Water today, water tomorrow

Financeability and financing the asset base – a discussion paper

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About this document

This document focuses on two of our primary duties, which are to:

- further the consumer objective; and
- secure that efficient companies are able to finance their functions.

In particular, we focus on the second of these duties and set out how we interpret it in respect of price setting for the water and sewerage sectors in England and Wales. We consider how the framework we have in place has delivered £90 billion of capital investment since privatisation in 1989, which has benefited consumers and the environment.

We set out for discussion the issues associated with our approach to financeability. By this we mean how we make sure that the price limits we set are sufficient for efficient companies to raise the finance they need to invest to deliver the services that customers expect. We discuss how we are taking these issues forward as part of our future regulation programme.

Our work on financeability has close links with other projects within the future regulation programme, particularly future price limits, market reform and regulatory compliance. We refer to these projects where they are related closely to issues discussed in this document.

We welcome the views of the investment community and other stakeholders on the issues we discuss.

Contents

Key messages

- Financeability is, and will remain, a core feature of our regulatory tool kit. We must ensure that our future approach to financeability is consistent with our primary duties to protect consumers' interests and to secure that efficient companies can finance their functions.

- We need to ensure that efficient investment in the water and sewerage sectors can be financed readily and at reasonable cost so that the companies can deliver the services and improvements that customers expect where and when they are needed.

- We recognise the importance of regulatory certainty, transparency and consistency to maintain investor confidence. We also recognise the need to ensure that investment is legitimate if investors are to secure sustainable returns.

- Significant capital investment will continue to be needed in the water and sewerage sectors in England and Wales in the future. This can give rise to financeability issues.

- We consider market-led solutions remain the most appropriate way to deal with financeability constraints. Both debt and equity have a role in financing the future investment programme.

- In future, we may adopt different regulatory approaches for different parts of the value chain, depending on the outcomes of our work on market reform and future price limits. Financeability will remain important for asset-heavy parts of the value chain that will be subject to enduring regulation.

1. Introduction

Most people in England and Wales receive their water services from one of 22 licensed regional monopoly suppliers and their sewerage services from one of 10 licensed regional monopoly suppliers. Only very large business customers are able to choose their supplier.

Since the water and sewerage sectors were privatised in 1989, it has been our role to regulate the monopoly companies and water supply licensees. We have a legal duty to protect consumers' interests, wherever appropriate by promoting effective competition, while ensuring efficient companies can carry out and finance their functions.

One of the ways we deliver our duties is to review and set price limits based on an investment and service package that customers receive from their water company. We currently review price limits every five years. We completed the last review in November 2009, which covers the period from 2010 to 2015.

In setting price limits, we aim to balance our primary duties to:

- further the consumer objective; and
- secure that efficient companies can finance their functions.

It is in the consumer interest that we fulfil our financing duties because this minimises customers' bills. And it is in the investors' interest that investment is in outcomes that are sustainable so that customer legitimacy is maintained to support the long-term, stable returns that investors seek. We consider how we have interpreted and balanced these duties for the purposes of price setting.

Our focus in this document is 'financeability'. By this we mean how we make sure that the price limits we set are sufficient for efficient companies to raise the finance they need so that they can invest to deliver the services that customers expect.

The regulatory approaches we have used have facilitated significant investment in the sectors over the past 22 years. But in general, the licensed monopoly companies we regulate are cash negative. In the years following privatisation, it was assumed that capital investment would tail off over time, and the companies would become cash positive. In fact, investment has continued to remain high, which means that the companies are likely to remain cash negative. We discuss the resulting trend in gearing, which has increased from near zero at privatisation to 69% at 31 March 2010, and how this relates to financeability.

If the companies are to deliver sustainable outcomes to customers and the environment, they must retain sufficient financial flexibility to sustain operations and investment programmes in the face of cost shocks. This will remain important for as long as investment remains high and the sectors remain cash negative.

This document considers the options to deal with financeability in price setting. We focus on the approaches we have used to deal successfully with the issue of financeability in the past. This includes assumptions around index-linked debt, equity solutions that include retained earnings and equity issuance, and revenue uplifts. We consider the effect of each of these options in price setting and give a quantitative illustration of each approach in appendix 1.

In light of the pressures on financeability, we look at our current regulatory tools. We conclude that both debt and equity must have a role to play in securing financeability. And it is crucial that our approaches maintain investor confidence in the sectors.

We will continue to consider the implications our work on market reform and future price limits has on issue of financeability as we take those projects forward. This includes how it might be different for different parts of the value chain and how our approach might evolve because of the way we regulate. So, it may be appropriate to treat the ‘asset-light’ parts of the business (such as retail services) differently from the ‘asset-heavy’ parts of the business (such as the traditional network and treatment businesses). And this may lead to different approaches to financeability.

Finally, we consider the companies’ choice of capital structure. We have taken the position that is for investors and the companies to determine the capital structure that allows them to best finance the investment programme. This is consistent with an incentive-based regulatory framework that allows investors and companies to bear the risks and take the rewards of their adopted approach. But because of the increase in gearing levels and the expectation that investment in the sectors will remain high, it is important that equity remains in the sectors. So, we emphasise the role of equity-based solutions to address financeability constraints where they arise in price setting.

We invite discussion and comment on the issues raised in this paper to inform our work on our developing approach to price limits and the use of our regulatory tools in general. Contact details are set out in chapter 7.

2. Background and context

1. Since privatisation, the water and sewerage sectors have financed and delivered £90 billion of capital investment. This has resulted in significant benefits to customers and society, including:

   - improvements in leakage performance;
   - higher compliance with environmental standards; and
   - world-class drinking water.

2. This investment has been financed by debt and equity investors and paid for by customers.

3. But it is acknowledged widely that the sectors may face challenges in the future that are different in their nature and scale to those of the past. Those challenges include:

   - a changing and more unpredictable climate;
   - rising environmental standards;
   - increased water scarcity; and
   - a growing population, particularly in south-east England where water is already scarce.

4. So, new responses will be needed from all players in the wider water and sewerage sectors to meet these challenges. And that means making sure that future investment is made in sustainable solutions that deliver for customers and the environment.

5. Debt and equity investors have had an important role to play in providing capital to deliver past investment. Although there is considerable uncertainty around the scale of investment beyond 2015, it is clear that the companies will continue to need to raise significant funds from the capital markets to finance new investment, and to refinance existing debt facilities as they mature. A transparent and consistent regulatory framework will be needed to facilitate this.

6. In 'Delivering sustainable water – Ofwat's strategy', which we published in March 2010, we set out our vision for sustainable water and sewerage sectors. We want to ensure that we have sectors that are sustainable in environmental, social and financial terms.

7. The current regulatory framework has been in place since privatisation, more than two decades ago. It has served customers well. In that time, the structure of the industry in England and Wales with its vertically integrated regional monopolies has changed little. But the nature of the price controls we operate has become much more complex.

8. We need a regulatory model that best ensures that we properly protect consumers' interests, and make sure that efficient companies can raise the finance they need on the capital markets and that investment is made in sustainable solutions. To do that, we need to revisit our current model, examine the tools we use to address financeability and ask whether they are fit for purpose for the future.

9. This work is part of a wide-ranging review we are carrying out on the way we regulate the sectors. We are considering whether the way we have regulated so far has become a barrier to delivering sustainable water. And we are looking at how best to use all of the regulatory tools we have to contribute to that goal, from understanding how market mechanisms can help, to assessing the most effective way of making sure the companies comply with their duties and obligations.

10. A major part of this work is reviewing the way that we set price limits. In 'Beyond limits – how should prices for monopoly water and sewerage services be controlled?', which we published in July 2010, we set out the overall aims of our review of the way that we set price limits. We aim to deliver a flexible framework for price controls that:

- enables companies to finance the investment they need to deliver sustainable services;
- incentivises sustainable investment, which is investment that is made at the right time, in the right place and at an efficient price;
- allows other regulatory tools to be developed in the future, and to encourage the use of market mechanisms where they would help to deliver sustainable water; and
- drives monopoly companies to deliver water and wastewater services efficiently, where 'efficiently' means that services should cost no more in social, economic or environmental terms than they need to.

11. We aim to do this in ways that:

- do not introduce unnecessary uncertainty into the sectors;
- involve a reduced regulatory burden: and
- are more proportionate and targeted.

12. In this document, we focus on the first of the four aims outlined in paragraph 10. We are considering the other aims as part of the work we are carrying out on market reform and future price limits.

2.1 Our duties in setting price limits and financeability

13. It is in customers' interests that the companies can finance their investment needs at reasonable cost. This means investors and the markets need to see that the companies are financially healthy and maintain good-quality credit ratings. It is in investors' interests that customers receive efficient, value-for-money services because they underpin the revenue stream that pays for investment. The text box below illustrates this.

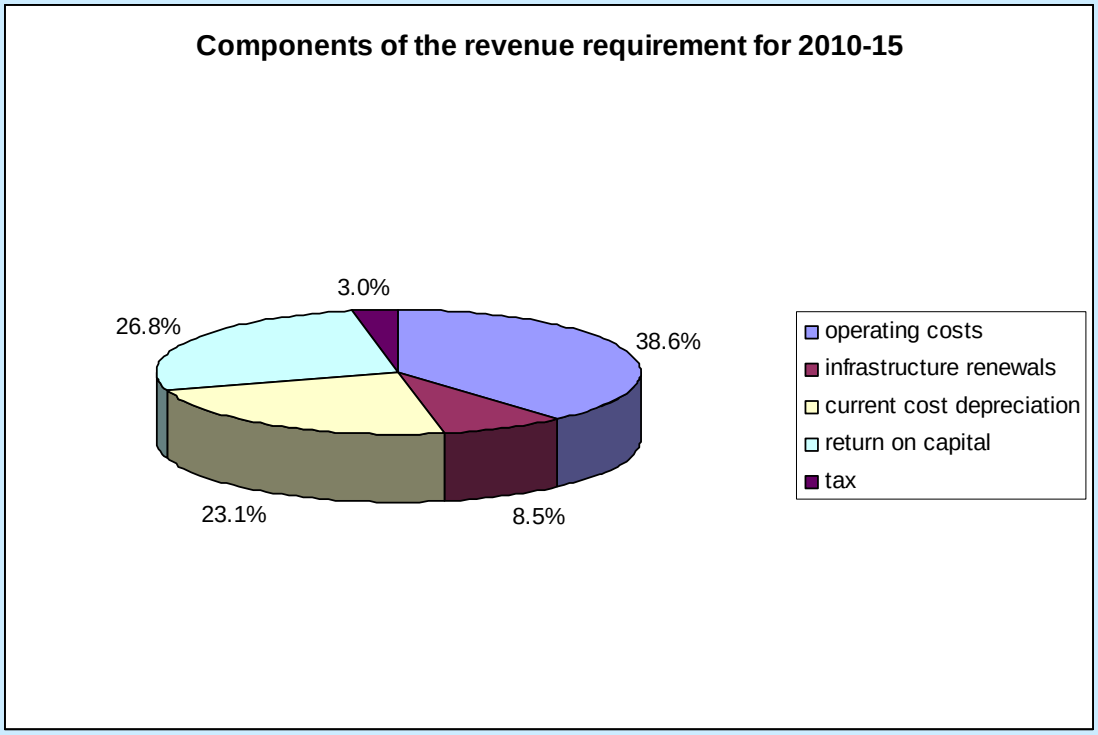
The interdependency between customers and investors

The importance of the customer contribution to financing capital investment is illustrated in the chart below. It shows the proportion of customers' bills over the period 2010-15 that is made up of operating costs, infrastructure renewals, depreciation, the return on capital and tax.

