

Money Down the Drain: Getting a better deal for consumers from the water industry

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With a foreword by Sir Ian Byatt

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Foreword

This is a very timely paper.

The first decade of the regulation of the newly privatised¹ water industry set up an operational system that enabled overdue investment to take place while protecting customers pockets through price controls.

In the second decade, regulation delved into the details of delivering environmental investment, while leaving new issues, such as the introduction of greater competition, and the challenges resulting from the entry of private equity infrastructure funds into the industry, to one side².

The third decade, with a new Chairman and Board at Ofwat, provides the opportunity of making progress on these issues.³ In current economic circumstances, when personal incomes are under stress, regulation also needs to ensure stability, or reductions, in tariffs.

George Turner sets out the issues involved in the financing of investment in the water sector with great clarity, making them accessible to non-expert readers, while providing a set of well-thought out suggestions for action both by Parliament and the regulator.

My own experience, at Ofwat during the 1990s and in Scotland from 2005 to 2011, leads me to emphasise the uncertainties in any estimates of the cost of capital, particularly in current financial and economic circumstances, the tendency of the industry to over-estimate it and the need to ensure that the companies are held to deliver the requisite investment without making excessive profits, and removing their money through large dividends.

Particular problems have arisen in relation to dividends. Regulatory practice has emphasised the need to finance ring-fenced water companies as if they were free-standing PLCs. This implies that companies should behave responsibly and, in particular, retain sufficient funds to enable them to invest of the scale needed to provide enhanced environmental standards.

¹ The former Water Authorities, responsible for the supply of water and the collection and disposal of waste water were privatised in 1989, to join the existing Statutory Water Companies in the private sector.

² There were reports into the extension of competition, notably Martin Cave's Independent report but any implementation has been slow..

³ See Jonson Cox *Observations on the Regulation of the Water Sector* Lecture 5th march 2013

In practice, many companies, especially the private equity infrastructure funds, have paid out excessive dividends to their owners. In the case of Thames Water, this has damaged its credit rating, leading to requests to Government for guarantees to enable the company to carry out the Thames Tideway sewerage project.

Companies should be held to the terms of their Licences, through the use of, or threat of, Special Administration. But I believe that, in the interests of customers, changes are required to the regulation of the financing of infrastructure investment. George Turner sets out a number of helpful proposals. They all deserve serious consideration and examination, both by regulators and by Parliament.

My own favourite would be the negotiation of some form of dividend control. I worried about the scale of dividends paid by water companies in the later 1990s and considered writing "excessive" dividends back into company balance sheets for the purpose of setting price limits. Instead I imposed a 12% reduction in prices at the 1999 Price Review.

I would now like to see a return to the kind of sliding scale control of dividends used to regulate the British Gas industry in the 19th century, whereby payments of dividends above those assumed by the regulator when setting price limits, would be accompanied by reductions in the tariffs paid by customers.⁴

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Ian Byatt

⁴ See Burns, Turvey & Weyman-Jones *The Behaviour of the Firm under Alternative Regulatory Constraints* Scottish Journal of Political Economy May 1998

Executive Summary

Water is one of the essential industries. We literally cannot live without it. However, anyone who looks at today's water industry would find it difficult to come to the conclusion that it is acting in the public interest.

There are allegations of widespread tax avoidance. The level of corporate borrowing is becoming unsustainable. The ownership structure means that there is very little public accountability. Most of our largest companies are owned by private equity funds and there are no public meetings where management can be held to account. The ownership structures are murky to say the least with strings of companies dotted around the world's island secrecy jurisdictions and tax havens. This makes it difficult for the public to know what is going on with its water suppliers.

The situation has come to a head with Thames Water, which has come to the government asking for support to build its super sewer through London. Despite making very healthy profits for a number of years the company is financially too weak to carry out the project alone.

This paper seeks to explain how we got into this situation. It explores the theory behind how water companies finance their activities and how this interacts with the regulator. It has been written with the intention of allowing the reader to understand the financial structure of the water industry without prior knowledge of corporate finance theory.

The argument of this paper is that since 2005 prices for water have been too high, more than required to run a decent service for customers whilst providing a reasonable return for investors. This has led to very high profits for water companies. These profits, which are funded out of consumer bills, have not been spent on improving customer service or for investing in infrastructure but have been transferred straight to shareholders who have seen extraordinary returns on their investment.

Under competitive market conditions these profit levels would be difficult to sustain, and prudent companies would tend to hold back at least some of these profits for investment, research and development. But in a water company, which has monopoly control over a basic resource which we all need these incentives do not exist. Instead the customer relies on the regulator, Ofwat, to keep prices low by setting price limits.

This paper looks at how, after a successful price review in 1999 which imposed the first price cut on the privatised water industry, Ofwat got things wrong in subsequent price reviews by overestimating the cost of capital for water companies.

This should be easy enough to fix in subsequent reviews though a sizeable price cut, but some companies have made a bad situation much worse by using financial engineering.

Many water companies have taken out large amounts of debt in order to artificially increase the risk of their companies and inflate shareholder returns still further.

In doing this they have also greatly weakened their financial strength which has impaired their ability to finance long term investment, and also makes future price cuts very difficult given the large debt servicing requirement these companies now have.

When the industry was privatised in 1991 the kind of things happening today could not have been foreseen. All of the companies were floated on the stock exchange and the discipline of the financial markets would help make sure companies behaved responsibly with their finances.

However in the 2000s water companies have been largely taken over by private equity funds which have taken them off the stock exchange. This has insulated them from the discipline of the equity market.

The winners have been the shareholders who have used this extra revenue to borrow billions and transfer it out of the company through very large dividend payments. The losers are undoubtedly the public who are paying for it.

Thankfully the tide is already turning. Jonson Cox, the new chairman of the industry regulator Ofwat has been making some encouraging statements on his views about pricing and transparency in the industry. We encourage him to continue to be bold. It will not be easy. After years of inflated prices which have fuelled lavish returns to shareholders the industry is hooked on high levels of debt and high risk financial structures. Forcing these very powerful interests to derisk and accept a much lower profit level is bound to meet with fierce resistance and is technically difficult.

As we approach the next price review there must be an acceptance that further price rises cannot be an option. Given the returns made by companies in recent years they have no justification. At a time when many people are suffering the effects of poor economic growth, it is now time to cut prices and for the regulator to refocus on the long term financial stability of the industry.

As well as providing encouragement we also give some specific recommendations which will help improve public accountability and ensure that the industry is far more disciplined in the future.

Flexibility

Introduce a water levy on highly geared water companies to take away the incentive to introduce risk into companies through increasing gearing and removing financial flexibility.

Ofwat should report on the financial situation of Thames Water, the UK's largest water company to see whether more modest dividend and financial policies would have allowed

it to fund improvements to the Thames without government support. The results of that report should be made publicly available.

Tax

Review the tax treatment of debt in highly geared companies across the economy.

Specifically report on introducing German style earnings stripping rules to prevent companies from taking out excessive loans with the intention of avoiding tax.

Profits

Ofwat should announce it is looking into how price cuts can be implemented at the next price review

Parliament's Environment, Food and Rural Affairs Committee should hold an inquiry into the profits of the water industry and the return to shareholders they have generated over the last two price reviews.

Transparency

Changing the license conditions of companies to impose London Stock Exchange disclosure requirements on non-stock market listed companies

Change license conditions to require public disclosure of all intermediate holding companies and ultimate controlling companies for the water industry.

Accountability

Encourage water companies to take put the interests of the customer front and centre when making corporate decisions, either through a consumer representative on the board or by placing a duty on non-executive directors to report on how they have best served the consumer interest.

Consider introducing mandatory "Annual Customer Meetings" where customers can hold management to account in companies without annual general meetings in the UK.

Company Ownership

The government should commission a review looking at how different models of corporate ownership have affected management decisions and efficiency in the water industry since privatisation.

The government should make it a policy to ensure that the regulator must consider restructuring companies as non-profits when a company has gone into special administration if that is in the best interest of customers.

Introduction

Privatisation and the need for investment

One of the driving forces behind the privatisation of the water industry in 1989 was the need for the industry to undertake a major investment program to improve its pipes, reservoirs, sewers and other capital assets.

By the end of the 1980s Britain had a decaying water system which had suffered a long period of underinvestment. As nationalised industries, any investment by water companies counted as public expenditure and any borrowing counted towards the national debt.

Investment, by its very nature, benefits people in the future rather than the present and in the difficult economic environment of the 1970s and 1980s governments saw cutting investment in the water industry as an easy way to reduce public spending in the short term with less politically damaging consequences than cutting public services. As the government still got to keep the water rates the surplus was effectively a tax on water.

By 1982, high levels of inflation meant that bills had doubled and were just keeping up with costs, whilst capital expenditure was half of what it had been in 1972.⁵ This had left water mains corroded, leading to high leakage rates and drinking water acquiring a distasteful colour.

A study by the National Economic Development Office recorded that in 1986 the Yorkshire Water Authority area had 64 significant collapses in the sewage system for every 100km of sewers.⁶ In 1988, 743 sewage treatment works discharged more sewage than they were allowed into our waterways.⁷

None of this was good for our environment. In Wales, rivers ran black with coal. The river Mersey was declared the most polluted river in Europe in 1982.⁸ By the mid 80s surveys showed that the water quality of our rivers was declining for the first time since surveys began in the 1950s.⁹ In 1985 a report from the Coastal Anti-Pollution League found that more than a quarter (200 out of 690) of British beaches were likely to be affected by raw,

⁵ Ofwat and Defra, *The Development of the Water Industry in England and Wales*, (2006) p.22

⁶ *ibid* p.23

⁷ *ibid* p.28

⁸ Environment Agency, *Ten most improved rivers in England and Wales*, from Environment Agency Website <http://www.environment-agency.gov.uk/news/132754.aspx>

⁹ Ofwat and Defra, *The Development of the Water Industry*, p. 28

untreated sewage.¹⁰ Impending prosecution of the UK by the European Commission for breaking water quality directives forced the need to change.

The idea behind a privatised water system was that water rates would be kept within the company and used to provide a service to households and businesses. Prices would be linked to investment and service so that ratepayers could see what they were paying for. It was hoped that, no longer dependent on the government for finance, the water industry would be able to raise funds from the private capital markets in order to make the large investments needed to improve the water network.

Water today

Today, privatisation is viewed by many in the industry as a great success. The industry has been able to raise £108bn in order to pay for investment in our water supply and environmental improvements since privatisation over twenty years ago.

Environmental standards have improved and rivers once dead have been brought back to life. The river Wandle in London which was once declared a sewer now forms part of a nature trail. Fish have been brought back to the Thames and many other rivers around the country. Standards on British beaches have improved; today 14% of beaches fail the EU minimum standard (down from 29% in 1985). Service standards have also improved, with fewer leaks and disruptions.

But in financial terms we find ourselves in a similar position to where we were in the mid-1980s.

