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Counterparty credit risks in a future English household water retail market

Final report for Thames Water

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1. Executive Summary

- 1.1 The water and wastewater industry in England is, with few exceptions, vertically integrated: water companies are responsible for collecting their revenues directly from end-customers i.e. businesses and households. However, this may not remain the case going forward: competition in the non-household water retail market is expanding from April 2017 and HM Treasury has recently indicated that the government is considering whether to open the household water retail market in England to competition at some later (yet-to-be-determined) date. Ofwat has been requested to make an assessment of the costs and benefits of opening the household retail water market in England by summer 2016.
- 1.2 Introducing competition into the household water retail market has the potential to change the risk profile of investing in English water companies. Companies' credit ratings, which influence the cost at which they can raise debt, are influenced by counterparty credit risks (i.e. the likelihood that the company will be able to collect its revenues from the entities it sells its services to). In turn these risks could increase or decrease as a result of changing water companies' counterparties from end-customers (e.g. households) to retailers. If the probability of household retailers defaulting on their obligations to water companies, or the losses which water companies could incur if defaults do occur, are too high, then this could increase water companies' counterparty credit risks, or the perception of those risks by credit rating agencies. The credit ratings of water companies could be negatively affected as a result.
- 1.3 It is important, therefore, to understand the potential for counterparty credit risk to increase as a result of opening the household water retail market at some future date and whether any increase in risk could be mitigated through the design of the future market or regulatory arrangements applied to the sector.
- 1.4 In this context, and as an input to Ofwat's ongoing assessment of the merits of opening the English household water retail market, Thames Water Utilities Limited (TWUL) has commissioned FTI Consulting LLP to explore two key issues:
- whether a material amount of incremental counterparty risk could be introduced as a result of expanding retail competition to include household customers; and
 - if so, whether there are options available to address those risks (such as mechanisms for mitigating or compensating those risks) which would be consistent with the water industry's objectives e.g. providing value for money services for customers.

Could a material amount of incremental counterparty risk be introduced as a result of expanding retail competition to include household customers?

1.5 Counterparty credit risk is a function of the probability of default, the losses given default and the regulatory and legislative arrangements in place which help to mitigate those risks. Whether the opening of the household water retail market would be likely to increase counterparty credit risks therefore depends on:

- whether the current regulatory and legislative arrangements could continue to provide effective protection against counterparty credit risks in future;
- whether the probability of default of water companies' counterparties would increase; and
- whether the losses given default of one or more of water companies' counterparties would increase.

Will current regulatory and legislative arrangements continue to provide effective protection in future?

1.6 Water companies' counterparty credit risk is currently a function of whether end-customers pay their bills or not i.e. bad debt risk. The current legal and regulatory arrangements include a number of measures that protect companies against these bad debt risks. These measures include:

- up-front allowances for bad debt costs (both the costs associated with non-payment and costs associated with managing bad debt) have been included within price controls (effectively transferring some of the bad debt risk to customers and creating a cross-subsidy between those customers who do pay their bills and those who do not);
- vulnerable customers have been assisted through social tariffs and other initiatives; and
- mechanisms within the price control framework that enable water companies to re-open price controls if bad debt costs increase materially.

1.7 These measures, viewed collectively, provide the industry with some degree of protection against bad debt risks, though the residual risk borne by companies is not trivial.

1.8 However, if the household retail market was opened to competition, the associated regulatory modifications may result in the loss of some of the current regulatory protections. For example, if the form of regulation applied to household retail activities changed, or the activity was de-regulated, then there might not be any ex-ante allowances for bad debt costs or price control re-openers. Retailers (including the

household retail businesses of incumbent water companies) would bear bad debt risks and pass these on to customers, subject to competitive pressures. All else equal, this would suggest that counterparty credit risks would increase if the household water retail market is opened to competition (unless the risks are mitigated in some other way, a topic discussed further below).

Will household water retailers be creditworthy?

- 1.9 In a future household water retail market, water companies' counterparties would be household retailers. Water companies' credit ratings will depend on the creditworthiness (or credit rating agencies' perceptions of the creditworthiness) of household water retailers.
- 1.10 The creditworthiness of these retailers in a future household water retail market is difficult to assess directly in the absence of any observable real world examples of household retailers operating in the English water sector. However, a number of pieces of evidence enable inferences to be drawn about the likely creditworthiness of household water retailers, including:
- no pure-play stand-alone retail business in the British, Texas, Californian, New York or Australian energy or British water markets has an investment grade credit rating. This suggests that it is difficult for these types of businesses to achieve an investment grade credit rating;
 - when the Scottish non-household water, British gas and electricity, and UK telecoms (local loop) retail markets have opened to competition, market arrangements have required retailers to either achieve a strong investment grade credit rating or post collateral of various kinds. This suggests that it may be appropriate to be concerned about the potential creditworthiness of new entrants into an English household water retail market in future;
 - there are numerous examples of retailers defaulting in other de-regulated sectors in the past, such as Aquavitae in the Scottish non-household water retail market or Independent Energy in the gas and electricity supply markets. While there may be differences in the risks of retailing in different sectors, this suggests that new entrant retailers operating in the English water sector could also potentially default;
 - the aspects of the existing regulatory regime applied to English water companies which credit rating agencies have identified as supporting water companies' credit ratings (e.g. RCV, revenue stability, regulatory track record) may be less applicable to the household water retail market; and
 - the approach adopted by credit rating agencies for sectors similar to water retail – such as other retail (e.g. supermarkets) or business and consumer services –

suggests that smaller new entrant retailers may be regarded as less creditworthy than other retailers (all else equal). This suggests that water companies' counterparty credit risks could be significantly different if a small number of large retailers serve the majority of customers, as opposed to the market being very fragmented with many smaller retailers each serving a small share of the market.

- 1.11 Taken together, these factors suggest that there is a possibility that at least some household water retailers may not be (or may not be perceived to be by credit rating agencies) creditworthy counterparties.

Could the losses given default of a household water retailer be material?

- 1.12 As above, given that it is not possible to observe the future household water retail market, we have considered other pieces of evidence from which inferences about the potential losses given default might be drawn, including:

- customer concentration: credit rating agencies typically regard companies with a diversified customer base more favourably than those with a concentrated customer base, all else equal. Consequently, if a water company receives an increasing proportion of its revenues from a single counterparty (e.g. a retailer serving several thousand customers), it is exposed to a larger potential loss than if it is interacting directly with individual end-customers, and this may be negative from a credit risk assessment perspective; and
- the value at risk in the event of a retailer default could be material: since household retailers will collect around 80% of water companies' revenues (with the other 20% of revenues coming from non-household retailers), the revenues which would be lost in the event of a retailer default would be material. Given this 80%/20% split between household/non-household revenues, incumbent water companies would face counterparty credit risks in the household market approximately four times higher than the non-household market, all else equal.

- 1.13 Taken together, these factors suggest that the losses incurred by water companies in the event a household water retailer defaulted would be material.

Summary

- 1.14 These strands of evidence suggest that counterparty credit risks faced by English water companies are, in the absence of mitigating arrangements, likely to rise if the household water retail market is opened to competition. The types of arrangements which could be put in place to mitigate these risks are considered below.

Are there options available to mitigate any incremental counterparty credit risks which are consistent with the industry's objectives?

- 1.15 There are a range of tools potentially available which could help to offset (some or all of) any increase in counterparty credit risks. Based on 'first principles' analysis and a review of the arrangements adopted in other sectors in the UK which have de-regulated retail markets, we have identified a number of tools for mitigating counterparty credit risks, including:
- measures aimed at reducing the probability of default, such as:
 - tests of the financial strength of retailers;
 - requirements on retailers to pre-pay wholesalers;
 - enabling wholesalers to mitigate risks through commercial negotiations with retailers;
 - measures aimed at reducing the loss given default, such as:
 - requirements on retailers to post collateral against amounts they owe (or are expected to owe) wholesalers;
 - joint liability amongst retailers for amounts due to wholesalers;
 - supplier of last resort (SoLR) arrangements;
 - revenue correction mechanisms (RCMs);
 - ex-ante bad debt allowances included in wholesale price controls;
 - bad debt true-ups or pass-throughs within wholesale price controls;
 - funding the costs of water companies buying protection against retailer defaults;
 - measures which compensate water companies for bearing incremental counterparty credit risks through an uplift to wholesalers' cost of capital.
- 1.16 To evaluate these options, we have developed a number of criteria for selecting between these options based on the key objectives of the key stakeholder groups affected by the design of the household water retail market. These objectives can act as a proxy for Ofwat's statutory duties (e.g. acting in customers' interests or ensuring the financeability of water companies), since whether those statutory duties would be achieved or not depends on whether the interests of the different stakeholders are satisfied or not. The key stakeholders and their objectives are summarised in Table 1-1 below.

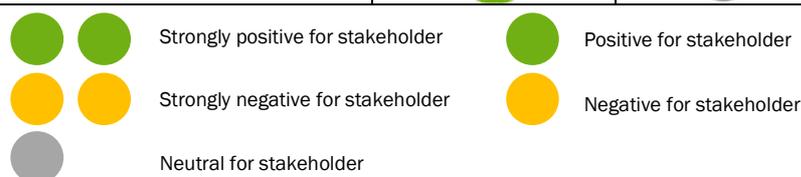
Table 1-1: stakeholders' objectives for counterparty credit risk mitigation mechanisms

Stakeholder group	Objectives
Household customers	<ul style="list-style-type: none"> • Value for money bills (incl. by keeping bills low through incentives/mechanisms to keep counterparty credit risks low) • Avoid bill volatility • Continuity of service i.e. ensuring water and wastewater services, including retail services, continue to be provided • Distributional equity e.g. cross-subsidies between one set of customers and another • Intergenerational equity
Wholesalers	<ul style="list-style-type: none"> • Certainty of revenue stream (including reducing risk of defaults, reducing losses given default, replacement retailer appointed promptly to minimise additional bad debt risk exposure) • Recoup any losses (caused by retailer defaults) as quickly as possible • Certainty of ability to re-coup losses (e.g. priority when defaulting retailer's debts are paid off) • Maintaining an investment grade credit rating • Receive reasonable compensation for risks borne • Ability to control and manage their business and operations
Incumbent retailers	<ul style="list-style-type: none"> • Do not want to be placed at a competitive disadvantage relative to new entrants • Ability to earn reasonable returns for risks borne • Reasonable working capital requirements
New entrant retailers	<ul style="list-style-type: none"> • Level playing field (including avoiding undue barriers to entry and preventing discrimination between retailers) • Ability to earn reasonable returns for risks borne • Reasonable working capital requirements
Regulators / Government	<ul style="list-style-type: none"> • Deliver statutory duties and obligations e.g. acting in customers interests • Proportionality i.e. proposed solution is proportionate to problem (so do not create undue regulatory burden) • Feasibility i.e. is the proposed option implementable in practice • Consistent with "building trust in water" • Avoid creating moral hazard situations • Consistent with regulatory precedent • Appropriate distribution of risk between end customers, wholesalers and retailers.

- 1.17 Given that some entities will be members of multiple stakeholder groups (e.g. water companies may be any and all of wholesalers, incumbent retailers and new entrant retailers (if they are operating out of area)), some entities will need to evaluate the options 'in the round'.
- 1.18 To evaluate the options we have then undertaken a qualitative assessment of whether each mitigation measure would (or would not) deliver the objectives of each stakeholder group. Quantitative cost-benefit analysis has not been attempted given few details are available at this time about the future market. In the absence of this quantitative analysis, overall conclusions about which options are most appropriate for customers (which would need to take into account the various offsetting impacts of different risk mitigation measures) cannot be reached.
- 1.19 Table 1-2 below presents a high-level summary of how well each potential mitigation measure delivers wholesalers' and retailers' objectives. Table 1-2 does not present a summary assessment for customers or for regulators because any such assessment would require quantitative analysis of the costs and benefits of different options that we do not consider can be conducted robustly at this stage with only limited information about how the market would operate in future available.

Table 1-2: Summary evaluation of options for mitigating and/or compensating incremental counterparty credit risks

	Wholesalers	Incumbent retailers	New entrant retailers
Test financial strength before allowing a retailer to enter the market			
Require retailers to pre-pay wholesalers			
Establish minimum credit requirements retailers must meet			
Joint liability amongst retailers for any losses caused by a defaulting retailer			
Supplier of Last Resort obligations			
Revenue correction mechanisms			
Ex-ante bad debt allowances and price-control re-openers			
Bad debt true-up or pass-through			
Fund the costs of alternative protections			
Enable wholesalers to manage risks through commercial negotiations			
Compensate additional risks through uplift to wholesale WACC			



1.20 The inferences we can draw from Table 4-2 suggests that certain options are more favourable than others for wholesalers, incumbent retailers and new entrant retailers:

- wholesalers will prefer mechanisms that give stronger protections against counterparty credit risks, in part by allocating counterparty credit risks to other stakeholders (end-customers or retailers). Pre-payment by retailers, bad debt true-ups, RCMs or enabling wholesalers to determine their own credit terms via contracts with retailers (subject to competition law) are the measures which are most likely to provide strong protection for wholesalers;

- retailers would prefer not to pay in advance or to allow wholesalers the flexibility to negotiate commercial terms directly, but would be little affected by bad debt true-ups or RCMs;
- while RCMs have some precedent in the water sector, bad debt true ups are applied to gas and electricity network businesses, so both approaches might be workable; and
- SoLR obligations appear to be positive for wholesalers and customers, with relatively little impact on retailers (some of which may be positive e.g. via allocation of additional customers to new entrants), so might also be worth instituting.

1.21 The trickiest issue may be in relation to the choice between requiring retailers to pre-pay wholesalers, instituting a set of minimum credit cover requirements retailers must meet or some combination of the two. Depending on the specific requirements, pre-payment could be very favourable for wholesalers, but very unfavourable for retailers, particularly new entrants. Minimum credit cover requirements trade off some of the protection wholesalers would receive from pre-payment with reducing the potential barriers to entry for new entrant retailers. If appropriately calibrated, credit cover requirements could be a reasonable compromise between protecting wholesalers against uncreditworthy retailers and avoiding erecting undue barriers to entry. Such arrangements have previously been adopted in electricity, gas and telecoms (local loop) markets. Pre-payment has been successfully used in the Scottish market and could be a viable option if the benefits of protecting wholesalers against counterparty credit risk are expected to outweigh the detriments of any barriers to retail competition that might be created.

1.22 Compensating for bearing the incremental risks via an uplift to the weighted average cost of capital (WACC) could be an alternative, or a complement, to approaches which mitigate the incremental counterparty credit risks. However, the risk that the uplift to WACC is over- or under-estimated (which is possible given the difficulty of assessing the scale of counterparty risks) may mean that some approaches to mitigating the risk (such as true-ups or pass-throughs) may be preferred by wholesalers as they provide more comprehensive protection against these risks. Whatever residual risk, if any, wholesalers and retailers are required to bear (if any) should be reflected in the respective rates of return.

1.23 Overall, this suggests that bad debt true-ups, RCMs, SoLR obligations, minimum credit cover requirements and pre-payment by retailers would all be worth considering carefully as tools for mitigating counterparty credit risks. However, the approach to mitigating risk will need to be considered further as more information about the future market becomes available and it is not appropriate to rule out any options at this stage.

Key messages

- 1.24 The discussion above highlights two key messages:
- in the absence of mitigation measures, a material amount of additional counterparty risk for English water companies could be created by the introduction of household retail competition, though it depends on the structure of the market and future regulatory arrangements; and
 - a number of potential measures and solutions for mitigating or compensating for those additional risks are available. The different measures have a range of strengths and weaknesses. Some measures target reducing the probability of default, while others reduce the losses given default. It may, therefore, be appropriate to adopt a suite of measures to mitigate counterparty credit risk.
- 1.25 We recommend that the water sector – companies, Ofwat and government - consider counterparty credit risks, and how to mitigate them, when deciding whether and how to open the English household water retail market to competition.

2. Introduction

- 2.1 This report has been prepared by FTI Consulting LLP (“FTI Consulting”) for Thames Water Utilities Limited (“TWUL”) in connection with counterparty credit risks in the English water sector. We have been asked to advise on whether additional counterparty credit risks could arise from the opening of English household water retail markets to competition and, if so, how those risks could be mitigated. This report is intended to inform the English water industry’s assessment of the costs and benefits of opening that market to competition. We set out our instructions in more detail below.

Background

- 2.2 All else equal, the more likely a company is to be paid for the services which it provides, the more likely it is that company will be able to meet its own obligations to its own creditors and, as such, the more creditworthy the company will be. Consequently, the likelihood (or perceived likelihood) of a company’s contractual counterparties (i.e. the other entities which it does business with) meeting their obligations to the company influences the credit rating which the company would itself be able to achieve.
- 2.3 In the context of the English water industry, this means that water companies’ credit ratings depend – to some degree – on their ability to collect their revenues from their customers. At present, in a world where water companies in England are vertically integrated, this means that water companies’ credit ratings depend on the likelihood of companies collecting the amounts due to them from their end-customers (i.e. businesses and households which use or consume water and wastewater services). This is in turn a function of water companies’ ability to identify their customers, issue bills to them and to collect those payments.
- 2.4 Given that water and wastewater services are essential services, the currently relatively limited scope for a water company to be displaced as the service provider to a given customer and the protections built into the economic regulation framework applied to water companies (such as funding of bad debt allowances, which means companies are only exposed to deviations in bad debt costs from those allowances), counterparty credit risk has not been a major issue for the English water industry in the past.¹

¹ That is not to say that bad debt has not been a major issue, but because the industry has been allowed to increase tariffs for customers who do pay their bills (effectively subsidising those who

- 2.5 The expansion of competition in non-household water retail markets from April 2017 has led the industry to begin to contemplate counterparty credit risks i.e. the risk that water companies will not be able to collect payments due to them from retailers participating in the non-household water retail market.²
- 2.6 The exact arrangements (e.g. market codes) applying to the non-household water retail market are the subject of ongoing deliberations, so the implications for counterparty credit risk and credit ratings have not yet been fully assessed. However, the preliminary assessment appears to be that because non-household retail “is relatively small ... competition in this area is unlikely to result in negative credit implication”.³
- 2.7 However, this may not remain the case going forward: HM Treasury has recently indicated that the government is considering whether to open the household water retail market in England to competition at a future date.⁴ Ofwat has been asked to undertake an assessment of whether or not it would be in customers’ interests to open the household retail water market to competition or not. Ofwat has recently consulted on the terms of reference for its work and issued a call for evidence.⁵ No final decision about whether or when to open the household retail water market in England to competition has been announced at this stage.
- 2.8 Given the very early stage at which the assessment of whether and when to open the household water retail market to competition, the credit arrangements for the household water retail market have not yet been considered in any detail (at least publically). However, since around 80% of the water industry’s revenues come from household customers (and only 20% from non-households) and (unlike for non-household customers) it is not possible for household customers to be disconnected if

do not) the revenue risk which the industry has been exposed to has been low most of the time.