In terms of capital investment, infrastructure renewals represents the investment made by customers on a 'pay as you go' basis. Current cost depreciation represents the annualised cost of capital investment that customers pay for. In combination, the capital charges (that is infrastructure renewals and depreciation) represent 31.6% of customer bills.

The return on capital, which is that part of the revenue requirement that provides the returns necessary to remunerate debt and equity investors, represents a significant proportion of customer bills at 26.8%.

In aggregate, paying for capital investment represents 58.4% of customers' bills.



14. When we set price limits, we do so in accordance with our duties under the Water Industry Act 1991 (WIA91), as amended. Of particular importance in this process is section 2(2A) of the WIA91, which requires us to perform our price setting function in the manner that is, in our opinion, best calculated to achieve our primary duties. Our primary duties include:

- furthering the consumer objective; and
- securing that companies "are able (in particular by securing reasonable returns on their capital) to finance the proper carrying out" of the functions of the water companies.

15. Furthering the consumer objective requires us to protect the interests of consumers, wherever appropriate by promoting effective competition in the provision of water and sewerage services. We further the consumer objective in a number of ways, one of which is making sure that they pay a fair and efficient price for the services they receive. We ensure that efficient companies can finance their functions by allowing a fair return for investors so that they will be willing to invest in the sectors.

16. In this document, we focus on the second of the above duties. Consistent with the approach of other regulators[1], we interpret this duty as having two strands.

- An efficiently financed and operated company should be able to provide regulated services pursuant to the WIA91 and earn a return at least equal to its cost of capital.
- Price limits must secure that efficient companies can be financeable, such that a company's revenues, profits and cash flows are sufficient to allow it to raise finance on reasonable terms.

17. We are considering the first strand as part of our future price limits project, and will be publishing a discussion paper on the cost of capital and risk mitigants later this year. We are covering this second strand in this document.

[1] For example, Ofgem in its conclusions to RPI-X@20 set out the components of its RIIO model to price setting, which included its principles for ensuring efficient delivery is financeable.

2.2 Financeability and the building block approach to price setting

18. Our approach to setting price limits, which we describe below, is transparent and straightforward.

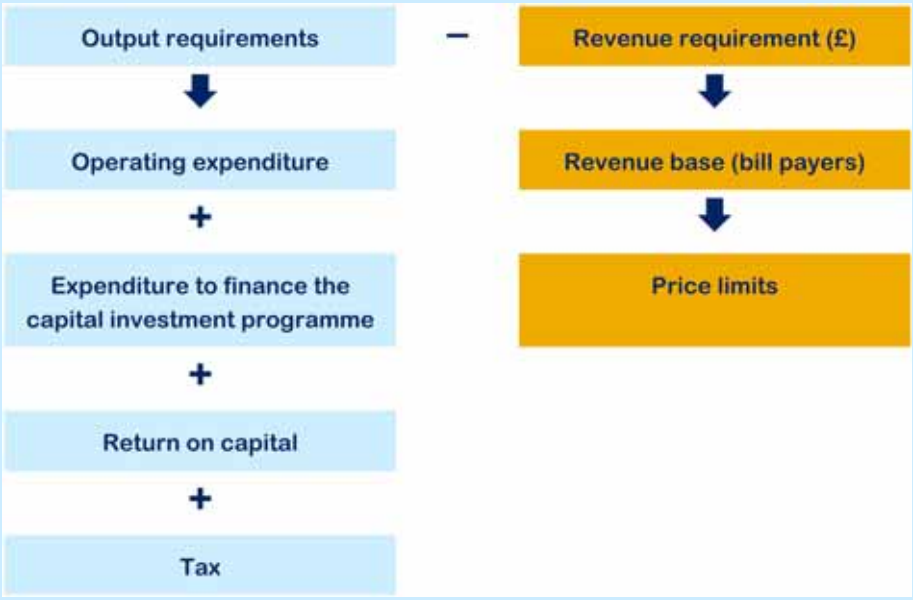
Building block approach to price setting

We set out our approach to setting price limits at the 2009 price review (PR09) in 'Future water and sewerage charges 2010-15: final determinations'.

By following the building block approach set out below, we determined the revenue requirement for each year in which price limits are set. We compared this to the forecast revenue and expressed the year on year change as a price limit. Price limits may be positive or negative. They set the maximum by which a company can increase its overall prices in a particular year.

Having followed this process, we determined how much revenue each company must collect from its customers to:

- finance its day-to-day operating costs;
- finance its capital investment programme;
- finance past capital investment through capital charges and the return the company earns on its capital base; and
- meet tax liabilities.



19. When we set price limits, we also put a range of incentives in place. Some of these are financial incentives whereby a company that outperforms or delivers better service to customers receives additional revenues. A company that underperforms would lose some revenue. Examples of these are the:

- overall performance assessment (now replaced by the service incentive mechanism);
- capital expenditure incentive scheme;
- shortfalling; and
- operating and capital expenditure outperformance adjustments[2].

20. So that these incentives drive company behaviour, we apply adjustments for performance-related rewards and penalties **after** we have carried out the financeability assessment. This preserves the incentives that would otherwise be blunted.

21. The power of these incentive tools is important. This is because we must balance the incentive on the companies to deliver for customers against the cost that those customers must bear. Bolder financial incentives might provide greater rewards or penalties that may affect shareholder returns. This could provide greater incentive on shareholders to hold poorly performing company Boards to account. At a price setting, we would expect to apply such incentive adjustments after we carry out the financeability assessment.

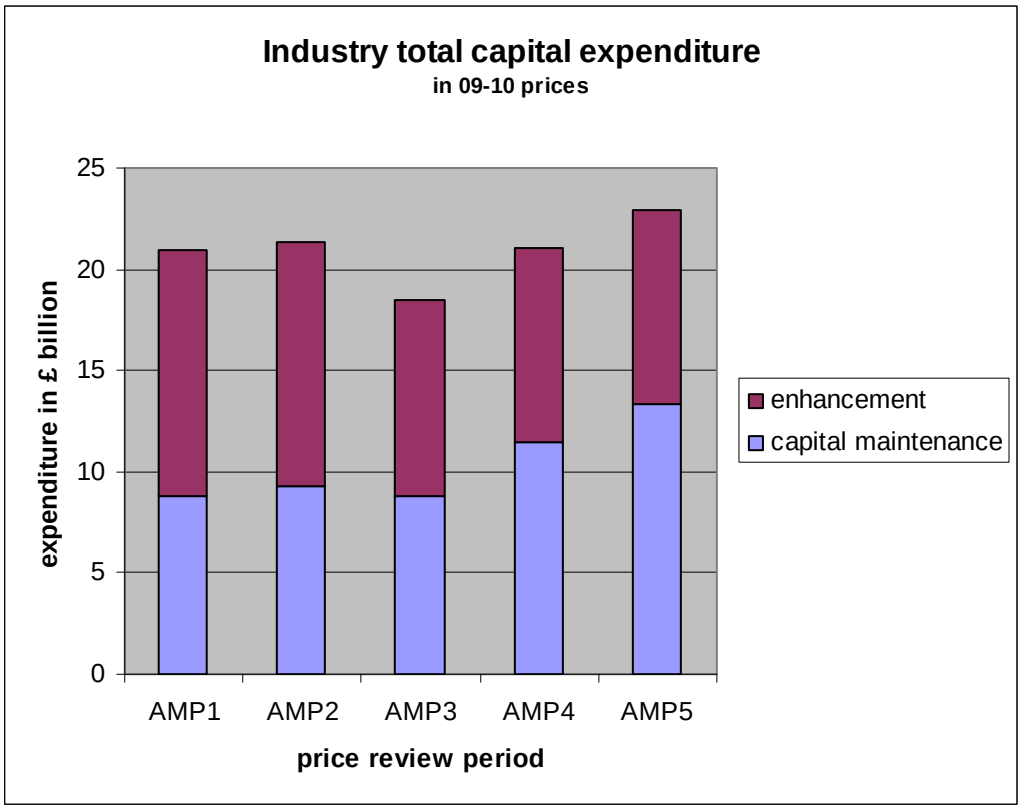
[2] These incentive mechanisms are described in 'The role and design of incentives for regulating monopoly water and sewerage services in England and Wales – a discussion paper', Ofwat, 2010.

3. Capital investment in the water and sewerage sectors

3.1 What the regulatory model has delivered

22. The graph below shows the sectors' capital enhancement and capital maintenance spend for each five-year period since privatisation. We refer to each five-year period as an 'asset management period' or 'AMP'. AMP1 represents the period 1990-95, AMP2 represents the period 1995-2000, and so on.

Figure 1 Capital expenditure across the sectors since privatisation



23. Across the sectors, capital enhancement was greatest in AMP1 and AMP2. This was driven by spend to enhance the network to deliver environmental improvements and improvements to drinking water, largely resulting from EU standards. In particular, spend was driven by the Urban Waste Water Treatment Directive and the Bathing Water Directive in the sewerage service and a large investment programme to address discolouration and pesticides removal in the water service.

24. In each subsequent five-year period (AMP3, AMP4 and AMP5) expenditure to enhance the network has been fairly steady at just under £10 billion.

25. Capital maintenance has shown stepped increases in AMP4 and again in AMP5, where it represents nearly 60% of total capital expenditure. This expenditure enables the companies to maintain services to customers and to consolidate and maintain the benefits of past improvement programmes.

26. The price limits we set at PR09 for AMP5 (covering the period 2010-15) included capital investment of £22 billion compared with the £24 billion that the companies requested in their business plans. As a result, capital expenditure in AMP5 is likely to be higher than any previous five-year period since privatisation.

