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Case Study: The Financialisation of Water in
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Abstract: This paper uses the systems of provision (sop) approach to explore the role of finance in the delivery of water and sewerage in England and Wales. Since privatization of the ten water and sewerage companies in 1989, the nature of private ownership, and its engagement in the sector have evolved. Initially listed on the stock exchange, with shares allocated to customers and the general public, ownership has now become consolidated. Only three of the ten firms remain listed. Four are in the hands of private equity, owned by global financial investors. Two are owned by Asian infrastructure conglomerates, and one is owned by a not-for-profit company.

In contrast to mainstream economics, the sop framework sees sector outcomes in terms of relations between agents, embedded in historically evolved structures and processes. Rather than perceiving consumption patterns to be the result of independent decisions made by atomistic individuals, the sop approach considers consumption to be linked to production as part of a vertically integrated process. As a result, each sop is different and depends on the commodity or service in question and the context in which provision is located. Water has specific material properties which affect its delivery and which also impact on the way in which consumers engage with producers. When the wider historical, political, geographical and socio-economic context is added to the mix, this creates a sop that is unique to the delivery of water in England and Wales.



Applying the sop approach shows that relations between agents are contested in the sector, with the interests of private shareholders diverging from those of end users in important respects. The state has the role of mediating these competing priorities, largely through the regulator, Ofwat. However, the state itself has a specific, if evolving, political agenda which feeds into policy making. Locating finance - both for production and consumption - in the context of the interplay of these divergent interests provides a deeper understanding of how specific outcomes emerge.

The paper shows that the water sector is heavily financialised and that global financial capital is deeply embedded in production processes. Financialisation has in some cases created opaque financial structures and secured high returns for producers. Innovative securitisation procedures, via off-shore jurisdictions have enabled some companies to raise gearing to levels unanticipated in the last price review process in 2009, and unimaginable at the time of privatisation. Shareholder distributions appear to be boosted by complex transactions across extensive corporate group structures.

At the other end of the scale, the sector is financed by payments of customer bills. Since privatisation, prices have risen substantially and a growing proportion of households is struggling to pay their bills (although consumers have benefitted from substantial capital investment). Furthermore, regressive outcomes result not just from transfers from consumers to investors, but also from the rise in the proportion of turnover allocated to rentier incomes. In contrast, the share of income allocated to wage labour has declined over the past twenty years.

The state prioritises regulatory stability in order to continue to attract private investors to finance the country's infrastructure more generally. Hence, the sop is shaped by the needs of investors. Measures to support low-income households are small in relation to the financial returns. Things are changing in the sector. The



current price review (PR14) looks set to be more demanding on water companies than previously. The recent water White Paper will require firms to separate their retail and wholesale activities in anticipation of greater competition.. However, for these measures to make a significant dent in the structural inequality of the sop, investors will need to see their revenues fall, in which case they may decide they can make higher returns elsewhere.

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1 Introduction

This paper applies the systems of provision (sop) approach to the delivery of water and sewerage in England and Wales¹ building on an earlier paper on sops.² Water in these countries was privatised in 1989, and the sector is widely understood in terms of a market – albeit a highly imperfect one. Sector policy is largely oriented around making the structure as market-like as possible. The regulatory framework is intended to mimic the incentives and constraints that monopolistic companies would face if they were under competitive pressure. The sector is seen as deviating from an idealised state.

The sop approach, in contrast, interprets the sector in terms of the way in which agents relate to each other and, as such, is based in the real world. Rather than seeing the delivery of water as a market that needs to be corrected, the sop approach starts from the premise that outcomes emerge from settlements between agents which are themselves embedded in historically evolved social and economic structures and processes. The sop also derives from the material properties and cultural associations attached to specific goods and services. One of the key principles of the sop approach is that consumption is not the spontaneous outcome of decisions made by rational individuals but is inherently linked to the production process. Agents have different, and often competing, interests. Settlements are highly contested. Contestation among agents leads to continually evolving outcomes which result from the interplay of various factors including vested interests, bargaining positions and government policy, all of which are embedded in a specific context. Contestation may take the form of formal negotiation, for example, in the rounds of the price-setting process between the regulator and water companies. However, much of the contested space lies outside the realms of the formal

¹ The study originally aimed to encompass all the countries of the UK but the water delivery systems in Northern Ireland and Scotland are completely separate and run along different lines to those of England and Wales. Both Northern Ireland Water and Scottish Water are publicly owned and were never privatised.

² Bayliss, Fine and Robertson (2013), "From Financialisation to Consumption: The Systems of Provision Approach Applied to Housing and Water" FESSUD Working Paper No 2.



regulatory framework. For the sop approach, what is not regulated is as important as what is. Furthermore, the regulatory machinery does not just set the rules for the firms involved in water delivery but also shapes the ethos of the sector which impacts on all stakeholders.

In the delivery of water in the UK, the primary agents are consumers, producers and the state. However, within these groupings, there are different agents which themselves have different and possibly conflicting incentives and interests. The private water companies consist of the owners and financiers (which are often based offshore), the company directors and the workforce. The state is mainly represented by the economic regulator, Ofwat, but also includes other regulatory agencies, such as the Environment Agency and the Competition Commission. Furthermore, the state is involved in the sop in a more general sense. Water tariffs and company profits are potentially politically charged. In addition, the current Government's aim to increase private sector financing for infrastructure requires such investments to be profitable for investors. Other state institutional structures also shape the sop for water such as company law, labour law and the tax regime

There are also secondary agents that are involved in the supply chain for water such as legal, financial and management consultants. In addition, most of the construction work in the sector is sub-contracted to construction firms. The secondary agents are not covered in detail in this study.

