



The Australian Gas Association

Submission to the Productivity Commission

Review of the Gas Access Regime

Supplementary Submission

31 October 2003

National Office

Level 3, 40 Blackall Street, Barton ACT 2600
GPO Box 323, Canberra ACT 2601
Telephone: +61 2 6272 1555 Facsimile: +61 2 6272 1566
Email: canberra@gas.asn.au Website: www.gas.asn.au

Overview

The purpose of this submission is to respond to a number of significant issues raised in the Productivity Commission *Review of the Gas Access Regime* which the Commission may be considering commenting on in its upcoming Draft Report.

The Australian Gas Association (AGA) considers it of key importance that the Commission incorporate into its recommendations the recognition that the costs and efficiency impacts of underinvestment in infrastructure assets, flowing from access prices that are set too low, will outweigh any smaller efficiency impacts of access prices being set marginally too high. No substantive evidence has so far been presented to the inquiry which suggests that the benefits of ensuring access prices promote the long-term interests of existing and potential users of gas infrastructure consumers are outweighed by any potential negative efficiency impacts.

A common theme of submissions by some regulatory authorities, incumbent gas production businesses and existing gas users has been the assertion that extremely broad statistical measures such as the total length of gas transmission or distribution networks, or aggregated capital expenditure figures, provide evidence that one specific component of the set of gas market reforms introduced in the 1990s (third party access pricing regulation, rather than open access, privatisation, the removal of interstate barriers to trade in gas, and limited upstream gas reform) is operating effectively and not negatively impacting on investment.¹ Such broad, undifferentiated measures provide little evidence of the overall effectiveness of the regime, and provide even less justification for failing to pursue amendments to improve the operation of the regime. In some submissions, evidence relating the level of investment in gas distribution networks has been inaccurately presented as demonstrating a lack of a need for improved approaches to protect ongoing investment.

In relation to the associated issue of the adequacy of regulatory rates of return, compelling and detailed empirical evidence has been presented by the Network Economic Consulting Group study *International comparison of WACC decisions*. This study demonstrates that regulatory outcomes for the Australian gas distribution network sector have not been higher or more 'generous' than comparable international decisions. This contradicts repeated claims by the ACCC and some representatives of existing energy users that current access pricing outcomes favour regulated businesses.² In the gas distribution sector, the comprehensive NECG survey of over 100 recent regulatory decisions provides evidence that regulated rates of return have been comparable to those in the UK, and significantly lower than many US decisions.

¹ See for example ACCC *Submission to the Productivity Commission Review of the Gas Access Regime*, September 2003, p.76; BHPBilliton *Initial Submission to the Productivity Commission Review of the National Gas Code*, September 2003, p.53; Energy Markets Reform Forum *Initial Submission to the Review of the National Gas Access Regime*, September 2003, p.6

² ACCC (September 2003), p.13; Energy Action Group *Submission to the Productivity Commission Review of the Gas Access Regime*, September 2003, p.4; Energy Markets Reform Forum (September 2003), p.7; Hunter Gas Users Group *Submission to the Productivity Commission Review of the National Gas Access Regime*, August 2003, p.7

This comprehensive study also contradicts research commissioned by incumbent gas producer BHPBilliton from the Allen Consulting Group.³ The conclusions of the Allens Consulting report on the relationship between market and regulatory valuations are undermined by significant methodological flaws. Regulated gas distribution networks collectively form the largest single type of asset regulated under the gas access regime. Despite this, the Allen report specifically excludes approximately half of the total sunk capital value of the gas distribution sector. In addition, the report fails to acknowledge that the theoretical relationship relied upon to derive the findings has not been consistently observable in functioning capital markets. Finally, the report fails to consider or discuss the wide variety of factors which a range of commentators have posited to explain why capital markets as whole have not operated consistently with the theories applied narrowly by Allen Consulting.

A consistent theme in the review for regulated businesses, regulatory authorities, and some gas producers has been the need for an evolution in regulatory access pricing approaches.⁴ Some detailed provisions in current National Gas Code represent a barrier to the evolution of improved alternative models of access pricing from the current ‘building blocks’ cost of service approach. In framing amendments to address this, and considering alternative access pricing models, it is important that the full range of cost and non-cost based pricing models are considered by governments and policy makers. To date, some regulatory authorities have focused narrowly on only one form of alternative access pricing, a productivity based indexing approach with a significant and ongoing focus on firm-specific costs.

Through the inquiry several parties have discussed the issue of potential advantages and disadvantages of developing separate regulatory access codes for the gas distribution and transmission sectors. The AGA considers that the core provisions of the existing gas access regime are generic to both sectors, and that development of duplicate regimes is unjustified and potentially distortionary. The AGA notes that a range of energy market participants and governments have endorsed this view, and that existing or future National Gas Code amendment processes represent the best means of addressing the few technical provisions of the regime that are more relevant in application to one sector than the other.

³ Allen Consulting Group *Review of the Gas Code: Commentary on Economic issues – Report to BHPBilliton*, August 2003, Chapter 5

⁴ See for example ExxonMobil *Submission to the Review of the Gas Access Regime*, August 2003, p.8; ACCC (September 2003), p.48; Victorian Essential Services Commission *Submission to the Review of the Gas Access Regime*, October 2003, p.10

Background

This submission provides further information in response to a number of submissions to the Productivity Commission following the release of the *Review of the Gas Access Regime – Issues Paper* in July 2003.