3.2 Future investment

27. Beyond 2015, there is uncertainty around the scope of future investment. The challenges we all face in the future will affect where this investment is targeted. It is crucial that the investment is made in sustainable assets and solutions that will provide long-term benefits. This will also affect the extent of future financing that the sectors require and the cost of that financing. This could include, for example, the investment needed to address the challenges posed by:

- climate change;
- population growth; and
- rising environmental standards, including the EU Water Framework Directive.

28. Although there is uncertainty about the sectors' future investment needs, we have some information that indicates it may be significant. First, cost estimates for implementing the Water Framework Directive using current technology range from £30 billion to £100 billion[3]. Water customers are bearing most of the costs in the first stage of implementation.

[3] 'Overall Impact Assessment for the Water Framework Directive (2000/60/EC), adopted by the European Union Council and European Parliament on 22 December 2000', Defra, 2008.

29. Second, one company has carried out a desktop assessment to consider the potential scope of investment to 2030[4], in which it suggests total capital expenditure of £96 billion in the period 2010-30. To fund this investment, this assessment suggests the sectors might need to raise an additional £27 billion of debt, increasing it from current levels of £33 billion to £60 billion in 2030.

30. Finally, in October 2010, the Government published its vision for the future of UK economic infrastructure. The National Infrastructure Plan outlines the scale of the challenge facing UK infrastructure and the major investment that is needed to underpin sustainable growth in the country. The plan focuses on the networks and systems – in energy, transport, digital communications, floodwater, waste management and in science. It identified a need for some £200 billion of investment across infrastructure in the UK over the next five years[5].

31. Other estimates of future investment across the infrastructure sectors include the potential need to invest up to £200 billion to deliver secure and sustainable energy supplies for Britain over the next 10 to 15 years[6]. The water and sewerage sectors will have to compete with the significant investment requirements of the other sectors in accessing capital.

Infrastructure UK

The 2010 Budget announced that Infrastructure UK would carry out an investigation into how to reduce the cost of delivering civil engineering works. Its findings were published in December 2010. Infrastructure UK found the UK is more expensive than its European peer group for delivering infrastructure. It also found there are significant opportunities to reduce costs in the delivery of infrastructure. The UK Government is developing the actions and proposed programme set out in this report into a detailed implementation plan, which it will publish in spring 2011.

[4] 'Changing Course – Delivering a sustainable future for the water industry in England and Wales', Severn Trent Water, April 2010.
[5] 'National Infrastructure Plan', HM Treasury and Infrastructure UK, October 2010.
[6] 'Project Discovery – Options for delivering secure and sustainable energy supplies', Ofgem, 2010.

3.3 Remuneration of capital investment

32. In our current approach to price setting, the companies can charge their customers for capital investment through capital charges (using the infrastructure renewals charge and current cost depreciation) and partly through a return on investment. The infrastructure renewal charge is the annualised costs of maintaining the infrastructure system at steady state. Current cost depreciation compensates the companies for the consumption of both existing and new above-ground assets.

33. Part of the capital expenditure (including spend on infrastructure renewal) is recovered from customers on a 'pay as you go' basis. But where capital investment exceeds capital charges, it must be financed by investors (debt and/or equity). So that we could meet our duty to secure that efficient companies are able to finance their functions, shortly after privatisation we created the regulatory capital value (RCV), which we describe in more detail below. This is a regulatory price setting tool that ensures investors in efficient companies could earn a return sufficient to meet the cost of capital.

The regulatory capital value (RCV)

The RCV represents the capital value of each company for regulatory purposes. We created this regulatory tool shortly after privatisation for the purposes of setting price limits.

We created the RCV from a direct measure of the value placed on each company's capital and debt by the financial markets following privatisation. We calculated this initial RCV as the average of the market value of each water and sewerage company for the first 200 days for which the shares were listed on the Stock Exchange, plus the total value of debt at privatisation. We used a proxy for the initial market value for the water only companies that were not listed in 1989. In aggregate, the sectors had an RCV of £12.2 billion in 1990 (in 2009-10 prices).

Since privatisation, we have adjusted the RCV to take account of the net new capital expenditure assumed at the time of the initial price setting and at each subsequent price review (after allowing for current cost depreciation). The value of the RCV to investors and lenders is protected against inflation by adjusting the value each year by RPI. At 31 March 2010, the sectors' RCV was £50 billion. The RCV is remunerated through price limits at a cost of capital that we set at each price review.

The RCV tool provides a degree of commitment to remunerate investors for delivering substantial investment programmes for long-life assets. This commitment to the RCV and the transparency and consistency in its calculation has allowed the companies to raise finance at competitive rates. It has also allowed them to achieve a relatively low cost of capital despite the significant investment requirements and the cash flow negative nature of the sectors.

Investors use various techniques in valuing companies in unregulated sectors. These may

include net asset valuations, or valuation techniques using dividend valuation, price-earning ratios or discounted cash flow models. In the water and sewerage sectors, the RCV has become the key measure against which investors assess enterprise value of each company, and against which leverage is measured by the markets. It is has become enshrined in bond covenants and is used by the markets as the base by which to measure a company's indebtedness (that is, gearing as measured by net debt as a percentage of the RCV).

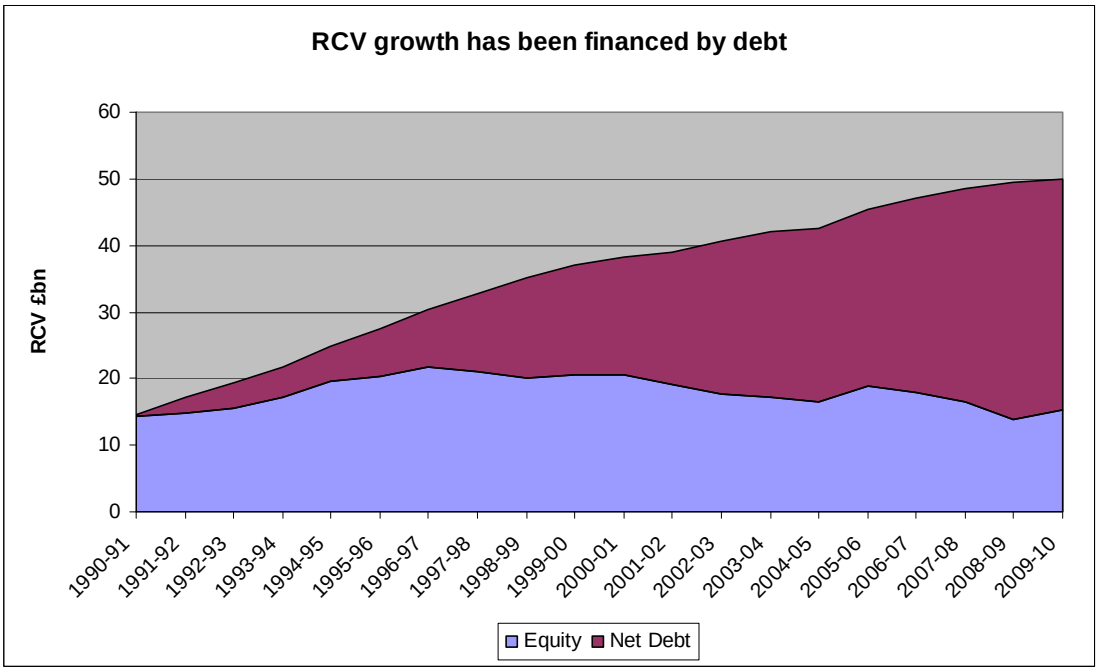
While the RCV plays a crucial and positive role in attracting investment, it also provides protection against asset stranding. This may mean that investors continue to receive returns for past investment even though this may now be inefficient. It may also contribute to a bias towards capital-intensive solutions where they may not be optimal. We are considering these issues for different parts of the value chain, including the role of the RCV and alternative approaches by which company expenditure may be remunerated in the future, as part of our future price limits project.

34. In simple terms, we add the investment to the RCV and it is depreciated over its asset life. Investors earn a return on this investment. Under our building block approach to price setting, the companies recover this return from customers. This is achieved within the current regulatory framework by applying a rate of return (the cost of capital) to the RCV.

3.4 Financing investment

35. The chart below shows the growth of the RCV since privatisation and how this has been financed. At privatisation, the 10 water and sewerage companies were floated with relatively little debt, but with an expectation that debt would rise steadily to enable them to finance the capital investment programmes. What has transpired is that the equity invested in the sectors has remained relatively level, and that debt has largely funded RCV growth. In total, gearing has increased from near zero at privatisation to 69% at 31 March 2010.

Figure 2 RCV and gearing since privatisation



36. Although the scope of the medium- to long-term investment requirement for the sectors remains uncertain, it is clear that they will need to continue to access finance to fund ongoing capital investment, as well as to refinance existing debt. So, it is essential that this asset-intensive industry maintains the confidence and support of debt providers and the capital markets more generally. But the rise in gearing levels and the associated decline in credit ratings, calls into question the extent to which the companies with continuing and significant programmes of capital investment can continue to finance the new investment from debt.

Credit ratings

Credit quality is a key consideration as to whether the companies can access the finance necessary to fund their investment programmes. The specialist credit rating agencies (FitchRatings, Moody's Investor Services and Standard & Poor's) assign rating grades to certain borrowers and individual debt issuers.

The credit rating assessments represent an opinion of a company's long-term capacity to meet its financial obligations as they become due. The rating categories that represent lowest risk are classed as investment grade. The highest investment grade rating assigned by Fitch and S&P is AAA, equivalent to Moody's Aaa classification. The lowest investment grade rating is BBB-, equivalent to Moody's Baa3.

Lower credit ratings imply a lower capacity to meet financial obligations. That is, the companies with lower credit ratings tend to have a greater probability of missing or delaying payments of interest or principal and greater probability of entering into administration or bankruptcy. So, debt investors expect higher returns for investment in companies with lower credit ratings to compensate for this risk.

In reaching their opinion on the credit rating for individual companies, the credit rating agencies take into account a range of factors that are wider than just key credit metrics. These include, for example:

- the regulatory environment;
- the asset ownership model;
- operational characteristics of the company in question;
- asset risk;
- stability of the business model;
- the quality of management; and
- financial structure.

So, the credit rating assessment for an individual company could change over time because of any of these factors.

Although there is some variation in the sector, companies are clustered around a credit rating of BBB+ (or equivalent designation). This represents a decline from the average credit rating of AA- (or equivalent designation) in the mid 1990s, as we discussed in a joint publication with Ofgem, 'Financing networks: a discussion paper', which we published in 2006. This correlates directly with the increased levels of debt that has financed the programmes of capital investment or raised by those companies that have undertaken a financial restructuring, which we discuss in more detail in chapter 5.