European directives, particularly on urban waste water, are demanding greater environmental improvements from our water companies and the industry is facing difficulties financing them. However, instead of the industry seeking to free itself from government spending and borrowing constraints, it is turning back to government for help.

London is the first place to face this problem. London's sewerage system, built by the Victorians, can no longer cope. Rain is flowing into the sewer and causing it to overflow into the river Thames at the rate of once a week. Europe is once again prosecuting the UK for failing to comply with the Urban Waste Water Directive because of the situation in London.

Whatever solution eventually fixes the problem, large investments in infrastructure are needed to overcome it. Yet Thames Water, which is responsible for managing London's water supply, cannot raise the money to pay for it. It is asking the government for help with

¹⁰ The Times, "Raw Sewage affects 200 beaches", 19 June 1985 p.3

loans and for further large increases in bills of up to £80 per household - a 75% increase on the average household sewerage bill in 2010.¹¹

Although Thames Water is the first company to run into difficulties, it will most probably not be the last. All water companies will have to continue to make large investments to meet water quality directives and to deal with our changing climate. The last two years have seen drought followed by periods of unusually heavy rain. A study commissioned by Severn Trent in 2010 estimated that another £96bn of investment would be required over the next twenty years.¹²

Why are companies running into difficulties?

Politicians today are fond of using household analogies to describe the national debt crisis. We are told that the country has maxed out its credit card, or that every household knows that you cannot spend more than you earn.

These analogies do not work for the water industry. The industry is not spending more than it earns in order to deliver a service to customers. It is not making an operating loss. Water companies are in fact making large profits and prices are set at a level which allows for an attractive return on investment.

The reason why some companies are facing difficulty is because of the way in which they have decided to finance themselves. The problem is with their capital structure. This has been the result of corporate decisions made by these companies and their owners. The structure of the industry, and the effect this has on companies' ability to raise finance is explored in the following chapter.

¹¹ Consumer Council for Water, *Thames Tunnel Background*, CCW website, <http://www.ccwater.org.uk/server.php?show=ConWebDoc.1802>

¹² Severn Trent, *Changing Course: Delivering a Sustainable Future for the Water Industry in England and Wales*, p7 (April 2010) available from the Severn Trent website http://www.stwater.co.uk/upload/pdf/STW_Changing_Course_Exec_summary.pdf

Financing water companies

Water is capital intensive. In order to produce clean water that we can drink and bathe in, the company needs to spend a relatively large amount of money on things - pipes, sewers, water treatment plants and reservoirs - compared to the amount it spends on people: employees' wages, training, recruitment, etc.

When companies need to make large investments they require large amounts of cash - often much more than they have available though the profits on their business activities. They therefore need to access the financial markets and attract private investors.

Debt and equity

There are broadly two ways in which private companies can raise cash on the financial markets. They can sell a stake in the company to investors. This is called equity financing or selling shares. It can also borrow the money. A large water company will most commonly do this by issuing bonds. A bond is an agreement which binds the company to repay the bond holder on fixed terms. The amount of money paid to investors through interest and dividends will be different and the reasons for this are explored below.

Shareholders, as part owners of the company, have a role in corporate decision making, in particular through voting rights at the Annual General Meeting. In return for giving their cash to a company shareholders receive a share of the profits of the company; a dividend. However, they are also not guaranteed a return. If the company makes no profit it will have no money to distribute to its shareholders, and is not under any legal obligation to do so. If the value of the company falls, so does the value of their stake in it. If the company goes bankrupt, they can lose their entire investment. Shareholders share the risks of the company as well as the profits.

Debt is different. If a company gets into financial difficulty, creditors (bondholders) are repaid before shareholders. Debt carries with it interest payments which are paid to bondholders: the money they have lent to the company is repaid at an agreed rate, regardless of how the company is performing. If a company is not generating enough cash in order to pay back its debts, it could be declared bankrupt.

The interest rate which is demanded by the bondholder is dependent on the risk of default; the risk that the company will be unable to pay back the loan as it falls due. The higher the risk the greater the interest rate. In normal circumstances, creditors do not have a role in corporate decision making.

Aside from the financial markets companies can also use their own profits to invest. If a company uses its own profits, and the investment is successful, the return should go to shareholders who will see the value of the company's assets increase, and with it the value of their share of the company. Using retained profits is therefore similar to shareholders investing in the company. They are foregoing a share of the profit today, in the hope of a greater payoff tomorrow. Instead of a payment in dividends, the shareholders benefit from the increase in the value of their shareholding.

The entire value of a company can be expressed through the amount of debt and equity the company has. The company's enterprise value is arrived at by adding the total amount of debt it has and the value of its shares. The principle behind enterprise value is that anyone acquiring the company would have to buy all of the shares and also take on the obligation to pay back its debts. The proportion of the value of the company which is accounted for by debt relative to equity is called the company's capital structure or its gearing.

For example, a company which has shares valued at £4m and debts of £6m, would have an enterprise value of £10m and a gearing of 60%.

Why choose debt?

There are two main reasons why debt is an attractive method of financing. Firstly, it is significantly cheaper for companies to invest through borrowing money than it is to sell equity. The uncertainty of the return that shareholders will receive, together with the increased risk that they take on as owners of the company, mean that shareholders typically demand a greater return on their investment than bondholders demand in interest.

The second is tax. When a company makes a profit on its operations, it is taxed on that profit before it can distribute the profit to its shareholders. This is corporation tax. But interest payments are considered a cost to the business so are paid out of pre-tax profits. This is called the 'tax shield'. Companies can avoid paying a significant amount of tax by choosing to finance their operations through debt rather than equity.

To illustrate how companies can save money through debt financing take two fictional companies: Company A and Company B, which are shown in Table 1 below. The figures are purely illustrative and designed only to show the relationship between gearing, tax, profits and financial flexibility in a static market. The numbers presented do not represent any water company or the real rates of return but have been made up for simplicity to understand the basics of the relationships involved.

Both companies are worth £10bn. But Company A has a relatively small amount of debt. It has £1bn; 10% of the company's value with the remaining £9m being in equity. Company

B has much more debt in its capital structure. It has £9bn in debt and £1bn in equity. Both make an operating profit of £600m each year.

Company A pays off the interest on £1bn of debt at 5% which is £50m, leaving it with £550m in profit before tax. It then has to pay corporation tax of 23% of that £550m, which is £126.5m. This leaves it with £423.5m in post-tax profits. The shareholders want a 6% return on their investment of £9bn which is £540m. In this case this is more than is left over in profits and so the shareholders will either have to accept a lower dividend, or the company will have to borrow the money.

Company B has much higher interest payments of £450m because it has borrowed much more money. This leaves it with a profit before tax of £150m on which it pays £34.5m in corporation tax. Company B's shareholders have invested much less money than Company A and therefore a 6% dividend is £60m. At the end of the year Company B has £55.5m left over in cash. It could use this to boost the dividends of the shareholders further, save the money, or re-invest it in something else. If in this case the company boosted its dividend payments shareholders would receive a return of almost 12%.

I have also added a third column to the table which demonstrates what the situation would be if interest payments were not deducted from profits before tax; that is if there were no tax shield and returns on debt were treated the same as returns on equity for tax purposes. The difference is significant.

Table 1 - Financial impact of different capital structures and the tax shield

Figures in millions	Company A - 10% Debt	Company B - 90% Debt	Company B - no tax advantage on debt
Debt	1000	9000	9000
Equity	9000	1000	1000
Operating Profit	600	600	600
Interest - 5% of total debt	50	450	450
Taxable profit	550	150	600
Corporation Tax - 23%	126.5	34.5	138
Profit after tax	423.5	115.5	12
Dividend - 6% equity value	540	60	60
Cash flow	-116.5	55.5	-48

The tax shield is considered one of the most important factors behind how companies structure their finances. Indeed a joint Ofwat and Ofgem paper which looked at how infrastructure networks should be financed defined optimal capital structure as "a trade off between the tax benefits of debt finance and expected costs of bankruptcy".¹³

Companies have certainly made use of the shield, with many highly geared companies now paying little or no corporation tax at all. The annual reports of Anglian Water show that the company paid no corporation tax on its regulated water business in the financial year ending in March 2012. The company paid £500,000 corporation tax in the previous year (2011) and £1.4m the year before (2010). Anglian is a profitable company. It made an operating profit of £492m in 2012.

Yorkshire Water received a tax rebate in 2011 and 2012 according to their profit and loss accounts. Profits at the company were increased by £75.3m in 2011 and £9.2m in 2012 through tax credits. The company made an operating profit of £303m in 2012 but most of this was wiped out by an interest charge of £235m.

More tax

There are other reasons why the tax system favours debt. As outlined in the Centre Forum Paper "The path to IPO", equity is taxed four times.¹⁴ On purchase of shares equity holders pay stamp duty. Corporate profits as we have seen are subject to corporation tax. The individuals receiving dividends pay income tax on that income. When the owners sell their shares they pay capital gains tax.

Finance theory suggests that these tax provisions mean that investors often only invest in equity if they can achieve higher returns than debt in order to get back some of the tax costs they incur. This pushes the cost of equity for companies even higher. This is something that Ofwat recognises by targeting a post-tax return on equity to calculate their price caps.

However, it is also the case that investors in companies may look to increase debt financing if they can capture the tax benefits of debt financing which normally go to the company.

In this case investors loan the money themselves to the company. The interest rates on those loans would be higher than what would normally be expected when one considers the lower tax costs for companies usually associated with debt.

This can only work when the same investors loaning money to the company also have very tight control over it as there is no benefit to the company in doing this. It is where tax

¹³ Ofgem and Ofwat, Financing Networks, a Discussion Paper, (February 2006) p11

¹⁴ Tom Papworth and Adam Corlett, *The Path to IPO: Funding SME Jobs and Growth*, Centre Forum (February 2013)

avoidance can easily step into tax evasion. Inland Revenue rules state that transactions must be done on an arms length basis. It is illegal for companies to negotiate with their owners over interest rates in this way. When the owners of companies loan money to companies they must do so on the basis that you could find the same rate if you went to the market.

However, on the margins, it is almost impossible to detect. As we shall see later, even the regulator, who should have a very intimate knowledge of the debt market for the water industry can overestimate the interest rates that water bonds should attract by up to 1%. It would be impossible for the Inland Revenue to be able to tell whether a bond owned by investors was overvalued by a few tenths of a percent. However, even a 0.1% difference in a £500m bond is half a million pounds a year.

The task is made even harder when the bonds are issued through companies based in the worlds tax havens where tax inspectors in the UK can not find out who owns the bonds. Several companies, including Thames Water and Yorkshire Water, have finance subsidiaries based in tax havens.

A recent report from Corporate Watch claimed that several water companies are issuing Eurobonds quoted on the Channel Islands Stock Exchange at inflated rates to avoid paying taxes. The same report highlighted loans made to Northumbrian Water from their owners Cheung Kong Group of £1bn, which pay an interest rate of 11%. This is more than double the interest rate one would expect a loan obtained on the markets to attract for a low risk water utility.¹⁵

Why choose equity?

