QUEENSLAND COMPETITION AUTHORITY

TRANSFERRED INFRASTRUCTURE & GIFTED CAPITAL: CONSIDERATION IN PRICE SETTING FOR URBAN WATER BUSINESSES

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1. INTRODUCTION

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2. Consideration of the treatment of "gifted assets" in regulatory price determinations and arbitrations needs to distinguish between two sharply different concepts. These are: *"transferred infrastructure"* and *"gifted capital"*. Despite its common usage, the term gifted or contributed assets mixes both concepts and results in substantial confusion and unnecessary debate.

3. **Infrastructure transferred** to the responsibility of the utility carries with it obligations to operate, maintain, refurbish and replace that infrastructure. Consequently, all operating, maintenance and administration costs plus refurbishment/replacement costs need to be recognised in regulatory price determinations.

4. **Gifted capital** raises different issues. The key question is whether the gifting is intended to benefit the shareholders of the business or to benefit the customers the business is serving? In general, the capital so gifted would appear to be for the benefit of customers. This leads to the essential conclusion that gifted capital should be excluded from the regulatory capital base when determining price revenue levels for monopoly suppliers under the formula approach.

Recommendations

1. *Avoid the term "gifted assets". Distinguish between transferred infrastructure and gifted capital.*

2. *In regulatory price determinations/arbitrations*
   - *<u>exclude</u> gifted capital from the regulatory capital base, but recognise the contingent liabilities incurred by accepting responsibility for the transferred assets and therefore*
   - *<u>include</u> the impact of infrastructure transferred on operations, maintenance and administration costs and replacement and refurbishment expenditures necessary to ensure continued service provision.*

3. *Provide guidance direction in the ongoing debate on the treatment of "gifted assets" (ie. transferred infrastructure and gifted capital) in management and tax accounts.*

2. TRANSFERRED ASSETS & GIFTED CAPITAL

Consideration of the treatment of "gifted assets" in regulatory price determinations and arbitrations needs to distinguish between two sharply different concepts. These are: *"transferred infrastructure"* and *"gifted capital"*. Despite its common usage, the term gifted or contributed assets mixes both concepts and results in substantial confusion and unnecessary debate.

This confusion is extended by the use of the term "regulatory asset base" (RAB) when in fact regulators are establishing a "regulatory capital base" (RCB) – as the Ofwat and Ofgas practice of setting the initial RCB equal to the initial listing value of the entities demonstrates. Regulators should drop the term "regulatory asset base" and adopt the term "regulatory capital base" when describing the base to which the cost of capital (WACC) can be applied.

Infrastructure transferred to the responsibility of the utility carries with it obligations to operate, maintain, refurbish and replace that infrastructure. Consequently, all operating, maintenance and administration costs plus refurbishment/replacement costs need to be recognised in regulatory price determinations.

Refurbishment and replacement costs associated with transferred infrastructure should be treated in the same manner as other infrastructure. Relevant methods of assessing relevant costs include estimates of economic depreciation, actual refurbishment and replacement expenditures or renewals annuities. Each of these methods is observable in UK regulatory practice and are consistent with the spirit of the SCARM/ARMCANZ formula used to set the upper bound revenue level.

Gifted capital raises different issues. Capital may be "gifted" to a utility:

- directly by a grant, subsidy or other payment from government. For example, the Queensland Government's payment of a 40% subsidy on the capital cost of certain infrastructure investments. In these cases, a cash payment is typically made; or
- indirectly when infrastructure is transferred. In these cases no cash changes hands.

However, in both cases the utility may be required to enter into obligations. In either case the same key question is: whether the gifting is intended to benefit the shareholders of the business or to benefit the customers the business is serving?

Examples of such payments and grants include:

- for urban water utilities, monies to assist in sewerage and water quality upgrades; and
- for irrigation entities, monies to reduce system losses and to share the efficiency gains between the holders or irrigation entitlements and other purposes including environmental flows.