37. We must also consider the way in which the sectors are structured and regulated, and whether this can deliver the continuing capital investment programmes and sustainable investment. This includes the way in which we set price limits allows for efficient investment.

38. In particular, we are considering our approach to remunerating capital investment as part of our future price limits project. For example, while regulatory transparency and certainty associated with the calculation of the RCV is a factor that has resulted in the sectors having a relatively low cost of capital, this does not necessary equate to a low-end cost to customers. We discuss these issues in more detail in chapter 4.

Future price limits

In 'Beyond limits', we set out our objectives for future price limits. In summary, the sectors have delivered significant gains in productive efficiency in the past, and we expect the companies to continue to be productively efficient in the future. But we also need them to be efficient in other ways. This includes allocating scarce resources efficiently (allocative efficiency) and to find new and better ways of doing things (dynamic efficiency). By ensuring our approach to price setting creates the correct incentives for productive, dynamic and allocative efficiency we can help to secure that capital investment is targeted at the right place and at the right time and cost.

By ensuring the price setting process achieves these objectives, we can help to minimise the quantum of finance that must be raised from the financial markets. This ensures that customer bills are lower than they would otherwise need to be. It will also ensure that investment is efficient, such that assets are constructed in the right place, at the right time and at the right cost. If customers can see that their bills are going to finance investment in sustainable solutions, customer legitimacy can be maintained. Without customer legitimacy the long-term predictability and stability that is so important to investors could be undermined.

4. Our existing approach to financeability

4.1 Price setting and financeability

39. Our approach to price setting involves us determining a return on capital that reflects the cost of capital for an efficiently financed and operated company and remunerates investors for their exposure to risk.

40. When we set prices, we must balance the requirements on the companies to deliver for customers, which create risk, with the cost that customers bear. The regulatory approach must include an assessment of risk and allow the companies and their investors to earn returns that are commensurate with that risk.

41. We explored the first of these issues in more detail in 'The role and design of incentives for regulating monopoly water and sewerage services in England and Wales – a discussion paper', which we published in October 2010. We will consider the issues of the cost of capital and risk in a separate publication later this year.

42. Transparent and consistent regulation is important for investors so that the trade-offs between risk and returns can be understood and made in a way that optimises the outcomes for customers. Transparency and consistency is important because where investors are confident that regulation will continue to allow regulated businesses to earn reasonable returns (which take account of the risks around the timing of cash flows) then customers can expect those businesses will be financeable over the long term.

43. We determine the cost of capital for a notional capital structure, not the companies' actual capital structures. This is consistent with our view that it is for the companies and their investors to determine their own capital structure and it creates significant opportunities for the companies to outperform.

44. The financeability assessment is a review of the projected levels of a package of financial ratios against target levels that are consistent with those that the credit ratings agencies and the capital markets consider consistent with those needed to maintain a credit rating well within the investment grade range. In carrying out the financeability assessment, we must also make assumptions about dividend payments.

45. The credit rating agencies use various financial indicators as part of their assessment of an issuer's credit quality. There is no single financial measure that invariably predicts the likelihood of default. Measures of gearing aim to capture how easily an issuer can repay its debt. Interest cover ratios focus more on the ability of the issuer to service the debt prior to repayment. Some of the financial ratios that the credit rating agencies use also take into account the necessary investment to maintain assets.

46. The table below sets out the financial ratios and the target level of the ratios we used at PR09. We targeted financial ratios that were consistent with an A-/A3 credit rating. For the water only companies, the target levels were higher (compared with the water and sewerage companies) to reflect a view that the small companies may have different exposure to specific or asymmetric risks. The ratios we use and the threshold levels we apply could change over time depending on the way in which we regulate the sectors and the degree to which companies are exposed to cash flow risk.

Table 1 Key financial ratios for the PR09 price review

Financial ratio	Definition	Water and sewerage companies	Water only companies
Cash interest cover	(Return in revenue allowed + CCD + IRC)/ interest payable	About 3 times	About 3.5 times
Adjusted cash interest cover	Return in revenue allowed/interest payable	About 1.6 times	About 1.8 times
Funds from operations:debt	(Return in revenue allowed + CCD + IRC – interest payable)/net debt	About 13%	About 17%
Retained cash flow:debt	(Return in revenue allowed + CCD + IRC – interest payable – dividends)/net debt	About 8%	About 10%
Gearing	Net debt/RCV	Below 65%	Below 60%

Note:
Return in revenue allowed is net cash flow from operating activities (that is net of capital charges) before tax and adjusted for the movement in working capital.

47. In addition to the ratios described above, we also considered dividend cover as a key ratio for equity investors as part of our financeability assessment. There is less consensus about the level of dividend cover needed, but a company would not want to have a level below 1.0 times for a long period.

48. When we carried out our financeability assessment at PR09, we sought to secure that a company would be in a position to absorb unanticipated downside risk that is outside of its control. This should allow it to and retain a credit rating that is sufficient for it to access finance to allow it to continue to perform its functions in the longer term. In assessing the financial ratios, the financeability assessment inevitably involves a degree of judgement. This includes, for example, consideration of the level and trends in the levels of the financial ratios over the period for which the price limit is set.

4.2 How do limits on financeability arise in price setting?

49. In chapter 2, we explained that – depending on the nature of the investment – capital investment is either recouped by the companies from their customers in the year in which expenditure is incurred, or it is spread over the life of the asset.

50. If investment is recouped on a 'pay as you go' basis (which is the case for infrastructure renewals expenditure in the water and sewerage sectors), then the cash flows are matched and there is no impact on a company's financial ratios. But if the cost of an investment is recouped over the life of the asset, the cash flows involved will not be matched and there will be an impact on the financial ratios.

51. An inevitable characteristic of our current approach to setting price controls is the timing mismatch between how the regulatory model calculates the amount that is recovered from customers as an allowed return, and the companies' actual payments to investors and lenders in any one year.

52. When we set price limits, we allow a real return on capital. In our regulatory model, we assume that investors are compensated for the effects of inflation on their investment by adjusting the RCV by RPI. This ensures the company has adequate revenues to make payments to investors and lenders over the life of the asset.

53. Providers of equity finance generally accept compensation for inflation through real dividend growth and the increase in equity provided by inflation of the RCV. And in general, debt providers require compensation for inflation through interest payments based on nominal interest rates.

54. Combined with the regulators' approach for compensating for inflation, the result of this is that there can be cash flow timing differences between the allowed return in price limits and the companies' payments to investors and lenders. Although we allow sufficient revenue to finance capital expenditure over the economic life of the asset, the return in any one year – particularly in the years shortly after the asset is built – may not be sufficient to pay both nominal interest costs and full distribution of the real cost of equity through dividends.

55. Pressures on financeability can arise where the level and treatment of capital expenditure is such that the RCV increases quickly over time. Under these circumstances, significant new injections of debt or equity finance will be required in order to finance the purchase of assets.

56. The cash flow gap arising from the financing costs of this new capital and the amount allowed in price limits can have a significant impact on the financial indicators and put pressure on the company's credit quality in the short term.

4.3 Options to deal with financeability

57. If a company does not meet our financeability assessment, we take steps to secure that the price limits we set are sufficient for it to maintain good credit quality. We discuss the steps we took to address financeability at the 1999, 2004 and 2009 price reviews in more detail below.

Addressing financeability

At the 1999 and 2004 price reviews, we allowed the companies' additional revenue to ensure price limits provided them with sufficient financial flexibility to sustain operations and investment programmes in the face of cost shocks. This became known as the 'revenue uplift'. In aggregate, the revenue uplifts we assumed in 1999 amounted to £188 million (in 2009-10 prices), and £508 million in 2004 (again, in 2009-10 prices). This is in the context of total revenues of about £50 billion in a review period. We considered these uplifts were necessary for us to fulfil our primary duty to secure that efficient companies were able to finance their functions.

The revenue uplifts were loaded towards the back-end of each price setting period. In one instance, Northumbrian Water, did not take up its full K factor in 2008-09 and 2009-10 to return some of its financing efficiencies to customers. Investors in companies that have received revenue uplifts but not returned financing efficiencies to customers retain the benefit of the financeability uplifts in their balance sheets.

At PR09, our approach built on the work we did with Ofgem in 2006 on 'Financing networks', where we pointed to the potential for market mechanisms to address financeability.

Our 2009 modelling assumed that 30% of gross debt was index-linked, consistent with the average across the sectors for direct issuance of such debt. Evidence of market appetite for the issuance of new index-linked debt was limited, so we assumed all new debt would carry nominal interest rates.

We also took the view at PR09 that equity injections or rights issues are legitimate means of easing the financing constraint, particularly where new equity supports RCV growth for a company operating under a stable regulatory framework. In our financeability assessment, we assumed equity injections for three companies that exhibited the largest RCV growth and, as a result, the weakest financial ratios at our cost of capital. These equity injections totalled £690 million in 2009-10 prices and amounted to about 28% of the RCV growth for these three companies.

58. If a company has limited financial headroom and limited resilience to cost shocks (highlighted by weak financial ratios), it may take one or more of a number of steps to address that constraint. The options for improving a company's cash flows may include:

- raising prices for the goods it sells;
- restricting or delaying investment;
- retaining equity by restricting dividends;
- considering alternative debt financing approaches, which for utilities largely means raising index-linked debt; or
- raising new equity.

59. For a regulated company, it is not possible to raise prices as these are constrained by the price limit determination. And the requirement for the companies to deliver the outputs set out in the price review limits the degree to which investment may be restricted or delayed. The question for us in setting price limits is the extent to which it may be appropriate for us to adopt alternative approaches that may mimic the financing approaches the companies adopt.

60. We describe the options we may consider in addressing financeability in price setting in more detail below. This includes assumptions around the use of:

- index-linked debt;
- equity solutions; and
- revenue uplifts.

61. Appendix 1 provides some quantitative illustrations of the approaches we may use to addressing financeability, with particular regard to our approach PR09. It demonstrates the impact on the financial ratios of a company with no real RCV growth (termed 'steady state') and a company with significant RCV growth over a five-year period, which highlights the impact of the financeability constraints. The illustrations show the mitigation of these constraints by using index-linked debt and equity solutions. It also shows that it may be necessary to use a combination of the tools available to us in testing whether companies have sufficient financial flexibility in the face of cost shocks.

4.3.1 Index linked debt

62. Index-linked debt has a beneficial effect on the cash-based interest cover ratios used to assess financeability. This is because it has an interest cost that reflects a real rather than a nominal coupon. So, cash interest payments are lower than those to service nominal debt. The part of the debt interest payment that remunerates debt investors for inflation is provided as an addition to the principal sum (known as an accretion). This accretion of principal is adjusted in the same way as the RCV is adjusted in price setting.