Because debt needs to be paid back at a set rate, a company needs to be confident that it will have the revenue in the future to pay back the loan.

Take the fictional examples of Company A and B above. Although it seems Company B is healthier because of its positive cash flow, Company A has much more flexibility and is much more capable of dealing with shocks; unforeseen events which cause a sudden loss of profit.

In a water company, a shock could be that a significant number of people stop paying their bills, or the unexpected failure of a large piece of infrastructure which needs an urgent and expensive repair.

A shock will affect a company differently depending on its capital structure. To take the example above, if there was a significant problem which affected both of our companies and caused a sudden drop in their profits by £200m Company B would no longer be able

¹⁵ Corporate Watch, *Leaking away: the financial cost of water privatisation*, available from <http://www.corporatewatch.org/?lid=4685>

to meet its interest payments. Failure to pay interest is a very serious matter and the Creditors of Company B could force the company into bankruptcy. Company A, on the other hand, could simply lower its dividend payment for that year, or not pay one at all, leaving it with the cash required fix the problem.

To illustrate the point, Table 2 revisits the two hypothetical companies discussed earlier, this time confronting them with a sudden drop in their operating profit from £600m to £400m. Both pay no dividend this year. Company A has ample funds left over at the end of the year, but Company B cannot pay the interest on its loans.

Table 2 - Effect of economic shocks on different capital structures

Figures in millions	Company A - 10% Debt	Company B - 90% Debt
Debt	1000	9000
Equity	9000	1000
Operating Profit	400	400
Interest - 5% of total debt	50	450
Taxable profit	350	0
Corporation Tax - 23%	80.5	0
Profit after tax	269.5	-50
Dividend - 6% equity value	0	0
Cash flow	269.5	-50

Defining credit risk

How companies deal with economic shocks is the key concept in assessing risk and how debt should be priced. Capital structure is clearly a fundamental part of this. The greater the amount of debt a company holds the less room it will have for manoeuvre and the lower capacity it will have to withstand shocks. This makes the company more of a risky investment and lenders will demand a higher interest rate to reflect this.

An increase in risk will also lead shareholders to demand higher dividends. As shareholders are much more sensitive to increases in risk than bondholders an increase in gearing will increase interest rates by a little bit, but it will increase the return demanded by shareholders a lot more. This is again because shareholders risk losing their investment in a crisis.

Credit ratings

The three credit ratings agencies use similar scales in order to grade credit risk. The top grade is AAA, followed by AA, A, BBB, BB, B and so on. There are further sub-divisions with each company using a slightly different nomenclature to differentiate their credit ratings. Bonds rated AAA are very safe investments. The company issuing the bond (the issuer) shows very strong resistance to financial shocks and there is a very high probability that a loan will be paid back. Speculative grade bonds are issued by companies showing a much lower resilience to shocks and the investor is taking a significant risk when investing in these bonds.

Moody's	S&P	Fitch	
Aaa	AAA	AAA	Prime
Aa1	AA+	AA+	High grade
Aa2	AA	AA	
Aa3	AA-	AA-	
A1	A+	A+	Upper medium grade
A2	A	A	
A3	A-	A-	
Baa1	BBB+	BBB+	Lower medium grade
Baa2	BBB	BBB	
Baa3	BBB-	BBB-	
Ba1	BB+	BB+	Non-investment grade speculative
Ba2	BB	BB	
Ba3	BB-	BB-	
B1	B+	B+	Highly speculative
B2	B	B	
B3	B-	B-	
Caa1	CCC+	CCC	Substantial risks
Caa2	CCC		Extremely speculative
Caa3	CCC-		In default with little prospect for recovery
Ca	CC		
	C		
C	D	DDD	In default

Looking at credit risk, the assessment of the risk that a company will default on their loans, is not left up to individual investors. Credit ratings agencies assign ratings to companies based on how they feel that a company can withstand economic shocks and the likelihood that they will pay back their loans on time. Ratings agencies are private companies which receive a fee for their ratings. There are three major ratings agencies, Standard and Poor's, Moody's and Fitch. The ratings they assign are an important influence on the price companies will be able to obtain on debt. If a company's rating is downgraded by any of these agencies they will most likely face higher interest rates when they next try to borrow money.

There are broadly two categories of rating: investment grade ratings and non-investment grade ratings (also known as speculative-grade or junk). Investment grade ratings are defined as having a good capacity for repayment. Non-investment grade ratings are seen as speculative, as economic shocks could mean that the company which owes the debt may not be able to pay it back at all.

One of the primary reasons why it can be difficult for companies to raise money through debt if they have a speculative grade credit rating is that large institutional investors such as pension funds are not allowed to lend money to companies with non-investment grade credit ratings. If a water company was to drop below an investment grade rating it could well face difficulty in raising funds.

Other factors affecting credit risk

Although capital structure is an important part of assessing credit worthiness there are other factors too. Size is a factor, with larger companies being more able to withstand shocks than smaller companies. Ofwat compensates smaller water companies by allowing them higher bills because of the greater cost of capital they face. If a company has a strong governance structure which encourages responsible behaviour and good management that will make it more creditworthy than a company without that structure.

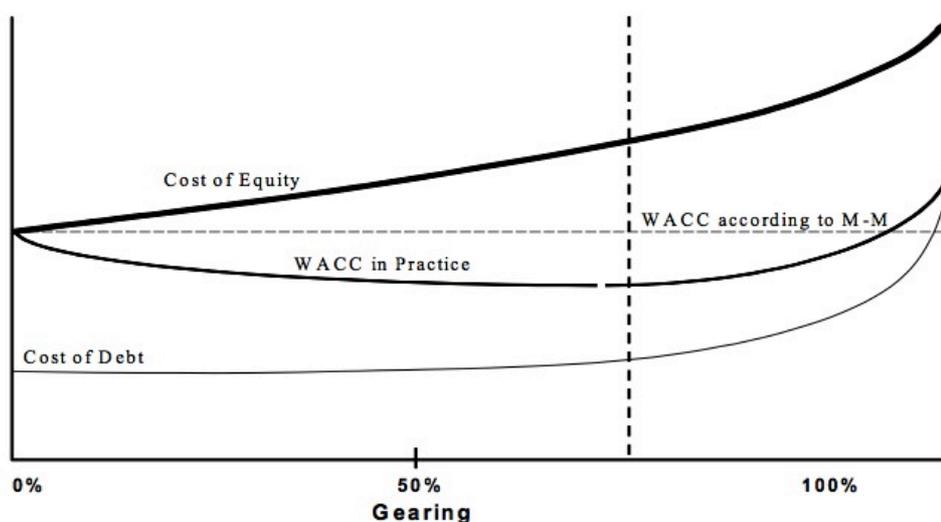
Another very important part of the calculation is how likely it is that a company will be subject to a shock. This is dependent on the characteristics of any particular industry. Some industries are fiercely competitive and consumer preferences change quickly. Fashion would be a good example of this kind of industry: unforeseeable and sudden changes in preferences can seriously affect a company's revenues and their ability to pay back loans.

The optimal capital structure

For businesses, the right capital structure is about finding a balance which allows them to finance their activities as cheaply as possible, but still leaves them enough room to be able to deal with any shocks, avoid bankruptcy and finance their future activities. What this balance is will be influenced by the tax environment, the risk profile of the industry as a whole and regulation as well as market sentiment.

In finance theory this is called the trade-off theory of capital structure. This theory posits that there is an optimum level of gearing for any company. At this optimum level the cost of capital will be at its cheapest. This is because as the company starts to substitute cheaper debt for equity the price of capital falls, until the increased risk of higher gearing gets to a point where it starts to raise the cost of capital again.

Figure 3.1
Trade-Off Theory of Capital Structure



The capital structure of the water industry

Water is a safe bet for investors. It is simply not vulnerable to the same kinds of shocks that companies in the rest of the economy are subject to. This leads to a very predictable revenue stream and cost structure which does not need the great flexibility offered by very high levels of equity financing.

The reason is that the water industry has several factors which make it very very predictable and extremely low risk. These are:

- **Monopoly** Unlike energy where customers can choose their supplier, in the UK the water industry is run by monopoly suppliers. There are 10 water and sewerage

companies in England and Wales with each one covering a region. These are large companies.

- **Basic need** Water is a basic need. Customers can not substitute water with other products as they could do in other industries.
- **Regulation** The industry is highly regulated. Monopoly supply of a basic need means that we are extremely dependent on our water supplier. Without regulation the potential for exploitation would be huge, and therefore the state has to regulate prices. It does this in five year price reviews which gives long term price stability to the industry. It also mandates how much companies should be investing.
- **Fixed prices** Water is largely unmetered. In the UK today only 40% of households have water meters while the rest pay rates; a fixed bill every year.
- **Too important to fail** As a basic need a water company failing to maintain supply would be completely unacceptable to the government. Because of this water companies are not subject to the same bankruptcy proceedings as other companies. Instead, the administration regime for the water industry sees a special administrator appointed by the Secretary of State. The special administrator keeps the company going until a new owner can be found. Their overriding concern is to keep the company operating and providing water.

Together these factors mean that the water industry is in the privileged position of knowing, to a great deal of certainty, the costs of its industry, how many customers it has and how much it will receive from each of them over a five year period. Although more households have water meters (Anglian and Southern Water are even introducing compulsory metering), water companies still operate over a large enough population base to make meaningful predictions on use.

This means that in theory water companies should be able to sustain much higher levels of gearing than most firms. Not being subject to the same market forces and potential shocks other companies face means that they have less need for financial flexibility.

However, something has clearly gone wrong. Today, the average debt to equity ratio of an English water company is around 70%. Some water companies have reached debt to equity ratios of 80%, meaning that 80% of the value of the company has been borrowed with only 20% invested by the shareholders.

These high levels of debt have led to a long term decline in the credit worthiness of the industry. According to Standard and Poors¹⁶

Since the privatization of the U.K. water utilities in 1990, our long-term corporate credit ratings (CCRs) on these companies have fallen from an average of between 'AA-' and 'A+' to 'BBB+' and

¹⁶ Standard and Poor's, *Regulation Provides Stability for UK Water Companies, But High Leverage Limits Their Room For Maneuver*, 10 February 2012 p.3

'BBB'. This decline is the result of rising debt to fund both high levels of investment in aging infrastructure and sizable dividend payments, against a backdrop of tightening efficiency targets set by the regulator.

We are now at the point where some companies cannot sustain a further deterioration in their credit rating and this is restricting their ability to invest in large infrastructure projects. This is most clear in the case of Thames Water.

Thames' preferred solution to deal with the sewage outflows in the Thames is to build a tunnel through London which collects the sewage overflows from the sewer during a storm and takes them to the vast sewage treatment plant at Beckton. The tunnel will cost a large amount of money; £4.1bn at current estimates.

