their ODRC value.

Dr Layton appears to be suggesting that prices based on the ODRC of assets would *not* be sufficient to elicit entry. His suggestion seems to be that an incumbent could somehow push prices *above* those implied by normal economic returns on ODRC asset values before entry would occur. We disagree. The only circumstances in which prices can exceed those implied by normal returns on HNE asset values is when barriers to entry or exit exist that prevent entrant from restraining prices (and so asset values) to normal levels. However, intrinsic to the HNE test (and the ODRC valuation principle) is that entry can occur at any time and without cost, since its hypothetical nature has the purpose of overcoming the practical problems of entry to compete with an incumbent monopolist.

In other words, Dr Layton has misconstrued the hypothetical nature of the HNE test. The test abstracts away from the *actual* market, to a hypothetical scenario in which entry would occur if *any* rent was available to the HNE. It would be quite a different test to ask how high a lines business or an airport could set its price before it might attract an *actual* new entrant. Such a price may be significantly higher than the prices implied by the HNE test since an incumbent would be able to exploit the relevant barriers to entry to the fullest extent. However, the

²¹ Dr Layton, *Input Methodologies Conference, Airport Services*, p.79.

fundamental purpose of the HNE/ODRC concepts is to *put those barriers aside*. In consequence, Dr Layton's concern that application of the HNE test will lead to prices systematically above the price levels one would expect to observe in a workably competitive market is misplaced.

Finally, the question was raised at the conference as to whether postulating an alternative model of competition based on the arrangements by which long-term contracts are struck might more usefully inform the asset valuation process than the HNE/ODRC concepts. For example, Commissioner Begg observed that:²²

'[T]here are obvious examples where people enter into long-term contracts before they sink their assets, and that governs the relationship over a period of time. This can happen ... perhaps where you have competing gas fields and gas pipelines people enter into long-term contracts. That would mean that over time, assets aren't necessarily matched to a hypothetical new entrant or the replacement cost, it will be defined in the contract which is set at a time when there is competition.'

This observation is similar to those earlier of Professor Yarrow and Dr Small. Specifically, because a fixed price under a long-term contract may not at all times reflect the workably competitive market price, the value of the assets to which the contract relates may also not reflect the ODRC standard. While this is undoubtedly correct, again such departures do not diminish the relevance of the ODRC/HNE concepts.

No firm will enter into a long-term contract unless the cost of the assets it needs to put in place (for which it will incur costs equal to their ODRC) can be recovered, including a normal return on capital. Throughout the life of the contract the ODRC of the assets may fluctuate above or below the memorialised asset value. However, there is no reason to think that the ODRC of the assets will be systematically above *or* below their implied contractual value.²³ Moreover, once the contract is renegotiated, the contractual price will again need to reflect the updated, forward-looking ODRC of the relevant assets before a supplier will be prepared to execute such an agreement. If this were not to be the case, a firm would prefer to supply customers that were prepared to pay the current workably competitive market price.

To illustrate, consider a 10-year leasehold agreement for a petrol filling station for which the lessee agreed at the outset to pay an annual sum in each year of the lease period based on current and projected market conditions for retailing at that site. Such a payment would reflect the replacement cost of that asset both at the commencement and over the period of the lease. During the term of the lease, property values may fluctuate (not least as outturn market conditions differ from those expected at the time the lease was entered into), such that

²² Ms Begg, *Input Methodologies Conference, Airport Services*, p.81.

²³ By extension, there is no reason to think that an ODRC will be higher than the opportunity cost of those assets to the incumbent at some previous date (ie, some form of historical or memorialised cost) simply because, say, replacement costs had been increasing at a rate greater than inflation for a number of years. Because a historical cost valuation (or a valuation memorialised in a contract) represents the opportunity cost of the initial investment in an asset, a component of that opportunity cost is any *shortfalls* in returns that have arisen in the past. This phenomenon is commonplace in the return profiles of large sunk assets. For example, in the years immediately following its completion a gas distribution pipeline may have been under-utilised and it may not have delivered its target return to investors during that period. For this reason, in order to provide a return on the opportunity cost of the original investment the quantum of those shortfalls subsequently would have needed to be *added* to the asset value to 'make whole' the original investors.

the ODRC of the assets is above or below the asset value memorialised in the contract at any one time, ie:

- § if property values rise above forecast during the lease period (eg, due to an increase in demand for petrol at that location) this would increase the rent (expressed in price per litre terms) required to preserve the asset's forward-looking yield, ie, the ODRC of the assets will exceed the value memorialised in the contract; and
- § if property values decrease below forecast during the lease period (eg, due to reduced demand for petrol at that location), this would reduce the rent (expressed in price per litre terms) required to preserve the asset's yield, ie, the ODRC of the assets will fall below the value memorialised in the contract.

However, there is no reason to think that, over the lifetime of the contract, the ODRC of the assets will be systematically above *or* below the contractual value. If either the landlord or the lessee (as the case may be) perceived as much, the contract would not have been executed. Moreover, regardless of what happens throughout the term of the lease, when the lease is renegotiated upon its expiration the new lump sum payment will need to be based on the ODRC of the assets at that point in time. In other words, a strong relationship remains between the asset values derived on the basis of ODRC/HNE principles, and the values that one would expect to underpin a long-term contract.

5. Conclusion

Throughout the Commission's input methodology conference questions arose as to the consistency between the ODRC asset valuation methodology, the associated HNE principle and the benchmark of a workably competitive market. There is no inconsistency between these concepts. In workably competitive markets, asset values either will already correspond to their ODRC or, if the market is in temporary disequilibrium, a re-alignment process will be under way. In either event, the long-run equilibrium outcome is one that is characterised by asset values that reflect the applicable ODRC, and the related HNE concept.

Furthermore, there is no reason to think that short-term fluctuations above or below ODRC that occur during periods of disequilibrium will be biased in either direction. Periods of excess supply and excess demand are equally likely. Finally, postulating alternative models of competition based on the arrangements by which long-term contracts are struck do not unsettle any of these conclusions. No firm will enter into a long-term contract unless the cost of the assets it needs to be put in place (for which it will incur costs equal to their ODRC) can be recovered, including a normal return on capital.

NERA

Economic Consulting

NERA Economic Consulting
Darling Park Tower 3
201 Sussex Street
Sydney NSW 2000
Tel: +61 2 8864 6500
Fax: +61 2 8864 6549
www.nera.com