63. The financial ratios we use also take account of the cash flow benefits of index-linked debt. This is consistent with the approach that Moody's and Fitch take whereby they exclude the indexation element of index-linked debt when calculating the interest expense (cash interest). But the indexation is captured by the gearing ratio as it is included as part of the outstanding debt amount.

64. Although we do not mirror exactly Standard & Poor's approach, which excludes the benefit from index-linked debt in its quantitative ratio assessment, we understand it has factored in the benefit of index-linked debt to its qualitative assessment for credit rating purposes.

65. When setting price limits, we have considered that it would not be appropriate for the regulator to assume that all new debt is index-linked. Our approach at PR09 reflected the extent to which companies had already raised index-linked debt from the markets – a conservative assumption. In setting price limits for the future, we could consider a greater proportion of index-linked debt.

66. This may reflect an expectation that greater amounts of index-linked debt might be raised in the future. Or it may reflect the ability of the companies to swap floating or fixed rate liabilities to mimic index-linked liabilities using swaps. But the extent to which it may be possible to reflect such market evidence in a financeability assessment may be limited to the extent to which the companies can raise such finance, or whether such mechanisms may represent a sustainable long-term financing structure.

4.3.2 Equity-based market solutions

67. In carrying out the financeability assessment, we must make assumptions about dividend payments. So our options may involve making assumptions about retained earnings or make adjustments to dividend payments in the financeability assessment. Another option includes making an assumption about new equity issuance.

68. The question of whether regulatory assumptions about equity issuance should be made by regulators has been debated. The question of whether new equity finance is provided by existing shareholders or new shareholders can have real consequences, in particular, a shareholder that does not participate in a rights issue concedes ownership rights to shareholders that do. So, this means that existing shareholders could be in a position of seeing their ownership rights eroded if they do not participate in an equity raising.

69. Also, if the affected parties are large shareholders, it is possible that a majority shareholder would lose its majority stake; and that an owner who previously had 100% control of a company would be forced to bring in a minority shareholder, or, in general, that any carefully struck balance of interests among owners is disrupted.

70. While it is possible that investors could concede ownership rights by not subscribing to an issuance of new equity in proportion to their existing investment, this is a standard risk that equity investors face in markets in general.

71. In circumstances where the asset base is increasing and the investment has the protections of the regulatory framework, we view equity subscriptions to finance capital investment to be entirely appropriate. In principle, regulated companies should be able to raise new equity. So, it is reasonable for regulators to assume this provided the returns are adequate.

72. Our view is consistent with that of Smithers & Co[7], which considered the issues associated with equity issuance in a price control in a report for Ofgem. It is also consistent with the Competition Commission's approach in its assessment of Bristol Water's referral of its 2009 price determination[8].

73. The extent to which we may make assumptions about retained earnings and/or equity issuance must take account of market sentiment at the time we set price limits. The amount of new equity issuance it may be reasonable to assume in price setting must reflect an assessment of the market perception of water stocks and of the factors and variables that face any company issuing equity.

74. For example, the success of an equity subscription depends on a number of factors, including:

- prevailing market conditions;
- expected dividends; and
- investors' perception of risk compared with other sectors.

75. So, the extent to which we might assume equity issuance to address a financeability constraint may be related to the extent to which there appears to be appetite for, and evidence of, issuance in the markets more widely.

76. Ultimately, we set the framework within which price limits are set and determine the overall price setting package. The companies must deliver the outputs set in price limits. They are incentivised to drive efficiencies and benefit from the rewards of outperformance, and they also bear the risk of underperformance.

77. Consistent with this, it is for investors and the companies to determine how best to finance the investment programme and to take the risks and rewards of their adopted approach. The companies are free to choose the most appropriate financing approach to ensuring the price setting package is delivered. They do not have to follow any assumptions we may make in carrying out a financeability assessment. For example, a company may choose to restrict dividend payments in order to retain existing equity or issue additional index-linked debt rather than raise new equity via a rights issue.

[7] 'Report on the Cost of Capital', Smithers & Co Ltd, 2006.
[8] See appendix O of 'Bristol Water plc, A reference under section 12(3)(a) of the Water Industry Act 1991', Competition Commission, 2010.

4.3.3 Revenue uplifts and revenue advancement

78. Revenue uplifts involve customers providing additional revenue to the companies to secure that the target levels for financial ratios are met. We used revenue uplifts in the 1999 and 2004 price reviews to address the financial strain that the companies' significant investment programmes brought about. The revenue uplift was much greater in 2004 than in 1999, but represented about 1% of revenue for the sectors.

79. If revenue uplifts are net present value (NPV) neutral, they have the effect of advancing revenues from future customers (that is, they require current customers to pay this money). This approach may require the companies to commit to reducing future revenues more than might otherwise be the case when the future cash flow position improves such that the impact on customer bills is neutral overall. An alternative approach might be to capitalise the revenue uplift and unwind it through the price setting process at a future price review.

80. The future size of the capital programme and any associated financeability constraints will be important in assessing the practicality of a NPV neutral approach. This is because any revenue uplift made to recover greater revenue from current customers and improve the short-term financial ratios will result in reducing revenue from future customers to ensure NPV neutrality. It is also important that such approaches are clearly understood because the revenue uplift must be returned to customers at a future price setting under a NPV neutral approach.

81. In the past, Ofgem's approach of accelerating depreciation has achieved a similar outcome as NPV neutral revenue advancement. This is because the revenue allowance associated with depreciation is advanced from future customers. In 'Regulating energy networks for the future: RPI-X@20 current thinking working paper – financeability', which it published in May 2010, Ofgem proposed using economic depreciation in its future price controls. We have not adopted a policy of accelerated depreciation in our past price determinations as we have considered it breaks the link between asset lives and the capital expenditure required to maintain and replace the asset base.

Risk mitigation and financeability

A company that is financeable should exhibit some resilience to unanticipated cost shocks that may be beyond its control.

The regulatory framework in the water and sewerage sectors includes a number of mechanisms that help to mitigate against material risks – reducing the companies' exposure to unanticipated cost shocks. Interim determinations (IDoKs) allow the companies to request price limits to be reopened for specific items that were not allowed (either in part or not at all) as part of our final determinations. These must amount to at least 10% of a company's turnover. The substantial effect clause allows the companies or Ofwat to revise price limits if circumstances change beyond a prudent company's control, and if the total adverse or beneficial impact on the company amounts to at least 20% of its turnover.

These mechanisms provide security to the companies in the event of material cost shocks that are beyond their control. This security is significant – companies in unregulated sectors do not share this.

We are considering the issue of risk mitigation mechanisms and how the use of risk mitigation mechanisms link to the cost of capital in our future price limits project.

5. Financeability, market reform and future price limits

82. In chapter 2, we discussed our duty to secure that efficient companies are able to finance their functions and our interpretation of this duty for price determinations. We intend to continue to interpret our duty in this way for the purposes of setting price limits. But as we develop our regulatory tools and how we apply them, we need to consider our approach in that light.

83. In this chapter, we consider the work we are carrying out on market reform and future price limits and how this might interact with our approach to the issue of financeability.

5.1 Market reform

84. We will set out a possible model of future industry regulation for informal consultation shortly. This will consider the different parts of the water and sewerage value chains and how we might improve the way we regulate them.

85. We have already said that we support the recommendations of the independent review of competition and innovation in water markets (the 'Cave review') for the separation of retail activities as a means of delivering choice for business customers. We recognise that the UK and Welsh Assembly Governments are still to decide on whether and how these recommendations are implemented. And we are carrying out preparatory work to ensure that a framework can be put in place to make them work.

86. We are considering the options for the greater use of market mechanisms where they can deliver value for money. For example, we think there are benefits to making use of market forces in the upstream end of the value chain, including water trading and trading of abstraction rights, both of which will help to reveal a value for water and provide a mechanism and incentives for efficient resource use[9].

[9] 'Valuing Water – how upstream markets could deliver for consumers and the environment', Ofwat, July 2010.

87. The resources and retail parts of the value chain are relatively asset light. Others, such as treatment, transportation and local distribution are asset heavy. In these parts of the value chain, there is likely to be enduring market power, which means that enduring regulation would seem likely. Our regulation of water and sewerage network assets needs to continue to ensure that efficient investment can be financed readily and at reasonable cost so that the companies can deliver the services and improvements that customers expect.

88. Given that the importance of the financeability assessment reflects the importance of capital investment, and the importance of capital investment reflects the degree of asset-intensity, we would not expect market reform in the retail and resources parts of the value chain to have a significant impact on our approach to financeability for the asset-intensive parts of the value chain. Enduring regulation of the more asset-heavy parts of the value chain will require us to consider financeability for those activities. This would mean the continued performance of financeability assessments in setting price limits.

89. Although our focus is likely to remain on assessing cash flows, we may need to develop our approach for the parts of the value chain that are open to elements of competition. Our approach will depend on:

- the precise nature of separation;
- the way in which prices are regulated;
- asset intensity; and
- whether we are setting price limits for an entity operating in a fully contestable market.

90. For example, an essential attribute of competitive markets is entry and exit. Where markets are open to competition, firms should be allowed to fail. In situations where companies are operating in a fully contestable market, our duty to promote competition may be more important than our financing duty.

91. Where markets are fully functioning, this may mean our emphasis focuses on resolution in the event of failure. But where markets are operating in a transitional phase, we will still need to have regard to our duty to secure that efficient companies can finance their functions and, as a result, the issues of financeability.

92. It may be appropriate to use different financial ratios and thresholds in the financeability assessment for different parts of the value chain. For example, if we set separate price controls for different parts of the value chain, our approach should reflect their different characteristics.

93 We will continue to consider these issues as our programme of work progresses.

5.2 Future price limits

94. The RCV and the capital charges allowed for in price limits are a means by which we currently allow the companies to be remunerated for the costs associated with their capital programmes.

95. To date, our approach to remunerating capital investment has been consistent with 'financial capital maintenance' principles because we have set regulated charges to be sufficient to allow the recovery of all capital invested irrespective of the current value of any assets. There have been few assets on which expenditure has been incurred, but not been included in the RCV. It is only when a company underperforms, or on occasions where we have secured additional investment that is borne by shareholders following a service failure that assets have not been included in the RCV.

96. Once investment is included in the RCV, it is remunerated at the cost of capital until such time that it is fully depreciated. The regulatory transparency and certainty associated with the calculation of the RCV is a factor that has resulted in the sectors having a relatively low cost of capital.