Thames currently has over £8bn in debt and Moody's, one of the credit ratings agencies, says in its latest report that even if Thames were to assume a limited responsibility for the tunnel this could present problems for the company:¹⁷

If TWUL [Thames Water Utilities Limited] was required to assume responsibility for the entire project this would likely place significant strain on the company's credit standing. More limited involvement could also weigh upon the company's creditworthiness given the liabilities typically associated with projects of this type and TWUL's limited financial flexibility given its high level of gearing.

This is not a problem unique to Thames and its Victorian sewers. A report from Severn Trent Water published in 2010 looked at the amount of investment that would be required to meet regulations on water quality, waste water and other water regulations across the industry. It estimated that a capital programme of £96bn would be required over the next 20 years. On the current way the industry finances itself this would require an additional £27bn in debt. The report concludes:¹⁸

It is questionable whether the industry can continue to rely on borrowing to finance a programme of such a size, particularly following the recent global financial crisis which has led to a re-pricing of risk. An additional £27bn of debt does not look fundable particularly given the very different position that the industry is in today compared with that at the time of privatisation in terms of the level of gearing, companies' credit ratings and the allowed returns

Some companies have found themselves in this position because they have raised too much debt and too little equity in order to finance their activities. In fact since privatisation the entire growth in the value of the industry has been financed through debt with the level of equity remaining more or less constant.¹⁹

Having established that the difficulties facing the water industry are a result of a capital structure which has too much debt, we will now look at how companies got themselves into this position.

¹⁷ Moody's Investor Service, *Bond Report - Thames Water Utilities Ltd.* (30 April 2012)

¹⁸ Severn Trent, *Changing Course: Delivering a Sustainable Future for the Water Industry in England and Wales*, p9

¹⁹ Ofwat, *Financeability and financing the asset base - a discussion paper*, (2011) p.18

Regulation

Government regulation of the water industry

At privatisation, the government set up three new regulators to look after the industry. The National Rivers Authority regulated discharges from water companies into rivers and coastal waters, and had other functions such as flood control. It was later merged into the Environment Agency. The Drinking Water Inspectorate was set up to regulate the quality of drinking water, and the Director general of Water Services (subsequently the Water Services Regulation Authority, or Ofwat), was set up to regulate the supply and discharge of waste water.

Water companies in the UK operate under a license granted by the Secretary of State. Ofwat is the guardian of this license and can make a recommendation to the Secretary of State to take it away.

The license places several conditions on water companies including conditions on companies to maintain adequate financial resources to finance their ongoing activities.

A water company needs to retain an investment grade credit rating. In the event a company's credit rating drops below investment grade there is a cash lock-up mechanism which prevents the dividends being taken out of the company until its credit rating is restored.

The ultimate penalty and the ultimate safeguard in the water industry is the special administration regime. Under normal circumstances a company which cannot finance its obligations is bankrupt. It is put into the control of administrators who can liquidate the company (sell off its assets) in order to pay off the creditors. Anything left is distributed amongst the shareholders.

The overriding obligation of the special administrator is to keep the company going and water in the pipes. The special administrator will take action to make the company financially sound and then pass the company onto new ownership.

If this happens the equity investors are likely to be punished heavily as the company may be sold on at a fraction of the price that it was worth before it got into difficulty. Creditors may also suffer as, in order to make the company financially viable, debt may need to be restructured.

Price regulation

Ofwat's legal duties are to protect the consumer and to make sure water companies have adequate resources to carry out their legal duties. It does this by setting prices.

In setting price limits Ofwat takes into account the cost of meeting environmental objectives set by the government, the cost of maintaining the infrastructure of water companies, the day to day operating costs, tax, companies' individual investment programmes and the cost of financing the activities; a reasonable return for investors.

This process requires detailed knowledge of each company's business plans and operating costs as well as market conditions. The price setting process takes several years and decisions on future prices are made every five years.

Finance is a key part of the assumptions made by the regulator in setting price caps. As a capital intensive industry the cost of capital is substantial. Today the cost of capital (not the cost of investments but the cost of financing them) accounts for just over a quarter of our bills. A 0.1% increase in the cost of capital can increase bills by £2.²⁰

Investors of course want the highest returns possible. Customers they happy with paying just the necessary required to attract enough investment to meet the needs of the company and no more. Ofwat has to balance these two demands by keeping bills as low as possible and making sure companies generate enough revenue to pay a decent return and attract investors.

In coming to a view on a reasonable return for investors, the regulator looks at the Weighted Average Cost of Capital (WACC). This is the cost of the dividend needed to attract equity investors and the interest rates demanded by debt investors taking into account the mix of debt and equity which will need to be raised.

For example, the WACC would be the return on equity in a business which only raised equity, and the cost of debt (the interest rate) in a company which only raised debt. In a company which financed its activities with 50% equity and 50% debt the weighted average cost of capital would be halfway between the two. In effect the WACC is the amount which companies can charge their customers to pay the interest and dividends needed to keep and attract investors.

The price setting process is not designed to provide a floor on investors' profits. When coming to a final decision on prices Ofwat uses an incentives approach. Certain assumptions are made about the efficiency gains that companies will be able to achieve over the five year price review period. Companies are then encouraged to beat the regulator.

²⁰ Ofwat, *Financeability and financing the asset base - a discussion paper*, (March 2011)

If companies do not achieve these efficiency gains they will make a lower return than the cost of capital assumed by the regulator. If they improve efficiency over and above that expected by the regulator then they get to keep the benefits of their performance until the next price review. This will lead to higher returns to shareholders. After the next price review the benefits of the increased efficiency should be returned to customers by the regulator lowering the cap on bills.

Regulation and capital structure

At the time of privatisation the industry was largely debt free. In recognition of the need for the newly privatised water companies to raise large amounts of money to finance their capital programs the government wrote off many of their debts, which at the time were worth over £5bn. At privatisation their level of gearing was around 5%.

As we have seen the capital structure can have an effect on cost of capital. Debt is cheaper than equity as shareholders expect a greater return in the form of dividends than bondholders demand in interest. If a company has very low levels of debt it can be in the best interests of customers to allow debt to increase.

By the mid 1990s the gearing of the industry had increased to 25%. Credit ratings of English and Welsh private water companies remained very good and the average water company had a rating of AA- on the Standard and Poor's scale.

In the early 1990s Sir Ian Byatt, the then director of Ofwat recognised that the industry could sustain significantly higher levels of debt and that this could result in lower bills for customers. He published a consultation paper which suggested gearing assumptions of 50% or even 75%.²¹

At the time the average gearing of UK companies across the whole economy was around 25% and the city thought this assumption reckless. In fact the whole economy would experience a sharp rise in gearing in the early 2000s but even after this the average UK company today has a gearing of around 30%.²²

In the 1999 price review Sir Ian introduced a 55% gearing assumption. This meant that prices were set using a standard gearing assumption across the industry in the price review. Regardless of the capital structure of individual companies, the price setting process would treat all of them as if they had a gearing of 55%.

As companies were only allowed to charge customers for a cost of capital which assumed more debt than they were carrying, this encouraged companies to take on more debt and made sure the cost benefits of that were passed onto customers. Indeed the 55%

²¹ Sir Ian Byatt, *The Regulation of Water Services in the UK*, in "Utilities Policy" Vol. 24 March 2013 p.6

²² Peter Bierley and Philip Bunn, *The Determination of UK Corporate Capital Gearing*, Bank of England Quarterly Bulletin, Autumn 2005.

assumption was one of the key drivers of the large price cuts which Ofwat imposed on the industry in 1999.

Despite the scepticism from the city, the higher levels of gearing in the end were comfortably sustained by water companies and credit ratings stayed well within investment grade.

The maximum level of debt

Although the gearing assumption of 55% was supposed to encourage companies to take on debt there was no limit on the amount of debt which companies could take out.

This is because there was an assumption that the market would place a limit on the amount of debt companies could access. Ofwat are clear about this in their policy statements.²³ If we recall our earlier discussion on how companies make decisions on how to finance themselves there should be a cost to increasing debt above an optimum level. At a certain point the increased risk of higher levels of gearing will lead to higher interest rates being demanded by lenders and a greater return from shareholders. This would begin to outweigh the benefits of increasing levels of debt.

In response to Sir Ian's proposals to set a gearing assumption in the 1999 price review a paper commissioned by Water UK, the trade association for the water industry, from National Economic Research Associates argued that a gearing ratio of 55% was consistent with the requirement to keep an A grade credit rating. The report took the view that companies which dropped below grade A would face increasing difficulty in financing their activities at a reasonable cost as institutional investors such as pension funds would not invest in debt with lower credit ratings. It predicted that companies with a BBB rating would find debt 0.5% more expensive than A rated companies.²⁴

However, as we have seen, the water industry has far exceeded the levels of gearing foreseen even in 1999 and the average water company today has a gearing of 70%, with some as high as 80%.

How have companies managed to outperform debt assumptions?

The trade-off theory suggests that today's levels of gearing should not be possible. It states that there is an optimum cost of capital and when companies start to increase their gearing above this they will be faced with increasing costs. If the regulator sets a WACC to

²³ See for example Ofwat webpage on capital restructurings - <http://www.ofwat.gov.uk/industrystructure/capitalrestructuring/>

²⁴ Dr Bill Baker, Dr Richard Hearn and Matthew Bennett, "Capital Structure, Interest Coverage and Optimum Capital Structure", (NERA, July 1999), <http://www.nera.com/extImage/4792.pdf>

reflect the optimum level of gearing then increases in gearing will mean that companies do not have the revenue to cover their finance costs. However, if there is a miscalculation in the cost of capital, the mechanism will not bite where it should. Setting the cost of capital is not a straightforward task as in order to set prices accurately Ofwat needs to take a view of what will be happening in the financial markets in five years time.

In the water industry the cost of both debt and equity has been overestimated for some time. A paper by Jim Cuthbert published last year calculated that the actual cost of debt for water companies between 1990 and 2009 has been between 2.45% and 3.41%. However Ofwat in 1994 estimated a cost of debt of between 4% and 5%, in 1999 between 2.8% and 3.5% and in 2004 3.3% and 4.4%.²⁵ In the 2009 price review the cost of debt was estimated to be between 3.4% and 4.3%.²⁶

As water companies hold a lot of debt a small overestimation in the cost of capital can make a big difference. Severn Trent currently has £4.3bn in debt. If the allowance for debt interest in its price cap was overestimated by 1% this would allow it to collect an extra £43m each year in bills. Severn Trent has 4.2 million customers and so this would be the equivalent of about an extra £10 on everybody's bills.

The allowance for equity has also been consistently overestimated. In order to estimate the cost of equity Ofwat needs to make a judgement about the rate of return required to attract equity investors. Ofwat cannot use the real rate of dividends paid, as excess profit can inflate dividends above what is necessary to retain investors and if prices were set at the real rate of dividends there could be a danger that customers would be overpaying.