In the case of capital gifted when developers transfer reticulation infrastructure to a water business, the capital is gifted in exchange for acceptance of the ongoing obligation/liability to provide water and sewerage services to the customers buying land and property from the developer.

There can be little doubt that the gifting of the capital occurs only because the business accepts the obligation to provide services to the new group of customers.

In general, the capital so gifted or paid in exchange for obligations would appear to be for the benefit of customers and associated obligations. This leads to the essential conclusion that gifted capital should be excluded from the regulatory capital base when determining price revenue levels for monopoly suppliers under the formula approach.

The practical conclusion that gifted capital should be excluded from the regulatory capital base can be derived by either of three routes:

- first, if alternatively this capital funding were to be treated as matched against the capital expenditures incurred, then the funding does not contribute to the total shareholder capital of the entity and the issue of a return does not arise;
- second, if this capital funding is treated as part of the capital of the business, then there needs to be recognition that the governments making the capital grants, are not seeking a return on that capital.

  Similarly, the developers transferring infrastructure do not seek an ongoing return on the capital that they may be seen to have contributed, over and above what they have received through sale of the serviced land.

  If the State Government in granting a 40% capital subsidy is seeking to lower the cost of water services to the Queensland population, then to have that subsidy included in the capital base for regulatory price determination, thereby raising the capital base and prices substantially, would be counter productive; and
- third, if the gifted capital is seen as a capital sum paid in exchange for accepting the obligation to supply in perpetuity – or at least for the length of the infrastructure's life, then the addition to asset values in the balance sheet is exactly offset by the additional liabilities – and there is no increase in the value of shareholder funds.

  The transferred infrastructure carries explicit and on-going responsibilities and liabilities. It is not infrastructure which can be sold, since it is connecting infrastructure carrying specific and ongoing obligations to the developer and persons subsequently purchasing land from the developer. In addition, there is unlikely to be a secondary market for such infrastructure.

  To the extent that such infrastructure meets the accounting definition of an asset, the transfer brings with it attendant offsetting liabilities.

> *"Assets" are future economic benefits controlled by the entity as a result of past transactions or other past events;*[1] *and*
>
> *"Liabilities" are the future sacrifices of economic benefits that the entity is presently obliged to make to other entities as a result of past transactions or other past events"* [2]

The term "gifted asset" may therefore be seen as partially misleading since it emphasises only one aspect of the transferred infrastructure.

We prefer this last rationale for exclusion.

The **core recommendation** is, therefore, that costs related to transferred infrastructure be recognised in the regulatory price determination or arbitration, but that gifted capital be excluded from the regulatory capital base.

Traditional analysis of this issue has relied on two apparently conflicting approaches to gifted assets, commonly referred to as the 'asset serviceability' and 'financial capital' models (see Annex A). The core recommendation in this report incorporates the logic of the two approaches but, by recognising that the term "gifted assets" combines and confuses two separate concepts, demonstrates that the previous arguments that the two approaches were mutually exclusive, is false.

In practice, the most practical method of identifying the dollar value of gifted capital may be at the time it is first entered on the asset register. However, consistent with the above distinction, utilities should not need to continue to distinguish transferred assets in the asset registers even though they need to maintain an ongoing record of the dollar value of capital gifted.

Regulatory price determinations – whether based on the formula approach or the analysis of the minimum cash flows necessary to ensure commercial viability – must also acknowledge **the impact of taxation**.

Tax imposts reflect tax income as calculated under general accounting principles and specific tax regulations where applicable. As a result, the level of prices/revenue set in a regulatory price determination will inevitably reflect the impact of how transferred infrastructure and gifted capital are treated in the profit and loss and balance sheet statements.

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1 Australian Accounting Standards Board, "Assets" Statement of Accounting Concepts, SAC 4 "Definition and Recognition of Financial Statements", para 14.

2 *ibid*, para 48.

