July 2015

Trust in water

Towards Water 2020 – policy issues: regulating monopolies

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Effective regulation – regulating monopolies

Given the nature of water and wastewater services and the prevalence of natural monopoly, protecting customers through effective regulation of price and service will remain a vital role for us, even as we make greater use of markets for wholesale services in England. In Wales, where the role of markets will be more limited, regulation will similarly be vital for protecting customers in all parts of the value chain.

PR14 represented a step change in the way that we regulate. There was a change of culture among water and wastewater companies towards greater engagement with customers and a focus on the outcomes they want from those companies. We adopted a risk-based approach to assessing companies' business plans and any interventions that followed.

We made a number of key changes to the regulatory framework that we consider were effective and will help to support greater trust and confidence in the sector in line with our strategy. We intend to use these again in PR19, including:

- setting separate binding controls for wholesale water, wholesale wastewater, household retail and non-household and retail activities;
- using a total expenditure (totex) approach to cost assessment (rather than considering capital and operating expenditure separately);
- adopting a risk-based approach to assessing companies' business plans, with high-performing companies receiving 'enhanced' status;
- using menus;
- focusing on customer engagement by the companies; and
- focusing on overall outcomes, rather than on specific schemes (outputs).

PR14 has shown that placing customers at the heart of price controls, making better use of incentives, and reducing regulatory intrusion into the management of businesses, can enable new ways of addressing changes.

Whilst we propose to build on the strong foundation laid by PR14, we will review the way we use our regulatory tools to ensure that companies are able to deliver the best outcomes for customers, the environment and wider society.

A number of our principles for Water 2020 aim to simplify our regulatory processes and tools where possible by:

- reducing or removing regulation where it becomes unnecessary over time;

- ensuring that we focus our regulation where it matters and reduce any unnecessary burdens; and
- developing clearer, simpler and more effective incentives that drive allocative, dynamic and productive efficiency in the sectors.

We welcome views from all stakeholders on ways in which our approach can be simplified.

As stated in our meeting the challenges paper, our framework for regulating monopolies can help to address some of the key questions for our future regulation of the sector.

Key questions for our future regulation of the sector

KQ1 How do we regulate to encourage companies to focus on their customers over the **longer term**, rather than focusing their effort around periodic price reviews?

KQ2 How do we build on the **customer-focused** approach to the 2014 price review (PR14) and promote and maintain genuine customer engagement that drives companies' businesses?

KQ4 How do we encourage service providers to discover and reveal the **efficient cost** of providing services?

KQ5 How can we best align the **interests of investors, management and customers**?

To stimulate debate on these questions we have encouraged a "market place of ideas" with stakeholders contributing to shaping the regulation of the future. A number of water companies have submitted reports on the future development of the regulatory framework, including issues relating to the regulation of monopolies such as indexation. We welcome these contributions and provide links below.

Marketplace of ideas:

Duration of regulatory price controls, Northumbrian Water, June 2015

Future use of menus as part of price setting methodology, Anglian Water, July 2015

Totex cost assessment at PR19, Anglian Water, July 2015

Capital maintenance planning, Anglian Water, July 2015

Any additional papers released by companies will be published on the Water UK website (http://www.water.org.uk/policy/future-water-sector).

In this paper, we raise some specific issues for consideration.

- The implications of making more use of markets.
- Separating price controls further.
- Incentivising monopolies to discover and reveal information on efficient costs.
- Assessing cost efficiency.
- Risk and reward.
- Encouraging a longer term approach.

We discuss our approach to customer engagement and outcomes in 'Towards Water 2020 – policy issues: customer engagement and outcomes'.

Appendix 1 outlines how you can respond to this paper.

1. The implications of making more use of markets

In our promoting markets paper we discuss the scope for making more use of markets in the water sector. If markets are used more we will need to consider how to regulate the remaining monopoly parts, and those transitioning to markets.

- **Quality of information available:** multiple service providers across upstream [1]elements of the value chain would improve transparency, but would need to be accompanied by clear and coherent access prices that reflect the cost of service provision. This is discussed further in our promoting markets paper.

- **Quality of incentives:** the regulatory framework will need to incentivise service providers to optimise across a mix of inputs and alternative solutions regardless of whether that solution is provided by a third party or investment in their own business.

- **Reflecting regional differences in the development of markets:** the development of markets may vary by region. For example, markets for water resources are likely to be more developed in areas of water scarcity. The regulatory framework will need to acknowledge the scope for markets to develop at different speeds in different areas and continue to protect customers in areas where competition is limited or absent.

- **Protecting customers in Wales:** many of the upstream and non-household reforms envisaged by the Water Act 2014 are not expected to apply to companies operating wholly or mainly in Wales. So, we will need to ensure that both household and non-household customers in Wales are protected where services continue to be delivered by monopolies and that the benefits of any reforms in England have a positive impact in Wales.