One thing Ofwat does to estimate the appropriate rate of return is look at changes in the value of shares on the stock market as a whole to assess the risk of holding shares. This can cause a problem if the regulator does not make an adequate allowance for the different levels of risks inherent in different industries. As discussed in a paper from the Consumer Council for Water in 2008, Ofwat's cost of capital estimates are based on the assumption that the risk of holding shares in a water company is the same as an average company.²⁷ However as we have already seen, risk in the water industry is in fact much lower. This has led to a cost of equity in the cost of capital calculation which was too generous.²⁸

²⁵ Jim Cuthbert, *Excessive profits and overcharging*, (The Jimmy Reid Foundation, July 2012) p.11

²⁶ Ofwat, *Future Water and Sewerage Charges 2010 - 2015, Final Determinations*, (Ofwat, 2009) p.130

²⁷ Nigel Hawkins, *Cost of Capital in the Water Sector, a review of the cost of capital set at the 2004 price review*, (CCWater, 2009) p5

²⁸ In the 2004 review the equity beta was 1 (with 1 representing the same volatility as the rest of the stock market) This has been reduced to 0.9 in the current review period but CCWater say that in Ofwat's own analysis the beta is consistently below 0.5

Debts, profits and private equity

Why have companies got themselves into so much debt?

If customers are paying too much for their water through the regulator making overly generous price settlements water companies will have more cash. They can use this to invest more in their network, giving a better service to customers, to lower bills or to pay out to investors through dividends.

In a normal business operating in a market system the owners of the company may see a strategic advantage in using their cash to cut prices or provide a better service. It will make their products more attractive against others and help them increase their market share. However, in an industry where customers can't go anywhere else and investment is mandated through regulation, the extra cash will end up in the pockets of investors unless the management is feeling particularly benevolent. This difference is starkly demonstrated in a report by the New Policy Institute which compares profits, interest payments, dividends and retained profits between the UK non-financial sector and the water industry. It demonstrates that between 2008 and 2011 the water industry did not retain any of their sizable profits for investment.²⁹

Ofwat is alive to this issue which is why the new Director, Jonson Cox has floated the idea of introducing a "gain sharing" mechanism in a recent lecture setting out his priorities as regulator.³⁰

If companies did nothing more with the extra cash than distribute them in dividends then there would be no increase in the gearing of the company. Extra cash would come in, and leave in dividends, the assets of the company would not increase and neither would its liabilities. However the theory suggests that higher prices can also mean that companies can sustain a higher level of gearing. The question is why would they want to do this.

If we look at the graph demonstrating trade-off theory we can see that as gearing increases the rise in the cost of capital disproportionately comes from equity. Shareholders expect more in shareholder return than bondholders do in interest rates. The equity component of a company's financial structure is far more sensitive to risk than debt.

²⁹ Adam Tinson and Peter Kenway, *The Water Industry: A case to answer*, (New Policy Institute, 2013) p.12

³⁰ Jonson Cox, *Observations on the Regulation of the Water Sector*, (Ofwat, March 2013) p.13

This is because it is shareholders who will lose the most in a bankruptcy. Bondholders are the first to be paid back. This sensitivity is particularly relevant to a water company as water companies cannot be wound up. Whoever takes over the new company will eventually take over their loans as well, but as far as the shareholders are concerned there is no guarantee that the new owner will be willing to pay them what they paid for their shares originally.

An increase in gearing can therefore be beneficial for the holders of equity if the company revenues can sustain higher levels of gearing and the shareholders have sufficient appetite for the increase in risk which comes with it.

If the shareholders also own the debt, and the evidence suggests that in many cases this is happening, then they will capture all of the increase in investor returns that are created by the increase in gearing.

Finally, increasing gearing does not mean that the company is necessarily just using debt finance to fund their investments in a greater proportion than equity finance. Sudden step changes in gearing can be very profitable in the short term. This is done through a process called capital restructuring.

Capital restructuring

When we borrow money, we are getting the cash we hope to earn in the future today and repaying it later. Debt is a transfer of wealth through time.

Companies can do the same thing. Companies can borrow the money which they hope to receive from the sale of their products in the future and have the cash today. They could do this to invest in new plants and machinery so that they can produce more tomorrow and sell more tomorrow, allowing them to pay off their loan and increase their profit.

However the cash which the company has borrowed does not necessarily have to be spent on the company's capital infrastructure, or on employees or anything else the company might find useful. It can also be taken out of the company through dividend payments to investors, who can then spend it on whatever they like, much like a personal loan, which could be spent on education or on improving your home, or spent on fags and booze.

To illustrate the point let's look at a real water company and how it increased its debt ratio to pay extraordinarily high dividends.

Ofwat used to publish an annual report on the financial performance of the water industry. Table 3 below uses figures from this report to show the financial position of Yorkshire Water and covers the period between 2004-2009 (brackets represent negative values).

Table 3: Yorkshire Water financial figures

Figures in millions (2009 prices)	04/05	05/06	06/07	07/08	08/09	Totals
Cash Flow from operating activities	490.6	483.0	460.7	532.5	502.4	2,469.2
Net Interest	(80.2)	(95.2)	(76.8)	(122.5)	(73.1)	(447.9)
Corporation Tax	(21.6)	(21.4)	(52.7)	(75.9)	(52.8)	(224.3)
Investments	(360.8)	(319.4)	(367.5)	(337.7)	(316.4)	(1,701.7)
Cash after interest, tax and investments	28.0	47.0	(36.3)	(3.6)	60.1	95.2
Dividends	(114.6)	(298.5)	(886.8)	(114.5)	(311.6)	(1,725.9)
Cash Flow	(86.6)	(251.4)	(923.0)	(118.1)	(251.5)	(1,630.7)
						Difference 05-09
Net Debt	1469.9	1680.9	2493.2	2554.7	2829.8	1359.9
Regulated Capital Value (year average)	3729	3960	4116	4240	4345	616
Gearing - Net Debt to Regulated Capital Value	39.8%	42.2%	60.6%	66.3%	72.1%	32.3%
Dividends + Interest as % of capital value	5.6%	9.8%	24.1%	6.2%	8.9%	10.92% (average)

We see immediately that a step change in gearing in 2006 led to huge dividends being paid out to the investors in the company. In that year the company spent £36m more than it made in charges to customers yet paid out £886.8m in dividends. This included a one off special dividend of £769m on top of the usual dividend distributions. This led to a return for debt and equity investors of 24.1% in that year.

For Yorkshire the amount paid out to investors over the whole period averaged 10.92%. If we look at just the last four years which fall within the 2005-2010 price review period the return is 12.05%. The WACC during the 2005-2010 price review was set at 5.1% so investors were getting more than double the amount that was assumed by Ofwat over these four years.

Put another way, if we take the formula that an increase in the cost of capital of 0.1% can lead to a £2 rise in the average water bills,³¹ the return to Yorkshire Water investors represents £139 every year on the average water bill. This £139 could have been used to

³¹ Consumer Council for Water, *The Cost of Capital and Risk Mitigants*, a response to Ofwat discussion paper, (July 2011)

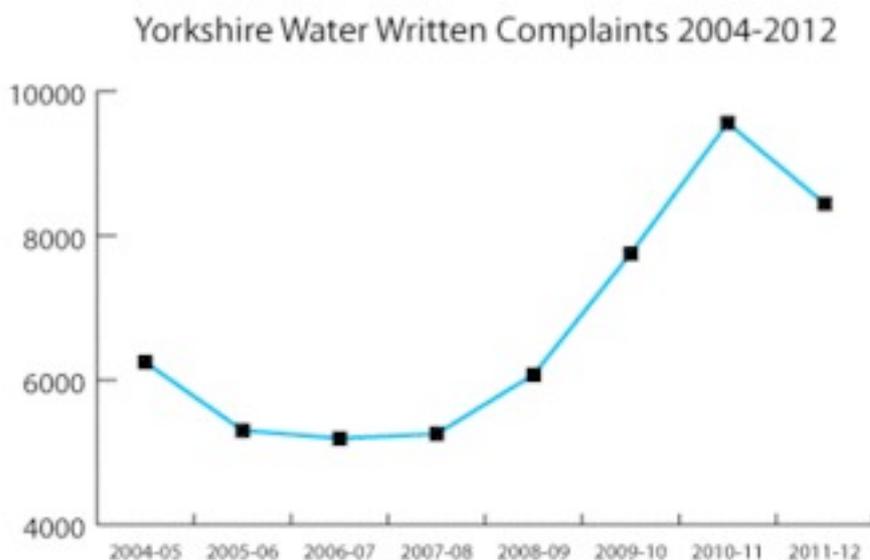
lower bills or invest in the network. Instead it went straight from the pockets of customers to the pockets of investors.

This situation is actually more extreme than these figures show. Shareholders do not just benefit from dividends, they also benefit from a rise in value of their shares. In 2004 shares in the Kelda Group which owned Yorkshire Water were trading at around £4.50 each. When the company was sold to a consortium of private equity investors, the Saltaire Group in 2007, the price paid per share was over £10. On this basis shareholders in Yorkshire Water were making more than a 30% return a year on their investment over this period, before you factor in dividends.

As discussed the cost of capital is not designed to reflect the return to investors exactly. The incentives-based system means that companies will be able to pay out a return above the regulated cost of capital if they perform well. This means improving efficiencies at the company and improving the service to customers. If they are poorly managed and inefficient they will see a lower return.

However, the incentives based system cannot explain these extremely large returns as they are not designed to create upward of 30% returns as reward. In the 2009 price review the regulator considered the impact on equity returns of companies outperforming the regulatory assumptions on capital expenditure. This results in an increased return to equity investors of not more than 1%.³²

In fact, after Yorkshire reengineered its finances there was a sharp downturn in performance in terms of its customer service.



Source, Consumer Council for Water

³² See appendix 5 Ofwat, *Future Water and Sewerage Charges 2010 - 2015, Final Determinations*, (Ofwat, 2009) p.130

These payments did not happen because of any particular jump in the cost of capital. Water did not suddenly become a riskier industry. Interest rates did not increase quickly; we can see that despite very large increases in gearing debt interest remained remarkably stable over this period. Investors received an average return of 10% each year in dividends and interest from borrowed money and customers' bills from a decision of Yorkshire Water's management.

Yorkshire is certainly not the only company to use capital restructuring. In 2006-7 alone the entire water industry paid its investors just over £2bn in special dividends which were attributed to large step changes in gearing. In total Ofwat estimates that £9bn of water industry debt has come about through capital restructuring.³³

Dividends and the regulator

The regulator has never set a cap on dividend payments, partly because to do so would be at odds with the principle of incentive based regulation. However, very large dividend payments far in excess of what should be achievable through normal efficiency improvements beg the question whether these payments can be justified and whether they should be accepted - particularly when the result is a much weakened company which has its ability to raise money impaired.

