Methodology information paper 6: Financial modelling

Introduction

This information paper explains the role of the Commission's financial model. It also describes the approach to the Strategic Review of Charges 2006-10 and the changes that we, the Commission, believe may be needed to the model for the next price review.

The role of our financial model

Our statutory remit requires us to set prices at a level consistent with the delivery of ministerial objectives for the lowest reasonable overall cost. One of the ways in which we do this is by ensuring that Scottish Water has sufficient resources to carry out its core functions as a water and sewerage service undertaker in an efficient manner.

Scottish Water's resources currently come from two sources:

- revenue raised through charges to customers; and
- borrowing (from government).

The revenue that is raised from customers is determined by the charge limits that we set for Scottish Water. We use a financial model to inform our calculation of these charge limits.

The model therefore plays a key role in the Strategic Review of Charges, having an impact on:

- customers – because it is used in determining the limits on charges for water and sewerage services; and

- Scottish Water – because it is used in determining the level of resources that we will make available for the business to carry out its core functions.

The financial model has two principal elements:

- calculation of the revenue that Scottish Water requires to carry out its core functions; and

- the tariff basket model, which translates the revenue collected from customers to the tariffs they will pay.

The model developed for the Strategic Review of Charges 2006-10

The current version of the financial model forecasts revenue as a sum of building blocks. These are the return allowed on the regulatory capital value, allowable operating costs, depreciation on non-infrastructure assets, the infrastructure renewals charge and the cost of public/private partnerships contracts. However, the model also allows us to adjust revenue as a means of fine-tuning (for example, to match financial ratios).

We developed the model using internal resources. It was subject to rigorous internal analysis that ensured that all of the formulae performed as we would expect and that the results were consistent with our expectations when inputting test information.

We asked Ernst & Young LLP to review our financial model. We also gave Scottish Water an opportunity to comment on the model.

We provided Scottish Water with the input tables for the financial model as part of the business plan guidance.

Financial sustainability

One of the key considerations of our modelling was the financial sustainability of Scottish Water. We used the same financial ratios as those used by Ofwat to assess the financial sustainability of the water industry south of the border in its Final Determination.

Table 1 shows the list of financial ratios we used in the 2006-10 review:

Table 1: Financial ratios used in the 2005 Final Determination

Ratio	Target value
Cash interest cover (funds from operations / interest expenses)	Around 3 times
Adjusted cash interest cover (funds from operations less capital charges / interest expenses)	Around 1.6 times
Funds from operations / debt	Greater than 13%
Retained cash flow / debt	Greater than 7%
Gearing (net debt / regulatory capital value)	Below 65%

In the 2006-10 review we set Scottish Water's revenue in 2009-10 such that it complied with all of the cash-based financial ratios.

Changes affecting our approach

Although the financial model worked well at the last price review, we have identified some changes that we consider it would be appropriate to make. We do not consider that we need to develop an entirely new model. Instead, we believe that a revised version should be sufficient to accommodate the new needs. The reasons for change include:

The introduction of competition: Scottish Water has separate wholesale and retail businesses. In addition, we would be setting retail tariffs for household properties and setting wholesale and 'default' tariffs for non-household properties. As such, the model needs to be able to calculate tariffs at a retail and wholesale level. In the 2006-10 review we calculated a retail margin and a simple wholesale charge cap. We need to adjust the financial model to allow us to calculate wholesale charge caps for each tariff basket at the next price review.

In order to set both levels of tariffs we propose to set revenue for Scottish Water as a vertically integrated business (hence, ensuring adequate comparators for revenue setting). Wholesale revenue would be calculated by subtracting the assessed costs of retail activities and an appropriate return.

New or better information: we propose to adjust the model to reflect new or better information. Such changes may include:

- updating the calculation of current cost depreciation: better information on Scottish Water's MEAV assets would allow us to improve the modelling of depreciation;
- updating tax calculations: we plan to take into account the latest changes in the tax rules (UKGAAP);
- updating Current Cost Accounts: we will update the model to be in line with the latest version of the Regulatory Accounting Rules; and
- introducing the gilts buffer.

Adding scenario-modelling options: we propose to add scenario modelling options. We will also consider merging the financial model with the tariff basket model in order to extend the scope of any scenario modelling.

Methodological changes: any changes in our approach would need to be incorporated in the model. Examples of these changes are:

- updating financial ratios (formulae and targets);

- updating cost of capital/building blocks calculations based on the defined price setting framework; and
- updating the calculation of the return to RCV

Rationalisation of inputs and outputs: We propose to rationalise the size of the model by eliminating unnecessary detail in inputs and outputs.

Developing the revised financial model

We will develop the model in-house in order to ensure that we have a detailed knowledge of the model's logic and processes. This will allow us to make any additional amendments at any point in time. However, we will seek advice on modelling 'best practice' and ensure that our use of the model is appropriate.

A draft final version of the model structure and logic will be produced once we have had an opportunity to consider consultation responses.

This draft final version will be subjected to a detailed external review. Additionally, we plan to have the model audited approximately one month prior to the publication of the draft determination.

We will keep Scottish Water informed about any changes to the financial model and arrange training sessions or workshops.

However, we propose only to provide feedback on financial aspects of Scottish Water's business plans if it uses the price review model. In our view this avoids a risk that we misinterpret Scottish Water's intentions.

Related Documents

'The Strategic Review of Charges 2006-10: The draft determination', Volume 7, Water Industry Commissioner for Scotland, June 2005.

'The Strategic Review of Charges 2006-10: The final determination', Water Industry Commission for Scotland, November 2005.