- **The 2017 non-household retail price control review:** at PR14, a separate control for customer facing 'retail' services for non-households was introduced to reflect that, from 1 April 2017, non-household customers of companies operating wholly or mainly in England will be able to choose their retailer. However, this control was only put in place for two years, with a sector-wide review of non-household retail price controls planned for 2016. This review

[1] The new legislation creates scope for entry in upstream services including water resources and sewerage/sludge disposal. It compliments existing arrangements that allow for competition in network services in the New Appointments or "inset" regime but this is a different model and the legislation does not extend the water and sewerage supply licensing regime into those network assets

will focus on the allocation of costs and net margin between the different types of non-household retail customers protected by default tariffs. At PR14 we said that we may seek views on whether the next control should last for three years (to 2020) or for some other period of time. In November, we propose to consult on our approach to the review of the retail non-household price control in 2016. However, we also welcome any views from stakeholders on this issue now.

2. Separating price controls further

As part of PR14, we set separate binding controls for wholesale activities and retail activities for the first time. This created important benefits – providing greater transparency, and therefore understanding of, costs. It also provided more effective, targeted incentives and supported the development of effective non-household competition in England, in line with the provisions of the Water Act 2014.

For PR19, we will consider whether further separating out the wholesale price control is appropriate to increase the transparency of costs and improve the quality of information available for different wholesale (upstream) businesses.

Separating price controls may provide benefits where upstream markets have not been introduced. For example, greater transparency of costs across upstream businesses could help us to understand the relative efficiency of companies in different areas. It could also provide companies with a greater understanding of what drives costs in each of their businesses and encourage a focus on customer outcomes specific to each business area. For example, separating out the household retail control at PR14 resulted in greater focus and scrutiny by companies on that part of their businesses.

Separation of controls could range from fully binding, separate controls through to non-binding or indicative separation. An intermediate option might allow some degree of revenue or cost transfer between the controls. Separation that is not fully binding might be appropriate if companies do not have sufficient understanding of their costs because if their understanding is incorrect it could affect their financeability. But, the more binding the controls, the greater the incentive for companies to get a full and in-depth understanding of their costs. We will consider whether, for example, the non-binding sub-caps for "network plus" activities discussed in the final methodology for PR14 would be useful as part of our work on Water 2020.

Also, if market mechanisms are used extensively in certain elements of the upstream value chain, as considered in our promoting markets paper, separate price controls could provide additional benefits. For example, introducing separate controls for the segments of the value chain where we believe markets should play a greater role would increase transparency and ensure a greater understanding of efficient costs. This would then enable better price signals so all companies can make more efficient decisions, and potentially support new entry and greater plurality in market participation.

3. Incentivising monopolies to discover and reveal information on efficient costs

As part of PR14, we adopted a risk-based approach to assessing companies' business plans and any interventions that followed. We focused our attention on the issues that could have the biggest impact on customers. Overall, we saw a significant change within the sector, with companies responding to our challenge. Where companies stepped up, we were able to allow more of their plans through. This approach provided longer-term incentives for companies to improve the standard of the plans that they deliver and shifted the frontier for what the sector can deliver for customers.

For example, we decided that South West Water and Affinity Water were 'enhanced' companies because they demonstrated their plans were in the best interests of customers. These two companies benefited from a 'do no harm' policy, which meant that they were insulated from some changes that would have made them worse off – for example, they were not affected by the lowering of the cost of capital for non-enhanced companies. They also received direct financial and reputational benefits.

All other companies' business plans needed to either improve or be supported with further evidence. Some companies were able to deal with our feedback on their plans quickly, some had more work to do and were eventually able to close the gap, and others found our feedback more challenging. Where necessary, we intervened to make sure customers got the best deal.

In addition, companies were able to make menu choices about totex that determined their allowed revenue and totex cost sharing rate, providing wider incentives for accurate and realistic forecasting.

We consider that a risk-based approach remains appropriate for PR19. However, we welcome views from all stakeholders on whether they agree and whether any changes to this approach are appropriate. For example, we decided not to use the third 'resubmission' category originally proposed for PR14 because we could not further clearly distinguish between companies[2]. We welcome views on whether further categorisation of companies (beyond 'enhanced' and 'non-enhanced') would provide greater incentives for companies to improve the quality of their business plan at its first submission and reduce the number of times we asked for more information or whether this could be achieved in other ways. We would also like to understand

[2] see Setting price controls for 2015-20 – pre-qualification decisions

whether the 'size of the prize' for enhanced status was large enough to incentivise companies.

4. Assessing cost efficiency

In line with our statutory duties, we seek to ensure that companies' allowed revenues reflect efficient costs. We consider that market testing could be used more to provide evidence of assurance of costs and we welcome views on the scope for this and how it could work. One option may be to require tendering on significant pieces of work. But, we acknowledge that in some areas markets cannot effectively be used to reveal efficient costs and there may also be other constraints such as development of a proposal in sufficient detail to tender at the time of the business plan. We discuss the option of requiring tendering of specific projects further in our promoting markets paper. So we will need to continue to apply benchmarking to assess the efficient level of costs and to help protect the interests of customers. This guided our approach to assessing both wholesale and retail costs at PR14.

