

December 2022

Creating tomorrow, together:
Our final methodology for PR24

Financial model user guide

About this document

This document is the user guide to the PR24 financial model published alongside the final methodology.

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1. User guide

1.1 Purpose of document

The purpose of this user guide is to give potential users of the PR24 financial model an overview of its functionality and expectations regarding its use.

Guidance is also provided on the operation of the model.

1.2 Function of the financial model

The model serves three primary functions: to allow a user to calculate allowed revenues for a company, to calculate financial ratios and metrics to facilitate the assessment of the financeability of a company, and to calculate indicative average household bills for a company.

1.3 Expectations at PR24

It is expected that companies will submit a populated version of the financial model with their business plan. Companies should also submit data tables that align with the submitted model.

1.4 Comparison with the PR19 model

The PR24 model is an evolution of the PR19 model. The model retains key features from the PR19 model, such as a commitment to using the FAST financial modelling standard. During the development of the PR24 financial model a version of the model was reconciled to PR19 results.

There are several changes to the model that we believe are improvements to the PR19 model:

- **Notional structure** – The model's primary focus is on a company's notional capital structure. Inputs and calculations are based on this approach, which means that there is no need for a user to follow a notionalisation process. This is a change from PR19 and PR14 and should make the model quicker and easier to operate.
- **Worksheets based on model logic, rather than controls** – Worksheets group together calculations based on calculation logic, rather than price control. For example, all calculations relating to PAYG rates are grouped on a single worksheet. This makes it easier to follow the model logic and to see the combined impact of calculations across wholesale controls.

- **Tax calculations** – the calculation of tax on tax funding has been simplified and now uses a simple geometric uplift using the statutory corporation tax rate, rather than using two iterations of tax calculations to derive the geometric uplift.
- **Pre and Post in the same model** – The model contains live calculations that are both 'pre' post financeability adjustments and 'post' post financeability adjustments. This makes using the model easier as users can see financial statements, financial ratios and metrics on a 'pre' basis and revenues and bills on a 'post' basis in a single model. Tax is calculated on both a 'pre' and 'post' basis.
- **Input structure** – The input structure has been changed in the model. There are now three scenarios in the input section – 'company', 'Ofwat' and 'override'. The presence of three scenarios makes it easier for users to carry out sensitivity analysis in the model.
- **Output tables embedded in model** – Key output tables are now embedded within the model. This makes it easier for users to populate business plan tables or other output documents.
- **PowerBI table** – The model contains a worksheet that contains links to all the outputs and calculations. This is arranged in a way that allows easy analysis in products such as PowerBI or Tableau. This will make it easier to carry out bespoke analysis of the results of the model.

1.5 Changes from the draft financial model

We have made a number of changes to the draft financial model that was published in July 2022. These changes reflect developments in policy, improvements identified from internal review and reflect feedback on the draft model from stakeholders. The key areas for development include:

- **Index linked debt** – The approach to index linked debt has been refined to include elements for both RPI and CPI(H) linked debt. The draft model also held index linked debt at 33% of net debt, this has been refined to allow the proportion of index linked debt to be higher than 33% as a result of accretion but not be lower than this threshold.
- **Dividends** – The calculation of notional dividends in the draft model included the movement in share capital alongside a nominal growth value to calculate dividend growth which is applied to an opening dividend level. The share capital element of this calculation has been replaced with the real growth in regulated equity and any equity issuances. The calculation for opening dividends and the inclusion of a nominal growth value have not been amended. A notional dividend yield calculation has also been included in the model.
- **Bioresources** – At the time of publishing the draft financial model a separate consultation on funding bioresources activities at PR24 was still to take place. This has now been concluded and the financial model has been updated to reflect the approach outlined in [appendix 4 of the final methodology](#).
- **Retail business control** – The approach to calculating the retail business control has been simplified to only include three tariff bands and net margin calculations.