97. But a low cost of capital may not necessarily equate to a low end-cost to the customer. If customers are to be provided with the services they need and want in the most efficient way, then investment must be delivered:

- at the right cost (**'productive efficiency'**);
- at the right place and at the right time to allow scarce resources to be used efficiently (**'allocative efficiency'**); and
- in a way that takes into account new and better ways of doing things (**'dynamic efficiency'**).

98. Where investment meets these objectives, it will deliver sustainable outcomes for customers and the environment. Such investment would be seen as legitimate by customers and support the long-term, stable returns that investors want.

99. Regulation must also seek to enable the companies to achieve innovative sustainable solutions if services are to be provided to customers at a lowest overall cost.

100. So, while customers may be paying a price that allows for returns equivalent to a relatively low cost of capital, that cost of capital may be for the cost of financing sub-optimal solutions. The balance of the trade-off between the cost of capital and optimal investment will depend on the characteristics inherent in the individual elements of the water and sewerage value chain.

101. We are also looking at the way in which (efficiently incurred) costs are recovered through regulated prices. Our aim is to ensure that cost recovery takes place in a way that maintains financeability while sending efficient price signals. We recognise that costs incurred to date – in particular for investment – have done so on the basis of the current approach to cost recovery. We are considering if there are different approaches we could take to the recovery of the costs of both legacy (existing) and new assets. We will consider these issues in documents that we will publish as part of the future price limits project later in the spring.

5.3 Large projects

102. We think there may be a case for adopting a different approach to certain projects where:

- they are individually very large, complex and have timescales that span more than one price review;
- the balance of project-specific risks may be different and can be viewed separately from those facing the company's business as a whole; and
- a different approach could encourage a cost-effective project-based means of financing the related investment.

103. Such an approach has been a feature of certain Public Finance Initiatives and Public Private Partnership structures, although such structures are far less common in the current economic climate than they were.

104. This is likely to involve a new form of licence, one that is more appropriate than for an infrastructure service provider. The Flood and Water Management Act 2010 recognised this. Such a mechanism would:

- ring fence the delivery and financing of an individual project and its risks from the delivery and funding of other capital projects;
- increase competition in relation to the delivery of the infrastructure by enabling new entrants (that is, project companies that are not water companies) to participate in the delivery of water and sewerage infrastructure;
- reveal the level of risk the investors are willing to bear and at what cost;
- incentivise a market-tested project cost of finance and the single project focus, which potentially offers greater certainty of outturn cost and project timetable reducing the risk of major cost overruns; and
- potentially incentivise strategic and innovative approaches to the delivery of improvement schemes in the water industry.

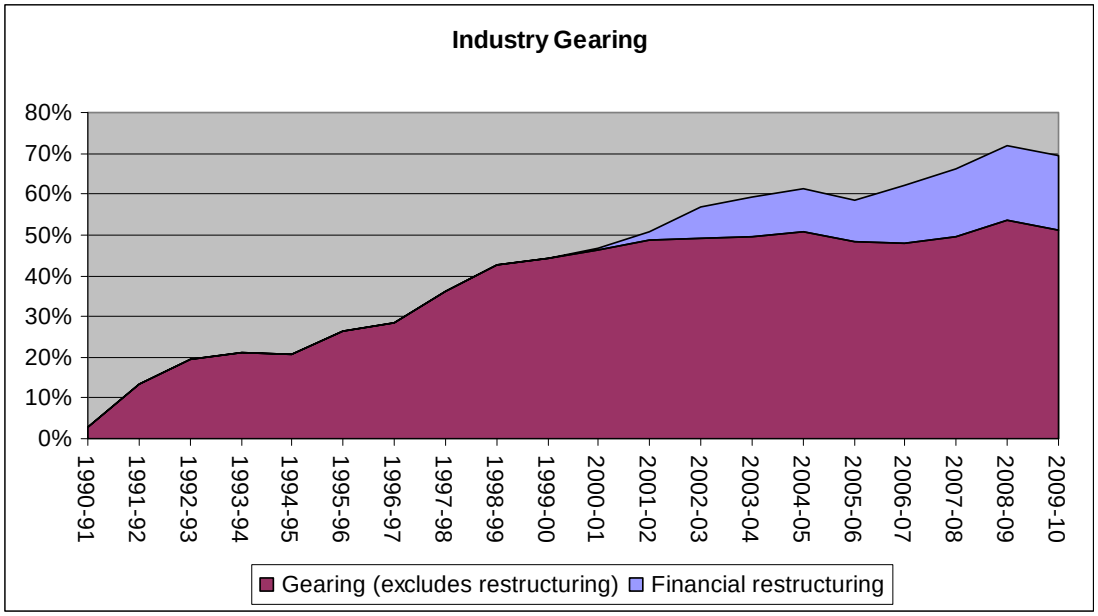
105. The Thames Tideway project may be implemented using such alternative arrangements.

106. We may consider the use of such mechanisms where future projects exhibit similar characteristics to those set out at above.

6. Regulatory issues arising from the trend in financial restructuring

107. In chapter 2, we discussed the trend in capital investment since privatisation. This is one of the key reasons for the increase in gearing from virtually zero at privatisation to 69% today. But it is not the only reason for this increase in debt – past dividend policies and the extent of financial restructuring has also had an impact. For example, we estimate that more than £9 billion of debt (in current prices) has been raised as a result of financial restructuring. The graph below shows that this is equivalent to over 18% of the RCV at 31 March 2010.

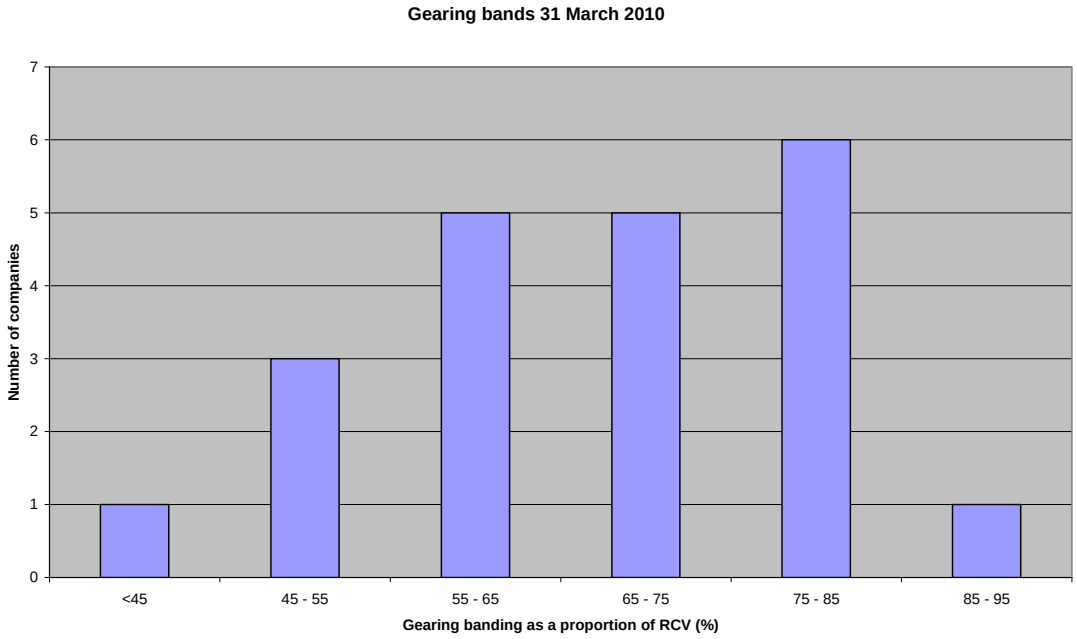
Figure 3 The trend in financial restructuring



108. The graph shows that the refinancing trend began following the 1999 price review. Between 2004 and 2007, the pace of this increased, largely because the companies were able to take advantage of long tenor debt available at very cheap rates. While the availability of this cheap debt allowed the companies to outperform our assumptions at the 2004 price review, customers benefit from this cheaper financing over time through the price setting process.

109. Although gearing across the sectors averaged 69% at 31 March 2010, there is greater variation at a company level. This is illustrated in the chart below.

Figure 4 Gearing bands as a proportion of RCV



110. We set out the incentives for debt and equity investment in the sectors under the current framework in 'Financing networks'. In broad terms, the capital structure of a firm can be characterised as a trade-off between the tax benefits of debt finance and the expected costs of bankruptcy. Changes to financial structure are made in response to the financing needs of a company and its internal resources. A firm's options to finance investment may include internal funds, debt or equity.

111. The regulatory approach that we have applied in England and Wales since privatisation provides investors with a relatively high degree of revenue and cash flow certainty. While the companies are generally cash flow negative, the approach to setting price limits has given debt providers confidence in the sectors.

112. It has also enabled the companies to access significant levels of debt to finance investment, allowing them to achieve high levels of gearing while retaining credit ratings that are well within the investment grade. Stakeholders have acknowledged this stable and transparent regulatory framework as a factor that has allowed the companies to sustain a relatively high level of gearing, but still maintain investment grade credit ratings[10].

[10] See, for example, 'Moody's rating methodology: Global Regulated Water Utilities', December 2009.

113. We considered the issues surrounding the trend brought about by the financial restructuring and the associated increases in gearing in more detail in 'Financing networks'. The then Department of Trade and Industry and HM Treasury also considered this in 2004[11].

114. The highly-leveraged structures that have emerged typically have gearing of between 75% and 85% of RCV. In general, the financing arrangements used to achieve these relatively high levels of gearing incorporate structural features to ensure that an investment grade credit rating is retained. Among other things, these structural enhancements place restrictions on:

- gearing;
- the levels of key financial ratios;
- business activities; and
- dividends (in certain circumstances).

115. Such covenants can provide discipline to company management, as well as protecting the interests of bondholders.

116. The trend for restructuring has continued since 2006. In that time, both Thames Water and Yorkshire Water have undergone financial restructuring. In total, five of the water and sewerage companies and five of the water only companies have adopted covenanted structures, amounting to about 50% of the industry RCV.

117. We think that equity has a vital role to play in the sectors. The risk of equity holders is higher than other investors, including bondholders. The companies manage that risk on behalf of equity investors.

118. One such risk is the exposure to cost shocks. We have observed that highly geared structures are potentially less flexible and more vulnerable to cost shocks than traditionally-structured companies. Despite these observations, we have not sought to prevent any such market-led structures. But we have sought to modify the licences of those companies that have wanted to introduce such structures to strengthen the ring-fencing provisions. These conditions are designed to enable us to regulate companies within larger groups effectively. It has also enabled us to provide reassurance that the companies remain able to finance their regulated activities.

[11] 'The drivers and public policy consequences of increased gearing – a report by the Department of Trade and Industry and HM Treasury', October 2004.