- ² See, for example, Ofwat (2015) “Payment policy workshop”, 15 June.
- ³ See Moody’s (2015) “Rating methodology: regulated water utilities”, p44, December.
- ⁴ See HM Treasury (2015) “A better deal: boosting competition to bring down bills for families and firms”, November, p7 which states “The government is driving water market competition. Business and other non household customers will be able to switch suppliers from 2017. Ofwat will provide an assessment by summer 2016 of the costs and benefits of extending retail competition to household water customers. Following this, the government will work with water companies to begin the transition to household retail competition before the end of this Parliament.” See also Hough and Priestley (2016) “Increasing competition in the water industry: House of Commons briefing paper”, Number CBP 7259, March, pp17-20 for a summary of recent developments.
- ⁵ See Ofwat (2016) “Review of retail household markets in the water and wastewater sector: Draft terms of reference”, January and Ofwat (2016) “Review of retail household markets in the water and wastewater sector: Call for evidence”, January.

they do not pay their bills, the counterparty credit risks arising from opening of the household water retail market could, in the absence of appropriate risk mitigation measures, be materially larger than those arising from the opening of the non-household water retail market.

- 2.9 Any material increase in counterparty credit risks associated with opening the household water retail market could give rise to material costs for customers and society due to an increase in water companies' cost of capital. Any such increase in the cost of capital should be taken into account in any cost-benefit analysis of the merits of opening the household water retail market to competition.
- 2.10 The potentially more material counterparty credit risks arising if the household retail market is opened to competition may mean that this issue needs to be considered earlier in any household retail market opening process than it has been in the non-household retail market e.g. counterparty credit risks and mitigation measures for the household retail market should be considered as part of deciding whether to open the market to competition, not just as part of how the market should operate.

Our instructions

- 2.11 To inform the industry's evidence base on the issues outlined above, and as an input to Ofwat's ongoing assessment of the merits of opening the English household water retail market, TWUL has commissioned FTI Consulting to explore two key issues:
- whether a material amount of incremental counterparty risk could be introduced as a result of expanding retail competition to include household customers; and
 - if so, whether there are options available to address those risks (such as mechanisms for mitigating or compensating those risks) which would be consistent with the water industry's objectives e.g. providing value for money services for customers.

The author

- 2.12 FTI Consulting's work has been led by Anthony Legg. Anthony is a Senior Director in FTI Consulting's Economic and Financial Consulting practice based in London. He is an expert in regulatory finance and economic regulation, particularly for regulated electricity, gas and water networks.
- 2.13 Unless stated otherwise, all references to "we" and "us" throughout this report refer to the author. We have discussed issues relevant to this report with TWUL. The opinions expressed in this report are, however, the author's own.

Sources of information

- 2.14 In preparing this report we have had regard to a number of sources of information including:
- water company financial information;
 - Ofwat publications;
 - publications by other economic regulators, regulated companies and industry bodies;
 - reports by, and discussions with, credit rating agencies; and
 - third party reports on behalf of, or for, the water industry.
- 2.15 We have also had regard to a range of other information supplied to us by TWUL.

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Structure of this report

- 2.24 To address the issues outlined in paragraph 2.11 this report is structured as follows:
- Section 3 discusses whether water companies' counterparty credit risk might be increased (or perceived to be increased) by the introduction of household retail competition;
 - Section 4 considers options for mitigating and/or compensating any incremental counterparty credit risks which may arise; and
 - Section 5 concludes and sets out the key messages from the report.
- 2.25 The Appendix discusses how similar issues have been addressed in other regulated sectors in the past (such as electricity, gas, telecoms (local loop) and Scottish water) and what lessons can be learned.

3. Assessment of potential incremental retail counterparty credit risk in a future English household water market

3.1 Whether counterparty credit risk might increase or not – or be perceived by credit rating agencies to increase or not - as a result of opening the household water retail market, depends on:

- What drives counterparty credit risks?
- What is the current level of counterparty credit risk faced by English water companies?
- How might counterparty credit risk change in future?

3.2 We discuss each of these issues below.

3.3 Our assessment of the reasons for why counterparty credit risk might increase if the household water retail market is opened to competition is primarily qualitative in nature, rather than quantitative. This is because with any opening of the household water retail market in England a number of years away, any assessment of the counterparty credit risks which English water companies may face in future is necessarily hypothetical, rather than based on real world data e.g. credit ratings for household water retailers cannot be observed, nor can the potential losses that might arise if a retailer defaults.

Drivers of counterparty credit risk

3.4 In the wider economy, companies' counterparty credit risk depends on two factors:

- the creditworthiness of the counterparties that they trade with: the probability of default; and
- the impact of counterparties defaulting: the loss they incur in the event of default by one of their counterparties (or “loss given default” for short).

3.5 Water companies are no different to other companies in this respect, but water companies' counterparty credit risks also depend on the legal and regulatory environment they operate in. These arrangements can potentially afford significant protections against counterparty credit risk either by (a) reducing the likelihood of counterparties defaulting; and/or (b) mitigating the losses incurred by water companies when those defaults occur.

- 3.6 Accordingly, an assessment of how counterparty credit risk might evolve if the household water retail market is opened to competition needs to consider whether the likelihood of default and/or loss given default might increase, taking into account the regulatory and legal arrangements which might (or might not) apply.

Current counterparty credit risks

- 3.7 Bad debt – the failure of customers to pay their bills – has been a significant issue for the water industry for many years. Ofwat has required companies to take a range of measures to improve their billing and debt collection processes to minimise non-payments by customers. The industry has also implemented a range of initiatives in this area. For example, payment plans, customer assistance grants, debt and money advice services and reduced social tariffs (such as WaterSure) have been introduced for vulnerable customers who are expected to find it difficult to pay their bills.⁶
- 3.8 DEFRA and Ofwat have recognised that there are some fundamental challenges to collecting payments from some customers and that some level of bad debt cost is unavoidable. Allowances for bad debt costs (both the costs associated with non-payment and costs associated with managing bad debt) have been included within price controls. These allowances have been set in different ways at different price controls, but have typically set a future allowance as a function of historical bad debt expenses. The allowances have often reflected differences between companies e.g. through special factor claims.
- 3.9 The inclusion of these ex-ante allowances means that customers who do pay their bills effectively cross-subsidise those who do not. The size of this cross-subsidy has been estimated at £21 per customer per annum across England and Wales.⁷
- 3.10 In the absence of other measures, the inclusion of an ex-ante allowance within price controls means that companies would be exposed to fluctuations in bad debt costs: if costs are higher than the allowances, companies would have to bear these costs and vice versa. This risk has been addressed, to a degree, by the inclusion of mechanisms within the price control framework that enable water companies to seek price increases if bad debt costs increase materially. Specifically, bad debt has been a Notified Item (NI) at most past price controls, enabling companies to apply to re-open the price control if the increase in costs is large enough (taking into account any other

⁶ Further details can be found on water companies' websites. See for example, Thames Water's website <http://www.thameswater.co.uk/cr/Puttingourcustomersfirst/Affordability/index.html> accessed on 30 March 2016.

⁷ See Ofwat (2015) "Affordability and debt 2014-15", December, p4.

eligible costs under these mechanisms).⁸ A number of companies have lodged bad-debt related IDoKs in the past, with mixed outcomes.

- 3.11 These measures, viewed collectively provide the industry with some degree of protection against bad debt risks. Table 3-1 shows the proportion of unfunded bad debt costs for the industry over the past five years, expressed as a percentage of turnover: unfunded bad debt costs have accounted for around 1% of industry turnover over the 2010-15 period, implying that a material amount of English water companies' bad debt risk has been mitigated through the regulatory arrangements.

⁸ Known as Interim Determination of K (IDoK) or Substantial Adverse Effect (SAE) in the English water industry.

Table 3-1: unfunded bad debt expense as a percentage of turnover (2010/11 – 2014/15)

	2010/11	2011/12	2012/13	2013/14	2014/15	AMP5
Anglian	1.0%	0.7%	0.3%	0.4%	0.4%	0.5%
Welsh	1.2%	1.1%	1.7%	1.8%	1.8%	1.5%
Northumbrian	0.6%	0.4%	0.5%	0.5%	0.7%	0.5%
Severn Trent	0.7%	0.5%	0.5%	0.5%	0.3%	0.5%
Southern	(0.1%)	7.0%	0.7%	1.2%	1.3%	1.9%
South West	0.4%	0.5%	1.0%	0.9%	0.8%	0.7%
Thames	1.2%	1.4%	4.4%	2.2%	2.7%	2.4%
United Utilities	0.6%	0.2%	0.2%	0.5%	1.3%	0.6%
Wessex	0.2%	0.6%	0.9%	1.1%	0.9%	0.8%
Yorkshire	0.6%	0.8%	0.7%	0.9%	1.0%	0.8%
Affinity	(1.3%)	(1.6%)	(0.4%)	(0.3%)	0.0%	(0.7%)
Bournemouth	0.1%	0.4%	0.4%	0.3%	0.4%	0.3%
Bristol	1.2%	0.7%	0.4%	0.7%	0.6%	0.7%
Dee Valley	(0.3%)	(0.2%)	0.4%	(1.8%)	2.2%	0.1%
Portsmouth	0.6%	0.2%	(0.1%)	0.5%	1.7%	0.6%
South East	0.7%	0.5%	(0.1%)	0.3%	(0.4%)	0.2%
South Staffs / Cambridge	0.5%	1.4%	1.1%	1.4%	1.9%	1.3%
Sutton and East Surrey	0.5%	0.5%	0.1%	0.4%	0.3%	0.4%
Industry	0.7%	1.0%	1.2%	1.0%	1.2%	1.0%

Source: FTI Consulting analysis of water company annual reports, industry datashares and Ofwat PR09 Final Determination.

Notes: We have assumed that Ofwat set the bad debt allowances for 2010/11 to 2014/15 equal to the outturn bad debt expenses recorded in water companies' annual reports for 2008/09 (excluding any exceptional items): see Ofwat (2009) "Future water and sewerage charges 2010-15: Final determinations", p103 which states "price limits roll forward the costs incurred by companies during 2008-09 (excluding exceptional items)". We have converted all values to 2014/15 year-average prices using the "financial year-average RPI inflation" index published by Ofwat: see <http://www.ofwat.gov.uk/publications/regulatory-capital-value-updates/> accessed on 7 March 2016.

3.12 The risk borne by companies is not trivial: Standard & Poor's Financial Services LLC ("S&P") have noted that bad debt risk is an issue for the UK water industry,⁹ while the

⁹ See S&P (2013) "Why UK Utilities' Regulatory Frameworks Merit a 'Strong' Regulatory Advantage

analysis in Table 3-1 shows some companies have been more exposed to increases in bad debt costs than others.

- 3.13 The inference from the above is that while bad debt risks continue to be a significant issue for the industry, the suite of regulatory and legislative measures applied to the industry have largely protected water companies from significant counterparty credit risk. It should be noted, however, that this is at least partly a function of the outturn level of bad debt costs not having substantially exceeded allowed bad debt costs for most companies, otherwise more companies may have needed to apply for IDoKs to protect themselves against unforeseen bad debt expenses.
- 3.14 The critical role of regulatory and legal arrangements in reducing counterparty credit risks to its current levels should be noted. If those arrangements no longer apply, or are less effective in future, then unless they are replaced with a suitable suite of alternatives, water companies could be exposed to significantly higher counterparty credit risks. Counterparty credit risks do matter to ratings agencies¹⁰, so if these risks are not appropriately managed there could be consequences for water companies' credit ratings.

Future counterparty credit risks

- 3.15 Noting that current counterparty credit risks are a function of a combination of the creditworthiness of end-customers and regulatory measures which mitigate risks of non-payment, whether the likelihood of being paid or not would be likely to decrease or not as a result of opening the household retail water market to competition depends on both the creditworthiness of the counterparties involved (i.e. household customers versus household retailers) and the regulatory or other mechanisms which might mitigate future counterparty credit risks.
- 3.16 Below we discuss these issues:
- why current regulatory and legal arrangements might not continue to apply and/or be as effective at mitigating counterparty credit risks;
 - whether household water retailers are likely to be creditworthy; and
 - whether the losses given default (if a retailer defaults) could be material.

Assessment", December, p5.

¹⁰ See, for example, Moody's (2015) "UK Water Sector: Upstream Reform – what would it mean for the sector's credit quality", p8, October.

Current regulatory and legal arrangements might not continue to apply and/or be as effective

- 3.17 We noted above that the current regulatory arrangements, which provide some protection to companies against counterparty credit risks, comprise a number of elements: (a) up-front allowances for bad debts; (b) special measures for vulnerable customers; and (c) price control re-openers in certain circumstances.
- 3.18 However, if the household retail market was opened to competition, then the regulatory changes that would entail might well remove some of these regulatory protections. For example, if the form of regulation applied to household retail activities changed or the activity was de-regulated, then there might not be any ex-ante allowances for bad debt costs or price control re-openers. Retailers (including the household retail businesses of incumbent water companies) would bear bad debt risks and pass these on to customers, subject to competitive pressures. Administering vulnerable customer tariffs and arrangements may also be more difficult in a competitive market as competition between different retailers might be affected if they have different proportions of vulnerable customers (as the cross-subsidy required between each retailer's customers who pay full price and those who pay a discounted price could be different).
- 3.19 All else equal, this would suggest that counterparty credit risks would increase if the household water retail market is opened to competition (though it may be the case, as we discuss in Section 4 later, a range of alternative risk mitigation measures could be introduced to protect companies against these risks if the market is opened to competition).

Household water retailers might not be creditworthy counterparties

- 3.20 The creditworthiness of these retailers in a future household water retail market is difficult to assess directly in the absence of any observable real world examples of stand-alone household retailers operating in the English water sector. However, we can draw inferences about potential increases in counterparty credit risk from other pieces of evidence including:
- the credit ratings of 'pure play' stand alone retailers in the British, Texas, Californian, New York and Australian energy and British water sectors;
 - the collateral retailers are required to post in other de-regulated retail markets;
 - the number of retailers which have defaulted in other de-regulated sectors;
 - the features of the regulatory framework applied to English water companies that have supported strong credit ratings in the past, and whether those would continue to provide support in future; and
 - the approaches credit rating agencies adopt for rating businesses operating in

sectors with similarities to water retailing and what this may mean for ratings of household water retailers.

- 3.21 We discuss these different pieces of evidence in further detail below.
- No 'pure play' stand-alone retailer in the British, Texas, Californian, New York or Australian energy or British water sectors has, to our knowledge, achieved an investment grade credit rating*
- 3.22 We have examined the credit ratings of stand alone 'pure-play' retail business in the British, Texas, Californian, New York or Australian energy and British water markets.¹¹
- 3.23 Of the nearly 500 retailers we identified operating in these markets, none were stand alone pure play retailers with an investment grade credit rating.
- 3.24 While this evidence might reflect that (a) there are relatively few stand-alone 'pure play' retailers in these sectors; and (b) those which do exist tend to be relatively small players so might not necessarily wish to have a credit rating to facilitate raising of capital on public markets, it is suggestive that it is difficult for these retailers to achieve investment grade credit ratings (else we would expect to see more retailers with investment grade credit ratings).
- Collateral requirements in energy, telecoms and water retail sectors suggest these companies may not be able – at least in some cases – to achieve investment grade credit ratings*
- 3.25 As part of de-regulating the British electricity and gas sectors, Scottish non-household water sector and UK telecoms (local loop) sector, new entrants into those markets have been required to either pre-pay or post collateral to protect their counterparties (wholesalers) against the risk of default. The exact requirements (e.g. amount of collateral which has to be posted and the forms of acceptable collateral) vary between sectors, but credit cover can be required for up to three months' charges (telecoms local loop) and cash deposits, escrow accounts, parent company guarantees, insurance and letters of credit are common forms of collateral. Further details of the requirements in each of these sectors are discussed in the Appendix.
- 3.26 The very existence of these collateral requirements suggests that there were concerns that some of these entities would not be sufficiently financially strong to meet their

¹¹ We excluded retailers which are part of larger corporate families as the credit ratings for these entities would not necessarily reflect the credit rating of the retail business (but rather the wider corporate group). New York, California and Texas were selected as the three most populous states in the USA. We identified the relevant retailers based on lists of license holders published by the relevant economic regulators. We then checked the credit ratings for these businesses on Bloomberg. Analysis conducted on 8 March 2016.

obligations.

- 3.27 Reinforcing this inference, we note that in the electricity and gas sectors retailers were able to access unsecured credit if they had an investment grade credit rating, but had to pre-pay or post collateral if they did not. The willingness of wholesalers to extend credit to investment grade credit rated retailers, but not to other retailers, suggests that the other retailers were regarded as having inferior creditworthiness i.e. higher counterparty credit risk.

History indicates retailers do sometimes default in the energy, water and telecoms sectors

- 3.28 There have been a number of examples of retailers defaulting in the energy, water and telecoms markets in the UK in the past:
- Aquavitae and Satec are two new entrant non-household water retailers that failed in the Scottish non-household water retail market;
 - numerous examples of energy suppliers which have financially failed in the past, such as Independent Energy and TXU Europe; and
 - Atlantic Telecoms, Ionica and Euro1Net are examples of communications service providers that have failed in the past.

- 3.29 Further details about these insolvencies can be found in the Appendix.

- 3.30 While by no means common, the fact that some retailers have defaulted in the past in these sectors indicates that it is possible household water retailers could also default in future (if the market is opened to competition).¹²

- 3.31 Again, while not definitive, this evidence suggests that water companies may be less likely to be paid if the household retail market is opened to competition – particularly by independent new entrant retailers – than they are likely to be paid under current market arrangements.