- **Additional wholesale control** – The draft financial model included functionality for five wholesale controls (water resources, water network plus, wastewater network plus, bioresources and dummy) we have modified the model to now include six wholesale controls. The dummy control has been replaced with additional control 1 and a separate additional control 2 has been added.
- **Tax** – The financial model calculates tax at the wholesale level and apportions it out by control. In the draft financial model it was not clear that tax was still calculated at the wholesale level, the model now includes separate wholesale calculations and a check to confirm wholesale tax reconciles to the combined control level tax values.
- **Checks** – We have included a number of additional checks in the model to improve usability and assurance.

We have also included a number of minor refinements through the model, these include changes in formatting, minor corrections to formulas, improvement in label names, removal of redundant calculations/inputs and removal of unnecessary counterflows.

Four companies considered that the PR24 financial model should be used to test financial resilience of the actual company structure to ensure comparability of analysis across the sector.

The PR24 financial model is designed to set revenue allowances and carry out our financeability assessment on the basis of the notional structure. We expect each company to have its own financial model that it updates continually to manage its own activities. It is not practical to replicate the range of actual financial structures across the sector and the adjustments rating agencies may make to its financial ratios in a single model. This is best left to individual companies to address.

We have included table RR17 in the PR24 business plan tables which companies will be required to complete to allow them to demonstrate how their business plans impact on the financial ratios and financial resilience.

1.6 How the financial model was built

As stated previously, the PR24 model is an evolution of the PR19 model. An earlier version of this model has been reconciled to PR19 final determination financial models.

The model has been developed using Openbox and Excel. Openbox is an add-in for Windows versions of Excel that provides a modelling meta-layer above the spreadsheet. It is designed to speed up model build, improve model quality and improve the transparency of models. More details of Openbox can be found at this link: <https://www.openboxmodels.com/>.

Free versions of the software are available for viewing Openbox files.

We have published both an Openbox and Excel version of the PR24 financial model.

The Excel workbook is a standalone version of the PR24 financial model and is the version that companies are expected to submit with their business plans. The Excel model is also the version that Ofwat will use for draft and final determinations.

The Openbox model has been published purely to allow users to understand the functionality of the model more easily. Companies are not required to use Openbox.

1.7 Users

The model is intended for use by Ofwat staff in carrying out PR24. It is also intended for use by companies in preparing their business plans.

1.8 Technical requirements

The model is designed to run on a Windows 10 operating system and is written in the English language version of Microsoft Excel 365 (64-bit). As the core model is intended to be fully functional without the use of macros it is likely that the model will run on other versions of Excel, however this has not been tested.

To view the Openbox version of the model a copy of the Openbox software is required. Non-licenced versions of the software enable a viewer version, which does not permit editing of the model.

The Openbox software is available from this link: <https://www.openboxmodels.com/download>. Currently Openbox only works on computers with the Windows operating system.

On first use of the model please ensure that Analysis Toolpak is enabled (go to Developer, Excel Addins and tick "Analysis Toolpak").

1.9 Calculation status

In accordance with best practice, the model is saved with a 'Manual Calculation' setting. To ensure a full recalculation press: Ctrl + Alt + F9.

1.10 Navigating the model

To facilitate easier navigation within the Excel model it is recommended that users disable in cell editing. In Excel 365 this can be done by going to File, Options, Advanced and unticking "Allow editing directly in cell".

In order to navigate through the model the following key strokes will prove useful:

- To go to a sheet or row select a blue font cell and then either press CTRL+ [or double click
- To return to the last position press F5 + Enter

1.11 Inputs

The input structure maintains the three scenarios in the input section as included in the draft financial model – 'company', 'Ofwat' and 'override'. These are controlled by switches that enable a user to select different combinations of inputs. For example, a user could use switches to select 'company' totex figures but 'Ofwat' PAYG rates.

When companies submit a financial model with their business plan, we expect that all switches will be set to select 'company' inputs.

The selected inputs that feed into the main calculation engine of the model can be seen on the Active inputs worksheet.

A separate mapping tool will be published January 2023 to allow users to easily copy inputs from the PR24 business plans into the financial model.