While the production side incorporates a confined set of agents, everyone consumes water. Consumers are a vast and disparate group including households and industrial and agricultural users. For most consumers, there is little awareness of the way that the water system is managed. Supply is monopolistic and the issues are technically complex. Consumers have no option but to pay their water bills. Although investment choices are influenced by trends in consumption, individual domestic consumers have little direct influence over what and how much infrastructure is

built. Consumers have to rely on government and regulators to protect their interests (NAO 2013b). Recent developments to strengthen consumer involvement (through the establishment of the Consumer Council for Water (CCW) and Customer Challenge Groups (CCGs)) have been at the behest of the state.

This study, which is part of the FESSUD programme of research,³ focuses on finance and financialisation in the delivery of water and sewerage⁴ in England and Wales. The past few decades have seen a transformation in the way that water is provided. Once treated as a local public service, it is now considered to be a commodity with economic value. Initially privatised with a view to raising investment finance, the sector has become increasingly financialised with the financial sector and financial practices now playing a core role in the sop. Some firms are owned by financial institutions, and shareholder distributions appear to be boosted by complex transactions across extensive corporate group structures.

With no formal state subsidy, the sector is virtually entirely reliant on payments from end users. Adopting the sop framework, this study connects finance for production (capital investment finance) with consumption finance (water bills paid by end users) treating these as part of the same process. This sector-wide approach is intended to provide an overview of the flow of funds with a view to understanding the distributional outcomes from the sop. The paper shows that, the nature of ownership of water has shifted since privatisation, and some water companies have become assets of global financial conglomerates, including pension and investment funds, with some operating on behalf of “high net worth individuals.” Over the past decade, stakes in water companies have generated handsome returns for these investors as a result of generous regulatory terms combined with financial restructuring with high leverage and complex financial transactions, in line with wider financialisation

³ “Financialisation, Economy, Society and Sustainable Development”. For more information see fessud.eu

⁴ Occasionally reference is made to “water” rather than “water and sewerage.”



practices. In addition, payments to directors have escalated while the share of income going to labour has declined. At the other end of the sop, consumers have benefitted from substantial investment in the sector, and most have access to good quality water. However, prices have risen substantially and a growing proportion of customers is struggling to pay their bills. This system is mediated by the regulator, Ofwat, whose operations do little to address the complexities of international finance.

The sop analysis shows that the current settlement is regressive with customers financing distributions to shareholders on top of the cost of service delivery. In addition the system lacks accountability. The identity of the ultimate investors can be difficult to trace. The basis on which dividend and interest payments are made, both externally and within complex group structures, is not disclosed. The paper brings out several ways in which the state is supporting these inequitable outcomes, both in terms of practice and in creating an ethos that promotes inequality. Distributions to finance, in the form of interest payments and dividends, have been allowed to grow unchecked while cuts in employment costs are encouraged in the name of increased efficiency. Tax avoidance practices are unchallenged. Price settlements have been generous to firms at the expense of customers. Censure is heavy on those that fail to pay their water bills while growing extraction of revenue on the part of the financial sector has been tolerated and even encouraged in the name of market outcomes.

The paper consists of two parts. The first part sets out the history and the current structure of the sop (section 2), outlining the way in which production is organised (section 3) and the relationship between firms and the economic regulator, Ofwat (section 4). The second part provides a sop interpretation of the sector looking at the relations between agents in the regulatory process (section 5) before considering the role of finance in production (section 6). This is supported with an analysis of the changing financial structure of water companies (section 7). The paper then turns to the role of end users in financing the sector (section 8) before the final section



concludes showing that, while considerable investment has ensured that end users have access to a regular supply of good quality water, private ownership in the context of financialisation has led to a structure that is increasingly inequitable.

2 Background and context

A system of provision (sop) derives from the material and cultural properties of the commodity or service in question as well as the wider context. This section sets out some of the key elements of the background to the sop analysis with an overview of the nature of water, the wider context of financialisation and the main consumers of water before a review of the history of the sector.

Water is essential for life and is a vital input into agriculture, energy production and many industrial processes although the relative allocations will vary over time and across locations. As a result there is a strong social and political dimension to delivery systems. Water is heavy to transport and tends to be consumed near to where it is produced. It is usually carried via networks of pipes and pumps. Delivery is largely monopolistic as duplication would be costly. Water use is closely linked to the state of the ecosystem. There are environmental benefits to be gained from lowering water consumption. The way in which water and sanitation are provided can be technically complex. In the UK, where virtually all households have access to a secure and safe supply of water, most consumers have little knowledge of, nor interest in, the details of the way it is delivered. In countries with major water scarcity there is likely to be considerably more consumer awareness and involvement in the sop.

From a financial point of view, infrastructure assets can be attractive to investors as they provide a stable, long-term investment. They usually involve long-life high-value physical assets which create a barrier to entry and the nature of the sector is such that there is little probability that technological advances will render the assets



obsolete (RiskMetrics 2008). The sector is tightly regulated and returns tend to be highly predictable for years ahead. In the privatised system in England and Wales, this financing structure has lent itself to particular forms of financing and securitisation. This is one of the ways in which the sector has become financialised.