4.1 Wholesale cost assessment

4.1.1 Our approach to wholesale cost assessment at PR14

No single benchmarking model is likely to be able to adequately capture all of the factors driving wholesale costs.

As part of our PR14 methodology, we developed totex models where practicable, but we also modelled base and enhancement costs. Where possible, we applied econometric, panel data models, rather than modelling unit costs. This allowed us to consider the performance of a cross-section of companies over time, as well as more sophisticated functional forms for our models (such as translog or Cobb-Douglas) and consider both full and refined variable models using different combinations of explanatory variables.

Enhancement expenditure modelling remained a particular challenge and, in the case of wholesale wastewater expenditure, was modelled separately, taking a bottom-up modelling approach by aggregating unit cost models.

The models applied were used to make projections of each company’s costs for 2015-20. We took an average of these projections (using a process we termed ‘triangulation’) to produce an overall projection of totex.

We applied an upper quartile efficiency challenge to our triangulated projections of all companies’ wholesale costs, to both incentivise efficiency and share the benefits of those efficiencies with customers over the short and longer term. Because benchmarking models cannot capture all the factors driving costs, we also considered company representations on any special cost factors not captured by our modelling. Where such special cost factor claims were material and supported by evidence, we assessed them against four criteria.

- **Need.** Is there persuasive evidence of a need for adjustment to modelled allowances and is the programme of work supported by a clear need case?
- **Cost benefit.** Does the claim represent the most cost-beneficial solution or lowest cost option?
- **Cost efficiency.** Is there persuasive evidence that the costs are consistent with upper quartile efficiency?
- **Customer protection.** Would an adjustment be consistent with protecting the interests of customers?

To ensure that customers were protected, we assessed wholesale costs together with our work on outcomes. Because of our consistency checking of special cost factor claims, we introduced a number of additional outcomes incentives for companies that protect customers against delay or non-delivery.

As well as introducing separate wholesale and retail controls and adopting a totex approach, our approach to the assessment of wholesale costs at PR14 differed from previous reviews in a number of respects. This included the following.

- Benchmarking models based on historical data played a much larger role, and benchmarking was applied at a more aggregate level.
- As a result of our totex approach, differences in company's capitalisation policies were much less of a concern.
- While we considered special factor claims, our detailed assessment of expenditure was much more focused. For example, we did not carry out a routine assessment of:
  – each company’s approach to asset management; or
  – capital expenditure on a project by project basis.

4.1.2 Key issues for wholesale cost assessment at PR19

As discussed above, at PR14 our approach was to apply high level benchmarking models alongside a focused approach to detailed assessment of special factor claims. We should consider whether to use this approach at PR19.

A comparative efficiency framework provides clear benefits by allowing us to compare the efficiency of companies with differing characteristics. Doing so allows us to identify inefficiencies and reduce them. But, it may also have disadvantages.

- Does this approach lead companies to focus on special factor claims and distract from the business planning process?
- Could a comparative benchmarking approach discourage innovation if companies consider that diverging from standard procedures and practices may make them an outlier in general industry modelling?
- How can we better assess the efficiency and merits of large investment projects given the inherently lumpy nature of water sector investments?
- How can we ensure we treat alternative responses to capacity requirements equally – be they demand management, a variety of small investments or a single large capital project – so that companies are incentivised to do the right thing?

If we apply the same broad approach, then we need to consider a number of issues for PR19.

- **Benchmarking models:** we will need to reassess these models and determine whether we can, and if so how we should, improve them.

- **Efficiency targets:** we will also consider whether an upper quartile (rather than frontier) efficiency target remains appropriate and whether benchmarks should be dynamic, reflecting the expected future rate of change, rather than the level of efficiency assessed during the price control using historic data. We welcome thoughts on how best to incentivise frontier shift – either through our benchmarking approach or alternative methods – and how this should interact with comparative benchmarking.

- **Models specific to the segments of the value chain:** we should consider models that focus on the individual components of the value chain (for example water distribution, or sewerage treatment), particularly if we separate the wholesale price control further, as discussed in sections 1 and 2 above.

- **Modelling enhancement expenditure:** we will consider whether we could improve our modelling of enhancement expenditure.

- **Special factor claims:** we will need to re-evaluate the process for considering special factor claims. For example, should companies see the benchmarking models before submitting their special cost factor claims? Is there a role for third parties in assessing special cost factor claims? How can we prevent companies from thinking of special cost factor claims as a one-way bet?

- **Integration with outcomes work:** we should also consider whether we can better integrate our work on cost assessment, and outcomes and quality of service to ensure that customers are protected.

- **Use of additional comparators:** we should consider whether there is scope, and whether it is practical, to use a broader set of comparators beyond water companies. And whether using such comparators could enable scheme-specific assessments.

4.2 Retail cost assessment

4.2.1 Our approach to retail cost assessment at PR14

Household customers are not able to choose their water or wastewater retailer, so for the household retail control at PR14, we also used comparative regulation to derive cost allowances. However, unlike the wholesale control, we did not apply econometric modelling and instead used an average cost to serve (ACTS) approach to assess cost efficiency[3].