The features of the existing regulatory regime which support water companies' strong credit ratings may not apply to household retailers

- 3.32 Credit rating agencies currently ascribe investment grade credit ratings to English water

¹² The riskiness of retail activities may vary across these sectors. For example, energy suppliers may currently face additional risks to water retailers because wholesale power and gas prices (which are key costs for energy suppliers) are more volatile than wholesale water and sewerage prices. These potential differences in riskiness mean that some caution must be exercised when reading across from these other sectors to water, but the general point that defaults by retailers in other de-regulated sectors suggests household water retailers could also default remains.

companies partly because of the regulatory environment in which they operate. For example, S&P assesses that the regulatory regime applied to English water companies merits “a ‘strong’ regulatory advantage assessment” due to a number of features of the regime, including:¹³

- Regulation in place since privatisation in the 1990s;
- Five year regulatory periods;
- Incentive-based revenue cap model;
- Full recovery of operating, capital, and financing costs;
- Based on regulated capital value; RPI-indexed;
- A number of re-opening mechanisms;
- Politically independent regulator; and
- Strong ring-fencing license conditions.

3.33 These factors, however, may not be as equally applicable to household retailers, whether incumbents’ own household retail divisions or new entrant household retailers. Table 3-2 below summarises our assessment.

¹³ S&P (2013) “Why UK Utilities’ Regulatory Frameworks Merit a ‘Strong’ Regulatory Advantage Assessment”, p3, December.

Table 3-2: applicability of supportive features of existing regulatory regime to household water retailers

Aspect of existing regulatory regime supporting strong water company credit ratings	Applicability to household water retailers
Regulation in place since privatisation in the 1990s	Regulatory regime for household retail activities has less track record
Five year regulatory periods	If price controls are applied to household retail activities in future, the duration of price controls could be different (subject to changes to water company licence conditions)
Incentive-based revenue cap model	The future form of regulation for household retail is unknown, but current price controls for household retail activities do not take the form of a revenue cap (rather an average revenue per customer)
Full recovery of operating, capital, and financing costs	The future introduction of competition into the sector might mean water retailers are unable to fully recover their costs
Based on regulated capital value; RPI-indexed	The future form of regulation for household retail is unknown, but current price controls are not based on RCV, nor are they indexed to RPI-inflation. Given the asset-light nature of retail activities, and that all RCV has been allocated to the wholesale business, it seems unlikely future regulation of household retail activities would be based on RCV.
A number of re-opening mechanisms	The future form of regulation for household retail is unknown, but these sorts of mechanisms are less applicable in a competitive market
Politically independent regulator	Equally applicable to household retail
Strong ring-fencing license conditions	Could also apply to household retailers, but licence conditions for household retailers are not yet known. The requirement on statutory water companies to maintain an investment grade credit rating may also not apply to household retail licensees.

Source: FTI Consulting

- 3.34 Many of the features of the existing regulatory regime which credit rating agencies find supportive of water companies' credit ratings may not apply to the household water retail market, or the details of how such features might apply are not yet known. As further details emerge of any new regulatory regime applicable to household retailers it is possible that credit rating agencies could find the new regime equally supportive of

retailers' credit ratings, but this may not turn out to be the case given the household retailers will be exposed to competition and the form of regulation is likely to be fundamentally different e.g. not based on RCV.

- 3.35 Moreover, any uplift for structural considerations that rating agencies might take into account for securitized water companies¹⁴ may be less likely to apply to (or have a smaller impact for) household retailers (assuming that such businesses will be financed in different ways).

The approaches adopted by credit rating agencies for rating businesses with some similarities to water retailers suggests that smaller retailers may be less creditworthy (and since at least some household water retailers will be smaller, water companies may face some less creditworthy counterparties)

- 3.36 If the household retail market is opened to competition, water companies' counterparties would be a weighted average of the counterparty credit risk of:
- end-customers (who would continue to deal directly with the water companies' own household retail businesses);
 - water companies' own household retail businesses (which could serve different customers to those served by the wholesale business, meaning some real-world transactions would occur and counterparty risk could arise);
 - other water companies' associated retail businesses which have entered a new geographic market;
 - large new entrants from other sectors, e.g. 'Big 6' energy suppliers;
 - small new entrants from other sectors; and/or
 - small 'pure play' water retail new entrants.
- 3.37 The weights attached to each type of counterparty would be the proportions of water company revenues coming from each type of counterparty.
- 3.38 Some of these counterparties are likely to be more creditworthy than others, but some of these retailers (including potentially some water companies' associated retailers) are likely to be small and smaller retailers are less likely to secure a strong credit rating. We base this assertion on the types of factors which might be relevant to evaluating credit ratings for household water retailers, which we consider could include those which are relevant to evaluating water utilities, retailers and/or business and consumer services companies, all of which have some similarities with water retailers (though

¹⁴ See Moody's (2015) "Ratings Methodology: Regulated Water Utilities", December, p24ff.

there are also some material differences too).¹⁵ The factors which Moody's considers for these sorts of businesses are described in Table 3-3 below.

Table 3-3: rating factors considered by Moody's for different industries

	Water utilities	Retailers	Business and consumer services
Scale		✓	✓
Business profile	✓	✓	✓
Financial policy	✓	✓	✓
Leverage and coverage	✓	✓	✓
Profitability			✓
Structural considerations	✓		

Source: Moody's (2015) "Rating Methodology: Regulated Water Utilities", December, Moody's (2014) "Rating Methodology: Business and Consumer Service Industry", December and Moody's (2015) "Rating Methodology: Retail Industry", October.

3.39 The key differences between the ratings methodologies for the different types of businesses is that scale and profitability are explicitly taken into account for business

¹⁵ Retailers in an English household water retail market could have some similarities to retailers in other sectors, as the act of purchasing a physical product from a wholesaler and selling it to end-customers is common to both. For example, aspects of retailing related to management of working capital and establishing customer loyalty (such as through development of differentiated service offerings) may be similar between these industries. S&P defines retail companies as "companies that sell goods or services directly to the individual consumer through stores, catalogues, or online operations—or a combination of these channels" and includes restaurants, automotive retailers and grocery wholesalers in this category: see S&P's (2013) "Key Credit Factors for the Retail and Restaurants Industry", November, p2. However, since household water retailers would not need the physical infrastructure associated with retailing in these other sectors (e.g. stores) and the sales channel may be different, water retailers may also have some similarities with some business and consumer service providers. Moody's includes various types of businesses within these categories, including business process outsourcing, information technology outsourcing, healthcare outsourcing, staffing, consulting services, funeral services, fitness and weight management, for-profit education, alarm monitoring and real estate services: see Moody's (2014) "Rating Methodology: Business and Consumer Service Industry", December, p3.

and consumer services companies, but not for (vertically integrated) water utilities. Scale also matters for retailers. This suggests that the scale and profitability of household water retailers may have some influence on any credit ratings they could achieve, though - as noted above - credit rating agencies have not published a methodology specifically for water retailers at this time. Given this potential importance of scale and profitability to assessing the creditworthiness of household water retailers, smaller stand-alone retailers are likely to be more risky counterparties for water companies than larger retailers.

3.40 The extent to which this has a negative impact on the overall counterparty credit risks faced by water companies depends on how many small retailers there are and what market share they achieve collectively. While the market shares that will be achieved by different household retailers are difficult to predict, the potential to 'exit' the market, mergers and acquisitions, formation of joint ventures (such as that recently announced by Severn Trent Water and United Utilities)¹⁶ and the emergence of multi-utility offerings could all influence the market dynamics, as could any regulatory arrangements (e.g. price controls) put in place by Ofwat.

3.41 The implication of the above is that water companies' counterparty credit risks could be significantly different if a small number of large retailers (not necessarily incumbent water companies' household retail businesses) served the majority of customers, as opposed to the market being very fragmented with many smaller retailers each serving a small share of the market. And while this cannot be predicted with any degree of precision at this time, the possibility that some retailers will be smaller and relatively less creditworthy suggests that water companies may face heightened counterparty credit risks compared to their current arrangements.

Losses given default could be material

3.42 As discussed earlier, the probability of default is not the only driver of counterparty credit risk: the loss given default also matters.

3.43 As above, given that it is not possible to observe the future household water retail market, we have considered other pieces of evidence from which inferences about the potential losses given default might be drawn including:

- water companies would face increased customer concentration, placing greater value at risk if that customer (retailer rather than end-customer) defaults; and
- a substantial proportion of water companies' revenues will pass through

¹⁶ See Severn Trent Water website <https://www.stwater.co.uk/media/severn-trent-forms-joint-venture-with-united-utilities> and United Utilities website <http://corporate.unitedutilities.com/4284.aspx> both accessed on 29 March 2016.

household water retailers.

3.44 We discuss these pieces of evidence in more detail below.

Water companies would face increased customer concentration risk

3.45 Credit rating agencies typically regard companies with a diversified customer base more favourably than those with a concentrated customer base, all else equal.¹⁷ Or, put the other way, greater exposure to individual customers would be likely to decrease creditworthiness, all else equal.

3.46 A corollary of this is that if a water company receives an increasing proportion of its revenues from a single counterparty (e.g. a retailer serving several thousand customers), it is more exposed to a larger potential loss than if it is interacting directly with individual end-customers, and this may be negative from a credit risk assessment perspective.

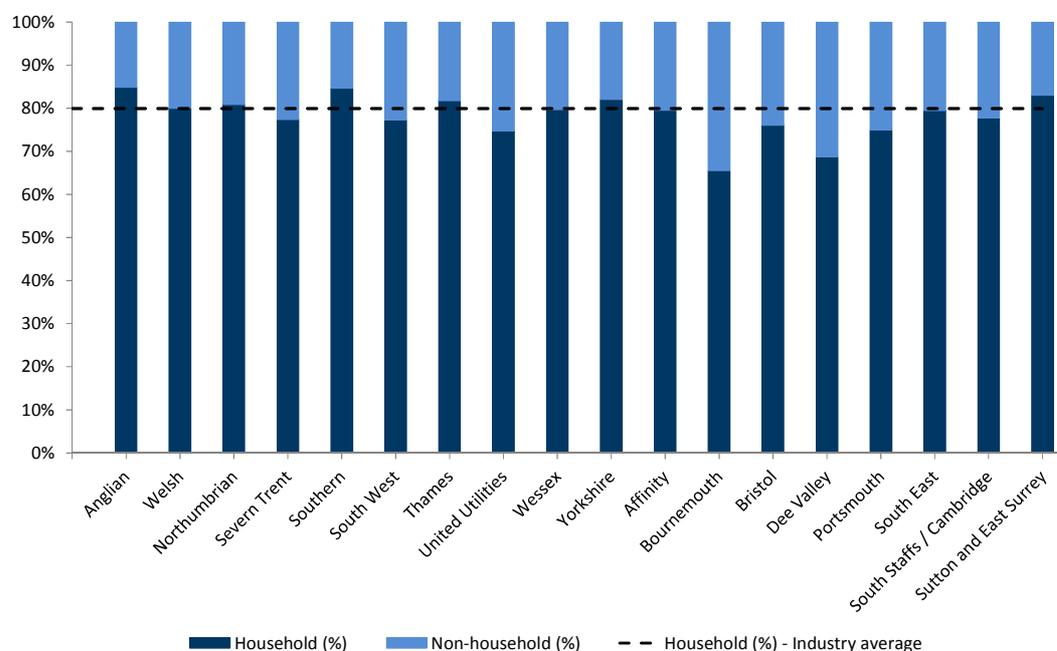
A substantial proportion of water companies' revenues will pass through household retailers

3.47 The loss given default in a future household water retail market will depend on the size of the retailer(s) which default (i.e. the amount of the relevant water company's revenue that retailer collects), which in turn depends on the market share of the relevant retailer(s), the size of the market and the geographical distribution of customers.

3.48 While in the absence of an observable household water retail market it is not possible to say with precision how large the market may be, or the size of the retailers operating within it, Figure 3-1 below shows that around 80% of the water industry's revenues come from household customers (though there is some variation between companies).

¹⁷ See, for example, S&P (2013) "Utilities: Key Credit Factors for the Regulated Utilities Industry", September, p9 and Moody's (2015) "Rating Methodology: Regulated Water Utilities", December, p12, which both discuss the implications of customer concentration on ratings.

Figure 3-1: Water companies' turnover (2014/15): household and non-household proportions



Source: FTI Consulting analysis of water companies' annual reports.

Notes: turnover includes household and non-household measured and unmeasured and includes large users, but excludes other sources of revenue such as bulk supplies and trade effluent.

- 3.49 This suggests that around 80% of a water company's revenue would pass through a household retailer (including incumbent water companies' retail businesses), which is a material proportion of any company's revenues, suggesting that the value at risk in the event of a default could be material. Given this 80%/20% split between household/non-household revenues, incumbent water companies would face counterparty credit risks in the household market approximately four times higher than the non-household market, all else equal.

Conclusion

- 3.50 Counterparty credit risk is a function of the probability of default, the losses given default and the regulatory and legislative arrangements in place which help to mitigate those risks.
- 3.51 Currently, regulatory and legislative measures (such as ex-ante bad debt allowances, social tariffs, cross-subsidies between customers who pay and customers who don't, and IDoK / SAE clauses in licenses) protect English water companies against

counterparty credit risks most of the time, despite the bad debt risks which the industry faces (i.e. the risks that end-customers do not pay their bills).

3.52 However, looking ahead, if the household water retail market was opened to competition in England, there are a number of factors which suggest that, in the absence of mitigation measures, counterparty credit risks could increase (or be perceived to increase by credit rating agencies):

- **current regulatory and legislative protections may not continue to apply** and/or may be less effective in future e.g. in the absence of price controls for household retail activities, it may be more difficult to implement ex-ante allowances for bad debt costs or price control re-openers;
- **household water retailers may not be creditworthy counterparties** since:
 - we have not been able to identify any pure-play stand-alone retail business in the British, Texas, Californian, New York or Australian energy or British water markets with an investment grade credit rating. This suggests that it is difficult for these types of businesses to achieve an investment grade credit rating;
 - when the Scottish non-household water, British gas and electricity, and UK telecoms (local loop) retail markets have opened to competition, market arrangements have required retailers to either achieve a strong investment grade credit rating or post collateral of various kinds. The mere presence of these collateral requirements, and the ratcheting up of those requirements for retailers with weaker credit ratings, suggests these industries were concerned about the creditworthiness of retailers in those sectors. This suggests that it may be appropriate to also be concerned about the potential creditworthiness of new entrants into an English household water retail market in future;
 - there are examples of retailers defaulting in other sectors in the past. This suggests that new entrant retailers operating in the English water sector could also potentially default;
 - the aspects of the existing regulatory regime applied to English water companies which credit rating agencies have identified as supporting water companies' credit ratings (e.g. RCV, revenue stability, regulatory track record) may be less applicable to the household water retail market; and
 - the approach adopted by rating agencies for sectors similar to water retail – such as other retail (e.g. supermarkets) or business and consumer services – suggests that the scale and profitability of water

retailers could influence their credit ratings. This suggests that smaller new entrant retailers may be regarded as less creditworthy than other retailers (all else equal), which suggests that the creditworthiness of at least these particular retailers could be an issue for incumbent water companies.

- **the losses that English water companies could incur as a result of a counterparty defaulting could be material** if the household water retail market is opened to competition. This is because there could be increased customer concentration, which credit ratings agencies view negatively, and because around 80% of the industry's total revenues would pass through a household retailer.

3.53 Taken together, these strands of evidence suggest that counterparty credit risks faced by English water companies are, in the absence of mitigating arrangements, likely to rise if the household water retail market is opened to competition. Further work will be needed as the future market arrangements become clearer to quantify these risks more robustly, but the possibility of increased counterparty credit risk suggests that the industry may wish to consider options for mitigating and/or compensating any incremental counterparty credit risks which could arise. We consider the types of arrangements which could be put in place to mitigate these risks in the next section.

4. Options for mitigating and/or compensating incremental counterparty credit risks

- 4.1 If opening the household retail market could give rise to material incremental counterparty credit risks, it may be appropriate to put in place arrangements which mitigate or compensate those risks. However, there is a range of different ways in which these risks could be addressed, so the most appropriate approach (or approaches) need to be considered carefully. Determining the appropriate approach requires:
- identifying options for mitigating and/or compensating incremental counterparty credit risks;
 - a selection criteria: a set of factors which the risk mitigation arrangements should satisfy in order to deliver the desired outcome; and
 - applying the criteria to the options: using the selection criteria, the different options for mitigating and/or compensating incremental counterparty credit risk can be compared, enabling their ability to deliver desired outcomes to be assessed.
- 4.2 Noting the above, this section initially discusses options for risk mitigation before describing a selection criteria and then applying that criteria to the options to identify approaches to risk mitigation which appear reasonable and the industry may wish to consider further.

Options for mitigating and/or compensating incremental risk

- 4.3 Based on our review of the arrangements introduced in other sectors and situations in the past, and 'first principles' analysis of possible mitigation mechanisms, a range of options may be available for addressing any incremental counterparty risks. These options include:
- test the financial strength of retailers before allowing them to enter the market;
 - require retailers to pre-pay wholesalers;
 - establish minimum credit requirements retailers must meet;
 - joint liability amongst retailers for defaults;
 - Supplier of Last Resort (SoLR) obligations;

- Revenue Correction Mechanisms (RCMs);
- ex-ante bad debt allowances and price control re-openers;
- bad debt true-ups or pass-throughs;
- fund the costs of water companies buying protection against retailer default;
- enable wholesalers to manage risks through commercial negotiations of contract terms and conditions; and
- compensate additional counterparty credit risk through an uplift to water companies' allowed weighted average cost of capital (WACC).

4.4 These mechanisms broadly fall into three categories:

- mechanisms which reduce the probability of retailer default, such as testing licensees' financial strength;
- mechanisms which reduce the loss given default, such as revenue correction mechanisms, joint liability, bad debt true-ups or pass-through mechanisms; and
- mechanisms which compensate investors for bearing unmitigated risks. An uplift to WACC is an example of this kind of mechanism.