The AGA represents the downstream sector of Australia's natural gas industry, with membership including gas distribution network and transmission pipeline companies. This submission principally represents the views of core AGA members owning regulated gas distribution networks, including:

- Alinta Ltd/Multinet Ltd
- Allgas Energy Ltd/ENERGEX
- Country Energy
- Envestra Ltd
- The Australian Gas Light Company
- TXU.

Gas distribution businesses deliver natural gas to over 3.5 million Australian households through distribution pipeline networks over 75 000 kilometres in length, mainly under urban areas. These distribution networks are valued at approximately \$6.0 billion, and each year gas distribution businesses undertake capital investments of approximately \$250 million in network reinforcement, expansion and extensions.

Impact of access regulation and regulatory decisions

The potentially negative impacts that access regulation and access pricing decisions may have on long-term investment in long-lived infrastructure has been recognised by the Productivity Commission in its *Review of the National Access Regime*, and by many commentators over the past several years. As the Commission noted in its Draft Report:

Given the asymmetry in the costs of under and overcompensation of facility owners, together with informational uncertainties facing regulators, there is a strong in principle case to 'err' on the side of investors.⁵

In its Final Report of the *Review of the National Access Regime* the Commission concluded that:

Nonetheless, the Commission accepts that there is a potential asymmetry in effects:

- Over-compensation may sometimes result in inefficiencies in the timing of new investment in essential infrastructure (with flow-ons to investment in related markets), and occasionally lead to inefficient investment to by-pass parts of a network. However, it will never preclude socially worthwhile investments from proceeding.

⁵ Productivity Commission *Review of the National Access Regime – Draft Report*, March 2001, p.71

- On the other hand, if the truncation of balancing upside profits is expected to be substantial, major investments of considerable benefit to the community could be forgone, again with flow-on effects for investment in related markets.

In the Commission's view, the latter is likely to be a worse outcome. Accordingly, it concurs with the argument that access regulators should be circumspect in their attempts to remove monopoly rents perceived to attach to successful infrastructure projects.⁶

Thus, in the *Review of the National Access Regime*, the Commission found that there was an asymmetry of potential impacts of access regulation.

The recent Allen Consulting Group submission commissioned by BHPBilliton appears to argue that undue weight may have been placed by other commentators and the Commission on the impacts of under-compensation, to the exclusion of consideration of the negative allocative efficiency impacts of potential 'monopoly pricing' in relation to gas pipelines.⁷

The Allen Consulting analysis provides a flawed and incomplete basis upon which to consider the impacts of access pricing regulation on investment for the following reasons:

- any claimed allocative efficiency impacts of 'over-compensation' will still clearly be outweighed by the loss of the *entire consumer benefit* associated with low access prices leading to a lack of provision of new infrastructure facilities sought by the community
- the likely impacts of asymmetrical risks and costs of access prices being set too low are magnified by imprecision in significant elements of the current Capital Asset Pricing Model – in particular key 'cost of capital' parameters – and mandated consumer protection objectives which regulatory authorities have interpreted as requiring a focus on short-term price falls to existing users⁸
- the analysis appears to be modeled based on assumptions regarding the market characteristics of long-distance point to point gas transmission pipelines which involve large upfront capital investments but relatively low ongoing capital and operating expenses, assumptions which are not applicable to gas distribution networks which comprise around \$5.4 billion of the \$9.0 billion of regulated assets under the regime.⁹

Given these points the AGA considers that the Commission should fully appreciate the likely negative impacts of underinvestment in key infrastructure sectors, including the likelihood that underinvestment will result in a lack of access to natural gas on the part of potential gas users (and the resultant lack of fuel competition and productive and dynamic efficiency benefits to potential gas consumers).

⁶ Productivity Commission *Review of the National Access Regime – Inquiry Report*, September 2001, p.83

⁷ Allen Consulting Group (August 2003), p.16

⁸ See for example Victorian *Essential Services Commission Act 2001*, Section 8(1) and New South Wales *Independent Pricing and Regulatory Tribunal Act 1992*, Section 15 (1) (b).

⁹ Allen Consulting Group (August 2003), p.13

Evidence of the operation of the gas access regime

As identified in the previous AGA submission to the *Review of the Gas Access Regime*, assessing the impact of the operation of the gas access regime is an inherently complex task, given the lack of a counterfactual, the difficulty of separating out the impacts of other related gas market reforms, and the fact that economic transfers either to upstream or downstream markets cannot accurately be classified as 'benefits'.

Use of general measures of network length and investment

A number of submissions from some upstream gas producers, regulatory authorities under the National Gas Code, and consultants commissioned by these parties have sought to suggest that there is clear evidence that the regime has actively facilitated investment which (it is claimed) would not have occurred in the hypothetical circumstance of the regime not proceeding.¹⁰ Key evidence for these assertions is said to be provided by:

- aggregate listings of the expansion in the overall physical length of gas transmission pipelines in Australia
- aggregated past and future capital expenditure in transmission pipeline developments
- long-term patterns of overall gas consumption.