Financialisation refers to a phenomenon that has occurred worldwide if primarily in Europe and the USA over the past three decades where financial markets, institutions and elites have gained greater influence over economic policy and outcomes, and where profits accrue through financial channels rather than trade and commodity production (Epstein 2002; Palley 2007). Other features of the process include the rapid expansion of financial activity relative to real activity and financial profits making up an increasing share of total profits (Stockhammer 2010). Ownership of non-financial firms is increasingly in the hands of financial investors. Short-term share price movements take priority over the long-term success of the firm leading to cost cutting and job reductions. Stock options are used to align the interests of managers with those of shareholders (Rossman and Greenfield 2006).

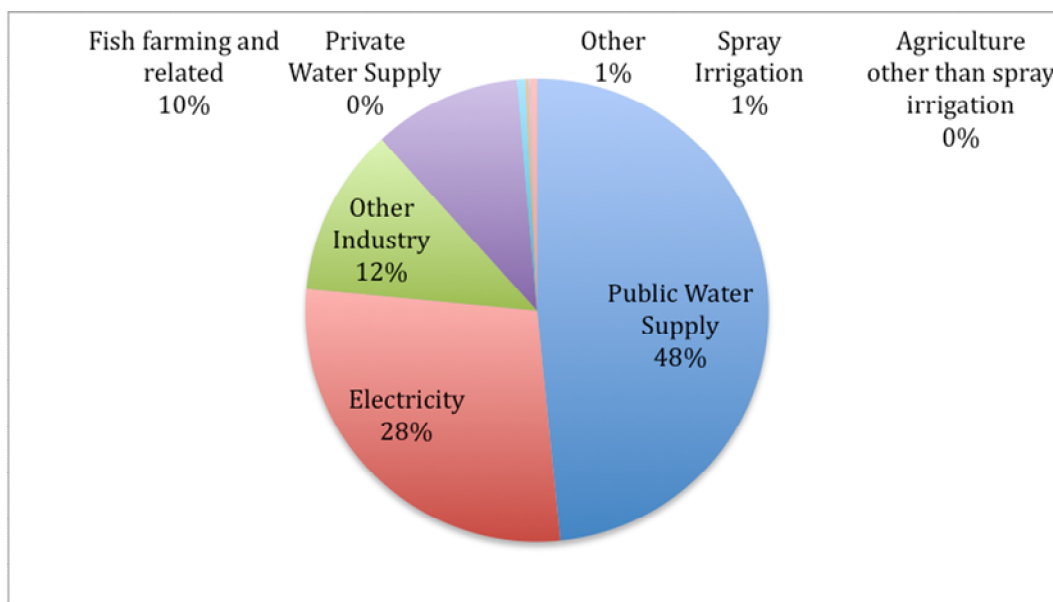
Financialisation is associated with increased inequality. Rentier incomes (interest, dividends and capital gains) and financial sector bonuses have increased while wage shares have fallen (Stockhammer 2010; Rodriguez and Jayadev 2010). The state has supported the emergence of the rentier class with policies that are in their interest (Jayadev and Epstein 2007). While financialisation is increasingly impacting on every day lives through pensions, insurance and financial services, the role of finance in the delivery water is more opaque (Allen and Pryke 2013). Most consumers of water in England and Wales are unaware of the heavily financialised structure behind the service.

2.1 Consumption

Water consumption is shaped by the nature of the consumers. Industrial and agricultural consumers engage on different terms. Some consumers, such as energy producers, access water outside the public water supply system. These are beyond the scope of this paper which focuses on both finance and financialisation. A sop analysis with a different focus, for example, looking at environmental issues may include wider aspects of consumption.

In 2006-07, about half of the 12.7 billion cubic metres of water abstracted in England and Wales was for public water supply with the remainder largely accounted for in cooling uses by electricity generation and in agriculture. See Fig 1.

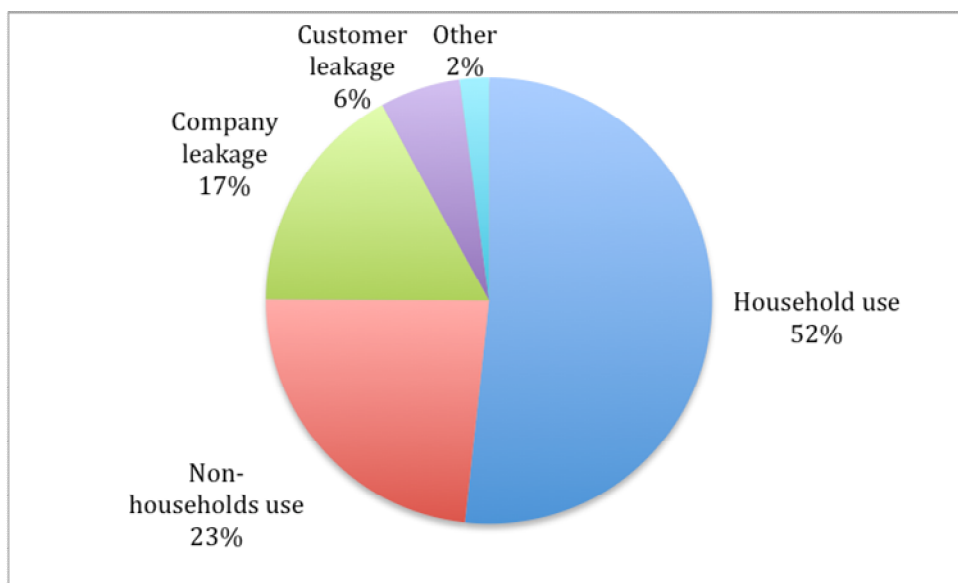
Fig 1: Licensed abstractions in England and Wales



Source: DEFRA 2008

About 6.5bn m³ of water was directly abstracted for use by businesses.⁵ These get their water from rivers or the ground without going through the treatment works and public distribution system of the public water supply. This is used by industry, power generation and farming which does not require high quality water. Direct abstraction requires a licence from the Environment Agency (DEFRA 2008).