The financial ring-fence

The regulatory financial ring-fence is established through certain conditions in the companies' licences that are designed to protect the regulated business. It does this by constraining the company's conduct, ensuring its resources are not diverted and that it is not exposed to undue risk. It helps to reassure the regulator and customers that the companies remain in a position to finance their functions and that consumers' interests are not adversely affected by a company's capital structure.

The ring-fence conditions are similar in each company (although they are not identical). Among other things, they prohibit the company from:

- providing cross-guarantees to associate companies;
- providing loans to associate companies; and,
- transferring assets to associate companies.

They also require the company to:

- conduct its business as if the regulated business were substantially its sole business;
- have adequate financial, and facilities and management resources to carry out its regulated activities and to confirm each year that it will do so for the following 12 months;
- operate as if it were a separate company, and for the directors to act exclusively in the interests of the company, and for its Board to act independently of the parent company;
- ensure that its dividend policy will not impair the company's ability to finance its functions;
- maintain an issuer investment grade credit rating; and
- not allow (without our consent) any cross-defaults, whereby its financial liabilities are increased or accelerated because of a default of any other company.

In addition, the cash lock-up licence conditions restrict the company (subject to some limited exceptions) from making any transfers outside of the regulated business if the issuer credit rating is BBB- or equivalent and on review for possible rating downgrade.

119. So far, all the companies across the sectors – including those with securitised structures – have withstood the more difficult economic backdrop that has resulted from the 'credit crunch'. To meet the deflationary challenge in 2008-09, investors in three securitised companies increased their equity to remain within the gearing levels in their covenants. This is an appropriate response of investors in such structures and demonstrates they are able to respond to external pressures. But these structures remain to be tested over the long term.

120. It is our view that it is for the management and the investors of each regulated water company to decide its optimal financial structure. If investors choose to adopt highly geared structures, it is right for customers that both those investors and the companies bear the risks associated with their choice of financial structure.

121. When we set price limits, we separate the treatment of tax from the cost of capital. This includes tax as a company-specific cost based on the companies' actual gearing projections. This approach helps to reduce or eliminate the incentives for the companies' owners to increase gearing above the target level used at a price review for tax benefits only, without considering wider issues. At PR09, we said we would also claw back for consumers the tax savings associated with additional interest costs from financial restructuring done between reviews at the next price review.

122. But some commentators have suggested that the ring-fencing conditions (and our price setting approaches) do not go far enough. Some suggest that regulators should specify a cap on gearing levels. Others have suggested that the licence requirement to maintain a credit rating that is within the investment grade category places too much reliance on the credit rating agencies.

123. For example, the Policy Exchange[12] suggests that the rating agencies' track record in providing an early warning is at best mixed. It also suggests that any reference to rating agencies in the regulatory architecture should be removed.

124. To mitigate this, the Policy Exchange suggests that rather than require the companies to maintain an investment grade credit rating, it would be better to embed a series of explicit credit and liquidity ratios in the licence that, if tripped, would have a similar effect to the cash-lock up licence conditions already in place.

125. The Policy Exchange cites the Office of Rail Regulation as an example of a regulator that has taken steps to impose maximum gearing levels in the licence conditions for Network Rail, the one company it regulates. But Network Rail has no equity investors, as it is a company limited by guarantee and is dependent on public subsidy.

[12] 'Delivering 21st Century Infrastructure for Britain', The Policy Exchange: Helm, Wardlaw and Caldecott, 2009 (policyexchange.org.uk).

126. As well as the issues outlined above, some commentators have suggested that the failure of one or more highly geared companies could impact on investor sentiment for the sectors. Ultimately, this could manifest itself in a higher cost of capital and higher bills for customers. In this context, it is argued that our non-interventionist policy on capital structure is insufficient.

127. There are a number of possible disadvantages to introducing explicit credit and liquidity thresholds to the companies' licences. Setting explicit financial ratios within the regulatory ring-fence could be seen as contrary to an incentive-based regulatory framework, where the companies and their investors must take ownership of the risks arising from their choice of capital structure. Also, setting explicit thresholds in the licence would remove the ability of the companies and the regulator to be flexible in the future to reflect changes in the markets or financing arrangements more generally.

128. The credit ratings themselves provide an opinion on a company's ability to meet its future commitments to its lenders and creditors. Credit options are based on this assessment of the probability of future default. On their own, historic financial ratios would be unlikely to provide an adequate assessment of the potential for future failure and prospective financial ratios may suffer from the extent to which projections are borne out.

129. If the regulator were to set limits on the levels of financial ratios (including gearing) that companies should adopt, this would require the regulator to justify the ratios chosen. But we are unlikely to be in a better position than the credit rating agencies or the markets themselves to determine appropriate constraints on financial ratios and capital structure that should be imposed by a licence condition.

130. It is partly for these reasons we require each company, through the licence conditions, to certify each year that it will have sufficient financial and managerial resources to perform its functions for the following 12 months. A company's management may then provide a statement that takes into account the specific circumstances of that company. We are using these statements in our regulatory compliance project as a model for lighter tough regulation.

131. Also, the restructuring that has taken place in the sectors and the covenants that have been introduced have been designed to reduce the risks of financial failure. This is achieved through a mixture of financial covenants that complement regulatory provisions, increase the accountability of directors and protect the licensed company from wider group activities.

132. We have identified some concerns that arise because of a potential conflict with an incentive-based regulatory framework. These are that the regulator may not be better placed than the markets to make judgements about the constraints on capital structure, and the practical difficulties with determining the most appropriate financial ratios and threshold levels. On balance, this suggests that it may not be appropriate to introduce explicit financial ratio thresholds in company licences.

133. The existing licence conditions that include the requirement to maintain an investment grade credit rating, together with the cash lock-up and the regulatory ring-fence, may continue to be a reasonable minimum requirement for monopoly providers of water and sewerage services. This is because they allow flexibility for the companies and the regulator to take account of changes in the markets, or developments in the financing for the sectors, more generally.

7. Next steps

134. In this document, we have set out our thinking on the issue of financeability in setting price controls. We have sought to capture the range of issues and concerns that are relevant to financeability, including those that our stakeholders have raised. We will take these issues into account as we develop our work on market reform and future price limits.

135. We are clear that whatever our approach to setting price limits in the future and however the sectors are structured or remunerated for investment, we will need to assess financeability for those parts of the value chain that remain monopoly businesses consistent with our duty to secure that efficient companies are able to finance their functions.

136. We would very much like to receive contributions on the issues set out in this discussion paper. Please contact Andrew Chesworth in our Corporate Finance team (andrew.chesworth@ofwat.gsi.gov.uk) if you would like to contribute to the debate. We will consider the contributions we receive when drawing together our work on market reform and future price limits.

Appendix 1: Illustrations of approaches to financeability

In this appendix, we set out some quantitative illustrations of the approaches to financeability discussed in the document. We do this for:

- a stylised company with no growth in the capital base; and
- a stylised company with a capital programme that increases the RCV by 30% over a five-year period.

We have also published on our website the modelling that supports the conclusions and results illustrated in this appendix. We have based these illustrations on the assumptions for debt, equity and asset lives that we used at PR09. These include:

- an opening gearing assumption of 57.5%;
- a real cost of debt of 3.6%; and
- a cost of equity of 7.1%.

Consistent with the methodology for PR09, our assumptions of dividend yield and dividend growth assume some equity retention. But unlike our assumptions at PR09, and for the purposes of our initial illustrations, we assume no index-linked debt in the opening balance sheet. We have set out the detailed assumptions in the table below.

Table 2 Assumptions used in the financeability illustration

	Assumptions
Real vanilla WACC (pre-tax debt, post-tax equity)	5.1%
Real cost of debt	3.6%
Post tax cost of equity	7.1%
Dividend yield	5.0%
Dividend growth	2.1%
Initial gearing	57.5%
Annual inflation	2.5%
Proportion of opening index-linked debt	0.0%
Average asset life remaining for depreciation (years)	25
Level of infrastructure renewals expenditure (% of RCV)	1.60%

It is possible to compare the financial ratios that result from these illustrations with the target thresholds set out in the table on page 20, which we used at PR09. In carrying out the financeability assessment, we compare the levels of the financial ratios and their trend over time in assessing whether the price determination is financeable overall.

Illustration 1

Illustration 1 (see figure 5) represents a regulated company in steady state (where regulatory depreciation is equal to annual capital expenditure). The RCV remains stable in real terms. For this company, the level of equity grows each year because of the retained earnings and so gearing declines over time. Revenues increase more quickly than interest payments. As a result, debt-based financial ratios and interest cover financial ratios improve over time.

In these circumstances, despite the company being unable to pay both nominal interest costs and maintain its real dividend yield from the value of the allowed return (that is, the company remains cash flow negative), the financial ratios exhibit an improving trend. A company in this position may of course choose a policy of paying a higher dividend (that is, increase the dividend yield) to keep its financial indicators at similar levels throughout the period.

Illustration 2

Illustration 2 (see figure 5) represents a company that is required to carry out a substantial programme of asset improvement and annual capital expenditure exceeds regulatory depreciation. As a result, this company exhibits 30% real growth of its RCV over five years.

Under this scenario, there is a divergence between the nominal growth in the RCV (at about 9% a year in nominal terms) and growth in equity (at about 5% a year in nominal terms). This is because of the assumption on retained earnings and also the impact of the inflation of the RCV. As a result, gearing increases each year as debt finance is required to bridge the cash flow gap.

This would put pressure on the metrics that the credit rating agencies use to assess a company's financial position and could ultimately lead to a deterioration in credit quality where such a company is required to undertake a significant capital investment programme over the long term (that is, over many price reviews).