4.5 We describe these options in more detail below. Where relevant, we note when a particular measure (or variant of a measure) has been adopted in the British electricity or gas, Scottish water or UK telecoms (local loop) markets.¹⁸

Test financial strength before allowing a retailer to enter the market

4.6 To reduce the risk of retailers defaulting in the first place, tests of each retailer's financial stability could be undertaken by the regulator or an appropriate alternative body prior to the retailer beginning to operate in the market. Satisfying these tests could be made part of the conditions of being awarded a licence. The tests could also be applied periodically (e.g. annually) to ensure the retailer remains financially robust.

4.7 Ofwat and the Water Industry Commission for Scotland (WICS) have adopted these kinds of arrangements, but Ofgem is of the view that these tests deliver limited benefits and instead prefers to rely on financial tests entrants have to satisfy in order to become members of industry codes: see Appendix.

Require retailers to pre-pay wholesalers

4.8 Retailers could be required to pay wholesalers in advance to reduce wholesalers'

¹⁸ We note these examples as they may provide valuable lessons for the English water sector. Further details of how these mechanisms work are provided in the Appendix.

exposure to a default by a retailer.

- 4.9 This approach has been adopted in the Scottish non-household water retail market: see Appendix.

Establish minimum credit requirements retailers must meet

- 4.10 To ensure that some protection is available to the wholesaler in the event of a retailer defaulting, the retailer could be required to post collateral against the amounts it owes (or is expected to owe) to the wholesaler. The amount of collateral that would need to be posted could be a function of the frequency with which bills are issued, the amount of time retailers have to pay those bills and the duration of any process to access the collateral in the event that a retailer did default. Various different types of collateral could be posted e.g. letters of credit, parent company guarantees, insurance etc. Retailers may be able to access credit on unsecured terms if they can demonstrate sufficient creditworthiness, for example through their credit rating or other credit reference tools (such as Dun & Bradstreet assessments).

- 4.11 Variations on this theme have been adopted in each of the Scottish non-household water, British electricity and gas, and UK telecoms (local loop) markets. Each sector has slightly different requirements in terms of the amounts of collateral which need to be posted and on the types of collateral which can be used, but the basic arrangements are similar.

Joint liability amongst retailers for defaults

- 4.12 In the event that a retailer defaults, all the other remaining retailers could be liable to pay for the defaulted retailer's debts to the wholesaler (but not other creditors). The liability would need to be apportioned among the remaining retailers in some way e.g. in proportion to market shares. Whether retailers should only be liable for the liability apportioned to them, or jointly and severally liable for the defaulting retailer's liability would also need to be considered. However the liability is apportioned, having paid the liability to the wholesaler, the retailers would then be able to pass that cost through to their tariffs if they chose to do so, thereby recouping their own costs. The regulator or another industry body could be responsible for attempting to recover the amounts that were owed to the wholesaler by the defaulted retailer from the defaulted retailer through the administration process or court proceedings. If the amounts were recovered, these would then be passed back to the remaining retailers, putting them back in the position in which they started. Any retailer who had increased its charges to customers to recover the contribution it had made towards the defaulted retailer's liability to the wholesaler could then reduce its charges so that its customers do not

end up being over- or double-charged.¹⁹

- 4.13 To our knowledge, this type of arrangement has not been adopted in any other regulated sector in the UK, though there are examples where retailers which have not defaulted are expected to contribute towards any amounts the defaulted retailer owed to market bodies e.g. the Scottish Central Markets Agency or the Balancing and Settlements Code Company: see the Appendix for more details.

Supplier of Last Resort (SoLR) obligations

- 4.14 SoLR, or continuity of supply, obligations can help to protect wholesalers against further losses in the event of a retailer default: a replacement retailer (or group of retailers) can step into the void and begin billing end-customers and collecting payments which can then be passed on to wholesalers as appropriate. The longer the process to appoint a new retailer, the more exposed wholesalers will be. Whether a replacement retailer is able to back-date its billing of end-customers to the date of the original retailer's default can also influence the exposure of wholesalers to retail default: if the replacement retailer is not liable for payments to the wholesaler from the date of the original retailer's default, then the wholesaler will not be paid for the services it has provided between the date of the default and the date of the appointment of the replacement retailer. A variant on SoLR obligations would be to allow the water companies' retail businesses (if they continue to have retail businesses) to 'step in' and take over the customers of the defaulted retailer.
- 4.15 SoLR arrangements are in place in the Scottish non-household water retail market, the UK telecoms market (in certain circumstances only) and in the electricity and gas supply markets in Great Britain. The approaches in these other sectors (described in the Appendix) have different criteria for identifying retailers willing to receive customers and for allocating customers to those parties e.g. in the Scottish water market, customers are allocated at random across all other retailers, whereas in gas and electricity Ofgem tries to allocate all affected customers to a single retailer and retailers are eligible to opt-out of being a SoLR if they wish to (subject to some restrictions).

Revenue Correction Mechanism (RCM)

- 4.16 A RCM could also potentially be used to address these issues: if a wholesaler was allowed to increase charges for other customers and/or in future years to recover revenues which were not collected from retailers which defaulted,²⁰ then the

¹⁹ A variant of this mechanism would be to allow wholesalers to increase their charges to all retailers to recover the loss it has suffered. The wholesaler could then seek to recoup its loss from the defaulted retailer through legal proceedings (the administration process) and, if successful, then reduce its charges to ensure that customers are not over-charged.

²⁰ Revenue adjustments would need to be made in a net present value neutral manner to provide

wholesalers' credit risk may not be materially affected by the introduction of household retail competition.^{21,22}

- 4.17 The wholesale price controls applied to English water companies already include a type of RCM: the Wholesale Revenue Forecasting Incentive Mechanism (WRFIM). This mechanism applies to revenue billed,²³ rather than revenue collected, so a wholesale water company would not be able to increase its charges in future years under the WRFIM to recoup any revenues that it was unable to collect (if those revenues had been invoiced for). However, it would, in theory, be possible to apply the mechanism to revenue collected, rather than to revenue billed.

Ex-ante bad debt allowances and price control re-openers

- 4.18 A bad debt allowance could be included within wholesalers' price controls to reflect the expected level of non-payment by retailers. If it was considered that wholesalers' bad debt costs could outturn significantly higher or lower than the expected level, some sort of price control re-opener mechanism could be included to allow for adjustments between periodic price reviews.

- 4.19 For water wholesalers, this might be achieved by including a Notified Item relating to bad debt, which could then enable the IDoK clause to be triggered if there was a material change in bad debt costs, but other forms of re-opener are also theoretically possible.

Bad debt true-up or pass-through

- 4.20 An alternative approach would be to include no up-front allowance for bad debt costs, but make an ex-post true-up to pass-through any bad debt costs actually incurred.

- 4.21 Different approaches to funding bad debt costs would allocate different amounts of

stronger protection to wholesalers.

²¹ We note that there may be an impact on short-term financial ratios if the revenues are only collected some period after the default by the retailer.

²² There are some similarities between a RCM approach and a variant of the joint and several liability approach where the wholesaler is allowed to increase its charges to recover its costs. However, there are some important differences e.g. the RCM does not necessarily envisage that the wholesaler would be responsible for recovering monies from the defaulted retailer. The timing of changes to wholesale charges may also be different.

²³ See Ofwat (2016) "Ofwat PR14 Reconciliation Rulebook", p57, February: the WRFIM is calculated by reference to wholesale revenues reported in line with Regulatory Accounting Guideline pro forma 21, which relates to billed revenues (as reported in companies' regulatory accounts): see Ofwat (2015) "RAG 4.05 – Guideline for the table definitions in the annual performance report", pp21-23, October.

risk to wholesalers and provide different incentives to wholesalers to minimise bad debt costs.

- 4.22 Ex-post true ups are included in the price controls for gas and electricity transmission and distribution networks, subject to the network businesses following Ofgem's best practice guidance on bad debt. The Appendix has more details.

Fund the costs of water companies buying protection against retailer default

- 4.23 The mechanisms described above all rely on regulatory measures to protect companies against counterparty credit risks. However, in theory it should be possible for companies to insure or hedge against these risks by purchasing appropriate insurance policies (such as credit or receivables insurance). If such commercial solutions are available at reasonable costs and in sufficient quantities (which is unclear at this time), companies (wholesalers) should be encouraged to adopt these solutions and the costs could be included within price control allowances.

- 4.24 These policies and practices are not incompatible with some other ways of protecting companies against counterparty credit risks. For example, if adopting this approach to mitigating risk was cheaper and/or more effective than alternatives, then companies (wholesalers) should innovate and go ahead and adopt these solutions whether they are mandated or prescribed by regulators or not: companies could outperform any ex-ante bad debt allowance by protecting themselves through other means at lower cost, so adopting these tools is not necessarily precluded by adopting alternative approaches to protecting against counterparty credit risks.

Enable wholesalers to manage risks through commercial negotiation of contractual terms and conditions

- 4.25 The tools available for mitigating credit risks need not necessarily be limited to market codes and regulatory mechanisms. Wholesalers could be empowered to negotiate commercial terms that strike an appropriate balance between protecting their own interests and enabling efficient competition in the market.
- 4.26 For example, the arrangements applied to BT's local loop (described in the Appendix) suggest that an alternative to spelling out payment terms and collateral requirements through market codes is to allow incumbent wholesale businesses to specify their own access agreements on a fair, reasonable and non-discriminatory basis, subject to ex-post review by the economic regulator using its Competition Act powers. The approach adopted by BT is to require different amounts of collateral according to the credit score which a retailer achieves, which is not dissimilar to the requirements imposed by market codes in the energy sector.

Compensate additional counterparty credit risks through an uplift to wholesale WACC

- 4.27 The above options consider different ways of mitigating risks faced by the industry,

effectively by transferring those risks to retailers or customers. However, another approach would be to compensate wholesalers and retailers for the counterparty risks that they bear: in theory, an allowance within water companies' WACC could be made for additional counterparty credit risks associated with the introduction of retail competition.

Criteria for choosing between the options

- 4.28 The appropriate approach to risk mitigation will be one which best deliver the objectives the government sets for the water sector. These objectives are set out in legislation and guidance to Ofwat, including in Ofwat's statutory duties. Ofwat's main duties are (according to Ofwat's website) to:²⁴
- *“further the consumer objective to protect the interests of consumers, wherever appropriate by promoting effective competition*
 - *secure that the functions of each undertaker (that is, water company) are properly carried out and that they are able to finance their functions, in particular by securing reasonable returns on their capital*
 - *secure that companies with water supply licences (those selling water to large business customers) properly carry out their functions*
 - *further the resilience objective to secure the long-term resilience of undertakers' (that is, water companies') water supply and wastewater systems and to secure they take steps to enable them, in the long term, to meet the need for water supplies and wastewater services”*
- 4.29 These objectives effectively reflect a need to balance the interests of customers, investors and the environment. Accordingly, in practice, evaluating whether these duties would or would not be achieved by a particular approach to risk mitigation depends on whether the objectives of the water industry's key stakeholders (such as customers and investors) are satisfied or not. Therefore, to develop a selection criteria for evaluating the available options for mitigating incremental counterparty credit risks we have considered:
- the sets of stakeholders affected by the choice of mitigation measure; and
 - the objectives of those stakeholders i.e. what matters to them.
- 4.30 We consider these two issues, in turn, below.

²⁴ See Ofwat website <http://www.ofwat.gov.uk/about-us/our-duties/> accessed on 18 March 2016.

Relevant stakeholders

- 4.31 A wide range of stakeholders could be affected by the approach to mitigating counterparty credit risk, including:
- customers i.e. households who currently receive wholesale, retail or both services from one of the statutory water companies operating wholly or mainly in England;²⁵
 - wholesalers i.e. the wholesale water and wastewater businesses of the statutory water companies operating wholly or mainly in England;
 - incumbent retailers i.e. the household retail businesses of the statutory water companies operating wholly or mainly in England;
 - new entrant retailers; and
 - regulators and government (including Ofwat and DEFRA).²⁶
- 4.32 We focus on the different kinds of business activities that might be undertaken (i.e. wholesale and retail), rather than on vertically integrated water companies, because the market and regulatory arrangements applied to each of these activities should be appropriate on a stand-alone basis if cross-subsidies between these businesses are to be avoided.
- 4.33 These stakeholder groups are not necessarily homogenous and it is likely that different members of these groups would be differently affected by counterparty credit risks and risk mitigation measures, but in order to keep our analysis brief we have grouped stakeholders together as much as possible. One exception to this is that incumbent and new entrant retailers have been separated. This is because these groups could be differently affected by some of the risk mitigation options e.g. options which create barriers to entry may be more problematic for potential new entrants than for

²⁵ Under the current legislative framework this includes some customers in Wales. This may change in future since the Silk Review recommended aligning the Welsh Assembly Government's (WAG) jurisdiction with the national boundary between England and Wales, rather than current arrangements where the WAG only has jurisdiction over the water companies operating wholly or mainly in Wales.

²⁶ The environment is often also considered to be a key stakeholder for the water sector, so we have considered whether the environment should be included as a relevant stakeholder for our analysis. However, the environment is unlikely to be directly impacted by measures aimed at mitigating or compensating incremental counterparty credit risks, though there could potentially be some indirect implications if water companies' ability to discharge their duties is affected because, for example, the financeability of a company is negatively affected by counterparty credit risk.

incumbent retailers (which are, by definition, already in the market).

4.34 We have grouped together regulators and government for simplicity, but we note that their objectives may not always be perfectly aligned.

4.35 It is also worth noting that some entities may belong to multiple stakeholder groups e.g. incumbent water companies may be any and all of wholesalers, incumbent retailers and new entrant retailers (if they are operating outside of their monopoly region).

Objectives of key stakeholders

4.36 Each stakeholder group has a range of objectives.

4.37 Table 4-1 below summarises some of the key objectives for each of the different stakeholder groups identified above.

Table 4-1: stakeholders' objectives for counterparty credit risk mitigation mechanisms

Stakeholder group	Objectives
Household customers	<ul style="list-style-type: none"> • Value for money bills (including by keeping bills low through incentives/mechanisms to keep counterparty credit risks low) • Avoid bill volatility • Continuity of service i.e. ensuring water and wastewater services, including retail services, continue to be provided • Distributional equity e.g. cross-subsidies between one set of customers and another • Intergenerational equity
Wholesalers	<ul style="list-style-type: none"> • Certainty of revenue stream (including reducing risk of defaults, reducing losses given default, replacement retailer appointed promptly to minimise additional bad debt risk exposure) • Recoup any losses (caused by retailer defaults) as quickly as possible • Certainty of ability to re-coup losses (e.g. priority when defaulting retailer's debts are paid off) • Maintaining an investment grade credit rating • Receive reasonable compensation for risks borne • Ability to control and manage their business and operations
Incumbent retailers	<ul style="list-style-type: none"> • Do not want to be placed at a competitive disadvantage relative to new entrants • Ability to earn reasonable returns for risks borne • Reasonable working capital requirements
New entrant retailers	<ul style="list-style-type: none"> • Level playing field (including avoiding undue barriers to entry and preventing discrimination between retailers) • Ability to earn reasonable returns for risks borne • Reasonable working capital requirements
Regulators / Government	<ul style="list-style-type: none"> • Deliver statutory duties and obligations e.g. acting in customers interests • Proportionality i.e. proposed solution is proportionate to problem (so do not create undue regulatory burden) • Feasibility i.e. is the proposed option implementable in practice • Consistent with "building trust in water" • Avoid creating moral hazard situations • Consistent with regulatory precedent • Appropriate distribution of risk between end customers, wholesalers and retailers.

4.38 Building on the stakeholders identified above, and their objectives, we can evaluate each of the options for mitigating counterparty credit risk by assessing its acceptability to each of these stakeholder groups i.e. whether it delivers acceptable outcomes for each of those groups.

4.39 We discuss this evaluation below.

Evaluation of the options

4.40 In this sub-section the strengths and weaknesses of each option (i.e. whether and how each option would help to achieve each stakeholder's objectives) are discussed one by one. Each of the individual objectives of each stakeholder is not necessarily discussed below if the particular risk mitigation measure does not appear to have a material impact (positive or negative) on that particular objective.

4.41 The assessment focuses on qualitative and conceptual discussion, rather than quantitative evidence. This is because identifying the optimal set of measures would require cost-benefit analysis that cannot be undertaken robustly with so few details available at this time about the future market.

4.42 The discussion focuses on evaluating the options from the perspective of each stakeholder group, not particular entities (such as the statutory water companies). However, we noted earlier that some entities may belong to multiple stakeholder groups. Consequently, when evaluating the options incumbent companies may need to evaluate the different mechanisms from multiple perspectives and identify preferred options 'in the round'.

Testing the financial strength of retailers before allowing them to enter the market

Household customers

4.43 Testing the financial strength of retailers before allowing them to enter the market may help to prevent disruptions to service (which customers would view positively), but would also lead to marginally higher customer bills (as the costs of Ofwat conducting these tests would be passed through to customers via licence fees paid by water companies). Whether the benefits of these tests outweigh the costs of performing the tests is not clear at this time. We note that Ofwat has adopted these sorts of tests in the past, suggesting they believed the benefits outweighed the costs, but Ofgem does not use similar tests for energy retailers, instead preferring to rely on the requirements imposed by market codes.

Wholesalers

4.44 To the extent that testing financial strength of retailers helps to reduce the risk of retailers defaulting, then these tests would be positive for wholesalers.

Incumbent retailer

- 4.45 Assuming these tests would apply to incumbent retailers as well, the tests will impose some cost on the retailer, such that incumbent retailers may prefer not to have these tests applied. The more onerous the tests are, the more negatively these would be viewed by incumbent retailers.

New entrant retailers

- 4.46 Since these tests will impose some cost on new entrant retailers and may be a barrier to entry, new entrant retailers would probably prefer not to have these tests applied. The more onerous the tests are, the more negatively these would be viewed by new entrant retailers.

Regulators / Government

- 4.47 Performing these tests places some burden on regulators, so regulators may prefer not to perform these tests unless the tests are essential given the regulator's statutory duties and/or the benefits of the tests are expected to outweigh the costs. The fact that Ofwat has adopted similar tests in the past for Water Supply License (WSL) applicants may suggest that the expected benefits outweigh the expected costs, but Ofgem has decided not to apply these tests for energy suppliers.