Fig 2: Public water supply, England and Wales (ml and %)



Source: DEFRA 2008

Of the water that goes through the public water supply system, just over half is for household use, 23% for non-households, and 17% is lost through leakage (Fig 2). Household water demand has been increasing since the 1950s due to population growth and changes in the way water is used in the home. On average, families use 500 litres of water a day. This is almost 50% more than 25 years ago, and the increase is attributed to changes in culture and technology. For example, more

⁵

<http://webarchive.nationalarchives.gov.uk/20130123162956/http://www.defra.gov.uk/statistics/environment/green-economy/scptb10-wateruse/>



households have power showers and household appliances such as washing machines.⁶

Meanwhile, public water supply usage by industrial and commercial sectors has been declining. This is partly due to the changing nature of UK industry (DEFRA 2008) but also because more water consumption is outsourced in part due to global trade and improvements in international shipping. About 62% of the total UK national “water footprint” (i.e. the total water consumption embedded in the production of other consumption goods) is accounted for by water from other countries while only 38% is used from domestic water resources.⁷ Agriculture uses only 1% of the water resources in the UK but there are substantial seasonal and regional variations. In East Anglia, agriculture uses 16% of abstracted water, and from some rivers all the water abstracted is for agriculture (DEFRA 2008).

2.2 Background

Water delivery systems vary across regions and countries. The prevailing sop is the result of decades of evolving practices combined with political and social imperatives: “Contemporary water networks reflect historical choices and practices. There is thus nothing ‘natural’ about how and where contemporary water networks in England and Wales are found” (Bakker 2007 p. 43). In the UK, water delivery was initially carried out by private providers but these became consolidated into public municipal systems towards the end of the 19th century. Private provision was found to have limitations including a bias towards wealthy consumers, high price and undersupply. In addition, greater awareness of the health impact of poor sanitation led to public investment in sewerage across the country. By the early 20th Century, around 80% of service delivery was carried out by the public sector (Bakker 2010).

⁶ <http://www.environment-agency.gov.uk/homeandleisure/beinggreen/117266.aspx>

⁷ www.waterfootprint.org



Management of the sector became increasingly centralised with a strong emphasis on engineering. In 1963 the Water Resources Act established the Water Resources Board (WRB) to advise on the planning of the conservation and redistribution of water on a national scale. The emphasis was on large-scale schemes, based on top-down planning. The senior staff of the WRB was dominated by engineers and this shaped the approach: “The absence from the Board of a biologist or an economist allowed the development of technocratic plans untrammelled by ecological doubts or much consideration of economics. Protected from interference from above, together with its distance from local politics, the WRB seized the opportunity for water planning on a grander scale than had ever been contemplated before in England and Wales” (McCulloch 2009, p.467).

The approach of the WRB was to move water around to where it was needed rather than to adapt water use to availability. In stark contrast to today's philosophy, the use of price signals to limit demand was not considered to be a viable option: “price is unlikely to limit demand for water overall” (WRB 1969, cited in McCulloch 2009, p.470). A later criticism of the WRB was the lack of economic management with, for example, forecasts based on simple projections of population growth and expectations that demand from industry would continue to increase at rates experienced in the previous thirty years (Ofwat Defra 2006). The WRB failed to anticipate a dramatic decline in industrial water demand as the country shifted from being a major manufacturing economy with the growth of service industries and a population shift to the water-scarce South East. According to McCulloch (2009, p. 471): “the planning overshoots fuelled demands to divest and privatise water resources when the political context changed.”

The 1973 Water Act disbanded the WRB, and ten regional water authorities were created that took over the functions of the water undertakers, sewerage and sewage disposal authorities, and the River Authorities. Before the 1973 Act, water authority revenue was not ring-fenced, and income from water could be absorbed in the



general local authority budget. From 1973 water authorities were obliged to operate on a cost-recovery basis to ensure charges met revenue requirements. Investment came under the control of local government. But the 1973 Act gave central government considerable influence over the levels of capital investment with a duty to examine and approve the water authorities plans and programmes (Ofwat Defra 2006)

Capital to meet investment requirements could now be raised by borrowing from central government and revenue from customers. After the 1974 restructuring of the water sector, the industry was heavily indebted but, with wider economic concerns at the time, including high inflation, government was reluctant to fund capital investment. A subsequent Water Act in 1983 reduced the role of local government in decision making and allowed water authorities to borrow from private capital markets rather than solely from central government. These changes shaped the sector that was privatised.