This was a question which Sir Ian Byatt grappled with in the late 1990s. At the time he considered writing back excessive dividends onto company balance sheets. This meant conducting price reviews with the assumption that excessive dividends had not been paid. In the end he did not pursue this but has said that it is an issue which should be revisited today.³⁴

In the short term some kind of cap on dividend payments might encourage companies to be more responsibly managed, but in the medium term the regulatory system should be able to take care of high dividend payments. This is because the regulator can cut prices at the next price review if he believes that companies have made excessive profits, thus passing some of this back to the consumer.

If a moderately geared company faced a price cut it could simply cut its dividend (particularly if that dividend was already much higher than foreseen by price reviews). However, debt is a less flexible instrument and highly geared companies find it much more difficult to deal with shocks. A price cut may be difficult to sustain.

What this means is that even a high cost of capital cannot fully explain why companies have geared up. To increase gearing companies need to be confident of high prices in the long term, and this should not be possible under five year rolling price reviews.

³³ Ofwat, *Financeability and financing the asset base - a discussion paper*, (March 2011) p.36

³⁴ Sir Ian Byatt, *The Regulation of Water Services in the UK*, in "Utilities Policy" Vol. 24 March 2013 p.8

Companies have got themselves into difficulties with high levels of gearing before. In the mid 1990s prices were too high and water companies had extra cash. Although most companies kept a low gearing ratio, some used this revenue stream to go empire building. Instead of using the extra cash to inflate investor returns they bought up other companies.

Hyder was the public company which owned Welsh Water in the 1990s. Welsh Water had for years used its financial strength to buy other companies and diversify into other industries. Hyder was created when Welsh Water took over South Wales Electricity, and the company diversified further into hotels, cable and other industries. To do this it took out large amounts of debt.

The investments it had made were not as successful as it had hoped and were not profitable enough to support the increased payments it had to make to finance its acquisitions. When the 1999 price review cut bills the company found itself in difficulty. The management suggested a new share issue to finance its investment programme but the shareholders opposed this. The company's share price collapsed from over £10 a share in 1998 to a low of £1.79 in March 2000. Investors who bought shares in Hyder in 1998 would have lost more than 80% of their money. This eventually led to the breakup of the company and the creation of Glas Cymru, the current owner of Welsh Water.

The obvious question is why have shareholders decided to accept large increases in gearing where there is a risk that the regulator might step in and cut prices, and see the company end up in financial difficulty, putting their investment at risk?

Enter private equity

One of the fundamental changes which has happened to the water industry since its privatisation has been in its ownership structure.

At privatisation, all of the water authorities were floated on the stock exchange where members of the public could freely buy shares in them. Because anyone has the opportunity to own a stake in the company this is called public ownership.

In the 1990s some water companies began to be taken out of public ownership. They formed utility groups and merged with other companies. For example RWE, the German energy company, took ownership of Thames Water, and United Utilities was formed after the merger of North West Water and Norweb, the regional energy supplier. This model did not endure. The efficiencies these companies thought they would achieve by binding together various utilities were never realised. Most of these groups ended up separating their water and electricity businesses.

In the 2000s a new form of ownership came into the water industry; private equity. Private equity funds are investment funds which buy companies in their entirety and take full control of them, managing them directly. Most private equity funds get their investors from

very high net worth individuals or institutional investors, sovereign wealth funds and other types of investment fund. Occasionally members of the public can buy shares in private equity funds but these funds are rare.

Today, the majority of English water companies, including very large companies such as Anglian Water, Thames Water, and Yorkshire Water are privately owned by private equity funds.

When a private equity fund takes over a company it delists the shares from the stock exchange. Ownership becomes closed to the public. Control of the company moves from millions of shareholders to just a few individuals who manage the fund on behalf of their clients.

The reason why this is important is that private equity companies, with their opaque structures, low levels of accountability and highly concentrated ownership are not subject to the discipline of the financial markets.

In a public company, ownership is dispersed. The senior management of the company, the CEO, CFO and so on manage the company on behalf of millions of shareholders. The management is accountable, it has to present an annual report at an annual general meeting of its shareholders in public. If investors start to get concerned about the company becoming more risky, by perhaps increasing the gearing of the company, investors can sell their shareholding. If investors start to leave in numbers this can have an impact on the share price. As the management is obliged to act in the best interests of shareholders, and in this case shareholders recognise that their best interests are not served by seeking short term profits by taking the company to the brink of bankruptcy, the management are restrained in their actions. They should not take actions which lead to a flight of investors and a decrease in the share price.

A private equity company does not have these constraints. The fund managers exercise complete control over the company and are generally much more comfortable with a greater level of risk.

This propensity for greater financial risk is clearly evidenced in the water industry. Although all companies have increased levels of gearing, showing that even shareholders in public companies have increased their propensity for risk, the gearing ratios of private equity owned companies are significantly higher. Between 2003 and 2010 the average gearing of a non-private equity owned water company was between 50% and 60%. For private equity owned companies the average was 95% in the early 2000s declining to just under 80% by the end of the decade.³⁵ This decline had more to do with more moderately geared companies being taken out of public ownership and starting to gear up rather than highly geared companies deleveraging.

³⁵ Adam Tinson and Peter Kenway, *The Water Industry: A case to answer*, (New Policy Institute, 2013) p.11

Private equity owned companies are also far less accountable. Their ownership structures involve complex chains of companies ending up in tax havens or secrecy jurisdictions. Thames Water for example is owned by Kemble Water. There are 8 companies between Kemble Water and Thames Water with some being based in the Channel Islands. The Macquarie European Infrastructure Fund based in Luxembourg owns Kemble Water. Transactions in shares happen in private deals, located offshore, for undisclosed amounts. Recently both the China Investment Corporation and the Abu Dhabi Investment Authority bought into Kemble Water. We do not know how much they paid for their shareholdings although there are “market rumors” which value the company at between £5.8bn and £8bn.

As the shares are not freely traded there is no scrutiny from financial analysts in investment banks. Without Annual General Meetings for shareholders there is no public forum to hold the management of these companies to account. There are also fewer reporting requirements on private companies and given their locations in secrecy jurisdictions it is often difficult if not impossible to find information on their parent companies.

All this presents a fundamental problem for the economic regulation of the industry. Although Ofwat recognises that the product of the water industry is under monopoly control and so needs price regulation, the financial structure of the industry was supposed to be regulated by the market. Private equity companies operate a monopoly over both the product and the equity of the company. Their financial structure is not subject to, and can not be regulated by, the market.

Locking in debt

If the problem in the water industry is that companies cannot take out more debt, because they have too much debt relative to equity in their financial structures, surely a simple solution would be for them to raise equity by issuing new shares to finance their investments. This would reduce the gearing ratio of the company and increase the level of equity.

We have already seen with Hyder this can be difficult to do even with a publicly owned company, although not impossible as United Utilities managed a successful share issue between 2003 and 2005. With more shares on the market the value of the existing shareholders stock declines and so shareholders are often resistant to new share issues. With private equity it is even more difficult as there is an institutional bias against raising equity.

The first reason for this is that when a private equity fund takes over a company they rely on total control. They need to take the company off the stock exchange to control the ownership structure. This allows them to restructure the company quickly without

opposition and difficulty. This means a small number of tightly knit investors. They cannot open their company to the financial markets where anyone could buy a stake in the company and start coming in with their own ideas of how to run the place.

Secondly and more importantly, concentrating the equity value of a company is a key part of how private equity makes its profits. When buying a company, a private equity fund will often use a leveraged buyout. This means buying the company with borrowed money. Say a water company is worth £8bn and that is made up of £6bn equity and £2bn of debt. A private equity fund might borrow £4bn and put in £2bn of its own money into the purchase (it only needs to buy the equity to control the company).

Once it has control of the water company it increases the gearing of that company by borrowing £4bn so the company has a structure of £2bn in equity and £6bn in debt. With the cash the company has borrowed it pays off the people who lent it the money to buy the company in the first place. This can be done though the special dividends paid to the parent company when the company leverages up, but there are other ways to do this also. In effect the private equity fund has spent £2bn to buy an £8bn water company.

Now say that this £8bn company rises in value by 25%. It becomes a £10bn company with £4bn in equity and £6bn in debt. The private equity owners sell it and get £4bn for their equity stake. For the private equity company it is a return of £4bn on a £2bn investment, or 100% on an increase in the value of the company of 25%.

However, if company declines in value by 25% an £8bn company has become worth £6bn. Assuming the debt has remained the same this means the equity value has been wiped out. A 25% decline in the value of the company has meant a 100% decline in the value of their investment. This is why it is called leveraged finance, because the debt taken out to borrow the company multiplies the profits or the losses made by the company for its investors.

If the water company were to issue new shares it would get the money from the new investors, but it would lower the value of the Private Equity fund's stake. Private equity funds will therefore be very resistant to making new equity issues.

Private equity has a ratcheting effect. New, large investments must be made though more debt, or retained profits (although there is a limit to how much retained profits can contribute to this). This keeps gearing high in private equity owned companies.

Betting against the regulator

As we have seen the water industry is highly predictable and generally low risk. However, of the factors which make the industry low risk regulation is the most unpredictable. Government is currently considering introducing greater competition into the industry by making it easier for companies to trade water and for businesses to change suppliers. This

should cover about 10-15% of water company activities. The vast majority of activity will still be under monopoly control.

Human beings won't stop needing water and people are unlikely to choose to bathe in Evian rather than use the tap. Although metering is on the increase, companies can still fairly accurately estimate how much an average family needs to use and they operate over a large enough population base for this estimate to be meaningful.

In the water industry investors are not concerned about the behavior of customers; for monopolies the customers will always be there. They are concerned about the behavior of regulators. This is what investors term regulatory risk.

Where investors in a normal company may be concerned that another company may undercut them on price leading to reduced revenues, in the water industry they are concerned that the regulator will cut bills.

Where investors may be keen to see a normal company invest to develop new products or improve operating efficiency, in the water industry investors care about what the regulator tells the company it needs to invest.

Water companies are insulated from the kinds of financial shocks that other industries are subject to. But the regulator has the potential to cause an economic shock as it has control over prices and can mandate investment. The regulator can also recommend to the Secretary of State that a company should have its license removed, putting it into special administration.

Because the cash lock-up steps in before a company gets anywhere near bankruptcy, it is not bankruptcy that investors fear but rather the ultimate threat that a water company may have its license taken away by the Secretary of State, and the investors made to pay a very heavy penalty.

Because the only real risk facing the industry is the actions of the regulator, by increasing risk and reducing financial flexibility private equity funds are essentially taking a bet that the regulator will not cut prices. It is able to do this because it is controlled by a small group of investors who have a much higher tolerance of risk than shareholders in a publicly owned company. It is in most cases a one time bet. Private Equity funds generally hold a company for around 5 years before exiting, selling it onto another investor or fund, or floating it on the market (by which time the equity value would have repaired enough for them to make a healthy profit on the sale). This means holding the company through one price review.