This ACTS approach used industry average costs to set the overall efficiency challenge. But, we made clear that the use of "average" targets was part of an evolutionary approach that we aimed to move to an efficient cost to serve over future price controls. In addition to using the ACTS, we applied a three year glide-path for companies whose cost to serve was above the ACTS so that they would have three years to reduce their cost to serve to the ACTS level.

Like the wholesale control, we also considered special cost factor claims where a company did not consider that the ACTS was representative of its costs. We accepted these if they were able to demonstrate, with sufficient and convincing evidence, that:

- those costs were material to the company;
- they were driven by factors beyond efficient management control (having taken all the possible steps to control those costs); and
- they impacted the company in a materially different way to other companies.

[3] For more information on how the household retail price controls were set, see 'Setting price controls for 2015-20 – final methodology and expectations for companies' business plans, Appendix 2: setting allowed household retail revenues in practice'

For the non-household retail control we took a different approach to facilitate the non-household retail market opening. We asked companies to allocate their costs and revenues across their customer types. To encourage company ownership, we allowed companies to have as many different customer types as they wanted, but we requested a minimum of two customer types for water only companies and five customer types for water and sewerage companies. To control inefficiencies we challenged companies' representations on expected material cost increases.

We took a different approach for companies that operate wholly or mainly in Wales, because most[4] of their non-household customers will not be able to switch retailers. So for Dee Valley and Dŵr Cymru we applied a similar calculation as in the ACTS model for household customers, benchmarking companies' non-household retail costs across England and Wales and applying a three year glide-path.

4.2.2 Key issues for retail cost assessment at PR19

We should consider whether to use the same approach to assessing household retail costs at PR19. In particular we should consider.

- reviewing the process for special factor claims;
- whether we can better integrate our work on cost assessment, and outcomes and quality of service to ensure that customers are protected;
- the nature of the efficiency targets determined – that is whether we should move to more challenging upper quartile or frontier efficiency targets and whether benchmarks should be dynamic, reflecting the expected future rate of change, rather than the level of efficiency at the time of the final determination;
- the use of non-water sector comparators; and
- whether applying a glide-path is appropriate for PR19 or whether this has now served its purpose in easing the transition to the new retail control.

We could also use the cost information that will be revealed in the competitive retail markets for the benefit of customers in non-competitive parts of the market, including non-household customers in Wales.

[4] Non-household customers that consume under 50Ml of water each year.

5. Risk and reward

The most important tools available to us in aligning the interests of investors and company management with those of customers are those that allocate risk. Risk should be allocated to whoever is best placed to manage that risk.

As part of PR14, we placed more emphasis than before on companies' identification, understanding and management of risk and we will continue to do this as part of PR19.

While the most obvious allocation of risk has a financial impact, there are other types of risk such as reputational risk, that we can and do use to provide incentives. But in this section we consider risk and reward with a financial component.

The overall level of return (based on companies' expected performance) directly impacts upon customer bills. For example, a 0.5% increase in the weighted average cost of capital (WACC) we allow increases annual bills by around £10. In carrying out price reviews, we have a statutory duty to (among other things) protect the interests of consumers. One of the ways we do this is by ensuring that customers pay the right price for their service. Setting the appropriate level of return is also important to our statutory duty to ensure that efficient companies are able to finance their functions.

Companies should be incentivised to out-perform for customers with the potential rewards for out-performance forming part of investor returns so that companies' and investors' risk and reward is more closely aligned with customers' interests. This helps to ensure that companies focus on improving operational performance rather than beating the allowed returns through financial engineering – while we also incentivise efficient long term, sustainable financial arrangements.

In the rest of this section, we consider

- the overall balance of risk and reward;
- the need for financial resilience; and
- the indexation of the regulatory capital value (RCV) – an issue that has recently been raised by the UK Statistics Authority (UKSA).