Following the election of the Thatcher-led Conservative Government in 1979, a large-scale privatisation programme was introduced. According to Kay and Thompson (1986) there had been long-running frustration with publicly-owned companies. A common theme of policy reform in the years leading up to privatisation was the need for a greater emphasis on commercial rather than public interest considerations and the introduction of more extensive financial controls. Sir Ian Byatt who was Head of the Public Sector Economic Unit and Deputy Chief Economic Adviser in HM Treasury in the 1980s, describes a pre-privatisation era of inefficient nationalized industries captured by strong trade unions with soft budget constraints (Byatt 2007).

Privatization shifted public utilities off the government books to private balance sheets. Market incentives were expected to generate efficiency and innovation. There was also a direct political agenda to break the power of trade unions and to create a



new class of Conservative voters that were shareowners (Helm and Tindall 2009). Even with monopolistic structures as with water, competition in the capital market was expected to stimulate competitive forces (Ofwat Defra 2006 p.31).

Privatisation was also associated with a deeper cultural shift and a reduction in the share of the government in the economy (Helm 2005). For Thatcher, the policy was instrumental in reforming the socio-economic order of the country. David Parker (2004) cites her memoirs:

Privatization ... was fundamental to improving Britain's economic performance. But for me it was also far more than that: it was one of the central means of reversing the corrosive and corrupting effects of socialism ... Just as nationalization was at the heart of the collectivist programme by which Labour Governments sought to remodel British society, so privatization is at the centre of any programme of reclaiming territory for freedom (Thatcher, 1993, p.676 - cited in Parker 2004, p. 3).

There was no master plan. Rather, privatisation evolved incrementally as each successive sale took place (Parker 2004). After British Telecom was privatised in 1984 and British Gas in 1986, attention turned to the water sector: "With government unwilling to fund the increased investment requirements either from increases in taxes or increasing borrowing and with its broader programme of privatisation of utilities underway, the government started to consider the privatisation of the industry" (Ofwat Defra 2006, p.29). According to Helm (2005) the objectives behind privatising the water industry included increased efficiency, widening share ownership and greater investment. He considers the investment requirements to be the greatest motivation as well as the desire to use private rather than public borrowing to raise investment finance.



Proposals for water privatisation were published in 1986 when a Department of the Environment (DoE) White Paper initially proposed that water authorities would become private without changes to their powers or responsibilities. Following the lead from British Telecom, regulation of the water sector was to take the form of price controls (also known as incentive-based regulation) where prices are set for a five-year period and are allowed to increase by the rate of inflation (as measured by the retail price index (RPI)) adjusted by a factor (X) to account for various elements including investment costs, efficiency gains etc. Within that price boundary, firms have an incentive to lower costs as they benefit financially from greater profit. A fixed-price contract was intended to provide incentives for companies to maximise profits and minimise costs in the same way as a normal price-taking company would in a competitive market (Helm 2005). This was expected to provide stronger efficiency incentives than the rate-of-return regulation which had been adopted in the USA (Ofwat Defra 2006).

Privatisation took place under the 1989 Water Act, and the ten water and sewerage companies (WaSCs) were floated on the London Stock Exchange (LSE). To make up for years of under-investment and to ensure that shares would be attractive to investors, the Government cancelled all of the long-term debt owed by water and sewerage companies at a total cost of £4.9bn. In addition, a cash injection of £1.5bn (1989 prices) was provided to the water and sewerage companies, known as the "green dowry" (Ofwat Defra 2006) so the level of gearing (i.e. the ratio of debt to equity) was initially negative (Helm and Tindall 2009). Total proceeds from privatization were £7.6bn. After privatization costs, the green dowry and the debt write off, the benefits to the taxpayer were zero (Ofwat Defra 2006).

Every effort was made to ensure that the privatization was a success. Debt was written off, the share price was low and the capital valuation was a fraction of its



actual value.⁸ As a result, the value of shares appreciated rapidly. At close of business on the day trading began,⁹ the average share price was £2.80 representing an average premium of 8.7%. In the months following flotation, water shares continued to outperform the FTSE All Share Index, moving to a premium in excess of 20% by the end of January 1990 (Ofwat Defra 2006). For the first five years, prices set by the terms of the privatisation produced a real return in excess of 12% pa. This was seen as too generous and a windfall tax was imposed on privatized utilities in 1997 following a change of government.

Privatisation at first created a largely dispersed set of owners who had been encouraged to buy shares in the companies. Preference was given to water companies' customers and the final allocation led to around 44% of shares being allocated to the general public. At first, the Government retained a 'golden share' in each company to prevent any individual or single company from controlling more than 15% of voting shareholdings (Helm and Tindall 2009). The initial ownership structure was, however, always meant to be temporary. When the golden share was sold in 1994, concentration of ownership started almost immediately. Water companies were targets for takeovers with their large cash balances, low levels of debt and high and secure revenues.

Helm and Tindall (2009) document the early stages of international takeovers in the water and energy sectors with the arrival of American and then European infrastructure firms. This was followed by a further stage with the introduction of

⁸ At privatization the net replacement cost of the water industry was about £120bn (on the basis of the Modern Equivalent Asset – MEA – which is the cost of replacing an existing asset with a technically up to date new asset with the same service capability, adjusted for accumulated current cost depreciation) while the privatization proceeds were about £6bn. So the valuation of capital (on which all subsequent estimates have been derived) is based on a fraction (around 5%) of the actual value at privatisation. In part this was to avoid price shocks. Post-privatization prices had to be based on their pre-privatisation levels. According to Moody's (2010, p.19), "The pre-privatisation prices implied a valuation for the regulated businesses significantly lower than the replacement value of their assets." This meant that the level of prices would not yield sufficient revenue to replace the assets (Helm 2005).