Requiring retailers to pre-pay wholesalers*Household customers*

- 4.48 Whether requiring retailers to pre-pay wholesalers would be in customers' interests primarily depends on the net effect of (i) whether pre-payment would increase customer bills or not; and (ii) whether pre-payment would decrease the probability of disruptions to service (by reducing the likelihood of retailers defaulting). The impact on customer bills may depend on relative funding costs of retailers and wholesalers (who would fund working capital costs under a post-payment approach) and on whether pre-payment imposes a barrier to entry that reduces the competitiveness of the household water retail market (where a more competitive market may lead to either lower prices and/or better quality of service).

Wholesalers

- 4.49 Requiring retailers to pre-pay would create benefits for wholesalers by (i) reducing the risk of non-payment by retailers; and (ii) reducing wholesalers' working capital costs. Consequently, wholesalers are likely to favour these measures.

Incumbent retailers

- 4.50 Requiring retailers to pre-pay wholesalers could impose significant costs on incumbent retailers via increased working capital costs. However, to the extent that these

requirements create a barrier to entry of new entrants and reduce competition, incumbent retailers may benefit from these obligations. The net effect of these two offsetting factors is unclear at this time (as it depends on how far in advance the retailer would have to pay and the costs of working capital etc), but the certainty with which the additional costs would be incurred versus the uncertain benefits (the impact on competition would be unpredictable) may mean the former outweighs the latter and incumbent retailers may prefer not to pre-pay wholesalers.

New entrant retailers

- 4.51 Requiring new entrant retailers to pre-pay wholesalers could be a significant barrier to entry, so this measure is unlikely to be viewed positively by new entrant retailers.

Regulators / Government

- 4.52 Whether pre-payment is favoured by a regulator or not seems likely to depend on whether pre-payment or post-payment (or some combination) is expected to best meet the regulator's objectives and duties, which it is difficult to determine at this stage. Any impact on regulatory burden seems likely to be limited i.e. regulatory burden on the industry and Ofwat seems likely to be similar whether retailers pre-pay wholesalers or not. Ofwat may draw some confidence that pre-payment could be a viable option given that it has been adopted in the Scottish non-household water retail market.

Establishing minimum credit requirements retailers must meet

Household customers

- 4.53 Whether requiring retailers to meet minimum credit requirements is in customers' interests or not depends on whether the costs of these measures (such as the costs of posting collateral, which would be passed through to customers in a competitive market, or the impact on prices and service levels via the competitiveness of the sector which could be affected if barriers to entry are created) outweigh the benefits (such as reduced probability of default by retailers).

Wholesalers

- 4.54 Establishing minimum credit requirements retailers must meet should reduce the losses a wholesaler would incur if a retailer defaults, since the wholesaler would be able to recoup some of the losses from the collateral posted by the retailer. The extent of protection afforded to wholesalers would depend on the strength of the credit requirements, but these arrangements are likely to be net-beneficial for wholesalers (though we note that more complex sets of credit arrangements may create some administrative burden for wholesalers (who will need to implement these arrangements) that would need to be offset against any benefits created).

Incumbent retailers

- 4.55 Meeting minimum credit requirements could impose costs on incumbent retailers e.g. the costs of posting the collateral required. However, to the extent that these requirements create a barrier to entry of new entrants and reduce competition, incumbent retailers may benefit from these obligations. The net effect of these two offsetting factors is unclear at this time (as it depends on the amounts and costs of collateral that has to be posted), but the certainty with which the additional costs would be incurred versus the uncertain benefits (the impact on competition would be unpredictable) may mean the former outweighs the latter and incumbent retailers may prefer not to have to meet minimum credit requirements.

New entrant retailers

- 4.56 Requiring new entrant retailers to meet minimum credit requirements could be a significant barrier to entry, so this measure is unlikely to be viewed positively by new entrant retailers.

Regulators / Government

- 4.57 Whether requiring retailers to meet minimum credit requirements is favoured by a regulator or not seems likely to depend on whether such arrangements are expected to best meet the regulator's objectives and duties, which it is difficult to determine at this stage (noting the different costs and benefits mentioned above). Introducing these measures would be likely to increase regulatory burden (since the regulator would need to be involved in design and administration of these arrangements), but there could also be some reduction in regulatory burden if these measures reduce the number of defaults by retailers that the regulator needs to address in future.

Joint liability amongst retailers for defaults*Household customers*

- 4.58 Joint liability amongst retailers for defaults seems unlikely to have a material impact on the level or volatility of customer bills unless these risk-sharing arrangements increase (or decrease) retailers' costs of capital or create a situation of moral hazard leading to retailers adopting riskier business strategies. It is difficult to assess these factors, but we assume any impact on retailers' costs of capital would be small (as the amount of losses each retailer would need to fund may be small) and moral hazard may not be created (at least on a material scale) since individual retailers would not benefit from the joint liability arrangements: any funds which were contributed by other retailers would accrue to the wholesaler, not the retailer that had defaulted. Overall, customers may be fairly neutral towards this approach to risk mitigation, but further investigation would be required.

Wholesalers

- 4.59 Imposing joint liability on retailers for payments to wholesalers should accelerate how quickly the wholesaler is compensated for any payments due from the defaulting retailer, though it depends on the precise timings of payments from the non-defaulting retailers. Wholesalers are likely to view these arrangements positively.

Incumbent retailers

- 4.60 Incumbent retailers may prefer not to be liable for defaulting retailer's payments to wholesalers e.g. due to additional costs it imposes on them via a higher cost of capital (if investors are concerned about the risk of having to fund other retailers' defaults), including any extra costs arising from the cashflow implications of needing to meet unforeseen liabilities.

New entrant retailers

- 4.61 New entrant retailers may prefer not to be liable for defaulting retailer's payments to wholesalers e.g. due to additional costs it imposes on them via a higher cost of capital (if investors are concerned about the risk of having to fund other retailers' defaults), including any extra costs arising from the cashflow implications of needing to meet unforeseen liabilities. The short-term financing costs associated with funding unforeseen liabilities could be greater for smaller retailers (with more limited financial reserves and flexibility), so new entrant retailers might particularly oppose this measure.

Regulators / Government

- 4.62 Whether joint liability among retailers is favoured by a regulator or not seems likely to depend on whether such arrangements are expected to best meet the regulator's objectives and duties, which it is difficult to determine at this stage (noting the different costs and benefits mentioned above). However, there would be some incremental regulatory burden arising from these arrangements: the mechanisms would need to be designed and implemented, then administered (though the mechanism could be designed to be largely automatic once set up). Regulators and government may also consider whether joint liability would give rise to any moral hazard issues e.g. riskier strategies being adopted by individual retailers or, conversely, retailers trying to avoid competing each other out of business in order to avoid liability for a share of any payments owed by the defaulting retailer (which they had competed out of the market).

Supplier of Last Resort (SoLR) obligations*Household customers*

- 4.63 SoLR obligations are likely to be viewed positively by customers if they help to ensure continuity of service, though the costs of establishing and administering these

schemes would increase customer bills to some degree (all else equal).

Wholesalers

- 4.64 Wholesalers are likely to support SoLR arrangements since the mechanism should shorten the period during which the wholesaler is not being paid for services it continues to provide to the defaulted retailer's customers, but the exact benefits to wholesalers would depend on how quickly the replacement retailer is appointed and the date at which it is able to collect payments from end-customers from.

Incumbent retailers

- 4.65 SoLR arrangements may not have significant implications for non-defaulting retailers in most situations (so long as the retailer is able to accommodate any additional customers allocated to it and the terms and conditions the customers transfer on is acceptable), but incumbent retailers may wish to be able to opt-out of participating in these schemes.

New entrant retailers

- 4.66 New entrant retailers are likely to have a similar perspective on SoLR arrangements as incumbent retailers in most situations (subject to the new entrant retailer being ready to accept any additional customers allocated to it). However, new entrants may also benefit from these arrangements if the customer-allocation method can help increase market share (by allocating customers to the new entrant retailers), though this would depend on terms and conditions customers are transferred on e.g. prices the retailer is allowed to charge them.

Regulators / Government

- 4.67 SoLR obligations are likely to be necessary in case one or more retailers fail financially so that continuity of service is assured. The primary question for regulators and government may be how to design the SoLR regime.
- 4.68 The design of the scheme will principally depend on how best to achieve the government and regulator's objectives. However, administering SoLR obligations (e.g. identifying eligible suppliers, allocating customers etc) would impose some burden on regulators, potentially at short notice. This may lead government and regulators to favour a less complex set of arrangements, provided this is likely to be effective in practice.

Revenue Correction Mechanisms (RCMs)

Household customers

- 4.69 A RCM should, if it is implemented in a net present value (NPV) neutral way, avoid any overall impact on customer bills in present value terms. Consequently, a RCM should

have limited intergenerational equity implications. However, the mechanism would necessarily create a cross-subsidy between customers of the defaulted retailer and other customers (though this should only be temporary assuming amounts owed by the defaulting retailer are recouped and then remunerated to customers who have funded the RCM top-up payments to wholesalers).

- 4.70 Customers would likely want a RCM mechanism to be implemented in a way that avoids unnecessary volatility of customer bills (either in aggregate or for individual customer groups).

Wholesalers

- 4.71 Since a RCM protects wholesalers' revenues in NPV terms, such mechanisms should be welcomed by wholesalers. However, the precise details of the scheme will matter. For example, whether the mechanism would address any short-term financing impact on wholesalers is unclear: if it takes a year before revenues are corrected for the payments due from the defaulting retailer, then it may provide relatively little short-term protection to wholesalers. Similarly, the choice of discount rate to use in the calculations and the treatment of inflation will also matter. Subject to these points, all else equal, wholesalers would likely want to avoid undue complexity and regulatory burden, so would prefer a RCM mechanism that is targeted and proportionate.

Incumbent retailers

- 4.72 RCMs applied to wholesale revenues should have minimal impact on retailers.

New entrant retailers

- 4.73 RCMs applied to wholesale revenues should have minimal impact on retailers.

Regulators / Government

- 4.74 Whether regulators and government favour the introduction of a RCM to protect wholesalers against retailer defaults will primarily depend on whether the RCM is judged to be the most appropriate solution to the problem. However, the regulatory burden imposed by the mechanism would also need to be considered and a mechanism that avoids undue complexity may be favoured to reduce the administrative burden on both Ofwat and companies. That said, if the mechanism operates to top-up wholesale revenues in the short-run and then this needs to be unwound if costs are recovered from the defaulting retailer, the mechanism could become complex, but the mechanism might provide stronger protection to wholesalers in this situation.

Ex-ante bad debt allowances and price control re-openers

Household customers

- 4.75 Whether mitigating counterparty credit risks by setting an ex-ante allowance for bad debt costs accompanied by price control re-openers is in customers' interests depends on the relative magnitude of a few factors including: (i) since the ex-ante allowance could be set too high or low, customers might end up paying higher bills than necessary; (ii) the risk that the allowance is too high or low (i.e. the residual risks borne by wholesalers) may have implications for wholesalers' cost of capital (and in turn customer bills); and (iii) the benefits which customers derive from the greater certainty about future bills that an ex-ante allowance provides relative to ex-post approaches. The relative magnitudes of these factors are difficult to estimate based on the information available about the future household retail market at this time.

Wholesalers

- 4.76 Given that an ex-ante allowance for bad debt and re-openers provides wholesalers with a degree of protection against retailer default, wholesalers may support the introduction of this kind of mitigation measure. However, recognising that this approach provides an imperfect degree of protection against bad debt risk (i.e. bad debt allowances may be lower than outturn costs and the conditions enabling a re-opener to be triggered may not always be met) wholesalers may have to bear some bad debt risk, which they would want to be reflected in their allowed WACC. Wholesalers may also have some reservations about adopting these measures given the potential for the ex-ante allowance to be over- or under-estimated. The inclusion of an up-front allowance may help to mitigate some of the short-term cashflow risks arising from a retailer default.

Incumbent retailers

- 4.77 The inclusion of bad debt allowances and re-openers within wholesalers' price controls should have minimal impact on retailers.

New entrant retailers

- 4.78 The inclusion of bad debt allowances and re-openers within wholesalers' price controls should have minimal impact on retailers.

Regulators / Government

- 4.79 Whether regulators and government would favour an ex-ante bad debt allowance and price control re-opener approach to mitigating counterparty credit risk depends on whether the impact of the residual risks borne by wholesalers on their WACC (and customer bills) is preferable to providing wholesalers with full protection against counterparty risks through other mechanisms (e.g. RCM or bad debt true ups) or

expecting wholesalers to bear all of this risk (and compensating through an uplift to WACC). This will partly depend on whether the wholesaler has any ability to influence its bad debt costs and, consequently, should be incentivised to minimise those costs by bearing some risk that the costs turn out higher or lower than expected. Robustly addressing this issue would require further investigation once additional details about the future market become clearer.

- 4.80 However, adopting an ex-ante allowance and re-opener approach arguably imposes a greater regulatory burden on the industry than some of the other options as the up-front allowance has to be estimated and the re-opener administered if it is triggered. This may lead the regulator to favour an alternative approach if the net-benefit of these different options is judged to be similar.

Bad debt true-up or pass-through

Household customers

- 4.81 Whether mitigating counterparty credit risks by treating bad debt costs as a pass-through is in customers' interests depends on the trade-off between incentivising wholesalers to reduce these costs, the impact on wholesalers' cost of capital of being protected against these risks and any implications for the volatility of customer bills arising from unpredictable true-ups/pass-throughs (if a retailer actually defaults). Robustly addressing this issue would require further investigation once additional details about the future market become clearer.

Wholesalers

- 4.82 Since a bad-debt true-up or pass-through would protect wholesalers against retailer default on an NPV-neutral basis (assuming mechanisms are designed that way), these mechanisms would likely be supported by wholesalers. Under a true-up wholesalers would still end up bearing bad debt costs in the short-term, so a mechanism that passes through debt costs may be preferred by wholesalers as it reduces the time lag between the costs being incurred and the costs being remunerated.

Incumbent retailers

- 4.83 The inclusion of bad debt true-ups or pass-throughs within wholesalers' price controls should have minimal impact on retailers.

New entrant retailers

- 4.84 The inclusion of bad debt true-ups or pass-throughs within wholesalers' price controls should have minimal impact on retailers.

Regulators / Government

- 4.85 Whether regulators and government would favour a bad debt true-up or pass-through

approach to mitigating counterparty credit risk depends on similar factors to the evaluation of ex-ante bad debt allowances described above (though the trade-offs between the various factors would be different).

- 4.86 As noted above, the regulatory burden arising from a pass-through or true-up approach may be lower than adopting ex-ante allowances for bad debt. However, the burden that would arise would depend on the exact design of the mechanism e.g. if arrangements similar to those applied to energy networks was applied to wholesale water companies, the regulator would be required to check that wholesalers' bad debt costs have been incurred in line with best practice guidance.

Funding the costs of water companies buying protection against retailer default

Household customers

- 4.87 The impact of funding the costs of water companies buying protection against retailer default would be similar to the impact of adopting an ex-ante bad debt allowances approach to mitigating counterparty credit risks, but the impact on customer bills may be different depending on the amount of risk wholesalers bear (which will be reflected in the WACC).

Wholesalers

- 4.88 Wholesalers may view the funding of the costs of buying protection against retailer default similarly to ex-ante bad debt allowances, but since wholesalers may not have the benefit of a re-opener mechanism they may bear additional risks and consequently could prefer an ex-ante bad debt allowance.

Incumbent retailers

- 4.89 The inclusion of estimated costs of water companies buying protection against retailer defaults within wholesalers' price controls should have minimal impact on retailers.

New entrant retailers

- 4.90 The inclusion of estimated costs of water companies buying protection against retailer defaults within wholesalers' price controls should have minimal impact on retailers.

Regulators / Government

- 4.91 Regulators and government are likely to view including the costs of buying protection against retailer default within wholesalers' price controls similarly to including ex-ante bad debt allowances within wholesalers' price controls, given that the net-benefit of the two mechanisms depends on similar factors. However, regulators may prefer the more tried and tested approach of setting bad-debt allowances given there may be added challenges setting allowances for the costs of innovative products.

Enabling wholesalers to manage risks through commercial negotiations of contract terms and conditions

Household customers

- 4.92 Enabling wholesalers to manage risks through commercial negotiations is an alternative to standardising market arrangements through a set of market codes. Whether household customers would favour one approach over the other depends on the relative costs and benefits of each, but an approach that gives wholesalers more flexibility to manage risks could lead to:
- a lower cost of capital for wholesalers (which could be reflected in customers' bills) if they can mitigate the risk more effectively; but
 - less competition in the retail market if wholesalers' attempts to mitigate counterparty risks through credit cover and other arrangements impedes entry to the market.
- 4.93 The net effect of these two factors is difficult to forecast, but given the presence of multiple wholesalers and retailers, allowing wholesalers to set their own access arrangements (albeit subject to ex-post competition powers) could lead to a more complex set of arrangements that act as a material barrier to entry. Higher transaction costs, which could be reflected in customers' bills, could also arise since (i) the costs of multiple companies establishing their own access arrangements may not be cheaper than establishing a single sector-wide set of codified arrangements; and (ii) any up-front cost savings which might be achieved may be offset by greater costs of ex-post enforcement if competition law issues arise.
- 4.94 The choice between centrally-determined standard market codes and de-centralized negotiated access arrangements may be one the industry wishes to consider further, but the fact that a code-based approach to access has been adopted in the British gas, electricity and non-household water retail sectors suggests this may be the favoured approach for the English household water retail sector.

Wholesalers

- 4.95 Since wholesalers would have more flexibility to tailor commercial arrangements to the circumstances, they may be able to more effectively protect themselves against counterparty credit risks and so wholesalers may welcome such arrangements.

Incumbent retailers

- 4.96 Retailers may be likely to oppose wholesalers being allowed to negotiate the terms and conditions of their contracts with retailers since this could give rise to barriers to entry: if a retailer needs to negotiate with multiple wholesalers, potentially with multiple sets of terms and conditions, these arrangements could be unduly complex and a barrier to

entry. Retailers would probably prefer a single set of market codes that apply to their negotiations with all wholesalers.

New entrant retailers

- 4.97 New entrant retailers are likely to view wholesalers being allowed to negotiate the terms and conditions of their contracts with retailers similarly to how incumbent retailers would view such arrangements.