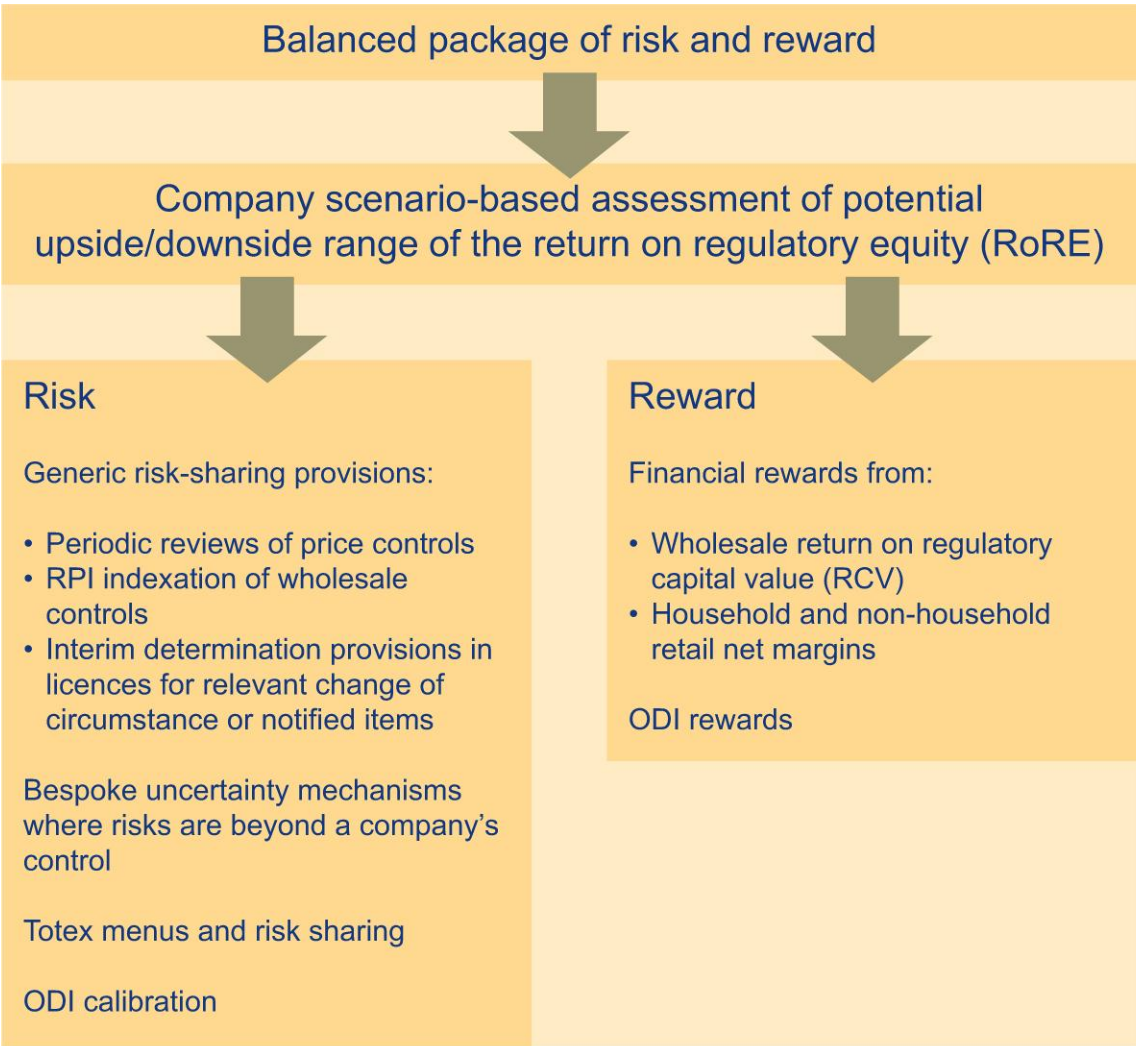
5.1 Balance of risk and reward

In PR14 the package of risk and reward was made up a variety of elements:

- a return allowed through the wholesale cost of capital and household retail margin;
- a range of uncertainty mechanisms ranging from indexation of the RCV and wholesale revenue cap, through to notified items where companies faced specific risks beyond their control;
- outcome delivery incentives which provided financial rewards and penalties for achieving specific outcomes; and
- financial incentives such as the menu cost sharing mechanism (where companies share out- and under-performance of totex with customers) and the wholesale revenue forecasting mechanism.

Figure 1 shows the package of risk and reward in PR14.

Figure 1: PR14 package of risk and rewards



We considered the overall balance of risks and rewards facing companies when setting the allowed wholesale returns, retail margins, incentives, scope for out- and under-performance and uncertainty mechanisms. To ensure a better understanding of risks we required companies to carry out a systematic risk assessment of their business plan.

Water 2020 provides an opportunity to consider whether the overall balance of the package of risks and rewards is appropriate, and provides the right incentives for outperformance.

We think that companies that deliver for customers, for example in terms of cost efficiency, outcome delivery or innovation, should have access to appropriate rewards. Conversely, we do not think that a high allowed return should compensate investors where companies do not deliver performance that meets their upper quartile targets.

In PR14 we reduced the cost of capital based on our expectations for the next five years informed by prevailing market conditions. We will need to reconsider the cost of capital as part of the next price control. When setting the cost of capital and the overall balance of risk and rewards there are a number of issues that we will need to take into consideration including:

- the level of return required to facilitate investment and company financeability given the high levels of risk protection embedded within the wholesale price control (such as RPI indexation of the RCV);
- whether we have the appropriate overall balance of risk and rewards, for example should greater rewards be available for performance and delivering for customers, while reducing the base level of allowed return;
- how we can properly incentivise innovation and ensure that companies that deliver benefits through innovating get appropriate rewards; and
- whether there are ways of allocating risks so that they are better aligned with the party best able to control them. For example we base our cost of capital on a forecast of the cost of embedded and new debt over the next control period and we could instead use debt indexation where the cost of debt is directly linked to cross industry benchmarks. Debt indexation is likely to be most appropriate where forecasting debt costs over the next control period are more difficult for example when control periods are longer or where debt costs are volatile.