⁹ 12th December 1989.



private equity and infrastructure funds. These have specialized in short-term financial engineering, replacing equity with debt, discussed in more detail below.

Today the policy framework continues to evolve. The sector has been under review in the past few years to address climate change and population growth and is part of a wider initiative to strengthen national infrastructure. In 2010, Infrastructure UK was established as a unit within the Treasury to coordinate planning of infrastructure investment in the country. The first National Infrastructure Plan was published in October 2010 and updated in November 2011 with a progress update in 2012 together with associated 'pipelines' of expected infrastructure projects (NAO 2013a). The aim is to develop a long-term coordinated approach to infrastructure planning.¹⁰

For water, the Government states its commitment to “maintaining the security and performance of the water and sewerage system while reducing its environmental impacts” (HM Treasury 2011, p.6). Total required spending on infrastructure in the 2011 paper was estimated to be around £250bn of which around £21bn is required in water. About two-thirds of total investment in the overall infrastructure plan is intended to be privately funded. However, for the water sector, 100% of investment is privately financed (HM Treasury 2011). The Government states it aim to use “all the tools at its disposal to facilitate the private investment that will finance the majority of the UK’s infrastructure” (HM Treasury 2011, p.5).

In addition to increasing private investment in the sector as well as other infrastructures, the Government is planning further restructuring. In 2011 the Water White Paper, *Water for Life*, was published by DEFRA, outlining the sector strategy and key challenges faced with depleting supplies in some parts of the country.¹¹ The White Paper built on recommendations put forward in a Report by Martin Cave (the

¹⁰ All documents relating to the Government’s national infrastructure plan can be found here:

<https://www.gov.uk/government/collections/national-infrastructure-plan>

¹¹ <http://www.official-documents.gov.uk/document/cm82/8230/8230.pdf>



Cave Review, 2009) to increase the role of competition in the sector. In July 2012 a Draft Water Bill was issued, taking forward the market reforms outlined in the White Paper, particularly those relating to increasing competition.¹² From 2017, business customers in England and Wales will be able to choose their supplier. To a large extent this is based on the model of retail competition in Scotland (although the Scottish wholesale production structure is very different from that of England and Wales, with water production in the hands of a single public company, Scottish Water).¹³

3 Production

The ten water and sewerage companies (WaSCs) in England and Wales are shown in Fig. 3. In addition there are also several water-only companies operating, but these are not covered in this analysis. In England the companies are privately owned. Welsh Water (Dwr Cymru) was initially privatised along with the other companies but has since been established as a not-for-profit company. Scottish Water and Northern Ireland Water have always been, and continue to be, in public ownership.

¹² <http://www.official-documents.gov.uk/document/cm83/8375/8375.pdf>

¹³ Interview, WICS, November 2013

Fig 3: UK Water and Sewerage Companies



Source: WaterUK

3.1 Water company ownership structures

For the ten WaSCs, ownership structure can be grouped into four types:

1. Listed companies: United Utilities, Severn Trent, and Pennon which owns South West Water.
2. De-listed companies owned by infrastructure firms: Wessex Water and Northumbrian Water
3. De-listed companies owned by financial companies: Thames Water, Southern Water, Anglian Water and Yorkshire Water
4. Not-for-profit company: Welsh Water (Dwr Cymru)



In each case, the licensed water and sewerage provider is situated within a wider corporate group of companies. Annexes 1 to 4 show the ownership structure of each of these companies with the regulated provider shown in bold type and date of incorporation shown in parentheses. The corporate structure for these companies was traced by obtaining accounts for each company from the central register of company information at Companies House.¹⁴ Some structures are more complex than others. The nature of the different types of ownership is now outlined in more detail.

3.1.1 Listed companies

Three companies remain listed on the London Stock Exchange (LSE). Mostly their owners are institutional investors. For example, more than 95% of Severn Trent shares are owned by financial institutions including insurance companies, nominee companies, banks, pension funds other corporate bodies, limited and public companies.¹⁵ Some of the largest investors have a stake in more than one water utility. For example, Blackrock Inc has a major stake in Severn Trent and United Utilities. Pictet Asset Management and Legal and General and AXA also feature among the major shareholders in more than one company (although these shareholdings are not large – in the region of 5 to 10%).

Blackrock describes itself as an investment fund manager providing a range of financial products and services whose clients include pension funds and insurance companies.¹⁶ Stakes in these water companies feature in financial products. For example, BlackRock EcoSolutions Investment Trust is described as a “diversified, closed-in management investment company incorporated in the USA. The Trust’s

¹⁴ <http://www.companieshouse.gov.uk> There may be additional companies in the structures outlined in the Annexes, as many have dormant companies and some have created new subsidiaries such as Thames Water Commercial Ventures Finance Ltd, Thames Water Commercial Ventures Holdings Ltd established in November 2013.

¹⁵ <http://www.severntrent.com/investors/shareholder-centre/shareholding-analysis>

¹⁶ www.blackrock.co.uk



investment objective is to provide total return. The Trust invests at least 80% of its assets in equity securities issued by companies that are engaged in one or more sectors such as new energy, water resources and agriculture business segments.”¹⁷ This fund has stakes in water companies such as Manila Water Co Inc and in Severn Trent Plc.

