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RIO-GD2 – CAWG4: Upper Quartile approach and driving efficiency

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Your Gas Network

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- Upper Quartile considerations
- Glide path issues

How to ensure ex-ante allowances reflect efficient costs (1)

High level solutions

- Price control structures – revenue drivers, IQI interpolation, uncertainty mechanisms, indexation
- Benchmarking – across GDNs, across utility networks, with non-utilities

Benchmarking

Benchmarking across GDNs is not straightforward

- 8 data points, 3 or 4 ownership groups – too small sample
- differing operating environments e.g. central London v north Norfolk or mid Wales
- differing workloads e.g. repex, land remediation
- different structures, capitalisation, cost allocation, opex / capex choices

For benchmarking to be perfectly reflective of efficient costs, there needs to be complete understanding of workload and cost drivers, regional factors, and how the future will be different to the past.

In the absence of perfect knowledge, there will not be a single view of an efficient level of costs.

“We recognised that no benchmarking analysis or cost assessment method will be perfect, and there will always be vulnerabilities and limitations in any approach”. Para 4.76, CMA Final Determination, Bristol Water, October 2015

How to ensure ex-ante allowances reflect efficient costs (2)

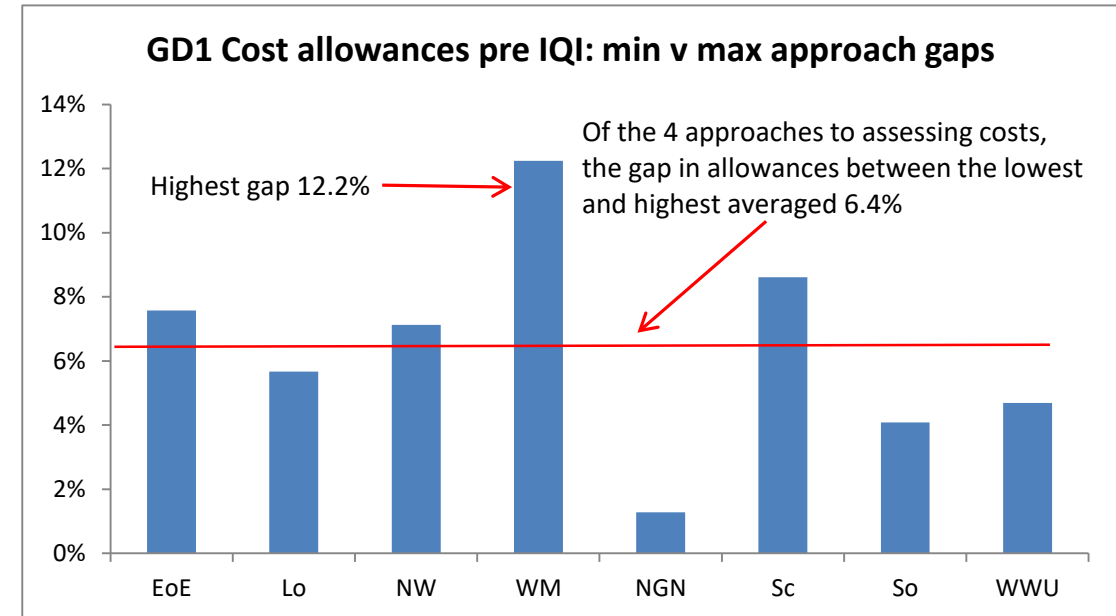
The GD1 methodology used 4 benchmarking approaches:

- Top Down x 2, using workload drivers, calibrated using costs from the recent past and the near future
- Bottom Up x 2, calibrated using costs from the recent past and the future

These produced 4 views of efficient costs – up to **12.2%** different, which were then averaged.

Five suggestions for GD2 approach

1. Use price control structures (e.g. revenue drivers) where is uncertainty and costs could be material
2. Consider past and future costs in benchmarking - could benchmark both, or only the past and make separate adjustments for the future
3. Need Bottom Up to identify regional factors, cost drivers – but must strike UQ (if used) after summing results
4. Need Top Down to overcome structural, capitalisation, cost allocation, solution choice issues
5. Balance of Top Down with workload drivers and Bottom Up depends on degree of confidence in each: but to minimise problems associated with Bottom-Up, leans towards greater weight on Top Down (better fit too)



Upper Quartile considerations

Rationale for using the Upper Quartile (UQ):

- Customers should pay the efficient level of Networks' cost
- However, weaknesses in models & data flatter apparently better performers, and penalise apparently worse
- Use of frontier, UQ, upper third, median or average depends on the level of confidence in the benchmarking

For **gas distribution**, since Network Sales, Ofgem has typically, but not always been confident enough to use UQ.