As with regulatory price determinations, the accounting treatments should distinguish clearly between gifted capital and transferred infrastructure – the former boosts aggregate asset value, the latter adds an offsetting contingent liability. Unfortunately, neither the previous treatment nor the treatment recently recommended by the Urgent Issues Group (UIG) recognise this key distinction. Nor does the UIG recognise the asymmetry in timing and the resulting, often substantial, impact on cash flows.

Regulators may wish to take the simplifying position that the issues of tax and reported profit are outside their ambit. However, the material impact of accounting conventions on the utility's tax payments and cash-flows means that a responsible regulator cannot afford to ignore the accounting and tax treatments of gifted capital and transferred infrastructure. This is particularly the case where the accounting/tax treatments of assets and liabilities lack logical symmetry and as a result have major unwarranted impacts on tax payments and cash flows.

As with other pricing issues (such as the differences between the formula and cashflow approaches to price setting and the treatment of developer charges), the practical impact of different treatments of gifted capital and transferred assets will differ across water businesses. The impacts will reflect among other things, the size and frequency with which infrastructure is transferred and/or capital is gifted. The Queensland Competition Authority may wish to gain an empirical understanding of these issues across different sectors of the water industry.

Recommendations

1. *Avoid the term "gifted assets". Distinguish between transferred infrastructure and gifted capital.*

2. *In regulatory price determinations/arbitrations:*
   - *<u>exclude</u> gifted capital from the regulatory capital base, but recognise the contingent liabilities incurred by accepting responsibility for the transferred assets; and therefore*
   - *<u>include</u> the impact of infrastructure transferred, on operations, maintenance and administration costs and replacement and refurbishment expenditures necessary to ensure continued service provision.*

3. *Provide guidance direction in the ongoing debate on the treatment of "gifted assets" (ie. transferred infrastructure and gifted capital) in management and tax accounts.*

ATTACHMENT A

TRADITIONAL MODELS FOR ANALYSIS OF GIFTED ASSETS

Regulatory price setting for monopoly services requires consideration of:

- the revenue/cashflow levels necessary to meet the business's ongoing risks and obligations; and
- the revenue levels required to encourage a competitive new entrant using efficient technology. This revenue is set by the opportunity cost of capital required, efficient operations maintenance and administration cost plus (economic) depreciation.

The question of gifted assets in price-setting for water businesses has traditionally been seen to raise two main issues:

- should the business be able to recover a return on capital on these assets? That is, should these assets be included in the business' Regulatory Asset Base (RAB) or would this constitute 'double-dipping'? and
- should the business be able to account for return of capital for these assets through eg. depreciation?

A number of conflicting approaches have been adopted and recommended, both in Australia and overseas. The treatment of gifted assets follows a wider approach for defining the Regulatory Asset Base (RAB) of the business. Two broad approaches have been distinguished:

- **a financial approach:** This defines the regulatory capital value of the business by reference to the capital input by shareholders. The approach excludes gifted assets from both return of, and return on, capital; and
- **an asset serviceability approach:** This defines the asset base of the business by reference to its continuing ability to deliver specified outputs. The approach includes gifted assets in the return of, and return on, capital.

Our framework suggests that neither approach is fully correct or adequate.

Before reviewing these different models it is worth reviewing the reason why the asset value of the business plays a role when setting prices. The answer is that, in the absence of competition, setting prices by reference to the value of the asset base mimics a competitive model, as it ensures that prices are no higher than the by-pass cost – that is the cost which a new entrant would face in providing a competitive challenge. This should drive economically efficient outcomes in government owned monopoly businesses.

However, as this review suggests, this approach is likely to prove an insufficient basis for price setting in the water industry. It follows, therefore, that the traditional questions about the inclusion or exclusion of gifted assets are also unduly simplistic.

FINANCIAL MODEL.

Under this approach, the value of the RAB, which is considered at price setting, is limited to the value of the capital which has been contributed by shareholders. This approach may be particularly appropriate where the business is in the private sector, and is the methodology broadly followed by Ofwat in the UK.