5.2 Financial resilience

We state in our consultation on Ofwat's new resilience duty, that it is important that companies themselves are resilient – financially and corporately – so that they can continue to serve customers, and that customers are protected if companies do fail. We are also consulting on a financial monitoring framework to identify whether there is an appropriate level of corporate and financial resilience within regulated water companies and that the service to customers is not being put at risk by companies' choice of capital structure or financing arrangements.

Companies with highly-geared capital structures (that is, a high ratio of debt to equity) are likely to be less resilient to shocks than notionally-geared companies. Our approach in past price controls has been that it is for company management and investors to make decisions around their capital structure and to bear the risks of those decisions. It is also the responsibility of companies to maintain an investment grade credit rating, consistent with the requirements of their licences.

If there are more effective markets at different points in the value chain then this could change the balance of risks and reduce the resilience of highly geared structures. We do not consider that this means we should regulate companies' capital structures (as it is for companies to take and bear the risks of these decisions based on the needs of their business). But we will need to consider the implications for financial resilience and ensure that customers are protected against risks arising from a company's choice of financing arrangements.

5.3 Indexation of the RCV

As shown in figure 1 above, as part of achieving a balanced package of risk and reward, the 'reward' component has historically included a return on the regulatory capital value (RCV) for wholesale water and wastewater businesses.

A company's RCV is the capital base used in setting price limits. It represents the notional value of companies at privatisation (based on their market capitalisation 200 days after privatisation), increased by their capital investments (up to 2015) and RPI measured inflation, and decreased in line with the depreciation of their assets. RCVs do not relate to any specific assets.

The RCV has, since privatisation, been indexed by the retail price index (RPI). We considered indexation and the use of RPI as part of PR14. However, in January

2015, a report by Paul Johnson of the Institute of Fiscal Studies (IFS) for the UKSA[5] stated that RPI is "no longer fit for purpose" and recommended that government and regulators should switch to using the CPIH (Consumer Price Index plus Housing) measure of inflation:

> **"Government and regulators should move towards ending the use of the RPI as soon as practicable and, where they decide to keep using it, the Authority should ask them to set out clearly and publicly their reasons for doing so."**

The UKSA is currently consulting on this[6] and intends to issue its final response in early 2016.

So we need to consider, alongside other UK regulators, whether indexing the RCV by RPI remains appropriate for future price control periods, particularly given the importance of reliable indexation in maintaining the trust and confidence of investors. We will also need to consider which parts of the value chain need to be indexed. When considering the appropriateness of RPI indexation in the future we are mindful of a number of issues, discussed in this section, which we will need to resolve.

The use of RPI indexation is specified in company licences for wholesale price controls and we would need to change to these licences to change the indexation method for wholesale price controls.

The choice of indexation method should not impact on the total level of returns earned by investors. In determining real costs and the real allowed cost of capital, we would use a consistent approach to the level of inflation. For example, if CPI was used rather than RPI, then the cost allowances and the cost of capital would also be determined using CPI rather than RPI.

5.3.1 What is the appropriate index?

RCV indexation protects investors and lenders against the impact of inflation on the value of the RCV and attempts to allocate risk appropriately. Investors have valued the protection RCV indexation (and the inflation adjustment in the price control) provides against inflation . If the link to RPI is removed, which index should be used? Should different indices apply to different parts of the water and wastewater value chains? While the Consumer Price Index (CPI) is widely used in indexing prices, the recent review by the Office for National Statistics (ONS) proposed the use of CPIH,

[5] UK Consumer Price Statistics: A Review, Paul Johnson, January 2015.
[6] Measuring Consumer Prices: the options for change, UK Statistics Authority, June 2015.

which is an alternative measure of CPI that includes owner occupiers' housing costs. The UKSA has a legal duty to produce RPI and the National Statistician has committed not to change the coverage or basic calculation[7].

When considering whether RPI indexation remains appropriate we will take into account the outcome of the UKSA consultation and the views of relevant stakeholders, consistent with our statutory duties. We welcome your views on what is the appropriate index to protect investors against inflation going forward and allocates risk appropriately.

5.3.2 The implications of transitioning to a new index

If we decide that CPI (or CPIH) is more appropriate for indexing the RCV, then we would need to manage a number of issues during the transition away from RPI. We have identified four key issues that would need to be managed.

- **Impact upon customer bills in the short- to medium-term.** Long term trends indicate that RPI is likely to be greater than CPI or CPIH. So a move towards CPI (or CPIH) is likely to reduce the proportion of return earned through growth in the RCV and increase the level of cash returns earned through the real cost of capital. This would tend to bring forward the revenue requirement as the real weighted average cost of capital (WACC) would need to increase. This could increase bills in the next control period and result in lower levels of RCV growth (and so lower bills in the longer term), unless the impact is offset through the use of pay-as-you-go (PAYG) levers or some other financially neutral adjustment.

- **Phasing-in of a new index.** If a new index were to be adopted, it would be possible to phase-in the introduction of the new index by continuing to apply RPI to some proportion of the RCV and the new index to the remaining proportion. This would increase complexity of price control, but would provide greater time for adjustment.