Failure of price regulation

So far the private equity funds have won their bet, and the customer has lost. As we have discussed the 1999 price review came closest to accurately estimating the cost of capital, but it was an exception. The champagne corks would have been popping in the city when the 2004 price review raised the amount companies were allowed to charge to cover the cost of capital. For the first time since the industry was privatised not one water company appealed their price limits and share prices rose rapidly off the back of the announcement.

There was a flurry of takeover activity. In 2006 Thames Water, the largest water company in the UK was bought by an Australian Private Equity Fund, the Macquarie European Infrastructure Fund. Anglian Water was bought by Osprey. In 2007 Greensands bought Southern Water and Yorkshire Water was bought by Saltaire, a consortium of investors.

Water companies again had cash to spare but instead of cutting bills or investing more in the network they simply paid out more in dividends, and some increased gearing to pay out further exceptional dividends.

In the 2009 price review, the current review, this was not corrected. Ten years after the 55% gearing assumption was introduced, despite most of the industry far exceeding the gearing assumption, high bills have been sustained.

Ofwat's assumed cost of capital was cut in the 2009 price review to 4.5% from 5.1%, but it was not cut far enough. A report commissioned by the Consumer Council for water suggested that this was too high by up to 1%.³⁶ Ofwat itself in its price review document states that it put its estimate at the high end of the range suggested by its analysis of the cost of equity and this was because of the uncertainty of the financial markets at the time. However, the Ofgem price review which took place in the previous year set a cost of capital of 4%, despite operating in a higher risk industry.

The evidence is that water companies continue to do very well from the current price review. The last two large water and sewerage companies listed on the stock exchange continue to be the targets of takeover bids. Severn Trent has rejected a takeover bid from a private equity consortium very recently and the bid has been withdrawn. The company's reason for rejecting the deal was that the price being offered for the company was too low given the 72% return on equity they have generated in this review period.³⁷ That is an almost 25% return a year.

³⁶ Chris Apostolou and Andrew Clare, *Third Report for the Consumer Council for Water*, (Fathom 2009) available from the Consumer Council for Water website http://www.ccwater.org.uk/upload/pdf/Cost_of_Capital_Report_-_Fathom.pdf

³⁷ See Severn Trent press release - <http://www.severntrent.com/severn-trent-plc-rejection-of-longrivers-revised-proposal/3793>

Where large stakes in water companies have been sold they are being bought for up to 120% of their asset value, demonstrating that investors believe that the capacity to make healthy profits will continue, unimpaired by increases in levels of gearing.³⁸

Weak regulation and the cost of capital

One final thing to consider is whether the seismic change in the ownership and capital structure of the water industry as lead to a change in regulatory behaviour. Has the increase in risk within the capital structures of water companies meant that the regulator is unwilling or unable to cut prices for fear of triggering a crisis?

If the regulator is firm and acting appropriately then the capital market will price capital to encourage companies to behave responsibly. The risk that the regulator will enforce the license should warn companies off gearing too highly. The devastating consequences for investors if a company cannot make the investments it needs and is taken into special administration means that they will be more likely to demand a heavy price for investing in companies which are highly geared and close to falling below their investment grade credit rating.

The markets will also price capital differently if it perceives the regulator is weak. If a regulator believes that it is their job to keep companies out of trouble then they may be unwilling to cut bills in case that leads to over geared companies being unable to pay their debts, even if that gearing has come about through the company's ownership extracting excess profits. It may lead the regulator not to force companies to make certain large investments if the company is going to struggle to finance that investment. It may lead the government not to enforce environmental regulations, or to find other ways of helping the industry. In short if the regulator does not discipline companies the markets will see water companies as being even lower risk and capital will become even less expensive.

This regulatory effect is apparent from the evidence. The last time the regulator cut prices in 1999 almost the entire industry suffered a downgrade in its credit rating. Credit ratings agencies cited "the regulator's harsher stance on key financial issues".³⁹ As I have highlighted before, after this price review one company, Welsh Water, did get into trouble after over-leveraging themselves. However, there is a difference between the regulator having to deal with one company getting into trouble and the regulator dealing with practically the whole industry finding itself in financial difficulty.

There were warnings of this happening in 2002. At the beginning of the 21st century the government and regulators were taking an increasing interest in highly leveraged

³⁸ Global Water Intelligence, *Kelda Shareholder Shuffle Tests Investor Appetite*, Vol, 14 Issue 5 <http://www.globalwaterintel.com/archive/14/5/general/kelda-shareholder-shuffle-test-investor-appetite.html>

³⁹ Dr Bill Baker, Dr Richard Hearn and Matthew Bennett, "Capital Structure, Interest Coverage and Optimum Capital Structure", (NERA, July 1999), p.7 <http://www.nera.com/extImage/4792.pdf>

structures. Ofwat commissioned a report from the economic consultancy OXERA to discover why companies were pursuing high levels of gearing.

The report surveyed investors to seek their views. Just under half of those responding placed some importance on the role of debt in decreasing regulatory risk. This meant that a significant number of investors believed that if companies took on more debt the regulator would be less likely to take action against them as action would be more likely to lead to the company experiencing financial difficulty.

The report noted that although the special administration regime should warn companies against taking this view the emergence of a large number of highly geared companies could make the regulator risk averse. With many highly geared companies the regulator could be unwilling to cut bills as he or she would be unwilling to deal with multiple companies going into administration at the same time. Instead they would be more likely to relax the regulatory regime, for example by allowing companies to move below the investment grade credit rating they are required to hold.

The report's conclusion stated that it was too early to come to a definitive view about the relationship between debt levels and regulatory risk as highly leveraged structures were relatively new and opinion in the investor community was split. However, it noted that this risk would only increase with the emergence of more highly geared companies and invited the regulator to keep the situation under review.

The report also said that Ofwat should consider measures to limit gearing, or to create a restructuring insurance fund which would be paid for by highly leveraged companies. This would mean that highly leveraged companies would pay more for the increased risks they were taking. It would also take care of the costs to the regulator of taking a company into special administration and therefore make this measure a more credible threat.⁴⁰

None of these mechanisms were explored. Instead Ofwat did the opposite and made consistent public statements which said capital structure was of no concern to it but was a matter for companies only.

A discussion paper produced by Ofwat in 2011 says:

Finally we consider the companies' choice of capital structure. We have taken the position that it is for investors and the companies to determine the capital structure that allows them to best finance their investment programme (Ofwat, March 2011)

When Ofwat did make public statements about companies' capital structures they then did not follow through. Ahead of the sale of Thames Water in 2006 an article in the financial times reported:

⁴⁰ Oxera, *The Capital Structure of Water Companies*, (October 2002) <http://www.oxera.com/Oxera/media/Oxera/downloads/reports/Ofwat-capital-structure-of-Water-Companies.pdf?ext=.pdf>

Ofwat said yesterday it wanted whoever buys Thames to preserve the company's investment grade credit rating, which would mean the level of gearing should stay below 65 per cent. (Financial Times, August 23rd 2006)

Yet Ofwat did nothing as Thames increased its gearing to almost 80% in 2013.

Thames Water has now become the first company to face financial difficulties, as it cannot borrow the money it needs to finance the Thames Tunnel project. As a private equity owned company it is unwilling to raise more equity, instead asking for help from the government.

It wants the government to allow it to create a special purpose vehicle to finance and manage the tunnel, taking this large investment off its balance sheet. This will stop the debt that will need to be taken out to build the tunnel dragging down Thames' credit rating further and risking special administration. It also wants government guarantees for the debt of the tunnel. This further insulates Thames Water from any financial problems experienced by the tunnel.

In the face of this challenge the government has blinked. It accepted Thames' argument that it was the size of the project and not the corporate structure of Thames which was the problem. In the dying days of the Labour government parliament passed the Water and Flood Management Act. This had one clause in it which allowed the Secretary of State to create special infrastructure companies for the water industry to carry forward large infrastructure projects. The government has since committed to providing financial assistance for the scheme.

After the passing of this act, the Macquarie Bank could further raid Thames' financial strength to fund bumper dividend payments. In 2011 Thames Water paid a dividend of £271.4m out of a profit of £225.2m and in 2012 Thames declared a dividend of £279.5m and a further extra dividend of £201.4m to be accounted for in the same year. This was almost twice the profit of £247.2m which they made that year. Both of these payments further increased gearing in the company. Instead of making money through legitimate economic activity and improving the service to customers, Thames Water are making their money through politics.

Conclusions

Water companies in England are in trouble. Although there is a need for them to make large investments in the future, they cannot finance them. Years of weak regulation have left companies bloated with debt to the point where they cannot borrow any more. Through their ownership they are locked into a structure which makes them unable to raise more equity.

The water companies' response has been to ask the government for help, either through direct financial assistance or through loosening regulations. Both would be unwise and unjustified. Customers have already paid for the investment needed in the industry through their bills. They have paid to have financially strong, well managed and well run companies that can sustain long term investment programmes. If the managers and owners of water companies have not been able to deliver, it is time to ask for our money back.

This issue has a particular urgency in today's economic climate. Most of England's water companies are foreign owned; the excessive profits they have made through customers bills have been exported. Imagine the economic stimulus we would have had if every Yorkshireman had an extra £100 to spend over the last eight years. If every East Anglian had an extra £50 to spend. The rise in bills which is foreseen to pay for the Thames Tunnel is £80 a year. Taking an extra £80 each year out of every London household, rather than using some of the accumulated surpluses of the company now sitting in Luxembourg, the Cayman Islands or Australia, cannot be the right solution to get our economy moving.

A common refrain from those tired of the financial gamesmanship of the water industry and its poor performance is that the industry should be renationalised. But what guarantee is there that public sector officials would run water companies any better than private sector managers? The experience of the past certainly gives us no comfort.

To nationalise the water industry would be to forget the past and ignore the principles of the problem faced in the present. Through public and private ownership the water industry has suffered from a concentration of ownership, underinvestment and short term raids on water bills. This happened in the nationalised industries where governments slashed investment to help balance the books against the interests of the environment and the public.

In economic terms there is little difference between this and private companies raiding the capital strength of companies today through extraordinary dividends before passing the parcel and selling it to its next owner.

It is worth considering that the electoral cycle of 5 years is remarkably similar to the length of time private equity funds tend to hold their investments for.

Is there an alternative?

There is one water company which is bucking the trend. Welsh Water places a value on financial flexibility. The corporate strategy of the company is that it will lower its gearing to improve its credit rating and allow it the space to make further investments. It also pays an annual 'customer dividend' which returns some of the profits of the company to the ratepayers rather than taking them out through shareholder dividends.

Welsh Water is able to pursue this model because it has been set up as a not-for-profit company. It has no shareholders but instead is governed by 59 members who are appointed by the company in much the same way as trustees of a charity. The members have no financial interest in the company and can dismiss the management if they fail to perform. Both the customer dividend and the members' remit was introduced to assure the regulator that in the absence of shareholders there would be incentives in place to drive economic efficiency and performance.