Regulators / Government

- 4.98 Whether regulators and government would favour enabling wholesalers to manage risks through commercial negotiations instead of standardising market arrangements through a set of market codes would depend on the net-benefits of each option. The factors discussed under household customers above would be equally pertinent to the regulator's and government's assessment of these options.
- 4.99 Regulators may also consider the regulatory burden of different approaches, but there may not be a clear difference between the two options: while enabling wholesalers to negotiate their own agreements theoretically requires less upfront involvement from regulators (though they may wish to scrutinise the template contracts, such as in the Scottish non-household water retail market), this would need to be weighed against (uncertain but potentially greater) involvement at a later date as part of exercising ex-post competition powers.

Compensate additional counterparty credit risk through an uplift to water companies' allowed weighted average cost of capital (WACC)

Household customers

- 4.100 Compensating wholesalers for bearing unmitigated counterparty credit risks by increasing their allowed WACC would put upward pressure on customer bills. Whether this is in customers' interests or not depends on whether these extra costs are greater than the costs customers would bear if counterparty credit risk is mitigated in some way e.g. if wholesalers' bad debt costs are passed through to end-customers via a true-up mechanism in wholesalers' price controls, are those costs likely to be greater than the extra cost (increase in WACC x RCV) that customers would have to pay if the risk is not mitigated, but the WACC is increased to compensate?
- 4.101 To address this question robustly would require further information on the future market, but the risk that the uplift to WACC is over- or under-estimated (which is possible given the difficulty of assessing the scale of counterparty risks) may mean that some of the approaches to mitigating the risk may be preferable.

Wholesalers

- 4.102 Whether wholesalers would favour an approach where incremental counterparty risks

were not mitigated, but instead compensated through an uplift to their WACC would depend, at least partially, on whether the uplift to WACC allowed by the regulator was judged to be sufficient given the risks wholesalers would bear. Given there would necessarily be some uncertainty about whether the allowed uplift to WACC would be sufficient or not (noting there is potential for disagreement about the appropriate approach to estimating the uplift to the WACC), wholesalers may have some reservations about adopting this approach, though these reservations are likely to be similar to those related to determining ex-ante bad debt allowances (which could also be over- or under-estimated).

Incumbent retailers

- 4.103 Uplifting the wholesale cost of capital to compensate for bearing unmitigated counterparty credit risks should have minimal impact on retailers.

New entrant retailers

- 4.104 Uplifting the wholesale cost of capital to compensate for bearing unmitigated counterparty credit risks should have minimal impact on retailers.

Regulators / Government

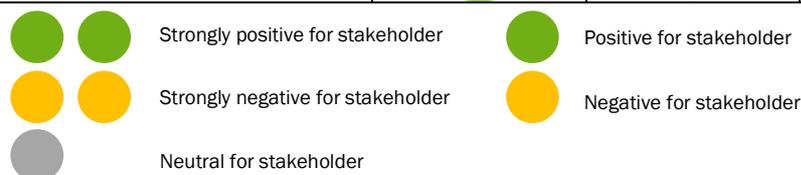
- 4.105 Whether regulators and government would favour compensating companies for bearing counterparty credit risk through an uplift to WACC instead of mitigating those risks through regulatory and/or market mechanisms would depend on the net-benefits of each option. Robustly addressing this issue would require further information about the future market, but the comments above in relation to household customers could be equally applicable to the regulator's overall assessment.
- 4.106 While the net-benefit of an uplift to WACC would be the key determinant of whether regulators would want to proceed with this approach, the regulatory burden imposed by uplifting the WACC may be lower than mitigating the risk: little change to regulatory arrangements would be required, as the only change required would be to uplift the WACC for the extra risks borne by wholesalers. However, it may be difficult to estimate the appropriate uplift to WACC.

Conclusion

- 4.107 Building on the analysis above, Table 4-2 below presents a high-level summary of how well each potential mitigation measure delivers wholesalers' and retailers' objectives.

Table 4-2: Summary evaluation of options for mitigating and/or compensating incremental counterparty credit risks

	Wholesalers	Incumbent retailers	New entrant retailers
Test financial strength before allowing a retailer to enter the market			
Require retailers to pre-pay wholesalers			
Establish minimum credit requirements retailers must meet			
Joint liability amongst retailers for any losses caused by a defaulting retailer			
Supplier of Last Resort obligations			
Revenue correction mechanisms			
Ex-ante bad debt allowances and price-control re-openers			
Bad debt true-up or pass-through			
Fund the costs of alternative protections			
Enable wholesalers to manage risks through commercial negotiations			
Compensate additional risks through uplift to wholesale WACC			



4.108 Table 4-2 does not present a summary assessment for customers or for regulators because – as discussed above - whether individual mechanisms are positive or negative for these stakeholders depends on multiple effects operating in different directions which would require quantitative analysis to estimate and we do not consider such analysis can be conducted robustly without further information about how the market would operate in future.

4.109 The inferences we can draw from Table 4-2 suggests that certain options are more favourable than others for wholesalers, incumbent retailers and new entrant retailers:

- wholesalers will prefer mechanisms that give stronger protections against counterparty credit risks, in part by allocating counterparty credit risks to other stakeholders (end-customers or retailers). Pre-payment by retailers, bad debt true-ups, RCMs or enabling wholesalers to determine their own credit terms via contracts with retailers (subject to competition law) are the measures which are most likely to provide strong protection for wholesalers;
- retailers would prefer not to pay in advance or to allow wholesalers the flexibility to negotiate commercial terms directly, but would be little affected by bad debt true-ups or RCMs;
- while RCMs have some precedent in the water sector, bad debt true ups are applied to gas and electricity network businesses, so both approaches might be workable; and
- SoLR obligations appear to be positive for wholesalers and customers, with relatively little impact on retailers (some of which may be positive e.g. via allocation of additional customers to new entrants), so might also be worth instituting.

- 4.110 The trickiest issue may be in relation to the choice between requiring retailers to pre-pay wholesalers, instituting a set of minimum credit cover requirements retailers must meet or some combination of the two. Pre-payment could be very favourable for wholesalers, but very unfavourable for retailers, particularly new entrants. Minimum credit cover requirements trade off some of the protection wholesalers would receive from pre-payment to try and reduce any barriers to entry for new entrant retailers, so might - if appropriately calibrated - be a reasonable compromise between protecting wholesalers against uncreditworthy retailers and avoiding erecting undue barriers to entry. Such arrangements have been adopted in electricity, gas and telecoms (local loop) markets previously. However, pre-payment could be a viable option given the experience in Scottish water retail markets if the benefits of protecting wholesalers against counterparty credit risk are expected to outweigh the detriments of any barriers to retail competition that might arise.
- 4.111 Compensating for bearing the incremental risks via an uplift to WACC is an alternative or a complement to approaches which mitigate the incremental counterparty credit risks. However, the risk that the uplift to WACC is over- or under-estimated (which is possible given the difficulty of assessing the scale of counterparty risks) may mean that mitigating the risk may be preferable. Whatever residual risk (if any) wholesalers and retailers are required to bear should be reflected in the allowed rate of return.
- 4.112 Overall, this suggests that bad debt true-ups, RCMs, SoLR obligations, minimum credit cover requirements and pre-payment by retailers would all be worth considering carefully as tools for mitigating counterparty credit risks. However, it is not simply a

matter of selecting the single “best” option: recognising the different strengths and weaknesses of different options, it may be appropriate to combine different options together to provide a comprehensive package of protections for water companies and customers. This might involve combining measures aimed at reducing the probability of retailer default (such as up-front tests of financial stability and requirements to post collateral) with measures aimed at reducing losses given default (such as bad debt true-ups or revenue correction mechanisms).

- 4.113 Having said all of the above, the approach to mitigating risk will need to be considered further as more information about the future market becomes available and it is not appropriate to rule out any options at this stage.

5. Conclusion

- 5.1 Counterparty credit risk matters: incremental risks arising from a future opening of the household water retail market in England have the potential, if unmitigated, to materially increase the risk profile of the water sector. This could have negative implications for water companies' credit ratings which could, in turn, lead to higher customer bills. The industry needs to carefully consider the extent of incremental risks created by opening the household retail market and any measures which could mitigate this risk as part of its deliberations about whether to open the household retail market to competition in future or not.
- 5.2 Counterparty credit risk is a function of the probability of default, the losses given default and the regulatory and legislative arrangements in place which help to mitigate those risks. Currently, regulatory and legislative measures protect English water companies against counterparty credit risks most of the time, despite the bad debt risks which the industry faces (i.e. the risks that end-customers do not pay their bills). However, looking ahead, if the household water retail market was opened to competition in England, counterparty credit risks could increase because:
- current regulatory and legislative protections may not continue to apply and/or may be less effective in future;
 - household water retailers (or at least some of them) may not be creditworthy counterparties; and
 - the losses that English water companies could incur as a result of a counterparty defaulting could be material.
- 5.3 Taken together, these strands of evidence suggest that counterparty credit risks could, in the absence of appropriate risk mitigation measures, be a material issue in a future household water retail market.
- 5.4 The extent to which counterparty credit risks will increase or not will depend on the regulatory and legislative arrangements applied to the future market. These are unknown at this time, but there are a range of tools potentially available which could help to offset (some or all of) any increase in counterparty credit risks. These tools could include:
- measures aimed at reducing the probability of default, such as:
 - tests of the financial strength of retailers;

- requirements on retailers to pre-pay wholesalers;
- enabling wholesalers to mitigate risks through commercial negotiations with retailers;
- measures aimed at reducing the loss given default, such as:
 - requirements on retailers to post collateral against amounts they owe (or are expected to owe) wholesalers;
 - joint liability amongst retailers for amounts due to wholesalers;
 - supplier of last resort arrangements;
 - revenue correction mechanisms;
 - ex-ante bad debt allowances included in wholesale price controls;
 - bad debt true-ups or pass-throughs within wholesale price controls;
 - funding the costs of water companies buying protection against retailer defaults;
- measures which compensate water companies for bearing incremental counterparty credit risks through an uplift to wholesalers' cost of capital.

5.5 Our assessment of the strengths and weaknesses of different options suggests that bad debt true-ups, RCMs, SoLR obligations, minimum credit cover requirements and pre-payment by retailers would all be worth considering carefully as tools for mitigating counterparty credit risks. Whatever the strengths of individual measures, it may be appropriate to combine different options together to provide a comprehensive package of protections for water companies and customers. However, the approach to mitigating and/or compensating risk will need to be considered further as more information about the future market becomes available and it is not appropriate to rule out any options at this stage.

5.6 While the focus of this paper has been on measures to mitigate counterparty credit risk, the industry may also wish to consider measures which target reducing bad debt risk since any measures which increase the likelihood of retailers being paid by end-customers are likely to increase the likelihood of wholesalers being paid by retailers (all else equal). These measures might include being able to disconnect household customers and placing greater responsibility on landlords for payments due from their tenants.²⁷

²⁷ See, for example, DEFRA (2012) "Tackling bad debt in the water industry", January.

Key messages

- 5.7 The discussion in this report has highlighted two key messages:
- in the absence of mitigation measures, a material amount of additional counterparty risk for English water companies could be created by the introduction of household retail competition, though it depends on the structure of the market and future regulatory arrangements; and
 - a number of potential measures and solutions for mitigating or compensating for those additional risks are available. The different measures have a range of strengths and weaknesses, and some target reducing the probability of default, while others reduce the losses given default, so it may be appropriate to adopt a suite of measures to mitigate counterparty credit risk.
- 5.8 We recommend that the water sector – companies, Ofwat and government - consider counterparty credit risks, and how to mitigate them, further as part of deciding whether and how to open the household retail market to competition.

Appendix 1 Lessons from other sectors

- A1.1 The liberalisation of retail markets in the English water sector follows similar liberalisations in electricity, gas and telecoms markets, and in the Scottish non-household water market. Counterparty risk has also arisen as an issue in the English and Welsh water sectors in the past. As a result, lessons can potentially be learnt from the experience in these other sectors and scenarios.
- A1.2 We consider below how the issue of retail counterparty risk arose in these other sectors in the past and what measures have been introduced to try and address those risks.

Lessons from water

- A1.3 Similar counterparty credit risks arise, to varying degrees, in the UK water sector already. For example:
- in the existing English and Welsh non-household retail market;
 - in the Scottish non-household retail market;
 - in the context of New Appointments and Variations (NAVs) in England and Wales;
 - in the context of Bulk Supply Agreements (BSAs) between statutory water companies and/or NAVs in England and Wales;
 - in the context of joint billing i.e. where one water company bills on behalf of another (often where a water only company (WoC) bills on behalf of the water and sewerage company (WaSC) providing sewerage services in the same area); and
 - in the context of the Thames Tideway Tunnel (TTT), where the Infrastructure Provider (IP) – Bazalgette Tunnel Limited – will have its revenues collected from customers by Thames Water, the local sewerage undertaker.
- A1.4 In addition, counterparty credit risks in the future (post 1 April 2017) English non-household retail market have been the subject of considerable debate by the industry.
- A1.5 We discuss briefly below how the counterparty credit risk issue has been dealt with in these scenarios.

Non-household water retail market in Scotland

- A1.6 The Scottish non-household water and sewerage market opened to competition in April

2008. At the same time, the incumbent water company, Scottish Water, was required to legally separate its non-household retail business, Business Stream. Scottish Water is legally required to provide water and wastewater services to retailers on an equal footing. Since that time many retailers have entered the market, competing with various degrees of success. Many of the new entrants have been stand-alone 'pure play' water retail businesses, but others have been associated entities of the water companies in England.²⁸

- A1.7 New entrants are required to apply for a licence from the WICS, to become a party to the industry codes (an Operational Code and a Market Code) and a member of the Central Market Agency (CMA) and complete a process of technical assurance run by the CMA (to check the retailer has appropriate technical systems to enable them to operate in the market).²⁹
- A1.8 WICS requires licence applicants to demonstrate their “financial viability including the ability either to meet the prepayment of wholesale charges and CMA charges on an ongoing basis, or provide a sufficient alternative to prepayment such as a guarantee from a financial guarantor”.³⁰
- A1.9 In addition to the Operational Code and Market Code, a template Wholesale Services Agreement (WSA), has been developed, which includes provisions governing the relationship between the wholesaler (Scottish Water) and retailers.³¹ The WSA (clause 8) includes requirements for retailers to either (a) pre-pay for wholesale services; or (b) to post collateral either by maintaining an escrow account (the key terms of which are set out in Schedule 5 of the WSA) or providing a guarantee from a guarantor with an investment grade credit rating (see Schedule 6 of the WSA). Retailers are not able to access credit on unsecured terms.
- A1.10 The Market Code (clause 5.3.6) also includes Provider of Last Resort (PoLR) obligations, which allow for a replacement retailer to be appointed in the event of the CMA issuing a termination notice (e.g. because the retailer has defaulted on its

²⁸ A list of licensees can be found on WICS' website: http://www.watercommission.co.uk/view_List_of_current_licensees%20.aspx accessed on 3 March 2016.

²⁹ See the CMA's website: http://www.cmascotland.com/market_entry.php accessed on 3 March 2016.

³⁰ WICS (2015) “Guidance – general licences”, August, p19.

³¹ The WSA can be accessed here: http://www.watercommission.co.uk/UserFiles/Documents/Template%20WSA_1.pdf as at 3 March 2016.

payments to the wholesaler).³² Under the PoLR, the CMA re-allocates the defaulting retailer's customers to eligible other retailers (which is essentially all retailers other than those which have opted-out of the PoLR process). The customers are allocated at random (clause 5.3.6(i)(c)(4)), but attempting to ensure that customers are not allocated to different retailers for water and sewerage services. An equal number of customers will be allocated to each eligible retailer where possible (clause 5.3.6(i)(c)(5)).

- A1.11 No timeframe is specified for the CMA to implement the PoLR regime, other than that it should take the steps above once it has issued a termination notice under clause 10.7.2.
- A1.12 A termination notice can be issued by the CMA for a variety of reasons, including if Scottish Water has issued a termination notice of its own to the retailer under the WSA. Clause 20 of the WSA enables Scottish Water to issue a termination notice if a Licensee Default has occurred. Licensee Default is defined in Schedule 3 of the WSA and includes non-payment of amounts due to Scottish Water, subject to Scottish Water having given notice to the retailer and the retailer still not having paid the amount outstanding in full within the notice period (which is 5 – 10 days depending on the circumstances): see clause 20, paragraph 1 of the WSA. Under clause 8 of the WSA, the retailer will need to have pre-paid Scottish Water (including whether using an escrow or guarantee as collateral), so any default could technically occur before Scottish Water has actually provided wholesale services to the retailer.
- A1.13 Scottish Water and remaining retailers are liable to the CMA for any charges that the defaulting retailer owed (clause 7.3.2 of the Market Code). Scottish Water is required to pay one-third of those charges with the remaining two-thirds allocated to other retailers in proportion to their market shares (clause 7.8.2 of the Market Code).³³ The CMA is required to take 'reasonable steps' (including court proceedings) to try and recover the amounts owed to it from the defaulting retailer (clause 7.8.3 of the Market Code) and, if it recovers some or all of what it is owed, it must take those amounts into account in calculating the following year's CMA charges (clause 7.8.4 of the Market Code). The latter arrangements effectively allow the CMA to compensate Scottish Water and other retailers for any amounts they have paid to the CMA as a result of the retailer's default, so that Scottish Water and retailers are not over-charged.

³² The Market Code can be access here: <http://www.cmascotland.com/kcfinder/upload/files/Market%20Code/Feb%202016/Market%20Code%20v31%20Clean.pdf> as at 3 March 2016.

³³ Retailers are not jointly and severally liable for these charges: each is individually liable for its own share of the CMA charges that the defaulting retailer has not paid.