The approach is especially powerful where the market value of the business is considerably below the modern equivalent asset value (MEA), eg. Ofwat limited the initial RAB of the water companies to the market capitalisation of the companies at privatisation (averaged over the first 200 days). This was only 9% of the MEA value of the businesses and represented the capital which had been contributed by shareholders. This is an extreme example of the deprival value method of asset valuation, supported by COAG and SCARM,[3] which recommends that the value of water businesses' assets should be set as the minimum of:

- the Depreciated Optimised Replacement Cost (DORC); and/or
- the Economic Value – which represents the present value of the revenue stream which those assets will generate.

Following the logic of this approach, Ofwat explicitly exclude any contributed or gifted assets from the RAB, when it is rolled-forward between one price review and the next. Ofwat would argue that the shareholders of the company have a right to a return only on the capital which they have provided.

As far as return <u>of</u> capital is concerned, Ofwat has adopted an approach based on economic depreciation. That is, it has restricted the current cost depreciation allowed, for surface assets, to the level of spend which the companies have actually incurred over time in order to ensure continued asset serviceability.[4] This approach is paralleled in the treatment of underground assets which are subject to an infrastructure renewals charge which represents (in the longer term) the costs needed to maintain service potential.

To this extent Ofwat follows an approach which integrates the logic of the two traditional models rather than treating them as mutually exclusive. This is broadly consistent with the core recommendation of this report.

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[3] SCARM (1998), "Asset valuation guidelines", Task Force Report, reproduced in NCC (1998) "Compendium of NCP Agreements – second edition", June , Page 112.

[4] Ofwat (1998), "Setting price limits for water and sewerage services – the framework and business planning process for the 1999 Periodic Review", February 1998.

The National Electricity Code (the Code) follows the financial model in a more restricted way:

> *the Distribution Network Service provider is not entitled to receive any asset related cost component of annual revenue requirement for assets provided by Network Users.* [5]

This excludes contributed assets from the RAB on which a Network Service Provider is entitled to receive a return and also prevents a return of capital. It, therefore, fails to recognise the ongoing liabilities which the service provider incurs as a result of the transfer.

The financial model assumes that the asset valuation for the RAB is sufficiently robust to play the central role in price setting. SCARM requires that assets be valued on a deprival basis for price setting, that is at the lesser of the DORC/ODRC and the economic value. However, a recent review by PricewaterhouseCoopers (PWC) for the QCA, confirms that:

> *Experience with the use of ODRC in the water industry is less than in gas, electricity and rail, perhaps reflecting the reduced level of competition in the water industry. PWC is not aware of any Australian water authority that uses ODRC as an integral component of determining prices and revenues.* [6]

In the absence of a robust DORC valuation, the 'deprival value' methodology falls back on the economic value of the business, which is entirely circular for price setting purposes as it relies on current tariffs to determine the value of the business. This is broadly the approach which has been adopted by IPART for Sydney Water Corporation where the value of the existing asset base has been derived from existing tariffs and a 'line-in-the-sand' drawn to distinguish these assets from any new assets.

Issues Assessment

This model creates a number of issues for water businesses.

- It places a particular focus on the RAB as the primary determinant of revenue. This is likely to be an insufficient basis for price setting.
- It assumes that the valuation of the RAB is robust. Experience has identified that few utilities revalue their assets on a fully optimised basis.[7] The DORC will therefore be an unreliable basis to rely on for price setting in the water industry and reliance on the economic value is circular for price setting.

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5 NEC (1998), clause 6.15.2 (a).

6 PricewaterhouseCoopers (1999), "Urban Water Pricing – Asset Optimisation", draft November 1999, page 18.

7 Johnstone D. J. & Gaffikin M. J. R. (1995) "Review of the Asset Valuation Guidelines of the Steering Committee on National Performance Monitoring of GTEs".