Similarly the Pictet Water Fund “invests worldwide in companies that are involved in the water cycle, following a selective bottom-up stock selection process.” The company reports that “Combining strong growth securities (water technology and environmental services) with more valuation-oriented securities (water utilities and packaged water) is in our view the best approach to produce a good balance between risk and potential reward.”¹⁸ This fund has a stake in Pennon Group Plc which accounts for 3.53% of the fund’s holdings and therefore ranks in the top ten holdings of the fund.

3.1.2 De-listed – infrastructure companies

Two water companies are now part of international infrastructure conglomerates, headquartered in Asia. These companies are referred to in the rest of this paper as infrastructure-owned companies. **Wessex Water** was bought by Malaysian YTL Corporation in 2002 for £1.2bn (\$1.8bn).¹⁹ YTL is one of the largest companies listed on the Malaysia Stock Exchange. YTL Corporation carries out its utilities activities through its subsidiary YTL Power International Berhad (YTLPI). The company has utility investments in Malaysia, Australia, Indonesia, and Singapore. The investment in Wessex Water was YTL’s first foray into Europe and its first water investment. The company’s other utility investments are in the energy sector.²⁰ YTL also has investments in property development, construction and tourism. The founder, Yeoh

¹⁷ <http://www.bloomberg.com/quote/BQR:US>

¹⁸ <http://www.blueandgreeninvestor.com/library/fundview/CHP4/Pictet%20Water>

¹⁹ <http://news.bbc.co.uk/1/hi/business/1893736.stm>

²⁰ <http://www.ytl.com/utilities.asp>

Tiong Lay, has a net worth of \$2.8bn and is ranked number 503 in the world's richest.²¹

Northumbrian Water was bought by Hong Kong-based Cheung Kong Infrastructure Holdings Ltd (CKI) and the Li Ka Shing Foundation in 2011. CKI has investments in the UK energy sector (UK Power Networks Holdings Ltd, Northern Gas Networks Ltd, Wales and West Utilities Ltd, Seabank Power Ltd) and in the water sector with a small (4.75%) stake in Southern Water Services Ltd. CKI also has infrastructure investments in the Netherlands, Australia, New Zealand, Canada and China. The ultimate parent is Cheung Kong Holdings which is controlled by Li Ka Shing who is cited by Forbes as the eighth richest person in the world with a net worth of \$34.7bn.²² Mr Li's other investments in the UK include Felixstowe Port, 3 UK telecoms group and Superdrug, a health and beauty retail chain.²³

3.1.3 De-listed - owned by financial sector

Thames Water, Southern Water, Anglian Water and Yorkshire Water are owned by special purpose vehicles (SPVs) put together by private financial investors. Mostly the owners of these companies are investment fund managers and pension funds as follows:

Yorkshire Water's ultimate parent company is Kelda Holdings Ltd, registered in Jersey. The owners of Kelda are Citi Infrastructure Investors (CII) (37.15%), which manages Citi Infrastructure Partners (CIP), described as "a multi-billion infrastructure fund that has controlling interests in mature transportation and utility infrastructure assets;"²⁴ GIC, the private equity investment arm of the Government of

²¹ <http://www.forbes.com/profile/yeoh-tiong-lay/>

²² <http://www.forbes.com/billionaires/>

²³ "HK tycoon sees land of opportunity" Financial Times, 10 August 2012

²⁴ www.citicapitaladvisors.com/ciiOverview.do

Singapore Investment Corporation (26.32%); M&G Infracapital Investments, part of M&G Investments, investment managers and owned by Prudential Plc (13.15%) and Reef, the infrastructure asset management business within Deutsche Asset Management in Deutsche Bank (23.27%).²⁵

Anglian Water's parent company is Anglian Water Group Ltd which is registered in Jersey and owned by Colonial First State Global Asset Management (the consolidated asset management division of the Commonwealth Bank of Australia Group) with 32.2%; the Canada Pension Plan (CPP) Investment Board with 32.9%; Industry Funds Management (IFM) (a global asset manager owned by 30 Australian pensions funds specialising in infrastructure, private equity, debt investments and listed equity) with 19.8% and 3i, (an international investor focusing on private equity, infrastructure and debt management) with 15%.²⁶

Thames Water's ultimate parent company is Kemble Water Holdings Ltd which is owned by a consortium of investors led by Macquarie European Infrastructure Fund II LP (MEIF 2). This is one of four wholesale European investment funds owned by the Australian Macquarie Group which describes itself as a "global provider of banking, financial, advisory, investment and funds management services."²⁷ The Company's other shareholders are international pension funds and institutional investors but these are not listed in the company accounts. Ofwat (2007a) provides a list of the owners and brief profile of each at the time of the takeover. The list includes Australian and Dutch pension funds, Australian, Canadian and New Zealand investment fund managers, Finpro, a Portuguese holding company and Santander. In 2011, Macquarie sold a 9.9% stake to a wholly-owned subsidiary of the Abu Dhabi Investment Authority.²⁸ In 2012, Santander and Finpro sold their stake to a Chinese

²⁵ <http://www.keldagroup.com/about-us/investors.aspx>

²⁶ Annual Report 2013, p.22.