This type of evidence does not provide a basis upon which to conclude either that the gas access regime has not impacted on investment, or that significant amendments should not be made to the regime to reduce the potentially negative impact of the regime on future investment.

In particular, citations of aggregate kilometres laid or past or potential future capital expenditure have little explanatory power on the point of whether the gas access regime has been effective, which elements of the wider gas reform process may have facilitated investment, or what investment may have occurred in the absence of the regime. This point was recently reinforced by one of Australia's largest producers of natural gas, ExxonMobil, which has commented:

It is also true that there has been significant construction of pipelines since the introduction of the Gas Access Regime. However, ExxonMobil believes that this construction has been the natural consequence of (1) deregulation of the gas market with the advent of interstate trade, (2) new market opportunities, (3) new upstream developments, and (4) negotiated foundation shipper arrangements, and not as a result of the Gas Access Regime per se.¹¹

The Productivity Commission itself has recognised the point that aggregate quantifications of past or future investment are not direct evidence of an effective

¹⁰ See for example ACCC Chairman Mr Graeme Samuel 'Some thoughts on economics and regulation', Speech to 32nd Conference of Economists, 2 October 2003, p.13 <www.accc.gov.au>; ACCC (September 2003), p.xvii and BHPBilliton (September 2003), p.53

¹¹ ExxonMobil (August 2003), p.4

regime. In its previous *Review of the National Access Regime*, where similar ‘evidence’ was provided largely by the same parties, the Commission noted:

However, many of these claims are subject to the same sort of caveats as contentions about the negative investment impacts of access regulation. For instance, the issue is not whether significant new investments are planned, but whether socially worthwhile investment has been precluded or undesirably delayed.¹²

This point is reinforced in the context of the gas access regime by the potential for the investment to proceed but be configured in a socially sub-optimal way to limit the potential risks of access pricing undermining the basis of foundation contracts.

Trends in gas distribution investment

The AGA has further concerns regarding representations made on the level of investment in gas distribution networks. The submission by BHPBilliton states that:

Growth of capital expenditure in distribution networks increased by up to 15 per cent per annum [since 1990/91]¹³

This statement is based on an analysis of past capital investment in the period 1990-91 to 2001-02 constructed from past ABS and AGA data. (See [Table 1](#)) As BHPBilliton notes elsewhere in the submission, both the AGA and ABS have highlighted that the comparability of gas industry data over time, including data on capital expenditure, is highly problematic given the significant structural changes (including privatisation) that have occurred in this period. Capital expenditure data prior to the large scale restructuring and privatisation is not directly comparable to data after these processes, particularly given formerly government-owned business enterprises undertook capital expenditure that may have been underreported in AGA data, and that in the pre-privatisation period the series may also be impacted by investments arguably in some cases made on the basis of a range of non-commercial objectives.

BHPBilliton have used 1990-1991 as the base year for measuring growth in its analysis, a year during which investment appears to be an abnormally low \$218 million. The dangers of comparing data over an extensive time period, as BHPBilliton has done, is shown by the fact that in 1990-1991 there was \$183 million (constant prices December 2002) invested in gas distribution networks in NSW and the ACT alone. However, \$86 million of this investment was funded through a leasing arrangement by AGL and therefore was not reported as capital expenditure (or captured in AGA’s data collected at the time). Similarly, \$104 million (constant prices December 2002) of investment in gas distribution networks was financed in this way by AGL in 1991-1992 and \$26 million (constant prices December 2002) in 1992-93. While it is probable that this is not the only anomaly in the long statistical series relied upon by BHPBilliton, correction for this anomaly alone invalidates BHPBilliton’s conclusions regarding investment trends (See results in [Table 1](#)).

In addition to these issues, the BHPBilliton claim regarding an expansion in investment in gas distribution networks since the introduction of the gas access

¹² Productivity Commission (September 2001), p.80

¹³ BHPBilliton (September 2003), p.29

regime is incorrect. Using the same data and methodology adopted by BHPBilliton for the relevant period of the implementation of the gas access regime (1997-2002) the average growth rate per annum is -5.1 per cent (see [Table 1](#)). Using AGA's published capital expenditure data collected by survey for the same period results in an average growth rate per annum of -2.8 per cent. Significantly the final two years in the analysis experienced investment considerably lower than any other year in the analysis.

Table 1 –Trends in capital expenditure in gas distribution networks

Year	BHP Billiton*	AGA adjusted data [#]	AGA Gas Statistics Australia [^]
1990-91	218m	304m	N/A
1991-92	197m	301m	N/A
1992-93	260m	286m	N/A
1993-94	294m	294m	N/A
1994-95	329m	329m	N/A
1995-96	324m	324m	N/A
1996-97	281m	281m	N/A
1997-98	288m	288m	248m
1998-99	274m	274m	240m
1999-00	359m	359m	330m
2000-01	253m	253m	238m
2001-02	222m	222m	215m
Average growth rate (% pa) 1990-2002	15.2	-2.6	N/A
Average growth rate (% pa) 1997-2002 (National Gas Code)	-5.1	-5.1	-2.8

* - based on adjusted ABS and AGA data (constant prices December 2002) cited in BHPBilliton (September 2003), Table 3.2

[#] - based on adjusted ABS and AGA data (constant prices December 2002), Table 3.2 adjusted for AGL lease financed investment in 1990-1993.