For **electricity distribution**, since DPCR4 Ofgem has used UQ, upper third and median for different cost types.

Reflecting greater confidence in the ED1 totex approach, was the first (only!) time UQ was applied to all spend.

Suggestion for GD2

1. Whether to apply the UQ depends on the level of confidence in the benchmarking – too early to say, but confidence likely to be higher in Top Down approaches

“Weaknesses or limitations in the econometric models and any errors or inconsistencies in the data set we used will contribute to the variance in costs across the 15 companies in the sample...We would expect this variance to introduce a bias that overstates the relative performance of companies ranked better than the median performance and understates the relative performance of companies ranked worse than the median”. Para 8.135 Competition Commission NIE Final Determination, March 2014

“We noted that Ofgem has set less demanding benchmarks than the upper quartile, such as benchmarks set on the upper third or median company, where it has more concerns about the accuracy of its benchmarking analysis (e.g. because of data inconsistencies)”. Para 8.137, Competition Commission NIE Final Determination, March 2014

Glide path issues (1)

It could be argued that Networks should take 100% of the hit if they cannot hit cost targets straight away, but this:

- takes no account of the consequences (including to investment and customers) of financial distress; and
- is a view that regulators have not always taken – both Ofwat and Ofgem have used glide paths previously

Ofgem / Ofwat have stated that glide paths:

- reflect the uncertainties involved in identifying cost benchmarks;
- give Networks time to reduce costs; and
- recognise the restructuring costs involved.

Whether glide paths are used will depend on:

- **Achievability of cost targets** – whether networks will be able to meet regulatory cost projections
- **Consequences of missing cost targets** – the extent of exposure to overspends against regulatory projections

“...these ideas were developed into a “sliding scale mechanism” that is intended to...avoid strong incentives to underspend by cutting corners and not delivering outputs or by storing up problems for subsequent periods.”

Para 7.72, Ofgem DPCR4 Final Proposals November 2004

“In early price controls allowances were lower than in previous years. Companies were given more time to close any efficiency gap in recognition of the time it takes to restructure and the costs of doing so.”

Para 3.31, Ofgem DPCR5 Final Proposals Dec 2009

Glide path issues (2)

Achievability of cost targets depends on the scale of cost reductions needed from the Plan. This is impacted by:

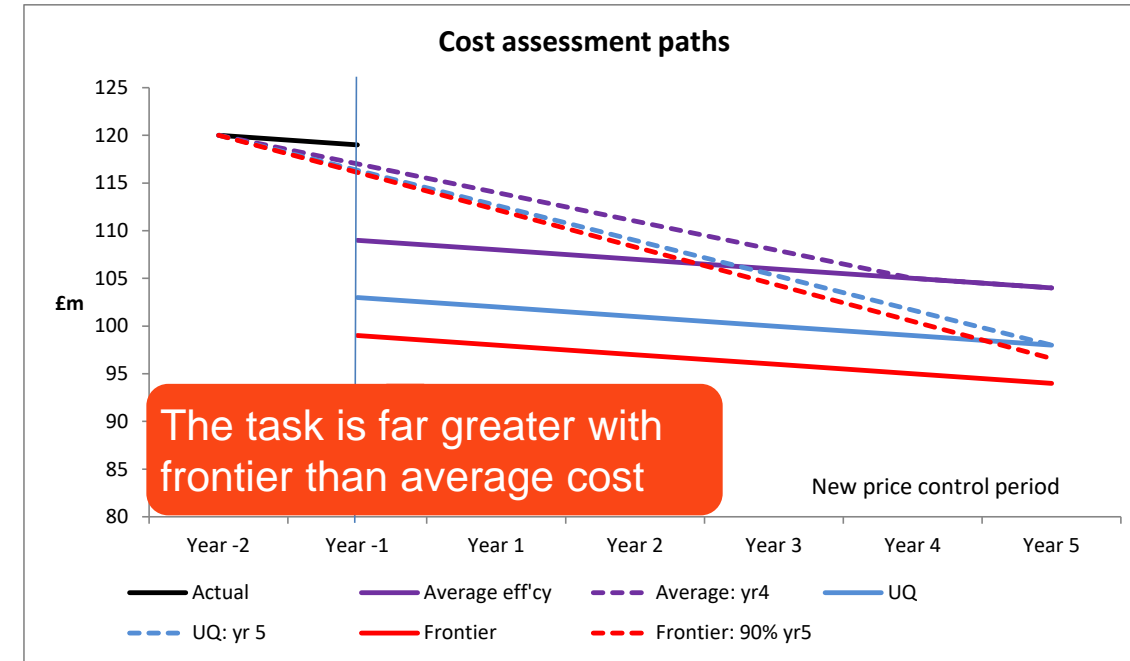
- The drivers selected & choice of Top Down v Bottom Up
- The choice of benchmark (e.g. UQ or median costs) – driven by the regulator's confidence in the benchmarking
- Relative benchmarking efficiency
- Whether IQI interpolation is applied – reducing the scale of the gap by 25%