- A1.14 The ‘negotiated settlement’ nature of Scottish Water’s price control means that extensive detailed tables and discussions of individual cost allowances included in the Final Determination are not publically available. It is therefore difficult to identify precisely what bad debt allowances have or have not been allowed for Scottish Water. However, it appears to us that no separate allowance has been included for bad debt costs incurred by the wholesale business: whatever bad debt allowances have been included relate to retail activities.³⁴ This suggests that the expected level of non-payment of Scottish Water’s wholesale charges to non-household retailers is nil, which in turn suggests that the market arrangements (such as pre-payment by retailers) are expected to effectively protect Scottish Water against retailer default.
- A1.15 The provisions above have been tested and refined through not only the operation of the market, but also the failure of two retailers: Aquavitae in June 2008 and Satec in June 2012.
- A1.16 Aquavitae’s exit from the market followed the takeover of its parent company and failure to pay wholesale charges to Scottish Water (prompting Scottish Water to issue a statutory demand). The CMA issued a termination notice and WICS revoked the licence. Following the financial failure of Aquavitae a number of changes to the market arrangements were made, but WICS considered that the market had dealt with this situation well: “because of the requirement for licensed providers to pre-pay Scottish Water for wholesale services no customer lost money and the supplier of last resort arrangements worked well”.³⁵ Most of Aquavitae’s customers had already switched

³⁴ We base this assessment on the following: WICS does not discuss the bad debt allowance requested by Scottish Water in its Final Determination, but does not appear to disagree with the amount requested by Scottish Water for bad debts when assessing the overall level of operating expenditure prior to the Final Determination: see WICS (2013) “Scottish Water’s draft business plan: base expenditure – Note 18 for the Customer Forum”, December. Scottish Water’s Business Plan includes discussion of bad debt allowances primarily by reference to the range of operating costs that WICS had indicated was acceptable to the Customer Forum, suggesting that some increase over historical levels would be appropriate. Scottish Water appears to propose its bad debt allowance should be based on its 2011/12 expenditure, plus an additional amount recognising that total revenues are increasing: see Scottish Water (2014) “Business Plan 2015 to 2021 Appendices”, March, Appendix 14, p2. The 2011/12 Regulatory Accounts, Table M18, allocates all bad debt costs to retail (even though the table allows for bad debt costs to be allocated to wholesale), suggesting that no historical costs related to wholesale and that none of the requested allowance related to wholesale: see <http://www.watercommission.co.uk/UserFiles/Documents/Regulatory%20Accounts%20-%20M%20tables%202011-12.pdf> accessed on 4 March 2016.

³⁵ See WICS (2011) “Briefing note: the introduction of retail competition in water and sewerage services”, November, p1.

away by the time it failed, but the CMA randomly allocated the remaining customers to the remaining retailers (Business Stream and Satec).³⁶

- A1.17 Satec went into administration in June 2012 as it was unable to pay its debts.³⁷ Subsequently Satec requested WICS revoke its licence, which WICS then did with effect from July 2012.³⁸

Non-household water retail market in England

- A1.18 Limited competition has been possible in the English water retail market for some years. New entrants, including water companies operating out of their licensed regions, have been required to apply for a WSL. However, this regime will be replaced with a new Water and Sewerage Supply License (WSSL) regime from 1 April 2017.
- A1.19 The arrangements which will apply to the non-household water retail market in England from 1 April 2017 are the subject of ongoing discussion across the industry. However, the latest proposals appear to include:
- WSSL licensees will be required to provide a Certificate of Adequacy (CoA) as part of the licence application process and each year, confirming that it has the resources needed to meet its licence and statutory obligations;³⁹
 - retailers may be allowed to post various types of collateral as cover for their payments to wholesalers, including cash deposits, letters of credit, parent company guarantees, insurance and pre-payment. Retailers may also be able to access unsecured credit in certain circumstances;⁴⁰
 - the number of days of charges which would have to be covered by collateral could be as low as 30 days (mentioned at a recent Ofwat workshop) or up to 75

³⁶ See CMA (2008) "CMA issues termination notice to Aquavitae", June.

³⁷ See Water Briefing website: <http://www.waterbriefing.org/home/regulation-and-legislation/item/8431-ofwat-revokes-water-supply-licence> accessed on 4 March 2016.

³⁸ See WICS website: [http://www.watercommission.co.uk/UserFiles/Documents/120706%20Satec%20Notice%20of%20Revocation%20\(website\).pdf](http://www.watercommission.co.uk/UserFiles/Documents/120706%20Satec%20Notice%20of%20Revocation%20(website).pdf) accessed on 4 March 2016.

³⁹ See Ofwat (2015) "Interim supply arrangements in relation to the opening of the non-household retail market – a consultation", October, p26.

⁴⁰ See Ofwat (2016) "Credit terms between market participants: industry workshop", February. The latest version of the Wholesale-Retail Code (dated September 2015) sets out the forms of collateral which would be acceptable in paragraph 9.11 of Part 2: Business Terms. Paragraph 9.11.3 of that document indicates that unsecured credit can only be accessed if the retailer has an investment grade credit rating.

days under existing drafts of market codes;⁴¹

- Interim Supply arrangements (equivalent to SoLR obligations) could include a market allocation mechanism⁴² similar to in energy supply (discussed later), whereby other retailers would have the option to bid for the right to take on the defaulted retailer's customers. A second round of Ofwat-led allocation of customers may also exist in case the market solution does not secure a new retailer for all the affected customers; and
- retailers other than incumbents operating in-area may have an option to 'opt in' to the Interim Supply arrangements (i.e. to be an interim supplier), but Ofwat is still consulting on these arrangements.⁴³

A1.20 While the non-household water retail market only opens fully from 1 April 2017, there has been limited competition for many years. The future arrangements will benefit from the lessons learned in the existing market. However, to our knowledge, no retailer in England and Wales has defaulted to date (though Satec did have its licence withdrawn after it went into administration). The arrangements applying from 1 April 2017 will also presumably benefit from the experience in other sectors.

Other UK water markets

NAVs

A1.21 NAVs typically provide 'last mile' water and wastewater services, connecting premises to the incumbent local water companies' water and wastewater networks. The NAV is then responsible for those 'last mile' pipes, as well as for retail functions in relation to the customers it serves. NAVs often enter into bulk supply agreements (BSAs) with the

⁴¹ See Ofwat (2016) "Note of Ofwat credit terms workshop 19 February", p3 and Ofwat (2015) "Licensing and policy issues in relation to the opening of the non-household retail market – a consultation", June, p59 which also refers to the 75 days requirement included in MAP2 and MAP3. Further details on the proposed credit arrangements between wholesalers and non-household retailers in England can be found in the latest drafts of the various market codes: see sections 8-9 (part D) of the Business Terms (<http://www.open-water.org.uk/media/1905/2a-postvendormap-appendix2-wrc-part2-businessterms.pdf>), schedule 8 of the Market Arrangements Code (<http://www.open-water.org.uk/media/1965/70a-postvendor-map-appendix4-marketarrangementscode.pdf>) and section 4.13.2 of the Market Terms document (<http://www.open-water.org.uk/media/1909/13a-postvendormap-appendix2-wrc-part4-marketterms.pdf>) all accessed on 8 March 2016.

⁴² See Ofwat (2015) "Interim supply arrangements in relation to the opening of the non-household retail market – a consultation", October, p12.

⁴³ See Ofwat (2015) "Interim supply arrangements in relation to the opening of the non-household retail market – a consultation", October, pp29-31.

local water company to obtain water to sell to its customers, but NAVs can supply their own water from other sources if they have access to an alternative source. Depending on whether the NAV needs to access some of the local water company's assets or not, it may need to pay an access charge for the use of that infrastructure.

- A1.22 In line with Ofwat's statutory duties under the Water Industry Act 1991 (see Part 1, Clause 2, which requires that Ofwat must secure that any company holding an appointment under Chapter 1 of Part 2 of the Act (which includes NAVs) is able to finance its functions) NAVs are subject to tests of their financial viability by Ofwat prior to their appointment.⁴⁴ Applicants for NAVs are also required to demonstrate "the availability of external and group finance and any financial security or guarantees that may be in place to protect your customers".⁴⁵
- A1.23 Ofwat has not published a set of standard terms and conditions for BSAs. Rather, each water company has developed its own standard bulk supply agreement.⁴⁶ The terms and conditions naturally vary between companies, but at least some of these agreements include provisions for the water company to require the recipient of the bulk supply (the NAV) to post collateral.⁴⁷
- A1.24 While Ofwat has not published a set of standard terms and conditions for BSAs, Ofwat does have the power to determine the terms and conditions of such agreements in the event of a dispute between a party attempting to secure a bulk supply and the incumbent water company that would provide the bulk supply.
- A1.25 To our knowledge, no NAV has ever gone bankrupt.

Joint billing

- A1.26 Thames Water has informed us that arrangements between water companies for joint billing purposes generally include a 'pay when paid' principle. This means that the company which is responsible for collecting payments from customers is only required

⁴⁴ See Ofwat (2012) "Statement on our approach for assessing financial viability of applications for new appointments and variations", November.

⁴⁵ See Ofwat website (<http://www.ofwat.gov.uk/regulated-companies/company-obligations/getting-a-new-appointment/financial-viability/>) accessed on 8 March 2016. See also See Ofwat (2012) "Statement on our approach for assessing financial viability of applications for new appointments and variations", November, p12.

⁴⁶ These standard agreements are typically available on water company websites.

⁴⁷ See, for example, Northumbrian Water's Draft Water Bulk Supply Agreement, March 2015, clause 6.4, available here: https://www.nwl.co.uk/assets/documents/Water_Bulk_Supply_Agreement_-_Template_2015.docx accessed on 8 March 2016.

to make payments to the relevant wholesaler (the company on whose behalf it is billing) when it has actually been paid by the end-customer. This avoids a situation where one water company takes on bad-debt risk for the other company (which is what would happen if the first company had to pay the second company regardless of whether the first company had actually collected payment from the end-customer).

Thames Tideway Tunnel

- A1.27 Thames Water has also told us that similar ‘pay when paid’ arrangements apply to the Thames Tideway Tunnel where Thames Water will bill customers on behalf of the TTT IP. The IP’s Project Licence includes provisions which enable the IP to terminate the “Revenue Agreement” with Thames Water and charge end-customers directly.⁴⁸ The “Revenue Agreement” does not appear to be publically available, but we assume one scenario where the IP’s ‘step in’ rights might be exercised would be where the IP expected to be able to reduce its counterparty credit risks by doing so i.e. it expected to be able to collect revenues more effectively from end-customers than Thames Water.

Lessons from energy

- A1.28 Electricity and gas transmission and distribution networks receive the majority of their revenue from energy retailers (known as suppliers). The counterparty credit risks faced by these businesses depend, to a degree, on the creditworthiness of the suppliers and on the market arrangements in place to protect the networks against non-payment by suppliers. We discuss these arrangements below.
- A1.29 Suppliers are required to have a licence from Ofgem. When an entity applies for a license, Ofgem carries out a number of “assessment checks”. Ofgem does not, however, conduct a test of the financial viability of the applicant, instead preferring to rely on the “entry testing” arrangements embedded within the industry codes:⁴⁹

“In carrying out our functions we must have regard to the need to secure that licensees are able to finance their activities which are the subject of obligations imposed on them. However, there is no available check that we can conduct on a potential licensee at the time of its licence application that will provide continuing comfort about financial viability once the licensee commences operations. Where they exist, we consider that entry testing arrangements provide a greater level of protection than any test that we

⁴⁸ See Ofwat (2015) “Project Licence: Bazalgette Tunnel Limited”, Appendix 3: Direct Charging Conditions, August, available here: <http://www.ofwat.gov.uk/regulated-companies/improving-regulation/thames-tideway/> accessed on 8 March 2016.

⁴⁹ See Ofgem (2010) “Guidance for gas and electricity licence applications”, September, p26.

could perform before granting a licence.”

- A1.30 A range of credit protections for network operators are set out in various market codes.⁵⁰ Different codes apply in different scenarios:⁵¹
- Connection and Use of System Code (CUSC) which covers payments for access to electricity transmission networks (TNUoS);⁵²
 - Distribution Connection and Use of System Agreement (DCUSA) which covers payments for electricity distribution networks;⁵³ and
 - Uniform Network Code (UNC) which covers payments for gas transmission and distribution networks.⁵⁴
- A1.31 Because different codes apply to gas and electricity and to transmission and distribution, the arrangements between network operator and supplier vary slightly depending on the type of network involved.
- A1.32 Each of the codes sets out the credit cover arrangements which the suppliers must meet. The amount of collateral which must be posted depends on the creditworthiness of the supplier: if a supplier is creditworthy enough, it can access unsecured credit. The limits are as follows:
- electricity transmission:⁵⁵
 - a supplier’s value at risk (calculated as fixed percentages of expected

⁵⁰ Suppliers are also required to post collateral under the Balancing Systems Code (BSC), which relates to purchases of power from generators, but our focus is on the collateral required in relation to the transmission and distribution networks as this is most akin to a wholesale water company in the absence of upstream water markets.

⁵¹ The Balancing and Settlement Code (BSC) covers payments for central electricity balancing and uncontracted volumes, but we focus here only on the codes relating to transmission and distribution use of system charges, so we do not discuss the requirements of the BSC further.

⁵² See <http://www2.nationalgrid.com/The-CUSC/The-Connection-and-Use-of-System-Code/Complete-CUSC--23rd-November-2015/> accessed on 5 March 2016. The CUSC also includes arrangements for recovering costs of balancing services procured by National Grid, but we do not discuss these here.

⁵³ See <https://www.dcusa.co.uk/DCUSA%20Document%20Public%20Version/DCUSA%20v8.0.pdf> accessed on 4 March 2016.

⁵⁴ See <http://www.gasgovernance.co.uk/general> accessed on 4 March 2016.

⁵⁵ Transmission Network Use of System (TNUoS) charges only i.e. excluded Balancing Services Use of System Charges (BSUoS).

- annual half-hourly and non-half-hourly charges, where the percentages vary by calendar year quarters) must be less than its credit allowance;⁵⁶
- the maximum credit allowance is set at 2% of the transmission operator's (TO's) RAV, but this is only available to suppliers with a AA-/Aa3 credit rating or better;⁵⁷
 - suppliers with weaker credit ratings have lower credit allowances, or no credit allowance; and
 - if the allowed credit is less than the security requirement, collateral ("security cover") must be used to 'top up' i.e. cover the gap.
- electricity distribution:
 - a supplier's value at risk (equal to one month's invoice plus 15 days of charges) must be less than its credit allowance;⁵⁸
 - the maximum credit allowance is set at 2% of the distribution network operator's (DNO's) RAV, but this is only available to suppliers with a AA/Aa2 credit rating or better;⁵⁹
 - suppliers with weaker credit ratings have lower credit allowances, or no credit allowance; and
 - if the credit allowance is less than the value at risk, collateral must be used to 'top up' i.e. cover the gap.
 - gas transmission and distribution:
 - a supplier's value at risk (equal to one month's invoice plus 20 days of charges) must be less than its code credit limit;⁶⁰
 - the maximum credit allowance is set at 2% of the gas TO's or gas distribution network's (GDN's) RAV, but this is only available to

⁵⁶ CUSC 3.23.2(c), 3.23.3 and 3.23.4, paragraph 2 of Appendix 1 (which has the quarterly percentages) and definitions in Section 11 of the CUSC.

⁵⁷ CUSC 3.27 and paragraph 1 of Appendix 1 of Section 3. See also the definitions of "The Company Prescribed Level" and "Unsecured Credit Cover" in Section 11 of the CUSC.

⁵⁸ DCUSA, Schedule 1, Clause 2.2.

⁵⁹ DCUSA, Schedule 1, Clauses 2.3 and 2.4.

⁶⁰ UNC Transportation Principal Document Section V, Clause 3.3 and paragraph 3.2.1(d).

suppliers with a AA-/Aa3 credit rating or better;⁶¹

- suppliers with weaker credit ratings have lower credit limits, or no credit limit; and
- if the credit limit is less than the value at risk, collateral must be used to 'top up' i.e. cover the gap.

A1.33 The DCUSA envisages that each supplier will maintain separate credit cover with each individual DNO. If the supplier defaults on its payments to a particular DNO, that DNO shall be entitled to offset any collateral posted by the supplier against the amounts it is owed.⁶² The CUSC has similar provisions, enabling an electricity TO to offset any amounts in escrow accounts against amounts owed to it by a defaulting supplier and to demand payment under any other form of credit collateral (e.g. guarantee, letter of credit etc).⁶³

A1.34 Both the DCUSA and the UNC allow suppliers with even quite weak credit scores to access some unsecured credit, but the larger the supplier relative to the network operator (proxied by the ratio of one month's invoice to the network operator's RAV) and the weaker the credit assessment, the greater the collateral which has to be posted.

A1.35 Where a supplier needs to post collateral, a variety of different types of collateral are allowed:

- the CUSC allows suppliers to provide collateral against electricity TO charges in the form of letters of credit, guarantees, bilateral insurance policies, insurance performance bonds, independent security arrangements or by putting cash into escrow accounts;⁶⁴
- the DCUSA allows suppliers to provide collateral against DNOs' charges in the form of letters of credit, bank guarantees, escrow account deposits, cash deposits or other forms of collateral agreed between the DNO and the supplier (including, but not limited to, performance bonds, bilateral insurance, and independent security);⁶⁵ and
- the UNC allows suppliers to provide collateral against gas TOs' and GDNs'

⁶¹ UNC Transportation Principal Document Section V, paragraphs 3.1.1 and 3.1.3.

⁶² DCUSA, Schedule 1, Clause 4.

⁶³ CUSC, Section 3.24.

⁶⁴ CUSC, Section 3.22.5.

⁶⁵ DCUSA, Schedule 1, Clause 1.

charges in the form of letters of credit, guarantees (including performance bonds), deposit deeds and/or prepayment agreements.⁶⁶

- A1.36 While the arrangements above were intended to reduce the risk of retailer default, other measures were also included to protect wholesalers against lost revenues and to protect customers against a loss of service.
- A1.37 A SoLR regime is included in relevant legislation: see for example the Utilities Act 2000. Ofgem first set out its approach to implementing the SoLR regime in 2001.⁶⁷ The SoLR arrangements were revised in 2003 and then again in 2008 following a number of supplier defaults.⁶⁸
- A1.38 There have been a number of financial failures of energy suppliers over the years, including:⁶⁹
- Saturn Gas went into receivership in 2000;
 - Independent Energy also went into receivership in 2000;
 - Enron Direct Limited failed in December 2001;
 - TXU Europe's supply business had financial difficulties in October 2002;
 - Maverick Energy went into receivership in June 2003;
 - The Team Group of Companies, Eledor and Reepham all failed in December 2005;
 - Utility Link failed in January 2006;
 - Zest 4 failed in February 2006; and
 - Electricity4Business failed in October 2008.
- A1.39 According to Ofgem's 2008 guidance document, key features of the SoLR include:
- Ofgem will ask other suppliers if they are willing to take on some of the defaulted supplier's customers, but Ofgem has the power to direct other suppliers to take

⁶⁶ UNC Transportation Principal Document Section V, paragraphs 3.4.5 and 3.4.6.