Figure 5

		Illustration 1					Illustration 2				
		Company in "steady state"					Company with a significant programme of asset improvement				
out-turn prices £m	**Yr 0**	**Yr 1**	**Yr 2**	**Yr 3**	**Yr 4**	**Yr 5**	**Yr 1**	**Yr 2**	**Yr 3**	**Yr 4**	**Yr 5**
Opening RAV		1000.0	1025.0	1050.6	1076.9	1103.8	1000.0	1085.0	1192.1	1301.9	1414.5
Gross new capex		57.4	58.8	60.3	61.8	63.4	119.1	144.5	150.7	157.0	142.9
- Current cost depreciation		41.0	42.0	43.1	44.2	45.3	42.2	46.1	50.5	55.0	59.2
- Infrastructure renewals charge		16.4	16.8	17.2	17.7	18.1	16.9	18.4	20.2	22.0	23.7
Net new capex		0	0	0	0	0	60.0	80.0	80.0	80.0	60.0
Closing RAV	1000	1025.0	1050.6	1076.9	1103.8	1131.4	1085.0	1192.1	1301.9	1414.5	1509.8
Average RAV (in outturn prices)		1025.0	1050.6	1076.9	1103.8	1131.4	1055.0	1152.1	1261.9	1374.5	1479.8
Return on capital		52.3	53.6	54.9	56.3	57.7	53.8	58.8	64.4	70.1	75.5
Cash interest payable		35.1	35.4	35.7	36.0	36.3	36.9	41.5	46.7	52.0	56.8
Return on capital after servicing debt		17.2	18.2	19.2	20.3	21.4	16.9	17.3	17.6	18.1	18.7
Dividends	21.3	22.2	23.3	24.4	25.5	26.7	22.2	23.3	24.4	25.5	26.7
Return on capital after dividends		-5.0	-5.1	-5.1	-5.2	-5.3	-5.3	-6.0	-6.7	-7.4	-8.0
Debt											
- Index linked	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
- Nominal	575.0	580.0	585.1	590.2	595.4	600.7	640.3	726.4	813.1	900.5	968.5
Total debt	575	580.0	585.1	590.2	595.4	600.7	640.3	726.4	813.1	900.5	968.5
Equity	425.0	445.0	465.5	486.7	508.4	530.7	444.7	465.8	488.8	513.9	541.3
Gearing %	57.5%	56.6%	55.7%	54.8%	53.9%	53.1%	59.0%	60.9%	62.5%	63.7%	64.1%
FFO interest cover		3.1	3.2	3.2	3.3	3.3	3.1	3.0	2.9	2.8	2.8
Adjusted interest cover		1.5	1.5	1.5	1.6	1.6	1.5	1.4	1.4	1.3	1.3
FFO/Debt		12.9%	13.2%	13.5%	13.8%	14.1%	11.9%	11.3%	10.9%	10.6%	10.5%
RCF/Debt		9.0%	9.2%	9.3%	9.5%	9.7%	8.4%	8.1%	7.9%	7.7%	7.7%
Dividend cover		0.8	0.8	0.8	0.8	0.8	0.8	0.7	0.7	0.7	0.7

But over time, it might be expected that a company reaches a point that there is no longer a significant programme of asset improvement (indeed, this was the case for some water only companies at PR09). At this point, a company may be considered to be in steady state; cash flow timing differences unwind over time and pressure on credit quality is eased.

To the extent that measures of credit risk used by lenders and rating agencies emphasise short-term financial ratios (driven by uncertainty associated with future cash flows beyond the current price review period) then this may exaggerate the apparent credit risk over the full life of the borrowing for these long-term sectors.

Illustrations 3 and 4

Illustrations 3 and 4 (see figure 6) build on the previous examples. Figure 6 illustrates the beneficial effect of index-linked debt on cash flow financial ratios. Both illustrations use the same assumption that we made at PR09 that 30% of gross debt in the opening balance sheet is index-linked. This assumption was broadly consistent with the proportion of total debt that the companies held from the direct issuance of index-linked debt at the time we set price limits. It is assumed that all subsequent debt raised attracts nominal interest.

The company in steady state (illustration 3) exhibits relatively healthy financial ratios relative to illustration 1. The company with the significant programme of asset improvement also exhibits an improvement in its financial ratios compared with illustration 2, but it continues to exhibit a deteriorating trend as the proportion of index-linked debt to total gross debt declines over time.

Although the company in steady state may be considered to have financial ratios that pass the target levels, we may need to consider alternative options to allow the company with a significant programme of asset improvement at least to meet these levels. This may include assumptions around additional equity finance, which has the effect of reducing gearing and therefore cash interest cover ratios, which we discuss below.

Figure 6

		Illustration 3					Illustration 4				
		Company in "steady state" with index-linked debt					Company with a significant programme of asset improvement with index-linked debt				
out-turn prices £m	**Yr 0**	**Yr 1**	**Yr 2**	**Yr 3**	**Yr 4**	**Yr 5**	**Yr 1**	**Yr 2**	**Yr 3**	**Yr 4**	**Yr 5**
Opening RAV		1000.0	1025.0	1050.6	1076.9	1103.8	1000.0	1085.0	1192.1	1301.9	1414.5
Gross new capex		57.4	58.8	60.3	61.8	63.4	119.1	144.5	150.7	157.0	142.9
- Current cost depreciation		41.0	42.0	43.1	44.2	45.3	42.2	46.1	50.5	55.0	59.2
- Infrastructure renewals charge		16.4	16.8	17.2	17.7	18.1	16.9	18.4	20.2	22.0	23.7
Net new capex		0	0	0	0	0	60.0	80.0	80.0	80.0	60.0
Closing RAV	1000	1025.0	1050.6	1076.9	1103.8	1131.4	1085.0	1192.1	1301.9	1414.5	1509.8
Average RAV (year end prices)		1025.0	1050.6	1076.9	1103.8	1131.4	1055.0	1152.1	1261.9	1374.5	1479.8
Return on capital		52.3	53.6	54.9	56.3	57.7	53.8	58.8	64.4	70.1	75.5
Cash interest payable		30.8	31.0	31.2	31.4	31.6	32.6	37.1	42.2	47.4	52.0
Return on capital after servicing debt		21.5	22.6	23.8	24.9	26.1	21.2	21.7	22.1	22.7	23.5
Dividends	21.3	22.2	23.3	24.4	25.5	26.7	22.2	23.3	24.4	25.5	26.7
Return on capital after dividends		-0.7	-0.7	-0.6	-0.6	-0.5	-1.0	-1.6	-2.2	-2.8	-3.2
Debt											
- Index linked	172.5	176.8	181.2	185.8	190.4	195.2	176.8	181.2	185.8	190.4	195.2
- Nominal	402.5	403.2	403.9	404.5	405.0	405.6	463.5	545.1	627.3	710.1	773.3
Total debt	575	580.0	585.1	590.2	595.4	600.7	640.3	726.4	813.1	900.5	968.5
Equity	425.0	445.0	465.5	486.7	508.4	530.7	444.7	465.8	488.8	513.9	541.3
Gearing %	57.5%	56.6%	55.7%	54.8%	53.9%	53.1%	59.0%	60.9%	62.5%	63.7%	64.1%
FFO interest cover		3.6	3.6	3.7	3.8	3.8	3.5	3.3	3.2	3.1	3.0
Adjusted interest cover		1.7	1.7	1.8	1.8	1.8	1.7	1.6	1.5	1.5	1.5
FFO/Debt		13.6%	13.9%	14.2%	14.6%	14.9%	12.5%	11.9%	11.4%	11.1%	11.0%
RCF/Debt		9.8%	9.9%	10.1%	10.3%	10.5%	9.1%	8.7%	8.4%	8.2%	8.2%
Dividend cover		1.0	1.0	1.0	1.0	1.0	1.0	0.9	0.9	0.9	0.9

Illustration 5

Illustration 5 (see figure 7) builds on illustration 4 by including an assumption of an equity injection of £90 million at the end of year 2, equivalent to almost 20% of year 2 closing equity. The new equity receives a dividend payment using the same yield and growth assumptions as existing equity.

The equity injection has the effect of reducing net debt from the start of year 3 onwards and has a beneficial effect on the debt based financial ratios and cash interest based financial ratios compared with illustrations 4 and 2. There is also an improvement to dividend cover compared with illustrations 4 and 2. Although the financial ratios exhibit a deteriorating trend, and in one instance, FFO/debt is below the target level, the level of the financial ratios overall may be sufficient for the company to pass the financeability assessment.

Although the injection of equity in this scenario may appear to resolve financeability, there are constraints on the extent to which it may be possible to make such assumptions. For example, there may be limitations to the amount of equity it may be reasonable to assume in any price setting period, or in successive price setting periods where significant, continuing programmes of capital investment activity occur. Also, the success of an equity issuance programme will depend on a number of factors in reality. These may include:

- investor sentiment to the sectors;
- the ability and desire of investors to increase their exposure to the sectors; and
- expectations of future returns in comparison to other investment opportunities.

In its approach to determining the price limits for Bristol Water, the Competition Commission adopted a different approach in which it started with a set level of gearing which it reduced until it achieved a robust set of financial projections. Although the Competition Commission applied a different approach (starting with Bristol Water's actual capital structure), which was adjusted to consider a capital structure that was financeable, the effect was similar to ours at PR09. It assumed a company should have a level of equity sufficient to ensure that a large capital programme did not result in a financeability constraint.

Figure 7

		Illustration 5				
		Company with a significant programme of asset improvement with index-linked debt and equity injection from the end of year 2				
out-turn prices £m	**Yr 0**	**Yr 1**	**Yr 2**	**Yr 3**	**Yr 4**	**Yr 5**
Opening RAV		1000.0	1085.0	1192.1	1301.9	1414.5
Gross new capex		119.1	144.5	150.7	157.0	142.9
- Current cost depreciation		42.2	46.1	50.5	55.0	59.2
- Infrastructure renewals charge		16.9	18.4	20.2	22.0	23.7
Net new capex		60.0	80.0	80.0	80.0	60.0
Closing RAV	1000	1085.0	1192.1	1301.9	1414.5	1509.8
Average RAV		1055.0	1152.1	1261.9	1374.5	1479.8
Return on capital		53.8	58.8	64.4	70.1	75.5
Cash interest payable		32.6	37.1	36.7	41.9	46.4
Return on capital after servicing debt		21.2	21.7	27.6	28.2	29.1
Dividends	21.3	22.2	23.3	29.0	30.3	31.7
Return on capital after dividends		-1.0	-1.6	-1.3	-2.0	-2.6
Debt						
- Index linked	172.5	176.8	181.2	185.8	190.4	195.2
- Nominal	402.5	463.5	455.1	536.4	618.5	681.1
Total net debt	575	640.3	636.4	722.2	808.9	876.3
Equity injection			90.0			
Equity	425.0	444.7	555.8	579.7	605.6	633.5
Gearing %	57.5%	59.0%	53.4%	55.5%	57.2%	58.0%
FFO interest cover		3.5	3.3	3.7	3.5	3.4
Adjusted interest cover		1.7	1.6	1.8	1.7	1.6
FFO/Debt		12.5%	13.5%	13.6%	13.0%	12.8%
RCF/Debt		9.1%	9.9%	9.6%	9.3%	9.2%
Diviend cover		1.0	0.9	1.0	0.9	0.9

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Ofwat
Centre City Tower
7 Hill Street
Birmingham B5 4UA

Phone: 0121 644 7500
Fax: 0121 644 7699
Website: www.ofwat.gov.uk
Email: enquiries@ofwat.gsi.gov.uk

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