[^] - AGA *Gas Statistics Australia 2002*, Table 5.13 (nominal prices)

Another key issue not recognised in the BHPBilliton analysis is that a significant proportion of capital expenditure in the gas distribution sector is non-discretionary, and imposed by mandatory obligations to supply imposed in some jurisdictions.¹⁴ The non-discretionary nature of significant levels of investment in distribution networks reinforces the need to ensure the gas access regime adequately compensates owners of regulated assets, and reduces the scope for reliance on the existence of ongoing investment as even a crude measure of the effectiveness of the regime.

As noted the original claimed 15 per cent annual increase in capital expenditure relies on a data series which is not reliably comparable over such a long period. In addition, if a more reliable, and shorter data set collected on a more consistent basis is analysed, the results are the *reverse* of those highlighted by BHPBilliton.

¹⁴ The *Victorian Gas Distribution System Code* and gas distribution licenses monitored by the Victorian Essential Services Commission are an example of such obligations. <www.esc.vic.gov.au>

The AGA has not at this time undertaken further analysis of other potential inconsistencies in statistical evidence presented in the BHPBilliton submission. Given this specific instance, however, AGA suggests the Commission should not place reliance on data which is not able to be independently replicated or confirmed by the Commission.

Objective evidence of regulatory outcomes

The Productivity Commission has emphasised its interest in obtaining detailed practical evidence of regulatory outcomes in Australia on which to base recommendations regarding the regime.

This evidence will be particularly important in assessing the contested claims by regulatory authorities that Australian regulators have adopted ‘generous’ or ‘conservative’ approaches which have led to regulated rates of return for regulated gas businesses being greater than comparable international decisions. The claim that Australian regulators have been comparatively ‘generous’ in relation to access pricing has been consistently advanced by the ACCC and other regulatory authorities in dismissing the need for a review of, or significant amendments to, the gas access regime.¹⁵

International comparison of WACC decisions

In September 2003 the Network Economic Consulting Group released its *International comparison of WACC decisions* and provided a copy as a submission to the current inquiry.

The report is the most comprehensive comparison and analysis of Australian and international cost of capital decisions made to date. It is lengthy and detailed, and covers a number of infrastructure sectors, surveying over 100 regulatory decisions across Australia, the United States, the United Kingdom, Canada, France, Ireland, the Netherlands and New Zealand. For the purposes of the current inquiry the results of analysis undertaken in relation to the gas distribution sector are extremely relevant and significant.

NECG concluded in relation to gas distribution sector decisions:

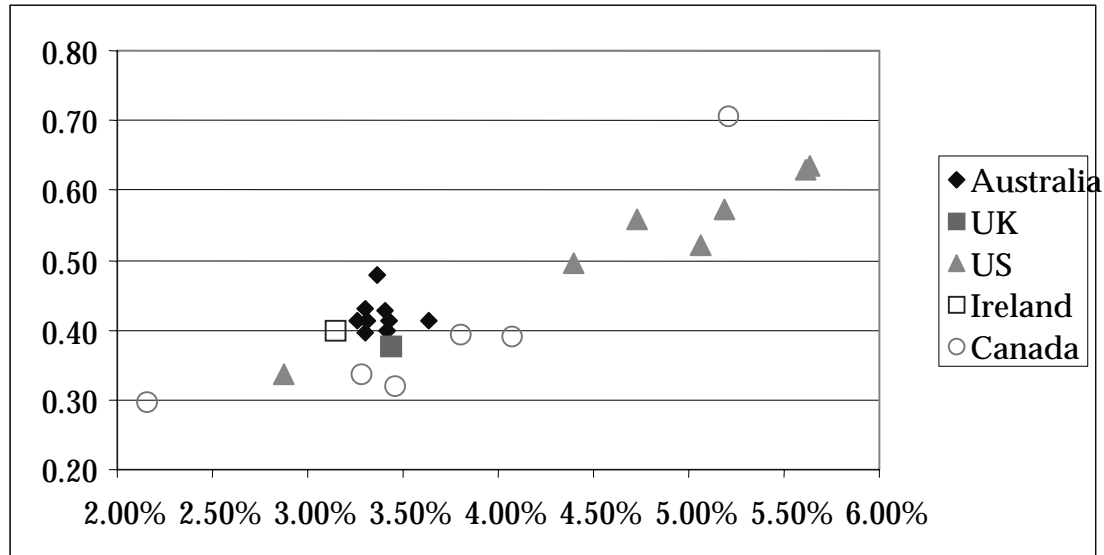
Figures 10 and 11 show the Australian decisions in general provide (unadjusted) margins over the risk free rate that are broadly equivalent to those calculated for Canada, but significantly lower than those in the US. The Irish and UK decisions are broadly comparable to the Australian decisions when the adjustment factor is applied.

