



Introduction to Asset Management Concepts

Workshop no 4 – Part v

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Leaders in the design, implementation and operation of markets for electricity, gas and water.



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Fundamental principal

. . . .the Director shall exercise and perform the powers and duties mentioned in subsection (1) above in the manner that he considers is best calculated—

(a) to secure that the functions of a water undertaker and of a sewerage undertaker are properly carried out as respects every area of England and Wales; and

*(b) without prejudice to the generality of paragraph (a) above, to secure that companies holding appointments under Chapter I of Part II of this Act as **water undertakers or sewerage undertakers are able (in particular, by securing reasonable returns on their capital) to finance the proper carrying out of the functions of such undertakers.***

Source: Water Act 1989 Part 1 - 7 (2)

Cost breakdown

- Operational costs
- Capital investment
 - Base service
 - Enhancement
 - Quality
 - Enhanced service levels
 - Supply demand balance
- Return on capital (profit and interest on loans)

Capital investment (CAPEX)

Expenditure on each type of assets is categorised by purpose either as

- **Base service provision**, which is required to maintain the current (most recently established base) level of serviceability to customers
- **Enhancement** where there is a permanent increase in the current level of serviceability to a new “base” level

Regulatory Accounting Guideline 2.03, OFWAT, 2003

Capital investment (CAPEX)

Enhancement is further subdivided as follows:

- **Quality** where expenditure is required to comply with **new** (i.e. since the base service level was established) legally enforceable quality obligations.
- **Enhanced service level** where expenditure provides an identifiable, measurable and permanent step change in overall level of service to existing customers above the standard previously provided.
- **Supply/demand balance** where expenditure
 - provides water and sewerage services for new customers with no net deterioration from the current level of service provided to existing customers; and/or
 - accommodates the increased use of water by existing customers at the current level of service.

Regulatory Accounting Guideline 2.03, OFWAT, 2003

Conventional accounting treatment of CAPEX

- Capital investment recovered through depreciation provisions
- Generally acceptable if asset lives reflect real lives
- Acceptable if investment is a small part of overall costs
- Can use historic cost depreciation if asset lives are short (5 to 10 years)

Problem of water supply infrastructure

- Very capital intensive (conventional depreciation can be as much as 40% of total costs)
- Long life assets (greater than 50 years) and therefore prone to the effects of inflation
- Asset lives indeterminate (especially underground assets)

