

# Principles of cost assessment

How we will approach some of the decisions we need to make



1. What makes a good cost driver?
2. When do we use CSVs?
3. Levels and categories of analysis
4. Types of adjustments used in cost assessment

### Core factors

Intuition	Stability	Influence	Significance
<ul style="list-style-type: none"><li>• Makes economic and/or engineering sense</li></ul>	<ul style="list-style-type: none"><li>• Is relatively stable over time</li></ul>	<ul style="list-style-type: none"><li>• Is beyond the control of the network company</li></ul>	<ul style="list-style-type: none"><li>• Leads to results that pass key statistical tests</li></ul>

### Other factors

1. Will promote long term efficiency (rather than, for example, current network condition)
2. Reflects scale where our engineering knowledge suggest that the scale of the operation drives costs
3. Considers the balance between fixed and variable costs
4. Does not comprise multiple, highly correlated variables – see option for CSVs on the next slide

*NB we consider it impractical to take the full range of drivers into account as some are not quantifiable. Furthermore, there are limited degrees of freedom due to the number of data points we have.*

### **We may construct a CSV to estimate weights for each driver when:**

1. The sample is too small to handle multiple drivers, and/or
2. Some of the explanatory variables are statistically insignificant, but both our engineering knowledge and other industry understanding gives us good reason to believe that combining them into one variable could better account for changes in costs

A good CSV will exclude highly correlated cost drivers

### **Options we may consider for selecting totex drivers**

1. High level approach to utilise one or two key cost drivers which capture overall circumstances in which company operates

2. Bottom up approach to utilise cost drivers from disaggregated cost activities

3. Use a workload driver from each of the broadly aggregated costs (opex, capex, repex)

When deciding appropriate categories for disaggregated analysis, we can consider:

1. Can costs be separated or will we find inconsistencies at the boundaries?
2. Are there trade-offs that should be captured by grouping costs?
3. Practically, what are the maximum number of models that should be estimated?

Categories could be chosen by:



### Levels of modelling

The totex approach may be used as a directional tool rather than a mechanistic means of setting allowances, with disaggregated analysis used to reach a more informed view.

Totex analysis reduces the risk of i) biasing the network companies towards particular solutions and ii) bias from inconsistencies in reporting across cost boundaries. It enables us to consider opex-capex trade-offs in our comparative efficiency assessment and identify those network companies that have minimised total costs.

Disaggregated analysis enables us to consider i) the key factors driving individual activities and ii) why different companies might be efficient or otherwise

- These are pre-modelling adjustments to reflect factors not incorporated within the econometric model cost functions.

Normalisations	Regional factors	Smoothing	Workload adjustments
<ul style="list-style-type: none"> <li>• Ensures consistency of reporting across companies.</li> <li>• Removes costs we consider unsuitable for benchmarking or benchmarking separately, eg TMA, uncertain costs, lumpy expenditure or atypicals. These may be added back in following the comparative assessment.</li> <li>• Could remove costs and volumes associated with disallowed outputs. We want to identify unit cost efficiency as opposed to differences in assumed levels of outputs.</li> </ul>	<ul style="list-style-type: none"> <li>• To correct costs for justified regional differences beyond the control of the GDN.</li> <li>• We remove to determine comparative efficiency. The associated costs are then reversed after a comparative assessment so that final cost baselines reflect the differences.</li> <li>• These could be wage differences between regions, differences in the structure of networks or differences in the physical environment GDNs operate in.</li> <li>• We could consider a zero sum method of allocation.</li> </ul>	<ul style="list-style-type: none"> <li>• We can use a multiple-year moving average to smooth lumpy expenditure, eg capex.</li> </ul>	<ul style="list-style-type: none"> <li>• To ensure workload, corresponding unit costs and cost drivers are not over or understated.</li> <li>• Relies on engineering/technical assessment.</li> </ul>

- The robustness of company narrative and evidence are likely to be a key factors in deciding whether forecast costs and volumes are appropriate or whether we should seek to adjust them.

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