Figure 11 from the report is reproduced below. It illustrates that in relation to regulatory decisions in the Australian gas distribution sector on the assumed cost of capital (x-axis), and the key asset beta assumption (y-axis), there is no basis to

¹⁵ See for example ACCC Media Release ‘ACCC says regulated energy returns reasonable’, 19 October 2000 <www.accc.gov.au>; ACCC *Submission to the Productivity Commission Review of the National Access Regime*, December 2000, p.65 <www.pc.gov.au>; Victorian Essential Services Commission *Review of Victorian Gas Access Arrangement – Final Decision*, October 2002, p.421

conclude that regulatory decisions have been ‘generous’. As NECG noted, regulatory outcomes have been comparable to United Kingdom decisions, but significantly lower than cost of capital decisions made in the United States.

Figure 11 Gas distribution – adjusted vanilla WACC and asset beta¹⁶



Given the NECG survey indicates that Australian regulatory outcomes are comparable to those in the UK, it is relevant to note that across a range of infrastructure sectors there has been increasing evidence that UK regulatory authorities have adopted asset valuation and cost of capital assumptions which have resulted in returns being too low to promote adequate ongoing reinvestment. Key indications of this trend include high perceptions of regulatory risks by investors in the UK water industry, generally increased debt gearing ratios amongst regulated businesses, and the placing of Railtrack into administration and liquidation.¹⁷

Assessing the relationship between market and regulatory values

Regulatory authorities have not at this time provided a substantive response to the conclusions of the NECG survey that finds that claims that regulated returns in Australia compare favourably to those in the UK and US are misleading.

BHPBilliton, however, has provided a report to the Commission commissioned from the Allen Consulting Group which purports to demonstrate that ‘empirical’ evidence could lead to the conclusion that regulatory authorities systematically err in favour of providing regulated returns that *exceed* the cost of capital associated with the regulated entity.¹⁸

The Allen Consulting analysis relies on the relationship between market values and regulatory values. The analysis posits that in a regulated environment market values and regulatory values (calculated on future regulated revenues and asset bases) should

¹⁶ Network Economics Consulting Group *International comparison of WACC decisions*, September 2003, p.73

¹⁷ NECG (September 2003), p.91-100

¹⁸ Allen Consulting Group (August 2003), p.5

converge, and that (once excluding the impact of non-regulated activities on valuations) any divergence between the two will provide evidence of whether regulatory outcomes have over or under-compensated investors owning regulated businesses.

This analysis is essentially based on the financial theory of ‘Tobin’s q ’, which suggests that where the value of capital equipment is worth more than the cost to replace, firms will have an incentive to investment, and where the relationship is reversed, firms will stop investing.

There is an active literature on the theory of Tobin’s q , and its application to ongoing investment decisions, which is only briefly alluded to in the Allen report. The Allen report concludes that the relationship between market and regulatory values is ‘robust’ and conducts a sample survey of market transactions relating to regulated energy businesses to seek to establish empirical evidence on the question of whether Australian regulatory outcomes have deterred or facilitated investment.

In August 2002 the AGA commissioned the consulting firm KPMG to examine the theoretical basis of using a Tobin’s q approach to assess the outcomes or effectiveness of access pricing processes.¹⁹ This detailed study highlights there are a number of fundamental flaws in the theoretical approach and methodology adopted in the Allen report. Briefly, these include:

- the theoretical relationship claimed is not present in capital markets as a whole
- the analysis is based on an incomplete sample
- the theory implies a retrospective regulatory approach and logical circularity
- a failure to consider external factors which impact on the theoretical relationship.

These serious weaknesses in the approach of the report are addressed further below.

Theoretical relationship claimed not present in the market as a whole

The strong evidence from competitive capital markets is that while there is a relationship between the market value of companies and replacement cost of their assets, the ratio is typically not 1, the benchmark underpinning the Allen analysis.²⁰

In 2000 one prominent study undertaken showed that the ratio of market value to replacement asset to be around 2.5 in 1998.²¹ Previous benchmark studies based on aggregated estimates of the ratio of market value to replacement costs by Brainard, Shoven and Weiss (1980) showed the average ratios for each of the years 1959 to 1977 ranged from 0.86 to 2.08.²²

¹⁹ This section summarises and draws upon elements of this study. See KPMG *Submission to the Essential Services Commission – Response to ESC Draft Decision – 2003 Review of Gas Access Arrangements*, August 2002, Section 5, p.22-36 <www.gas.asn.au>

²⁰ KPMG (August 2002), p.28

²¹ KPMG (August 2002), p.28

²² KPMG (August 2002), p.28

The Allen report does not refer to this variability present in competitive markets, or provide any explanation of why regulatory price setting should be based on assumptions regarding valuations in competitive capital markets which are not consistently observable in those markets.

