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2 November 2018

Jo de Silva
Policy Lead – Energy, Water and Climate Change
South Australian Council of Social Service
By email

Dear Jo

This letter is my response to your request that I look briefly at the issues of SA Water's regulatory asset value in the context of an independent review of water pricing in South Australia to be undertaken by Lew Owens.

I understand that SA Water's current Regulatory Asset Base (RAB) is valued at around \$13.2bn. Assuming 766,000 connections this can be expressed as \$17,319 per connection. By comparison the aggregate regulatory asset value of all the regulated water companies in Victoria is \$24.73bn but serving around 3 times as many connections (2.3 million), which results in a RAB per connection of around \$10,753/connection.

I sought to understand why such a large difference exists in the asset value per connection in Victoria and South Australia. Perhaps operating conditions, density or other physical characteristics explain some part of it and if so it would be useful to know about this, though this is beyond my brief. In this letter I seek to understand how the methodology for asset valuation might have affected SA Water's RAB.

In Victoria, following a revaluation exercise in 2008, the assets of the water companies in aggregate across the state were set equal to their depreciated historic cost (i.e. not indexed for inflation). This reflected an almost total write-down of the depreciated historic value (the statutory account value) of the rural water companies and a substantial write down of the regional water companies' assets, matched by a substantial write-up of the value of the metropolitan water companies' assets. In round terms, the aggregate value of the asset base after this revaluation was therefore approximately the depreciated historic cost. Since then, asset values have been indexed by inflation (using the CPI) and while this has had a significant affect on the value of the metropolitan water company values it has had almost

no impact on the rural water company and a limited impact on the regional water company asset values.

By comparison the situation in South Australia seems quite different. In 1995, when the water service sector in SA was corporatised, the asset value more than doubled from \$2.3bn to \$5.05bn. Since that time, as we understand it, the historic asset value has been indexed typically at a rate higher than the Consumer Price Index in the period to 2012. Since then, as we understand it, the RAB has been indexed to reflect the change in the All—Australia Consumer Price Index. This is from what I have been able to discern from a brief examination of regulatory documents and SA Water’s published accounts. It would be useful to present accurate figures of the cumulative total revaluation of SA Water’s assets since its incorporation and to state what the effect of this has been on the revenues SA Water has recovered from water users.

To obtain an estimate of the impact of this indexation on asset values, I examined the published financial accounts of SA Water over the period from 30 June 2008 to 30 June 2017. I found that over this period the statutory asset value was revalued upwards by \$3.4bn to match the revaluation of the RAB through CPI indexation. Taking account of indexation of the asset base in the period between 1996 and 2008 at a higher rate than CPI, I conclude that the biggest factor explaining SA Water’s RAB in 2018 is neither the pre-corporatisation depreciated historic value in 1995 nor the capitalised expenditure since, but rather the combination of the initial revaluation and the subsequent indexation.

This brings the revaluation and indexation into particular focus in explaining SA Water’s RAB. Turning first to the initial revaluation in 1995, I understand that the argument for this was that the historic depreciated asset value understated the economic value of water supply on the basis that should SA water users would be willing to pay more than the depreciated historic cost for water supply.

This argument has been applied in Australia across water and other utilities in the process of their privatisation or corporatisation. However such revaluation is unusual in other countries where privatisation is not associated with upward asset revaluations (in fact to the contrary in some cases). Furthermore in other countries, the asset value of non-investor owned utilities is invariably stated at its depreciated historic cost. While revaluation might be argued to be economically sensible in the sense that it means consumers are charged closer to what they would be willing to pay for water, the effect of the revaluation is to transfer from water consumers to the community (through the governments) the difference between the depreciated historic cost and the revalued amount.

With respect to the revaluation and subsequent RAB indexation it is important to understand the effect of this to consumers by taking into account the way that the asset base is depreciated and the way that the return on asset is calculated in controls established by ESCOSA and the predecessor authorities.

In this respect we note that the methodology applied by ESCOSA is to calculate the return on the asset base and the depreciation of the asset base in constant currency (this is often referred to as “real” dollars) for the duration of the regulatory period. But the “real” depreciation and the return so calculated is then inflated (at CPI) in the calculation of the tariffs that SA Water charges. This means that SA Water’s prices are based on the nominal (i.e. inflated by CPI) return on and of, SA Water’s RAB. In addition, the RAB is also periodically indexed by CPI (i.e. in establishing the value of the RAB at the end of the

regulatory period the constant currency asset value is indexed by the actual inflation during the period). The net effect of this is that SA Water's prices reflect a nominal (i.e. money of the day) return on and of regulatory assets, and the regulatory assets are also valued in nominal dollars.