- The definition of the RAB may be particularly problematic in the public sector, given the uncertainties as to the definition of shareholder equity.
- It assumes that gifted assets and developer charges are discrete sources of funds, where in practice they merely represent one of the sources of revenue for the business, where the balance between them depends on commercial judgment.
- It requires greater complexity to record the source of funding for specific assets.
- There is uncertainty about the sunshine clauses for the exclusion from the RAB, over the longer term, ie. does the asset get re-introduced into the RAB as and when it is replaced or renewed? That would create an unwieldy methodology.
- There is also uncertainty about the application of the approach to the return of capital. The National Electricity Code excludes gifted assets from both return on and return of capital. This would suggest that no account could be taken of the continuing liability which the company then assumes for the asset performance. By contrast, Ofwat allows expenditure to ensure continued asset serviceability.

ASSET SERVICEABILITY

The alternative traditional model treats the RAB as representing the capability of the business to deliver a certain level of service over time. All the assets of the business contribute to this service, all require maintenance to ensure continued service availability, and so all represent a risk to the business which should be reflected in an appropriate rate of return. Under this approach gifted assets would be eligible for a return both on and of capital.

Concern has been expressed, in the past, that this approach involves "double-dipping":

> *"It would be inappropriate to include customer funded assets…in the regulatory base. To earn a return on assets provided free of charge to the water supplier would be double dipping. That is, customers should not be charged a return on assets which have already been paid for (including a profit component).."* [8]

Inclusion of all assets in the regulatory asset base, at the full cost of capital, would also be likely to generate far higher revenue levels than is required for financial viability and lead to significant increases in prices.

These concerns would lead to support for the financial model above.

However, a recent review of Developer Charges for IPART has argued the opposing view:

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[8] IPART (1996), "Sydney Water Corporation: Prices of Water Supply etc from 1 July 1996", Determination No 6, 1996, page 18.

> *"..the review team believes that, in principle, both gifted assets and developer funded assets should be included in the RAB…**the assets are indistinguishable in terms of responsibilities, risks and entitlements**…The review team would argue that they should be added to the asset base as they are added to an agency's responsibilities for continuous service, maintenance, renewal, etc."* [9]

We agree with the bolded statement.

The review also emphasises the inter-linking between the various sources of revenue for the business, including developer charges, gifted assets and annual charges. It argues that both developer charges and gifted assets should be included in the RAB and that off-setting arrangements be introduced to reflect the value to the business of revenue from these sources. In particular it recommends that:

> *the allowable revenue should be reduced, by the value of the gifted assets, in the year in which they are added to the asset base and, thereafter, the agency should be allowed to earn a risk-related return on these assets.* [10]

This proposed methodology is likely to create negative cash-flows for many small water businesses experiencing significant growth, as the total value of gifted assets will be deducted from their allowable revenue. Inclusion of gifted assets in the RAB will only provide a marginal off-setting revenue stream.

A further variant of this approach is to argue for the inclusion of all assets in the RAB, irrespective of source, but to apply differential WACCs to those assets, dependent on their source and the risk which the authority bears. Under this approach the RAB would need to be segmented into a number of different categories. This might prove a cumbersome methodology to establish and maintain, especially for smaller businesses.

An alternative approach is to argue that the RAB should include all assets, but that differential rebates should be paid to individual groups of customers to reflect the particular contributions which they have made through 'pre-payments'. This may be feasible for a small number of discrete large customers, where there is a clear "nexus" between the payment and identifiable assets. It is not a practicable solution for the normal residential customer base and it would result in a patchwork of differential tariffs with differential attributes and sunset clauses which would be extremely expensive and cumbersome to administer.

Including gifted assets in the RAB has the advantage that it creates incentives for the water business to adopt new assets and so encourage development.

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[9] IPART (1999), "Review of Developer Charges", a report by Pricewaterhouse-Coopers and the Centre for International Economics, Research Paper No 16, October 1999, page 44.