Analysis based on an incomplete sample

The analysis contained in the report also excludes approximately half of regulated gas distribution sector (\$2.7 billion of the approximately \$5.4 billion in sunk capital assets of the gas distribution network sector based on the asset values for regulatory purposes), and includes data from the electricity distribution sector which is regulated and valued for regulatory purposes under a different regime. Finally, the analysis includes only one gas transmission asset under the regime.²³

Retrospective approach and logical circularity

An approach which judges the effectiveness of the regulatory regime by the ratio of market and regulatory valuations of assets is likely to result in a retrospective regulatory focus. As KPMG notes:

If a regulatory regime is to be regarded as being too conservative until such time as the market value of regulated assets converges with regulated asset value, and the market value of regulated assets will not equal their regulated asset value until the regulatory regime is 'right', then this implies a degree of circularity in regulatory decision-making.²⁴

In addition, as the Victorian Essential Services Commission has stated, regulators are poorly placed to make judgements regarding the correct market values of regulated assets at any particular point in time.²⁵

Adopting an approach which seeks continue to lower access prices on the basis of retrospective assessments based on the Tobin's q framework would risk promoting retrospective and self-fulfilling regulatory decisions and an undue focus on mandating outcomes, rather than providing the conditions for outcomes consistent with a workably competitive market. Finally, the approach would focus on the highly abstract, hypothetical end-point of perfect competition, which does not provide regulatory authorities with practical guidance on ensuring the facilitation of efficient ongoing investment in critical gas infrastructure.²⁶

Failure to consider a range of external factors

A number of factors have been identified in academic literature on Tobin's q as reasons why market and replacement (or regulatory) valuations may commonly vary, including expected benefits and gains to those investing in entities resulting from operating efficiencies, tax savings, or increased market share and/or geographic scope.

²³ Allens Consulting Group (August 2003), p.62

²⁴ KPMG (August 2002), p.25

²⁵ Victorian Office of the Regulator-General *Electricity Distribution Pricing Review – Statement of Purpose and Reasons*, September 2000, p.166

²⁶ KPMG (August 2002), p.26

None of these factors are considered by the Allen report, which adopts the position that any variation where a market-to-regulated asset base ratio is greater than 1 represents overcompensation of the regulated business.²⁷ This is a curiously narrow presumption in the current regulatory environment, given that one of the explicit objectives of the current model of ‘incentive regulation’ is to promote improved efficiency and performance on the part of regulated businesses.

Even more significantly, the analysis does not address the wider range of factors commonly suggested in academic literature as reasons why the Tobin’s *q* relationship may not be present at either a whole of market level or on an individual company basis. These factors include:

- difficulty in valuing ‘intangibles’ (e.g. management skills and human capital)
- capital market imperfections
- value of incumbency and market position
- measurement ‘noise’
- future growth expectations
- corporate governance
- measurement errors
- ‘natural selection’ or ‘survivor’ bias present in equity markets.²⁸

Impact of limitations in market and regulatory value analysis

Due to a number of fundamental flaws in analytical design, approach and interpretation made by the Allen Consulting report its results cannot be relied upon as a basis for drawing objective or empirical conclusions regarding regulatory outcomes under the gas access regime.

Significantly, the Victorian Essential Services Commission has discounted the use of the Tobin’s *q* framework for the assessment of any biases in regulatory decision making. In its *Review of Victorian Gas Access Arrangements - Final Decision* the Commission observed:

The Commission is not convinced that the theory of ‘Tobin’s Q’ provides the appropriate framework for interpreting the evidence provided by the market value of regulated assets, and notes that KPMG was incorrect in its statement that the Commission ‘appears to rely on the Tobin’s Q framework to...demonstrate conservatism’.²⁹

A practical illustration of the simplifications made by the Allen report, and the lack of adequate consideration of a range of factors that impact on the ratio of market and replacement (or regulated) asset values is provided by the Port Jackson Partners report

²⁷ Allen Consulting Group (August 2003), p.46-47

²⁸ KPMG (August 2002), p.29

²⁹ Victorian Essential Services Commission (October 2002), p.371

*Creation and Destruction – Sustaining corporate growth in Australia.*³⁰ This study, carried out in July 2002, set out a ‘league table’ of 100 Australian firms that attributed the difference between the market capitalisation of a company and the value of its current performance (measured by the present value of its expected future earnings per share) to ‘future growth potential’.

The study found that the very company which commissioned the Allen report, BHPBilliton, was trading at a premium over that which was attributable to its actual performance of approximately 32 per cent in July 2002. That is, the value of its current revenues on an earning per share basis explained only 68 per cent of its market valuation. The existence of the premium cited in the study highlights that in relation to BHPBilliton a complex range of external factors previously detailed are likely to be affecting market valuations at a particular point in time, including factors such as growth expectations, the difficulty of valuing intangibles such as management skills and human capital, and measurement issues.

Evolution of regulatory approaches

The AGA has strongly supported the need for the review of the gas access regime to lead to amendments to the regime to enable the use of a wider range of innovative and less intrusive access pricing models.

The AGA notes that a number of regulatory authorities, consultants and other parties in the inquiry have supported the need for access pricing regulation to evolve from the initial ‘building blocks’ cost of service approach adopted under the gas access regime.³¹

Barriers in the existing Code to alternative forms of access pricing

The provisions of the gas access regime represent a significant barrier to the successful evolution of access pricing regulation towards less intrusive forms. This is due to the impact of Section 8.5 of the Code, and a number of other detailed provisions through Section 8 of the Code which largely determine in a mechanistic way how access prices will be developed. Some of these barriers have been detailed in the AGA’s submission to the *Review of the Gas Access Regime*.³²

Importantly, the potential for these provisions to present a barrier to regulatory authorities accepting Access Arrangements based on access pricing models outside of the ‘building blocks’ cost of service approach has been reinforced by other parties, including Allen Consulting’s Mr Jeff Balchin:

MR HINTON: [...] What I wanted to raise with you is the possibility of whether the current regime, without any change, could move from a building block to a TFP basis

³⁰ Port Jackson Partners *Creation and Destruction – Sustaining corporate growth in Australia*, July 2002, <www.pjpl.com.au>

³¹ ACCC (September 2003), p.48; Victorian Essential Services Commission (October 2003), p.10; ExxonMobil (August 2003), p.8

³² AGA *Submission to the Productivity Commission Review of the Gas Access Regime*, August 2003, p.37-8

simply by ACCC taking that approach, bearing in mind that we've had five, seven years of building block that's underpinned what might then be TFP.