Consequences of missing cost targets is the extent of overspend being shared with customers: Water companies formerly took 100%: now it is around 50%

Suggestion for GD2

The achievability of any cost reductions and the consequence of missing cost targets will only be known once:

- Ofgem decides a benchmarking approach, IQI interpolation and incentive rates
- Networks submit Business Plans



"Nonetheless, to the extent that NIE's actual costs are lower than the upfront allowances that we have determined, NIE will be compensated for part of the difference through the cost risk-sharing mechanism" Para 8.227, Competition Commission, NIE Final Determination, March 2014

Can only take a view on the need for glide paths and their length once these are known

Appendix 1: water

Glide path where tough target, high exposure

Price control	Cost category	Efficiency level	Glide path	IQI uplift	Co exposure to overspend
PR04	Base Opex	Frontier (adjusted and with caveats)*	60% catch-up by year 5	No	100%
	Base capex	Frontier (adjusted and with caveats)*	40-50% catch-up by year 3	No	100%
	Enhancement capex	Frontier (adjusted and with caveats)*	75% catch-up by year 1	No	100%
PR09 / CMA Bristol 2010	Base Opex	Frontier (adjusted and with caveats)*	60% catch-up by year 5	No	100%
	Base capex	Median	No	Yes	c30%
	Enhancement capex	Median	No	Yes	c30%
PR14	Totex	Upper Quartile (after summing different models)	No	Yes	c50%
CMA Bristol 2015	Totex	Average **	No	No	50%

Ofwat softened approach, worried about discouraging necessary investment

*- Residual reduced by 10% to reflect “cost measurement errors and possible omission of drivers”:

- Opex Frontier company 1) no concerns over data 2) no special circumstances outside management control reducing costs 3) company not very small 4) stable / improving serviceability (key output) [3 more criteria for capex]

** CMA not content with model robustness: to offset, increased RPE / Ongoing efficiency from Ofwat’s “overly generous” +0.4% to -1% p.a.

Appendix 2: electricity distribution

Price control	Cost category	Efficiency level	Glide path	IQI uplift	Co exposure to overspend
DPCR4	Opex + Faults	Upper Quartile	No	No	100%
	Capex	Median	No	Yes	29% - 40%
DPCR5	Network opex	Upper third	No	Yes	45% - 51%
	Indirect costs – closely associated	Upper Quartile	No	Yes	45% - 51%
	Indirect costs – Business Support, Non Opl capex	Upper Quartile	No	No	45% - 51%
	Asset replacement	Median	No	Yes	45% - 51%
CMA NIE	Indirect costs	5 th of 15 (Ofgem UQ would be 4.5)	No	No	50%
	Core network investment	Median	No	No	50%
RIIO-ED1	Totex	Upper Quartile (after summing different models)	No	Yes	53% - 58%

Typically IQI uplift and c50% exposure to capex overspend

ED1 the only price control where modelling robust enough to use UQ alone

Appendix 3: gas distribution

Price control	Cost category	Efficiency level	Glide path	IQI uplift	Co exposure to overspend
Transco LDZ control	Opex	Consultants reports	Partial	No	100%
	Repex	Actuals +17%	No	No	50% - up to cap 100% - above cap 33% - underspend
	Capex	Consultants report	No	No	22% average (5% in yr 5, 38% in yr 1)
GDPCR1	Opex	Bottom Up approach used to spread Top Down result. Upper Quartile except Indirects - 2 nd group from 4	No	No	100%
	Repex	Upper Quartile	No	Yes	33% - 36%
	Capex	Upper Quartile	No	Yes	33% - 36%
RIIO-GD1	Totex	Upper Quartile (before summing approaches)	No	Yes	63% - 64%

Increased workload and "buoyant" utility infrastructure market

Concerns over inter-group cost allocation