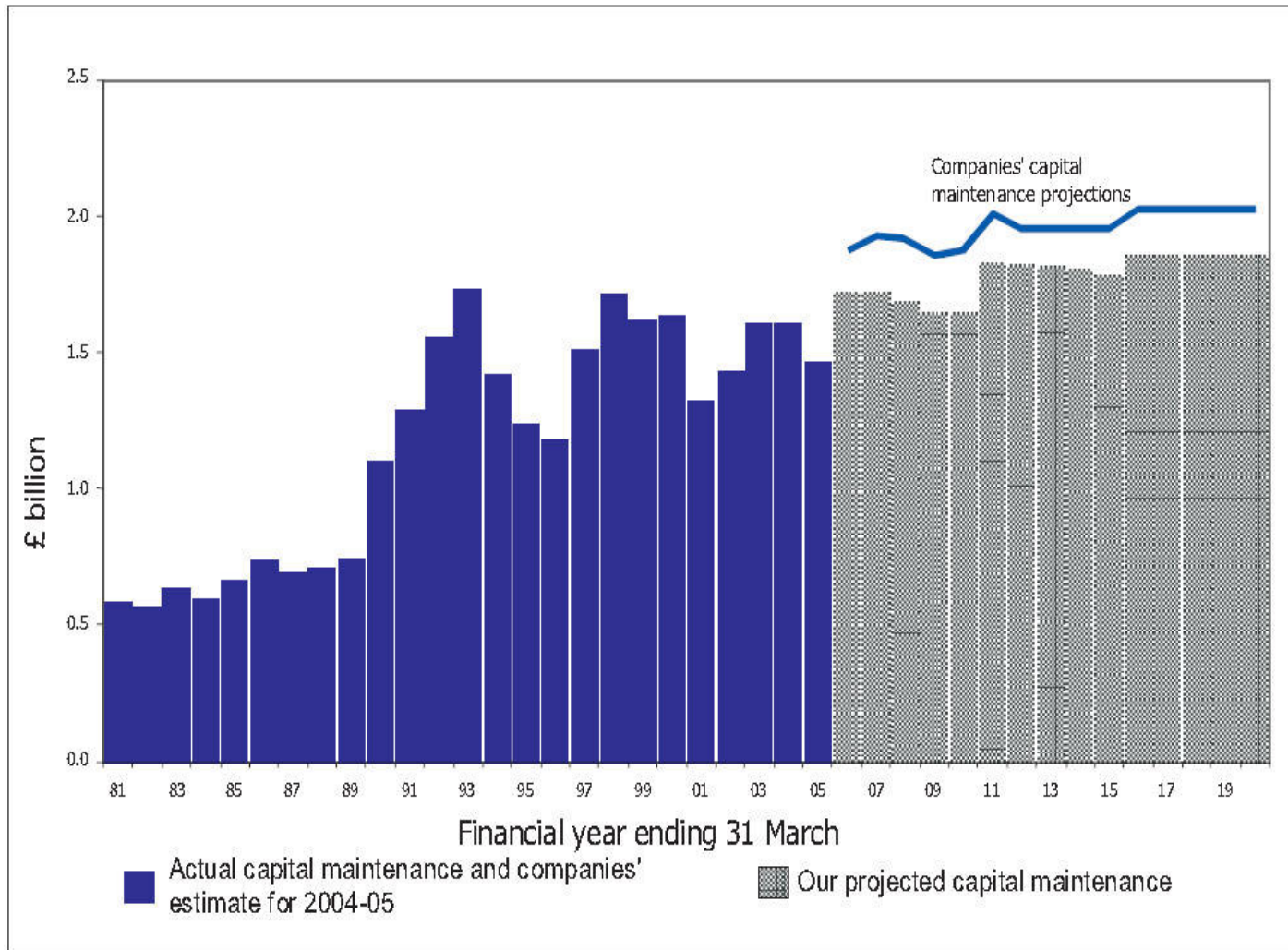
Infrastructure assets solution

- **Solution**
 - Do not charge depreciation on underground assets, i.e. asset values are maintained in perpetuity
 - Alternatively, all capital expenditure on repair and replacement of existing underground assets is treated as operational expenditure
 - Any new assets for service expansion is treated as capital investment
- **Advantages**
 - Simplicity
 - More accurate; easier to estimate future expenditure on underground assets than to determine real useful lives
 - Improved management control; easier to set budgets for asset repair and renewals

Underground assets - implications

- The value of the assets are maintained in perpetuity
- What the operator was expecting to earn from depreciation provisions he gets back through operating costs
- Known as 'Infrastructure Renewals Charge'

Capital maintenance projections



Revenue requirements

- Total revenue requirement made up of:
 - Operating expenditure (net of efficiencies)
 - Current cost depreciation where applicable
 - Infrastructure renewals charge where applicable
 - Return on capital
 - Taxes and other costs