MR BALCHIN: I think, not without the risk of legal challenge - I think it would be very hard in the current regime to set an X factor without reference to forecasts of costs over the next regulatory period. In my submission I suggest that one change that could usefully be made is that section 8 of the code be reviewed to permit alternative approaches for setting the range of change in prices over the regulatory period so that you're not stuck to the building-block approach. I think probably your regulators will be bound to use the building-block approach now at least without a very cunning legal argument which I don't think any regulator - -

MR HINTON: Which may not be conducive to regulatory certainty.

MR BALCHIN: That's right, yes.³³

Similar statements regarding the effective requirement under the National Gas Code for a service provider to adopt a 'building blocks' cost of service approach are outlined in the Allen Consulting Group submission on behalf of BHPBilliton and by the Victorian Essential Services Commission.³⁴ As far as the AGA is aware, only one party in the current inquiry (the ACCC) maintains the existing National Gas Code contains sufficient flexibility for approaches such as total factor productivity (TFP) based access pricing to be adopted.³⁵

Comments on TFP access pricing proposals

The AGA welcomes the interest shown by regulatory authorities and other parties in developing alternative access pricing models. Both the ACCC and the Allen Consulting Group discuss in their submissions issues associated with the introduction of some elements of a productivity based access pricing model.

The AGA would urge the Commission to consider several points in reaching any finding on alternative access pricing methodologies:

- under the gas access regime a fundamental principle is that the service provider develops and proposes an Access Arrangement underpinned by an access pricing approach
- there is a critical role for the gas industry and government policy makers in the development of future access pricing models – pricing models and methodologies should not be designed and developed by regulatory authorities
- a wider range of innovative access pricing models exist than a dichotomy of either a 'building blocks' or 'TFP index' approach (these have been detailed in AGA's submission, but include price monitoring, price-service offerings, and a 'sharing of gains' approach³⁶) and the regime should allow different models to operate to enable recognition of the different market circumstances of gas infrastructure assets

³³ Excerpt from Productivity Commission public hearing transcript, 19 September 2003, p.482 <www.pc.gov.au>

³⁴ Allen Consulting Group (2003), p.29 and Victorian Essential Services Commission (October 2003), p.8-10

³⁵ ACCC (September 2003), p.48

³⁶ See AGA (August 2003), p.97-100

- both the ACCC and Allen Consulting Group appear to advocate a narrow subclass of a productivity index approach based heavily on the existing cost-based system, which does not represent a significant or positive movement away from the existing ‘building blocks’ cost of service approach.
- a TFP approach does not necessarily require either an initial cost-based reset, or frequent cost-based reviews or ‘off ramps’ - these features may reduce the incentive properties of the model – and the Commission and policy makers (not regulatory authorities) are the appropriate parties to reach conclusions on the appropriate trade-offs and design features that should be adopted
- implementation of a TFP approach would need to address a number of factors including the issue of past efficiency gains, given the potential for the approach to significantly disadvantage firms that are already highly efficient.

Separate gas distribution and transmission codes unnecessary

The AGA considers that separate regulatory instruments for gas distribution and gas transmission assets are not necessary.

The existing National Gas Code sets out a range of principles and provisions which apply generically to gas distribution and gas transmission assets. While a small number of technical provisions exist which are only relevant to either gas transmission pipelines or gas distribution networks, some of these differences have been reduced by two AGA-sponsored Code amendments undertaken in 2002, and others are capable of being addressed in a similar manner in the future. The AGA notes that both energy user groups and governments share the view that separate regulatory codes are not required.³⁷

Developing separate regulatory instruments for each sector would potentially involve considerable duplication. As an example, each instrument would be likely to require an objects clause, pricing principles, mechanisms to facilitate greenfields investment, and appeal arrangements. Drafting two distinct regulatory instruments which each contained these elements would effectively double the complexity of the current arrangements.

Given the predominant role of and need for private investment in both sectors, significant divergence in the objectives, pricing principles, new investment mechanisms or appeal arrangements relating to each sector would also potentially introduce undue distortions in the treatment of private investments. For example, were pricing principles for one sector aimed at the overarching objective of ensuring investment in long-lived assets, whilst different pricing principles were applied to another sector, efficient investment between the sectors could be distorted.