This can be compared with the charges that would apply in the case of the repayment of a loan to a home-owner or business. In this case, the lender extends a capital sum (the principal) and the borrower pays a "nominal" interest rate and returns the historic value of the principal over the life of the loan. So the amount the borrower ultimately pays back to the lender is the principal – at its historic cost – plus the "nominal" interest over the life of the loan. Monetary inflation over the life of the loan erodes the value of the principal over time, but the lender is compensated for this through the (nominal) interest they receive.

The effect of indexing the principal, as in the regulation of SA Water, is that water users pay a nominal interest rate, plus an additional amount to compensate the SA Government for the deflation of the asset value as a result of changes in the purchasing power of the Australian dollar.

Effectively the SA Government, as owner of SA Water, is insulated from the effect of the erosion, by monetary depreciation, of the equity and debt it provides to SA Water. This comes at the expense of higher charges to consumers. For example, assuming an inflation rate of 2.5%, the annual revenue recovered from water users in South Australia is \$265m per year higher than it otherwise would be (although this is spread over the life of the asset base as it is progressively depreciated).

Since, there is no cash expense to off-set the indexation, indexation therefore results in the accumulation of revaluation reserves in SA Water's statutory Balance Sheet. This is reflected in the value of these reserves and our review of SA Water's previous accounts shows periodic dividend payments to the SA Government, funded from the accumulated revaluation reserves.

Taking this into account, how is the indexation of SA Water's RAB properly characterised? It might be argued that indexation simply accounts for the increase in the deprival value of water on the basis that if SA Water's infrastructure was to be rebuilt today, the indexed value of the depreciated asset base would correctly represent what it would cost to construct (net of accumulated depreciation) and so what consumers should rightly be charged.

However this argument is susceptible to the evidence that only some of SA Water's assets (such as land it owns) can be expected to appreciate at the rate of the Consumer Price Index. The vast bulk of its assets (the pipes, pumps, processing and treatment facilities etc.) can be expected to cost ever less in future than today, as technology and productivity improvement reduces the cost of capital items. As such, indexing the whole of the asset base at the rate of CPI will deliver an increasingly over-valued asset base. A more targeted approach that inflates (or deflates) different parts of the asset base at different rates to reflect their underlying price changes would produce a more accurate estimate of the deprival value of the assets.

More generally I think it is valid to question the basis, in economics, for indexation of the asset base at all. As noted earlier, though this approach is common in Australian utility regulation it is not standard practice elsewhere, particularly in the regulation of non-investor

owned utilities. The Government of South Australia might reasonably be characterised as a lender to SA Water in the same way that a mortgage provider lends to a household or business. Mortgage providers do not obtain relief from the erosion of their principal through inflation and in the same way, why should the Government (and by extension the South Australian community) receive relief from water users for the erosion of their investment in SA Water? Seen from this perspective (and we find this perspective persuasive) indexation of the asset base is essentially no more than a tax.

It might be offered in response that even if indexation is properly characterised as a tax, it is an efficient tax since water demand is inelastic to price. While we expect that this may be true generally, at least in the short term, when a tax is effected though the asset base it is likely to be regressive. If the Government wishes to tax the supply of water it would be better to more precisely target it to avoid regressive effects and to make it more transparent. Of course such transparency may not be politically attractive.

An argument for indexation could also be made on efficiency grounds: that water is scarce and that pricing it closer to its deprivation value than its historic cost will encourage demand-side efficiency. This argument is not terribly convincing: If policy makers are really concerned about demand-side efficiency, this is better achieved through the structure of water prices (eliminating fixed charges and setting higher prices for higher consumption). Excise taxes or levies are likely to also be more effective in promoting demand side efficiency since they can be targeted to those consumer segments whose consumption is sensitive to prices.

The regulatory valuation of SA Water's assets is a matter for SA Government policy and it struck me in reading the regulatory and other material in the course of preparing this letter, that pursuit of the public's interest in this discussion may be enhanced by making the main issues more plainly visible.

Finally I would like to acknowledge the assistance of Ann Petaki, the Executive Officer of the SA Water Pricing Inquiry, Dean Wickenton of the Essential Services Commission of Victoria and Nathan Petrus of the Essential Services Commission of South Australia in providing helpful information.

Yours sincerely,

A handwritten signature in black ink, appearing to read 'BRUCE MOUNTAIN', with a long horizontal flourish extending to the right.

Bruce Mountain
Director