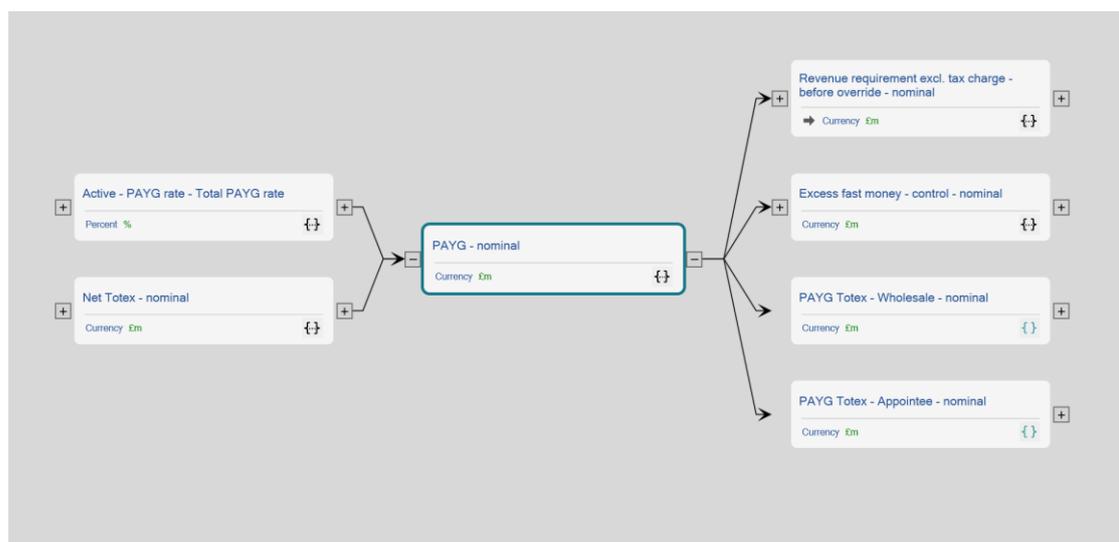
1.12 Calculations

Calculation worksheets within the model have been arranged so that they generally follow a left-to-right convention. In some areas the nature of the calculations do mean that there is some inter-sheet counter-flow (counter-flow occurs when a calculation requires precedents that are calculated 'down stream' in the standard calculation order).

Calculations are grouped together by theme, for example RCV calculations are grouped onto a single worksheet and PAYG calculations are grouped onto a single worksheet.

Calculations can be viewed through the Openbox software. The 'Focus' view in Openbox can provide a good visual representation of the precedents and dependents of a calculation. A screenshot of a calculation viewed through 'Focus' view is shown below.

Figure 1.1 Example of 'focus' mode in Openbox



1.13 Reprofileing functionality

The model contains functionality to reprofile wholesale allowed revenues. This can be useful if users wish to move revenue between years in a net present value (NPV) neutral manner, for example to reduce volatility in customer bills.

It is easy to carry out reprofiling using the PR24 financial model. There are switches on the input sheet that control whether reprofiling is active. To reprofile turn these switches on and then enter onto the input sheet desired revenue figures for each year. There are NPV checks within the model to ensure that the reprofiled revenue has the same NPV as the unprofiled revenue. Users should review these checks after carrying out reprofiling.

Users can use Excel's goalseek functionality to derive hard coded revenue inputs to enter onto the input sheet for the reprofiled revenue.

1.14 Outputs

The model produces several outputs. These include:

- **Financial statements** – Primary financial statements for each wholesale control, retail controls, aggregate wholesale and retail controls and the appointee. These are presented on a 'pre' basis.
- **Executive summary** – A summary of key outputs from the model including allowed revenue, financial metrics, and revenue by building block. Revenues and bills are presented on a 'post' basis. Financial metrics are presented on a 'pre' basis.
- **Dashboard** – A one-page formatted summary of key model outputs.

- **Business plan data tables** – formatted tables summarising allowed revenue outputs, PAYG and RCV run-off outputs, RCV outputs, bill outputs, retail margin outputs and financial ratios for the notional capital structure.

1.15 Enquiries

For enquiries on the financial model please contact PR24@ofwat.gov.uk.

**Ofwat (The Water Services Regulation Authority)
is a non-ministerial government department.
We regulate the water sector in England and Wales.**

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