Welsh Water moved to this model after WPD bought Hyder, which previously owned Welsh Water. WPD really wanted South Wales Electricity which was also owned by Hyder and so were willing to offload Welsh Water at a cut price. The buyers of Welsh Water were a group of former industry executives and public servants in a deal which was entirely financed by debt. The deal was given political support by the Welsh Government in Cardiff.

The advantage of the Welsh Water model is that like private equity the company can take advantage of cheaper debt financing without the difficulty which public companies might face from shareholders through increasing the risk in the capital structure. However, unlike private equity there is not the dependence on debt to increase short term profits. Indeed, as it cannot issue equity it places a particular importance on having a high credit rating so it can continue to raise the funds needed in order to continue to invest. Debt is employed as it should be, for investment in the network.

This means that after the original leveraged buyout the company can deleverage and pursue a better credit rating. Investors are happy because they have a safe investment. Customers are happy because finance efficiencies are used to lower bills rather than passed onto investors, and the regulator is happy because the company is pursuing a prudent commercial strategy which will allow it the capacity to keep investing in the network.

The performance of Welsh Water since it became a not-for-profit has been impressive. Its financial reserves have multiplied by 10 since acquisition and the gearing ratio has fallen from 93% to 65% (as there is no equity, gearing is measured against total asset value rather than debt + equity). As a result it has the best credit rating in the entire UK utilities sector.

Since being turned into a non-profit the company has returned £150m to customers through the customer dividend.

Being run for the benefit of customers has other advantages too. The Chief Executive of the Company, Nigel Annett, has said that they did not consider what effect the ownership structure would have on customer service and staff morale when they took over the company. But the results have been marked. Welsh Water has a customer satisfaction rate of 90%. It also receives almost as many thank you letters each year as it does complaints, which is an extraordinary statistic for any business.

Finally, there is also a regional economic benefit to having a regional water company structured in this way. Under the Welsh Water model, instead of the profits being exported, profits are redistributed locally to customers, giving a boost to the local economy.

Recommendations

Flexibility

The case of Thames Water shows that companies are moving away from keeping the financial flexibility required to carry out long term investment projects. The Thames Tideway Scheme is a particularly large project, but research from Severn Trent shows that the current model of financing chosen by the industry cannot deliver the investment required over the next twenty years. With private equity ownership locking in high levels of gearing more companies are likely to encounter trouble, particularly if we are to see price cuts in the future. In order to make sure companies remain strong enough to invest without relying on government support regaining financial flexibility must now be a priority for water companies.

One solution would be to remove the incentive of companies to gear up. There are parallels with the banking sector where the coalition government introduced a bank levy. The argument was that as banks were too large to fail any bank failure would necessarily mean state intervention. In order to pay for this implicit insurance, banks would be subject to the bank levy until such time as reforms were made to break them up and make them small enough that failure did not pose a systemic risk.

A water levy on highly leveraged water companies could be one option, and it could ensure that the increased risk from highly leveraged structures did not translate into higher returns for shareholders. This is not dissimilar to the insurance fund floated by Oxera over a decade ago. It could be applied to companies with lower level investment grade credit ratings, meaning that the sanction would not be the simple hard cap falling below the investment grade, but other penalties, or a soft cap, would kick in before that stage had been reached.

The purpose of this levy should be to disincentivise companies from introducing more risk into the company through financial engineering by removing the increased return to shareholders which comes from increased risk. It should not be seen as primarily a revenue raising mechanism for the government although it may bring in revenue in the short term as companies move away from highly geared structures.

Ofwat must also deal with the situation at Thames. It is the largest water company in the UK and supplies 1/5th of the country's households. The Urban Waste Water Treatment Directive which is driving the need to clean up the Thames was passed by the European Union in 1991 with a deadline for implementation by member states by 2000.

Thames Water have known for a very long time that there would be at some point the need for a large investment to address the problem. Today it is a company with an asset value of £10.5bn, 78% of which is debt. If it had kept to a gearing level of 55% it would have more than £2bn less debt on its balance sheet today leaving it in a far far stronger position to borrow and build the tunnel.

Ofwat should report on whether Thames Water has the capacity to finance the construction of the Thames Tunnel project and on what terms and should make its findings publicly available. If this analysis reveals that Thames Water could finance the tunnel itself if it had pursued more modest dividend and gearing policies than there can be no justification for the government to provide support. **If raising money to spend on improving water quality in the Thames means raising new equity, and the company is unwilling to do this, Ofwat should recommend that the company is put into special administration.** The company can be sold on to another operator willing to run the company in a more responsible fashion, at a cut price to recognise the damage done to the financial strength of the company by its previous owners.

Customers have paid a price for their water services which should have allowed Thames Water to keep enough equity to remain a financially very strong company. It is just not good enough for investors to remove equity from their company in order to generate a return which is far in excess of that which the earnings of the company would normally allow and then come to the government with a begging bowl. Every customer of Thames Water deserves to know how we got here.

Tax

There needs to be a serious look at the tax treatment of capital intensive infrastructure companies. The tax advantages of debt are one of the factors which have encouraged the excessive gearing of the water sector. Ofwat has recognised this and uses a company's actual gearing rather than the assumed 55% gearing to calculate the tax allowance in the price cap. In the 2009 price review Ofwat admitted that this did not capture the tax

advantage to companies gearing up between price reviews. Ofwat has now introduced a clawback mechanism.

However, if companies are creating debt in order to avoid tax, as has been alleged by Corporate Watch, this creates further issues which need to be addressed. By doing this companies are hiding profits and artificially increasing the cost of debt which could make accurate price reviews more difficult.

This is not a problem which only affects the water industry. Private equity funds have bought out many infrastructure providers in the UK from roads, to airports and seaports. In every case they have used the tax advantage of debt to increase the gearing of these companies and their risk. Many are not subject to a price regulation mechanism which would allow the returns generated from this to be clawed back. Arqiva for example, another Macquarie owned company which provides the UK's broadcasting network, pays a 13% interest rate on loans to its shareholders.

Germany has addressed this issue by introducing an earnings-stripping rule. This limits the tax shield from debt to 30% of earnings. It also excludes some forms of debt from the tax shield altogether.

The tax treatment of highly leveraged structures and shareholder debt was an issue considered by the last administration in 2007 when Ed Balls was the City Minister. At the time he launched a review of the tax treatment of shareholder loans.⁴¹ The outcome of this review, announced in the 2007 pre-budget report, was to do nothing, and keep a watching brief. One wonders where Treasury officials have been looking as private equity firms have taken over large parts of the UK's infrastructure.

It is now time for the Treasury to review the tax treatment of highly geared companies. It should in particular consider whether a German style earnings stripping rule is necessary to rebalance the tax incentives between debt and equity. The coalition has a policy of reducing corporation tax but they also have a strong commitment to fighting corporate tax avoidance. This was the deal which the German government made with business when they introduced the earnings stripping rule as this move to widen the tax base was accompanied by a cut in the corporation tax rate.

Profits

Returns to shareholders of between 20% and 30% each year from a regulated monopoly which sells a product that is so fundamental to our lives is an extraordinary form of exploitation. When these returns have been funded by raids on the equity of companies

⁴¹Catherine Craig, *Buyout firms face scrutiny over shareholder loans*, "e-financial news", 26 March 2007 <http://www.efinancialnews.com/story/2007-03-26/buyout-firms-face-scrutiny-over-shareholder-loans>

built up over decades of public investment there is a risk the system of regulation will lose legitimacy.

In order to restore faith Ofwat needs to step in to cut the gordian knot which has formed around high prices, high dividends, high debt and private equity ownership. Investors took low risk companies in a low risk industry and decided to use financial engineering to create higher risk companies to boost their returns. They have done very well out of this arrangement but it is now time they experienced the consequences of high risk.

The signals which the regulator gives about his intentions for the industry are fundamental to the pricing of risk and the behaviour of the market. Ofwat needs to make loud and clear and repeated statements that the age of plenty for water company owners is coming to an end.

We are now beginning the process of another price review. **Ofwat should say now that they are actively looking at how price cuts can be implemented.** This must include looking at the long run cost of capital and what changes need to be made to stop the consistent overestimation of it.

Given the failure of the regulator to set prices at the last two reviews which have led to a substantial transfer of wealth from customers to investors this process must have the maximum amount of public scrutiny.

Ofwat is accountable to parliament. **Parliament's Environment, Food and Rural Affairs Committee should hold an inquiry into the profits of the water industry and the return to shareholders they have generated over the last two price reviews.** This report must include the returns that we can not see: the increase in shareholder value in privately owned companies which are not listed on the stock exchange and the impact of financial leverage on those returns.

Transparency

Privately owned companies can be opaque and are subject to much less scrutiny than companies under public ownership. This is especially true when they are based in countries with much lower reporting standards. But given the great public interest involved providing water there is no reason why private water companies should not be subject to the same transparency and disclosure requirements as any UK publicly owned company. **Ofwat should change the license conditions of companies to impose London Stock Exchange disclosure requirements on non-stock market listed companies.** This includes public disclosure of any shareholding above 3% and any increases in shareholding by 1%. This should include the price paid for these shares.

There also needs to be a much clearer structure in the management and ownership of the company. **The full report and accounts for every intermediate holding company in**

the ownership chain should be available, wherever they are based in the world. It is not good enough for companies to hide behind the poor accounting standards of the world's tax havens.

Accountability

One of the issues that this paper has identified is that private equity, with a small and powerful ownership structure have managed to dominate management decision making in a way which has not always been in the customers best interest.

Ofwat should encourage companies to put the interests of customers front and centre when making corporate decisions. All water companies could include a customer representative as one of their non-executive directors ensuring the voice of the consumer is present when important corporate decisions are made. This would require a change to the Companies Act but if restricted to water companies only this could be achieved through the upcoming Water Bill.

An alternative could be for the operating licence to be changed to place a duty on non-executive directors to pay regard to the interests of consumers in their actions. This could be accompanied by an annual statement from the non-execs to explain how they have interpreted this duty.

There also needs to be a return to public accountability for water companies. **Companies which are privately owned could be compelled to hold "Annual Customer Meetings" in the region where they operate.** This will give an opportunity for the public to question the management of the company. With publicly owned companies this requirement could be discharged through their annual general meetings, although opening these meetings to customers regardless of whether they are shareholders or not should be encouraged as good practice.

Company ownership

The experience of 20 years of privatisation has seen almost every form of private ownership tested by the water industry, from public ownership, multinational utility ownership, private ownership and non-profit ownership. **The government should commission a robust review of the fundamental effect of different ownership structures on the strategy and performance of water firms.** This would be a useful exercise which could yield some important lessons for future regulation.

The evidence suggests that the non-profit ownership structure which is being pioneered by Welsh Water as a particularly good form of management for the industry. This allows the company to finance its operations efficiently and removes the incentive to over-leverage. The regulator could not impose a new ownership structure on the industry without the

current owners demanding a large amount of compensation from the government.
However, **the government should make it a policy to ensure that the regulator must consider restructuring companies as non-profits when a company has gone into special administration if that is in the best interest of customers.**