- **Impact upon company financeability.** Water companies have a significant amount of long dated RPI-linked debt and our view of a notional company in PR14 assumed that 33% of debt was RPI linked. Companies may be able to raise new CPI-linked debt (similar to the Lloyds bank CPI bond issue for the Greater London Authority to part finance a new London tube link). But companies may face some additional risk from exposure to differences between RPI and CPI or CPIH on existing RPI-linked debt.

[7] See page 58 and 59 of UK Consumer Price Statistics: A Review, Paul Johnson, January 2015.

6. Encouraging a longer term approach

The water sector is capital intensive with the timescale for the commissioning, construction and operation of capital projects stretching across multiple price control review periods, which have historically been of five years' duration. And, the impact of the approach to maintenance of assets may not be evident for some time.

So one challenge we face is how to regulate in a way that encourages companies to focus on their customers and on delivering value over the longer term, rather than focusing their effort around price reviews where outcomes are set for five years and companies are permitted to keep out-performance for five years.

A HM Treasury report, published in July 2012[8], noted that cyclical investment has been evident in the water sector since privatisation, leading to a stop-start cycle within the water sector supply chain. And this is largely a response to the five-yearly price review process.

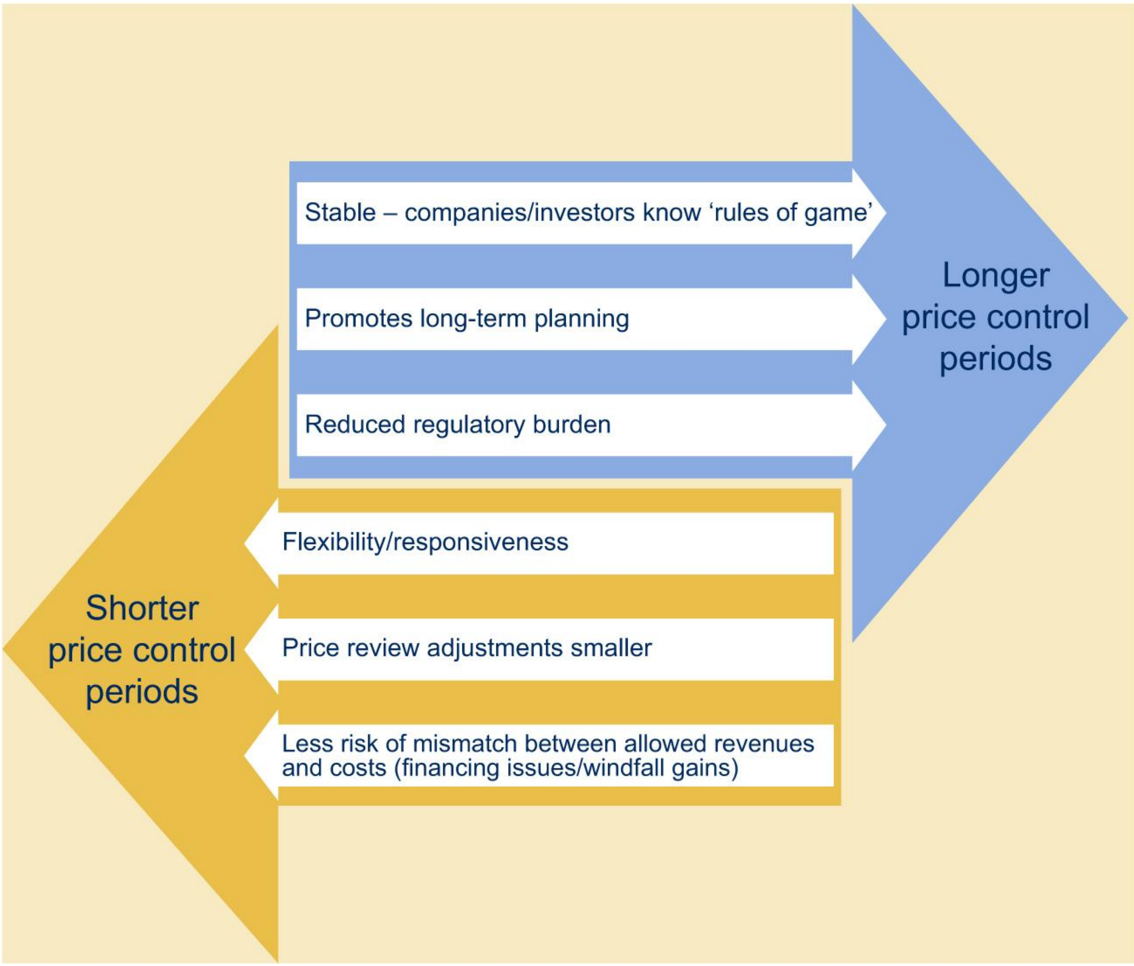
As part of PR14, we applied a transition mechanism to give companies the ability to plan more effectively, make better use of resources and the supply chain, and ease the transition between price control periods. This mechanism allowed capital investment to deliver outcomes in 2015-20 to be brought forward into 2014-15, financed by the companies, with the capital investment funded by customers through price controls after 2015. We also moved away from a regulatory model that considered operating and capital expenditure altogether to one that looked a total expenditure in aggregate or 'totex' giving companies greater flexibility to manage the investment cycle problem and moved it away from specific schemes through a move towards and outcomes approach. Financial levers were introduced (in the form of regulatory capital value run-off and pay-as-you-go) to assist financeability and manage affordability by balancing cost recovery between 2015-20 and future periods. Finally, the change from price to revenue controls at PR14 means companies can also now react to changes in customer demand by changing prices within the control period.