It should also be noted that an approach of retaining the existing scope of the Code, but introducing separate sets of access pricing models only applicable to certain

³⁷ Energy Action Group (September 2003), p.15 and South Australian Government *Submission to Review of the Gas Access Regime*, September 2003, p.10

classes of assets, would be inappropriate. This is because there is arguably as significant variability in the market contexts and features of assets *within* sectors as between transmission and distribution – for example, there are as significant differences between the market circumstances of GasNet’s Victorian gas transmission network and the Western Australian Goldfields Gas Pipeline as between the limited Queensland gas distribution network and the relatively mature Victorian gas distribution network.

These differences mean a clear or effective delineation in the regulatory regime between the types of access pricing models appropriate for regulated gas transmission and distribution assets is likely to be difficult in practice. The AGA, however, supports the right of gas transmission pipelines in a contestable market environment to seek to operate under a ‘negotiate-arbitrate’ approach.

Lack of need for new information collection powers

A small number of participants to the inquiry, including some regulatory authorities, have asserted that there is a need for increased information gathering powers to be granted to regulatory authorities for use in applying the regime.³⁸

The issue of granting regulatory authorities greater information collection powers was initially raised by IPART and the Victorian Office of the Regulator General in 1999, and has been considered extensively over the past four years by the National Gas Code change body – the National Gas Pipeline Advisory Committee (NGPAC). Substantial delays in consideration of this proposed Code change were due to an inability on the part of proponents of expanded information powers to specify types of information they believed were required for Access Arrangement assessments but which they considered could not be accessed under existing information collection provisions in the National Gas Code and the *Gas Pipelines Access Law* (summarised in [Table 2](#)).

Other regulatory authorities do not appear to have the same concerns with the information provisions of the existing regime. The ACCC has stated, for example, that:

The Code also provides for the use of an access arrangement to disclose benchmark terms and conditions for access including price for a set period of time. This is enhanced through the information disclosure requirements that are contained in Attachment A and section 5 of the Code.

The information disclosure provisions of the Code appear to effectively attenuate the information asymmetry between the service provider and third parties facilitating commercial negotiation.³⁹

³⁸ Victorian Essential Services Commission (October 2003), p.21; WA Office of Gas Access Regulation *Submission to the Productivity Review of the Gas Access Regime from the Independent Gas Pipelines Access Regulator of Western Australia*, September 2003, p.20; BHPBilliton (September 2003), p.118; Energy Markets Reform Forum (September 2003a), p.11; Energy Markets Reform Forum (September 2003b), p.4

³⁹ ACCC (September 2003), p.29

Table 2 - Existing information collection provisions in the gas access regime

Information provision	Scope
Section 41 - Gas Pipeline Access Law	Regulatory authority may issue notice requiring the submitting of any information or document which they believe is in existence that may assist in carrying out their duties under the National Gas Code
Section 2.6 - National Gas Code	Provides that an Access Arrangement Information must allow users and prospective users to understand the derivation of the elements of the proposed Access Arrangement
Section 2.7 - National Gas Code -	Provides that an Access Arrangement Information must contain the categories of information described in Attachment A of the Code
Section 2.9 and Section 2.30 - National Gas Code	Provides regulatory authorities with the power to require changes to an Access Arrangement Information to ensure that the requirements of Section 2.6 and Section 2.7 are met
Section 4.1-2 - National Gas Code	Service providers must comply with any general accounting guidelines issued to confirm compliance with ring fencing obligations and allow verification by the regulatory authority of proposed reference tariffs
Section 10.1-2 - National Gas Code	Provides that in the case of multiple service providers or contractual operating agreements, information collection provisions apply to those parties as allocated through a regulator approved Access Arrangement
Attachment A - National Gas Code	Sets out 33 detailed categories of types of information that may be required. Attachment A has the positive intended function of providing service providers with guidance and upfront certainty on the potential scope of information collection requirements under the Code

Over a number of meetings NGPAC considered the status of existing information collection powers and the need for any amendments in relation to the information collection provisions of the Code. Following the failure by regulatory authorities supporting expanded information collection powers to identify additional types of information they might require, but were unable to collect, a majority of members of NGPAC agreed at a meeting on 20 March 2002 that regulators had not made a case for new or expanded information powers.

This position was reaffirmed by the decision of NGPAC to reject another regulator-sponsored Code amendment proposal expanding information collection powers in April 2003 and remove the item from NGPAC's agenda. This decision was supported by all Australian government representatives, except South Australia.

The Productivity Commission has subsequently received an edited version of the paper prepared by the Western Australian Office of Gas Access Regulation in April 2002 to advocate to NGPAC members the continuing need for regulatory authorities to be granted expanded information collection powers.⁴⁰ The AGA does not have access to the edited version of this paper due to the decision by OffGAR to define this material as confidential.

This confidential classification is unfortunate as it does not appear to allow a range of stakeholders to independently consider or comment upon the contents or accuracy of the paper. The classification also appears to be unnecessary given that the document was prepared by OffGAR itself, and is not an official document endorsed or adopted by NGPAC.

In this context, without the benefit of access to the edited document, the AGA notes that the material presented in the original OffGAR paper was contested by a number

⁴⁰ See Western Australian Office of Gas Access Regulation (September 2003), p.24 (Sub 40)

of parties, and was ultimately not found to be sufficiently compelling to prevent Australian governments from resolving to remove the proposed amendments expanding information collection powers from NGPAC's consideration.

The Australian Gas Association
31 October 2003