

Appendix 5: Capital efficiency and outperformance under the CIS

Section 4.2 set out the key features of the CIS including the additional income, the symmetrical approach to the RCV and capital efficiency. In considering the CIS mechanism, companies and other commentators have focused on the additional income factor and assumed the companies will not outperform our final determinations capital expenditure assumptions.

However, the approach to capital efficiency is equally important. A comparison with our approach at previous price reviews will serve to highlight the greater scope for capital expenditure outperformance under CIS. It is important to be aware of these.

- We have used 'central' rather than 'frontier' efficiency benchmarks in setting capital expenditure assumptions. This means that the efficiency challenge built into our capital expenditure baseline is less tough than at previous price reviews.
- Capital expenditure assumptions in our determinations also reflect a mix of both our view and the company business plan (as set out in the CIS matrix). For companies with CIS ratios greater than 100, this also means that capital expenditure allowed within the determination is higher than under previous price reviews.
- The output expectations for the capital programme are aligned with our baseline assumptions. Companies will only be expected to deliver the output scope assumed by us, not the full range of outputs proposed in their plan (if these were greater in scope and have been subject to a challenge in the determination).

The purpose of the illustration is to show that by outperforming our final determinations capital expenditure, companies are able to achieve a return on equity above that in our assumptions. The extent of this incremental return depends upon the ex ante CIS ratio and the outturn performance; a company with low ex ante CIS ratios and low outturn capital expenditure will achieve the greatest level of outperformance.

Illustration

In this section, we calculate by means of an illustration the returns on equity under a CIS approach and under the frontier efficiency approach adopted at the 2004 price review. The illustration is based on industry data for the final determinations and the cost of equity (7.1%) we have assumed in our final determinations.

In drawing comparisons with our 2004 approach, we have assumed the same level of scope challenge to the final business plans. Our approach at this price review to challenging scope is similar to that used in 2004. Therefore, the difference between the 2009 and 2004 capital expenditure allowed for ex ante in price limits is because of efficiency assumptions.

The base assumptions set out in table 53 reflect the industry position in our final determinations. Under a frontier approach in 2004, we calculate the efficiency assumed in price limits would be about £1.8 billion, compared with £0.4 billion at this review under CIS. The net capital expenditure at this review (after assumed efficiency) is £21.8 billion. The comparable figure using the frontier approach is £20.4 billion (that is, £1.4 billion less). Capital expenditure has been assumed to be profiled evenly over the period 2010-15. Gearing is assumed to be constant at 57.5% and no out-performance is assumed against other cost assumptions.

Table 53 Base assumptions

Base assumptions	£ billion	CIS ratio
Opening RCV	48.0	
Proportion of capex RCV remunerated	80%	
Depreciation assumption (years)	21	
CIS approach in 2009		
Final business plan capex	22.5	104.4
FD CIS baseline	21.5	100.0
Capex included in price limits	21.8	101.1
Frontier approach in 2004		
Equivalent total capex	20.4	
Outturn	19.8	92.0

Tables 54 and 55 compare the return on equity following both the CIS approach and the frontier approach assuming outturn at £19.8 billion. This would be equivalent to an outturn performance at 92% of the 2009 baseline figure. This level of outperformance is relatively conservative, since it is lower than that required to meet the 2004 review style efficiency take assumptions. It is therefore equivalent to outperformance of just over 2% against a determination with a 2004 review style efficiency challenge. (In past review periods, including 2005-10, most companies and the industry aggregate shows some outperformance on capital expenditure. We expect industry outperformance to be around 3.5% for 2005-10).

Table 54 2009 CIS approach

Year		0	1	2	3	4	5
RCV	£ billion	48.0	49.2	50.4	51.4	52.5	53.5
Ex-ante return on equity	%		7.03	7.03	7.03	7.03	7.03
Within period return on equity	%		7.48	7.55	7.61	7.68	7.74
Shadow RCV	£ billion	48.0	48.9	49.8	50.5	51.3	52.0
Ex-post equivalent return on equity	%		7.62	7.65	7.69	7.73	7.77

Table 55 2004 frontier approach

Year		0	1	2	3	4	5
RCV	£ billion	48.0	49.0	49.9	50.8	51.6	52.4
Ex-ante return on equity	%		7.10	7.10	7.10	7.10	7.10
Within period return on equity	%		7.23	7.25	7.27	7.29	7.30
Shadow RCV	£ billion	48.0	48.9	49.8	50.5	51.3	52.0
Ex-post equivalent return on equity	%		7.35	7.38	7.41	7.43	7.46

Ex-ante RCV

The ex-ante RCV is higher under CIS than it would have been under the 2004 frontier approach. This is because:

- a) it will include 25% of the difference in capital expenditure between the CIS baseline and the final business plan; and
- b) the baseline includes a central view, rather than a frontier approach, to efficiency. Under the frontier approach an inefficient company must achieve at least the continuing and frontier shift efficiencies in order to earn the price determination cost of equity.

Ex-ante return on equity

The CIS additional income can have a positive or negative impact on the ex ante equity return. At PR09, CIS ratios that exceed 100 lead to a reduction in ex ante equity returns (table 53). The ex-ante return on equity is always the cost of equity under the PR04 approach (table 54).

Shadow RCV and subsequent calculations of equity returns

Under the CIS mechanism, the RCV will be 'trued up' at the next price review to reflect actual capital expenditure. We present a within period return on equity which assumes all outperformance from capital efficiency accrues to equity. This equity return is calculated on the equity investment that is consistent with the shadow RCV. The shadow RCV represents actual capital expenditure spend based on the assumed actual level of investment.

The final CIS incentive will be calculated in NPV terms according to the incentive payment determined by the CIS matrix (see appendix 2). For the purposes of this example, the ex-post equivalent return on equity includes the effect of the ex-post true up calculations.

Under the 2004 approach, companies retain the benefit of capital outperformance for five years before they are unwound from the RCV. To allow comparison of equity returns, in table 55, we assume capital expenditure outperformance is unwound within the five-year period and the total outperformance incentive calculated in the year in which the efficiency was achieved. The equity returns are then calculated on a comparable basis to the efficiency under the CIS approach.

As can be seen, capital efficiency under both approaches leads to higher equity returns, but the 2009 approach with CIS earns more – about 29 basis points a year on average.