⁶⁷ See Ofgem (2001) "Supplier of last resort: guidance on current arrangements", March.

⁶⁸ See Ofgem (2003) "Supplier of last resort: revised guidance", November and Ofgem (2008) "Supplier of last resort: revised guidance", December.

⁶⁹ See Ofgem (2001) "Supplier of last resort: guidance on current arrangements", March, p2 and Ofgem (2003) "Supplier of last resort: revised guidance", November, p2 and Ofgem (2008) "Supplier of last resort: revised guidance", December, p1.

on customers even if they do not volunteer.⁷⁰ In doing so, Ofgem will take into account whether the additional customers would compromise the ability of the supplier to continue to provide services to its existing customers;⁷¹

- Ofgem would prefer to appoint a single SoLR for all customers of the defaulted retailer, but it can allocate the customers to multiple SoLRs if necessary;⁷²
- a supplier can only be directed to be a SoLR for a period of up to 6 months;⁷³
- customers on deemed contracts with the defaulted supplier will continue to be charged the same prices by the replacement supplier for up to 6 months. If the customer agrees a new contract with the replacement supplier, or another supplier, during this time, then the new contract comes into effect i.e. overrides the pre-existing contract;⁷⁴
- suppliers who incur additional costs as part of providing SoLR services are entitled to recover those additional costs through a 'levy' on gas transporters' and electricity distributors' network charges in certain circumstances. Ofgem's view is that the suppliers should set their prices for their customers to recover these costs where possible, in order to avoid a situation where customers of the defaulted retailer are charged less than the cost of serving them, but other customers are charged more to make up the short-fall.⁷⁵ Ofgem will take into account a supplier's intention to seek recovery of additional costs through a 'levy' on network charges when deciding which suppliers should be SoLRs;⁷⁶ and
- Ofgem will ask the receiver appointed for the defaulted retailer whether it is willing to pay any network charges which accrue from the date of the receivership i.e. any further network charges the supplier incurs after the date the receiver has been appointed. If the receiver is willing to pay those charges, Ofgem is more likely to give the receiver time to find a buyer for the business. If not, then Ofgem will decide on its next steps taking into account that other industry parties are exposed to bad debt risk e.g. non-payment of network

⁷⁰ See Ofgem (2008) "Supplier of last resort: revised guidance", December, p9.

⁷¹ See Ofgem (2008) "Supplier of last resort: revised guidance", December, p10.

⁷² See Ofgem (2008) "Supplier of last resort: revised guidance", December, p14.

⁷³ See Ofgem (2008) "Supplier of last resort: revised guidance", December, p18.

⁷⁴ See Ofgem (2008) "Supplier of last resort: revised guidance", December, p11.

⁷⁵ See Ofgem (2008) "Supplier of last resort: revised guidance", December, p12.

⁷⁶ See Ofgem (2008) "Supplier of last resort: revised guidance", December, p14.

charges.⁷⁷

- A1.40 Doubts about the ability of Ofgem’s SoLR regime to handle the collapse of a ‘Big 6’ energy supplier prompted the Department of Energy and Climate Change (DECC) to introduce a Special Administration Regime (SAR) (also known as Energy Supply Company Administration) as part of the Energy Act 2011 which would enable the supplier to continue to operate – and provide services to its customers – in the event that a buyer of the business could not be found and the SoLR regime was not expected to be effective.⁷⁸ The SAR has yet to be applied in practice, but the Government has subsequently consulted on recovering any costs it incurs (supporting a supplier under the SAR) from other industry participants.⁷⁹ These changes were brought into effect via modifications of licence conditions in June 2013.⁸⁰
- A1.41 Ofgem has historically included logging up provisions in the electricity and gas transmission and distribution networks’ price controls to address bad debt risk.⁸¹ No ex-ante allowance has been made for bad debt costs as they are expected to be small and infrequent. However, because bad debt costs are outside of the control of the network companies, these costs have been excluded from efficiency incentives⁸² and a logging up adjustment has been made at the following price control for any costs actually incurred (subject to the network company demonstrating that they have

⁷⁷ See Ofgem (2008) “Supplier of last resort: revised guidance”, December, p9.

⁷⁸ See DECC (2010) “Introduction of a Special Administration Regime for Electricity and Gas Supply companies – Impact Assessment”, December. For example, DECC noted that the “Experience of small suppliers’ insolvency has shown that there is a significant risk that the Supplier of Last Resort arrangements would not be effective in dealing with the insolvency of large suppliers because of the large volumes of customers involved” – see DECC (2013) “Government response to the consultation on a shortfall cost recovery mechanism for energy supply company administration”, May, p5.

⁷⁹ See DECC (2012) “A shortfall cost recovery mechanism for energy supply company administration: DECC consultation document”, December.

⁸⁰ See DECC (2013) “Government response to the consultation on a shortfall cost recovery mechanism for energy supply company administration”, May, p11.

⁸¹ See, for example, Ofgem (2015) “ED1 Price Control Financial Handbook”, February, p204ff.

⁸² See, for example, Ofgem (2013) “RIIO-GD1 Gas Distribution Price Control – Regulatory Instructions and Guidance: Version 1”, July, p159 and Ofgem (2014) “RIIO-T1 Gas Transmission Price Control – Regulatory Instructions and Guidance: Version 1.5”, April, p110, which indicates that bad debt costs will be excluded from the calculation of totex because they are subject to an ex-post true-up.

complied with Ofgem’s guidance on bad debt management).⁸³

- A1.42 Energy suppliers are not jointly liable for the payments a defaulting retailer owes to a gas or electricity transmission or distribution network.⁸⁴

Lessons from telecoms (local loop)

- A1.43 In the telecoms sector, BT is required to offer access to third parties to much of its infrastructure, including the local loop.⁸⁵ The local loop is the last mile circuit connecting the customer’s premises to BT’s network.

- A1.44 The arrangements governing access to the local loop are determined by BT’s wholesale business (Openreach) through a Network Facilities Agreement (NFA).⁸⁶ BT must offer access on a fair, reasonable and non-discriminatory basis. The NFA is subject to ex-post review by Ofcom if a customer of BT’s wholesale business (a Communications Service Provider (CSP)) disputes the proposed terms and conditions.⁸⁷

⁸³ See Ofgem (2005) “Best practice guidelines for gas and electricity network operator credit cover: conclusions document”, February.

⁸⁴ Energy suppliers are, however, collectively liable for the amounts owed to the Balancing and Settlement Code Company (Elexon) for the balancing and settlement services it provides (but not for Trading Charges i.e. non-delivery charges, energy imbalance charges, system operator charges etc: see BSC Section X). Balancing and Settlement Code Company charges are defined in BSC Section D, clause 1.1.3. BSC Section D, clause 2 makes clear BSC Costs excludes Trading Charges). This collective liability arises through the funding formula for Elexon: if a retailer defaults, the share of the relevant costs of Elexon which each retailer has to fund are adjusted to reflect the fact that the defaulting retailer will no longer be contributing towards those costs i.e. all remaining retailers pay more to cover the shortfall: see BSC Section D, clauses 2.2.1 and 4.2.1. The retailers are not jointly and severally liable: each retailer is only liable for its share of the BSCCo costs, but the retailer’s share of those costs is increased if another retailer defaults on its share of the costs due. See <https://www.elexon.co.uk/wp-content/uploads/2016/03/GB-BSC.pdf> accessed on 6 March 2016.

⁸⁵ While other services provided by BT could have been considered, we have chosen to focus on the local loop because Ofwat (2013) “Payment terms between wholesalers and retailers – a consultation”, October, cited this as a relevant example when consulting on the appropriate payment terms between wholesalers and non-household water retailers.

⁸⁶ See BT Wholesale (2015) “Revised Access Agreement for Access Network Facilities Services”, for the latest version of the NFA for local loop. The latest version (at the time of writing) is available here: https://www.openreach.co.uk/org/home/products/llu/contracts/contracts/downloads/RANF_Conditions_version_4_2.pdf

⁸⁷ For example, a CSP named THUS challenged the payment terms that BT had sought to impose for Partial Private Circuits (PPCs), Interconnect Extension Circuits (IECs) and Intra Building

A1.45 The NFA sets out the payment terms on which access is granted (see section 12), including the collateral requirements which CSPs need to satisfy. These requirements include that the CSP “provides a deposit or guarantee or payment for the Service and/or Service Charges in advance” (paragraph 12.14 of the NFA) and that “any deposit or guarantee or payment for the Service in advance required ... shall be no greater than the reasonably estimated value of charges under this Agreement for three months” (paragraph 12.15 of the NFA).

A1.46 The types of collateral which are accepted are specified in BT’s Credit Vetting Policy, which states:⁸⁸

“A deposit is the normal form of security (CHAPS/BACS payments into a bank account nominated by BT Wholesale) however customers may also be asked to pay for products and services in advance.

Depending on circumstances, other types of security may be acceptable. For example:

A guarantee from a recognised bank, or similarly acceptable institution, for the equivalent value of the deposit. It is the customer’s responsibility to obtain this guarantee for BT Wholesale, in an acceptable form, and ensure that it remains in place for the required term

A company guarantee to the full value of the customer’s potential or actual indebtedness might be acceptable, if agreed with BT Wholesale in advance

BT Wholesale may also accept an alternative type of security i.e. An Escrow Account, a Stand –by letter of credit, Set off of accounts raised to BT or a combination of the above, at its discretion.”

A1.47 BT’s Credit Vetting Policy also explains the amount of collateral which must be provided by the CSP. This amount can be less than the three months of payments set out in the NFA if the CSP achieves a sufficiently good external credit assessment score from Dun & Bradstreet and taking into account the debts of the CSP and the anticipated liability to BT (equal to three months of payments for access services using the relevant price

Circuits (IBCs) services in 2006 (date of referral to Ofcom for determination of the dispute). In particular, THUS argued that the requirement to pre-pay for these services were anti-competitive, a position which Ofcom ultimately agreed with. See Ofcom (2007) “Determination of a dispute between THUS and BT about payment terms for PPCs, IECs and IBCs”, January.

⁸⁸ See BT Wholesale (2014) “BT Wholesale Credit Vetting Policy – Issue 10 Effective 1 March 2014”, January, Section 12, available here: <https://www.btwholesale.com/pages/static/help-and-support/contracts.htm>

lists).

- A1.48 The NFA and Credit Vetting Policy do not include an option for CSPs to access credit on unsecured terms, though it is theoretically open to a CSP and BT to negotiate different terms to those in the NFA.
- A1.49 The expected effectiveness of these arrangements at protecting BT Wholesale against non-payment or default by its customers (CSPs) can be observed from the (minimal) bad debt provisions which BT reports in its Regulatory Financial Statements.⁸⁹
- A1.50 If a CSP did default, the access arrangements for local loop mean that BT's only recourse would be (i) the collateral posted by that CSP; and (ii) legal proceedings as part of the administration applied to the CSP. BT would not be able to directly recover any lost revenues from other customers, though the way that opex allowances are set within the local loop charge control means that some costs may be recovered from customers indirectly.⁹⁰
- A1.51 We understand from Ofcom that continuity of supply or SoLR-type arrangements are in place in the telecoms sector in certain circumstances e.g. where a CSP using BT's wholesale telephone network goes out of business (but not where the CSP is using its own infrastructure or if the CSP is using other services, such as broadband). The process would be triggered by Ofcom following liaison with the Office of the Telecoms Adjudicator (OTA). Details of how this process works are not publically available, but we understand the arrangements differ according to the services that end-customers are

⁸⁹ See BT (2015) "Current Cost Financial Statements 2015 including Openreach Undertakings", section 6.1.1, p29, £3m of bad debt; BT (2014) "Current Cost Financial Statements 2014 including Openreach Undertakings", section 6.1.1, p27, £0m of bad debt; BT (2013) "Current Cost Financial Statements 2013 including Openreach Undertakings", section 6.1.1, p24, £0m of bad debt; BT (2012) "Current Cost Financial Statements 2012 including Openreach Undertakings", section 6.1.1, p22, £0m of bad debt; BT (2011) "Current Cost Financial Statements for 2011 including Openreach Undertakings", section 6.1.1, p23, £0m of bad debt.

⁹⁰ At its most recent Fixed Access Market Review (FAMR) Ofcom set opex allowances (intended to cover costs including bad debt costs) within the local loop charge control on the basis of historical opex (i.e. actual opex in a chosen base year), subject to various adjustments: see Ofcom (2014) "Fixed access market reviews: wholesale local access, wholesale fixed analogue exchange lines, ISDN2 and ISDN30 – Volume 2: LLU and WLR Charge Controls", June, p132ff. Consequently, to the extent that the base year opex included bad debt costs arising from a default by a retailer, those costs would be included within future charge control revenue allowances, which in turn are used to set the tariffs for BT's services. While we have described the approach adopted at the most recent FAMR, because the opex allowances are forecasts and Ofcom has some discretion over how it determines these, it might be expected that an allowance would be made for bad debt costs if there was a reasonable expectation of those costs being incurred and/or costs had been incurred historically in some other year than the base year.

using e.g. whether they are using telephone or broadband services.⁹¹

- A1.52 The arrangements for retailer default in telecoms sector have been tested by failures of a number of CSPs. Atlantic Telecom (AT) was one example: following the telecoms downturn in 2001 and after having raised £200m to fund acquisitions in 2000, AT put itself up for sale in September 2001 and went into administration in October that year.⁹² A buyer for AT could not be found, so the business was wound up and services cut off. Around 14,000 customers had to move to another provider, but their phone numbers were not portable (meaning they had to be changed).⁹³ The AT experience prompted the Government (the then Department of Trade and Industry) and the then-regulator Ofcom to consult on arrangements in the event of a CSP failure, including to ensure continuity of service and portability.⁹⁴

Summary / conclusions

- A1.53 Table 5-1 below summarises the measures adopted to mitigate counterparty credit risks in some of the sectors discussed in this Appendix.

⁹¹ See <http://consumers.ofcom.org.uk/files/2009/08/connected.pdf> accessed on 17 March 2016.

⁹² See <http://www.theguardian.com/business/2001/sep/08/10> and <http://www.accountancyage.com/aa/news/1780774/pwc-brought-atlantic-telecom> accessed on 4 March 2016.

⁹³ Ofcom (2004) “An assessment of alternative solutions for UK number portability”, August, p2.

⁹⁴ Ofcom (2004) “An assessment of alternative solutions for UK number portability”, August, p6

Table 5-1: comparison of measures to mitigate counterparty credit risk in other regulated sectors

Issue	Scottish non-household water retail	English non-household water retail (2017+)¹	Electricity²	Gas²	Telecoms³
Credit arrangements set by market codes	No. Credit arrangements are set out in the template Wholesale Services Agreement	Yes	Yes	Yes	No. Negotiated access based on a template Network Facilities Agreement.
Upfront test of financial viability as part of awarding a licence	Yes: WICS requires license applicants to demonstrate financial viability	Yes, license applicants will need to provide a Certificate of Adequacy to Ofwat as part of application	Not by Ofgem, but as part of applying to become a member of industry codes	Not by Ofgem, but as part of applying to become a member of industry codes	No
Collateral required	One month's charges	To be determined, but recent discussions refer to between 30 and 75 days of charges	TO: fixed percentage of forecast annual charges, where the percentages vary by calendar quarter DNO: one month's invoice plus 15 days of charges	One month's invoice plus 20 days of charges	Up to 3 months' charges (only lower amounts allowed if good credit score is not achieved)

Issue	Scottish non-household water retail	English non-household water retail (2017+) ¹	Electricity ²	Gas ²	Telecoms ³
Types of collateral accepted	Pre-payment, escrow account or guarantee. Escrow account must have a minimum of £50,000 at all times.	To be determined, but current drafts of market codes indicate retailers may be allowed to post various types of collateral as cover for their payments to wholesalers, including cash deposits, letters of credit, parent company guarantees, insurance and pre-payment.	TOs: letters of credit, guarantees, bilateral insurance policies, insurance performance bonds, independent security arrangements or by putting cash into escrow accounts DNOs: letters of credit, bank guarantees, escrow account deposits, cash deposits or other forms of collateral agreed between the DNO and the supplier (including, but not limited to, performance bonds, bilateral insurance, and independent security)	Letters of credit, guarantees (including performance bonds), deposit deeds and/or prepayment agreements	Cash deposits, guarantees, escrow accounts, a Stand – by letter of credit, set off of accounts

Issue	Scottish non-household water retail	English non-household water retail (2017+)¹	Electricity²	Gas²	Telecoms³
Unsecured credit available	No	To be determined, but current drafts of market codes indicate retailers may be able to access unsecured credit if they have an investment grade credit rating	Yes, potentially up to 2% of RAV, if supplier has sufficiently strong credit rating (AA-/Aa3 or better rating for TOs, AA/Aa2 or better rating for DNOs)	Yes, potentially up to 2% of TO/GDN RAV, if supplier has AA-/Aa3 or better credit rating	No
Treatment of bad debt within wholesale price controls	No separate allowance for wholesale bad debt, but bad debt is treated as an uncontrollable cost so any bad costs actually incurred by wholesaler might be reflected in future price control allowances.	No allowance within wholesale price controls for bad debt costs	No ex-ante allowance, but TO and DNO price controls include an ex-post true-up mechanism which effectively passes through bad debt costs to end-customers	No ex-ante allowance, but TO and GDN price controls include an ex-post true-up mechanism which effectively passes through bad debt costs to end-customers	Indirectly, but immaterial

Notes: (1) based on consultations and proposals available at time of writing, which are subject to change; (2) for network charges only; (3) local loop. TO = Transmission Operator (either gas or electricity); DNO = electricity distribution network operator; GDN = gas distribution network operator; RAV = Regulatory Asset Value.