[10] *ibid.*

There is also an argument that developers obtain a return on their investments, including the sums paid for developer charges and gifted assets, through the sale value of the property. Under this analysis, purchasers of these properties are, then, placed in the same position as the purchaser of any property within the utility and cannot argue for differential treatment.

Issues Assessment

- This approach provides a simpler model, as it does not require record keeping of the sources of funds for specified assets. That will be attractive for smaller councils with limited records and resources.
- However, applying a rate of return to the entire asset base will tend to generate total revenues well beyond the requirements of the business, and so require significant price increases.
- The approach also suffers from the problems identified above regarding uncertainties in the calculation of the value of the RAB.
- More complex methodologies involving differential WACCs related to a segmented RAB, or rebates to specified customer groups, will prove unwieldy and impractical
- Simplistic adoption of this approach fails to recognise the key distinction between the liability which is incurred from 'transferred assets' and the implications for the capital base of the business (see Attachment B).

ATTACHMENT B

CAPITAL STRUCTURE & COST OF CAPITAL

Conventional mainstream thinking on the definition of the cost of capital and the associated cash flows notes, correctly, that there are numerous definitions of the cost of capital and that each definition of the Weighted Average Cost of Capital (WACC) is valid so long as matched with the appropriate definition of cash flows.

> *"… one of the most important considerations when estimating a company's cost of capital is to make sure that the definition of the capital base is consistent with the definition of income used. Similarly, it is important that the definition of the cost of capital used in discounted cash flow or net present value models is consistent with the definition of the net cash flows of such models. An obvious example of inconsistency would be to use a definition of net cash flows that is effectively before taxes but to use an after-tax definition of the cost of capital."*[11]

Conventional thinking on the cost of capital and capital structure in utilities follows the traditional practice in private corporations of recognising only two forms of capital, ie.:

- debt capital, where debt holders in the business receive a fixed or market based return, regardless of the profitability of the business; and
- equity capital, where equity holders receive the residual income (ie. profit) after all other claims have been made.

In parallel, the conventionally defined WACC distinguishes between the debt return and the equity return. However, particularly in the water sector, government and other persons make capital injections on which no return is required. In other words, water businesses may be seen as having three – rather than two – sources of capital:

ie. debt, shareholder equity and gifted capital

Matching these three types of capital clearly requires a three component WACC.

Adding gifted assets to the regulatory capital base requires that the definition of the WACC be similarly adjusted. Since the owners of the gifted assets require no return, the expanded capital base is then matched by a lower overall WACC.

Conversely, narrowing the definition of the asset base to exclude gifted assets requires a narrower definition of the WACC and a higher overall return.

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[11] Officer, R.R. (updated). Notes on Cost of Capital for a Company, unpublished paper, Melbourne Business School. p.14.

Provided the definition of the capital base and the WACC are matched, the dollar return to equity investors should be unchanged.

The key issues in the debate on the treatment of gifted assets/transferred assets arise because the debate does not generally recognise the need to adjust the cost of capital from a two component to a three component WACC.

Conceptually at least, the recalculation of a three part capital base and a three part WACC is straightforward. However, the apparent novelty of this approach and conventional experience of a two part capital structure and WACC probably make it sensible, in practice, to retain a two part WACC and therefore exclude gifted assets from the regulatory capital base.

TREATMENT IN ASSET CONSUMPTION

Treating transferred infrastructure as a third source of capital requires counterpart changes in the definition of asset consumption, ie. depreciation.

The business is obligated to maintain the transferred infrastructure and to refurbish it from time to time as economic depreciation occurs. Consequently, the estimates of economic depreciation included in the familiar pricing formula should relate to the entire asset base for which the business is responsible.

This means that even if the choice – perhaps for presentational reasons – is to retain a two part WACC and a two part asset base, the depreciation estimates should be based on the entire asset base for which the business is responsible.

Note that the correct depreciation concept is economic depreciation reflecting loss of actual service capacity as distinct from accounting depreciation which merely reflects the passage of time.