In our customer engagement and outcomes paper, we consider whether the outcomes framework can take a longer-term view. However, we welcome views on other ways that our regulatory framework can further take into account the long-term nature of the decisions that water and sewerage companies need to take.

[8] Smoothing investment cycles in the water sector, HM Treasury, July 2012.

As shown in figure 2 below, the length of the price control period represents a balance between stability and incentives for long term efficiency and the need to be flexible to changing circumstances. We have previously considered that price control periods of five years get this balance right.

Figure 2: Factors influencing the appropriate length of price control periods



But, longer price control periods could change the way that companies plan their activities, and hence promote long term efficiency. A longer review cycle may also reduce the regulatory burden on companies and change the way that we regulate with a greater focus on monitoring. The risks faced by companies would also change. The regulatory framework would be stable for longer periods.

Conversely, the risk that allowed revenues could differ significantly from actual costs would increase with longer price controls. This would make it more likely that companies are either unable to finance their functions, or that they will benefit from prolonged and/or excessive windfall gains at a cost to customers. This could undermine the trust and confidence of both investors and customers in the regulatory framework.

Longer control periods, accompanied by companies taking greater ownership and responsibility for their plans, would increase the risks for investors, other things being equal. A longer control period with coupled with our overall philosophy of company ownership, lends itself to less reopeners of price controls. This risk would provide incentives for better long term management. Northumbrian Water has published a report on the duration of price controls[9] as part of our "market place for ideas". They suggest that debt indexation may help to

- mitigate some of the risks faced by investors associated with longer price control periods; and
- avoid step changes in the allowed cost of capital at price control reviews.

They also suggest that separating out and staggering price reviews for different segments of the water and wastewater value chains could allow companies, regulators and stakeholders to spread the workload of setting price controls.

The appropriate length of price control period is likely to depend upon the characteristics of the business concerned. For example, in asset intensive network businesses, which need to plan over longer timescales, a longer price control period may be more appropriate than in less asset intensive retail businesses. And Ofgem has increased the length of its gas and electricity distribution and transmission price controls from five years to eight years (with a mid-point review of output requirements).

We welcome views on the appropriate length of the regulatory cycle for different segments of the water and wastewater value chains. We also welcome views on whether more could be done to smooth both the transition between price control periods and the peak in company and regulator workloads associated with a price control review.

[9] The duration of price controls: to change or not to change? Northumbrian Water, June 2015

7. Next steps

In this policy paper we have discussed:

- the implications of making more use of markets for regulation;
- the potential to separate price controls further;
- approaches to incentivising monopolies to discover and reveal information on efficient costs;
- issues around assessing cost efficiency;
- risk and reward; and
- encouraging a longer term approach.

We welcome your responses to these issues, and the key questions set out at the beginning of this document by 5.00 pm on **10 September 2015**. Appendix 1 explains how to respond.

We will engage further with stakeholders over the summer and early autumn and we hope your response will be only one part of an iterative conversation that has already started with such initiatives as the "market place of ideas". A number of water companies have contributed to this and we welcome anyone with an interest to contribute further ideas. We will also carry out a number of workshops and other forms of engagement to build on this paper as well as the wider sector conversation. We cannot make progress alone and need the sector and everyone interested in it to work to consider the way ahead.

In October, we expect the independent "task and finish group" to publish its report on resilience.

In November as part of the Water 2020 programme we will publish:

- our approach to the review of the retail non-household price control in 2017; and
- charges scheme rules.

In December, we then plan to:

- consult on initial proposals for our approach to the regulation of water and wastewater wholesale controls at PR19; and
- publish our final approach to our resilience duty.

Appendix 1: Responding to this discussion paper

We welcome your responses to this discussion document by 5.00 pm on **10 September 2015**.

You can email your responses to water2020@ofwat.gsi.gov.uk or post them to:

Water 2020
Ofwat
21 Bloomsbury Street
London
WC1B 3HF.

Information provided in response to this discussion document, including personal information, may be published or disclosed in accordance with access to information legislation – primarily the Freedom of Information Act 2000 (FOIA), the Data Protection Act 1988 and the Environment Information Regulations 2004.

If you would like the information you provide to be treated as confidential, please be aware that, under the FOIA, there is a statutory ‘Code of Practice’ with which public authorities must comply and which deals, among other things, with obligations of confidence. In view of this, it would be helpful if you could explain to us why you regard the information you have provided as confidential. If we receive a request for disclosure of the information we will take full account of your explanation, but we cannot give an assurance that we can maintain confidentiality in all circumstances.

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