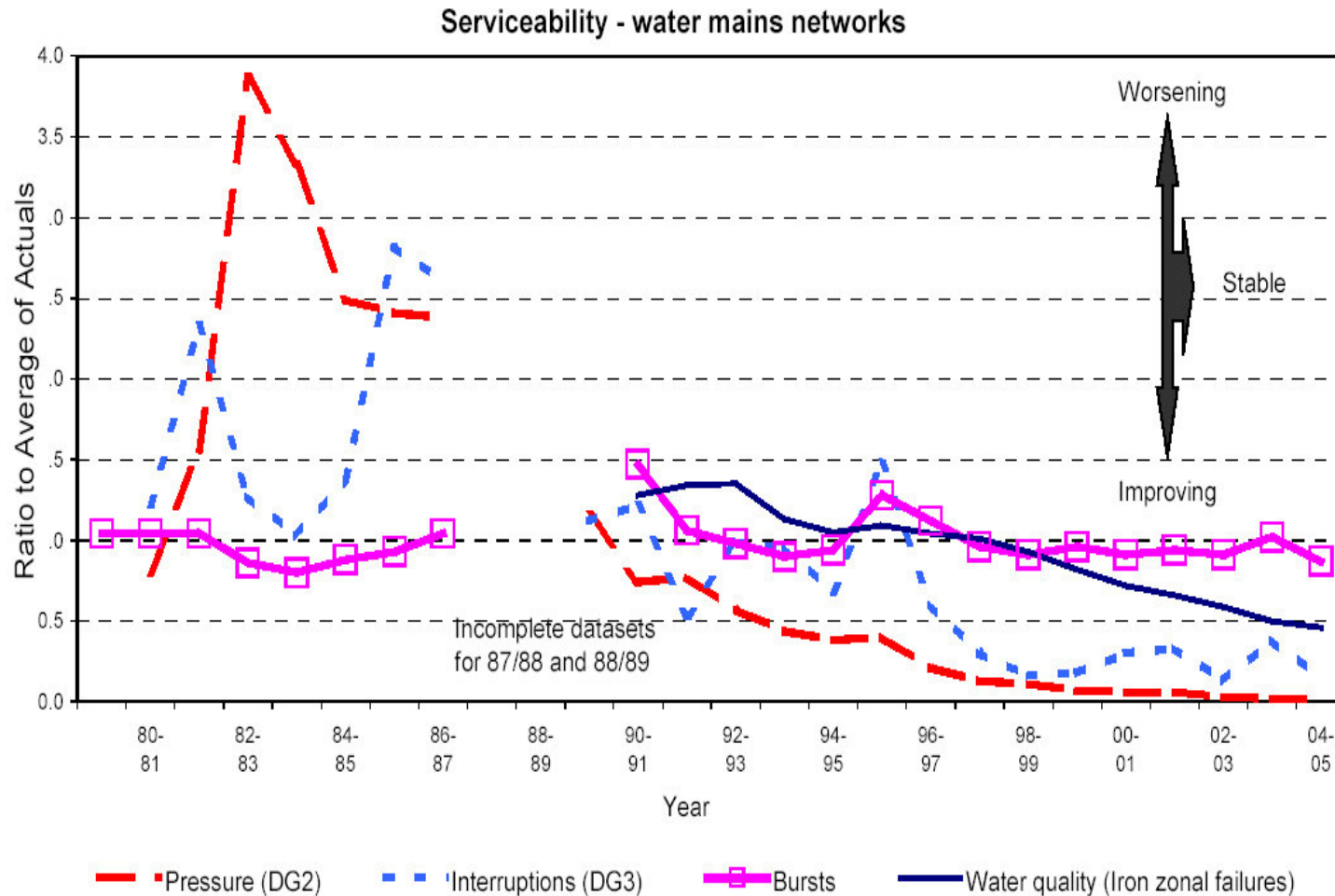
Serviceability & asset management

- Regulator's primary interest
 - Price
 - Service to customers
- Regulator not focussed on assets and their condition but what they can deliver

What is meant by stable serviceability

- Service in line with reference level of service and likely to remain so
- Reference level is best historic levels
- This does not mean satisfactory service

Serviceability performance



Note: The trend in bursts (emboldened line) provides the strongest guide to the state of the assets

Implications for prices

- Actual investment is lower than depreciation provisions
 - Keeps prices lower in the short term
- But
- Longer term price uncertainty
 - Perception but in practice not real