²⁷ <http://www.macquarie.com/mgl/com/profile>

²⁸ "Change in minority shareholders at Thames Water" Macquarie Group Announcement, 12 December 2011



sovereign wealth fund, CIC,²⁹ and a 13% stake was sold by Maquarie to the BT Pension Scheme.³⁰ In the case of each of these sales of ownership stakes, the amount paid was undisclosed.

Southern Water was bought from the Royal Bank of Scotland in 2007 by a consortium known as Greensands Holdings Ltd, registered in Jersey and owned by a group of financial investors. The owners of Greensands include IIF International SW UK Investments Limited (advised by JP Morgan Investments Inc.), the Northern Trust Company (Australian asset management firm), Phildrew Nominees (a subsidiary of UBS Global Asset Management), Sumaya Investments Ltd and various others including a Superannuation Fund from Papua New Guinea.

These are the most complex and least transparent of ownership structures. The regulated company sits in a chain of group companies, some of which are based in tax havens, and funds are transferred up and down the ownership chain in a dense sequence of dividends and interest payments on inter-group loans. Several holding companies with similar names in the chain of ownership do nothing apart from receive interest and/or dividends and then pay these out to other group companies. These companies take advantage of exemptions on the disclosures required in financial statements citing paragraph 3 (c) under FRS 8, Related Party Disclosures. This means that the company is not required to disclose related party transactions with other companies in the Group, making it difficult to trace transfers between companies. Owners are investment and pension fund managers. These are referred to in this paper as private equity-owned firms.

²⁹ "Santander sells Thames Water stake to China" The Telegraph, 20 January 2012.

³⁰ "BT Pension Scheme buys Thames Water stake" Financial Times, 30 May 2012.



3.1.4 Not-for-profit – Welsh Water

In 2001, Welsh Water was taken over by Glas Cymru, a single purpose company, limited by guarantee, formed specifically to own, finance and manage Welsh Water. It has no shareholders. The company's assets and capital investment are financed by bonds and retained financial surpluses, which are reinvested in the company. Following privatisation in 1989, Welsh Water took over the South Wales electricity company, Swalec, in 1996 to form the company Hyder. In 2000 Hyder was taken over by USA company, Western Power Distribution (WPD) which was only really interested in the energy investment and sold off the water business to Glas Cymru in 2001 (De la Motte 2005).

3.2 New ownership structures

Ownership of water production has changed substantially since privatisation and even more drastically in comparison with the model of local control which dominated provision for most of the last century. The initial expansion of the proportion of the population that owned shares, introduced at privatisation, was not sustained. Ownership of water production has increasingly been concentrated, often in the hands of global financial sector institutions. The sop approach considers that these agents are not just neutral service providers but have particular features that shape the way that water is perceived and provided.

Over the years since privatisation, the nature of private ownership has evolved. At first, companies expanded their operations. Some established overseas subsidiaries and diversified both into other sectors in the UK and in water services abroad. De la Motte (2005) documents the expansionary activities of Welsh Water and Yorkshire Water in the 1990s. In August 1991 the Chairman of Welsh Water (which had expanded into electricity, luxury hotels and leisure facilities among other things), John Elfed Jones, remarked that Welsh Water was a “mini Mitsubishi, capable of



spawning many businesses.”³¹ The corporate focus has now shifted, with companies stripping back to their core operations. For example, the former Chief Executive of Anglian Water was reported to have secured substantial shareholder value by transforming the company from an “ailing and overstretched would-be multinational” by reverting the focus to “its core business as a regional water company.”³²

There has been a growing trend for companies to be taken off the LSE. Only three companies remain listed and one of those was the subject of a takeover bid in 2013.³³ Where companies are listed on the stock exchange, this allows for some degree of external observation of corporate affairs. The process of de-listing reduces the public scrutiny of the operations of the firms. For example, according to Ofwat (2011e, p.14) regarding the delisting of Northumbrian Water Group (NWG): “As a result of NWG’s acquisition, its shares were de-listed from the London Stock Exchange and, therefore, we will no longer be able to rely on the listing of NWG to make comparisons of how the market values it relative to other listed companies. This type of analysis informs our judgments, for example, on the appropriate cost of capital for water companies.”

Annexes 1 to 4 show that water providers are located within corporate groups of varying complexity and there is a distinct pattern to these structures related to the nature of ownership. Some companies are still active in other sectors outside the core business of water and sewerage delivery. South West Water is part of the Pennon Group which also owns waste management company, Viridor. The structures of the groups that are listed and de-listed companies owned by infrastructure companies are broadly similar. They have plc financing companies and holding companies in their group structures. There are only one or two intermediary

³¹ “Wave of criticism for Welsh Water”, Tony Heath, *The Guardian* (London), 2 August 1991, Cited in De la Motte (2005).

³² “Anglian Water chief ‘was worth’ reported £10m severance” *Huntspost* 24, 19 November 2010.

³³ “Severn Trent rejects takeover approach” *BBC News*, 15 May 2013.

companies between the licensed water provider and the ultimate UK owner. The main difference is that, thereafter, the de-listed companies are then part of their Asian parent companies groups.

In contrast, the de-listed firms owned by financial investors have a much longer vertical structure. Yorkshire and Southern have ten companies between the licensed provider and the UK owner. The ultimate owner for each of these corporate groups is a special purpose vehicle (SPV), established in Jersey in three out of four cases. Most of the companies in these structures do nothing apart from receive and pay out funds (interest, dividends and/or loan repayments) to other companies in the group. Each of these four corporate groups has a financing subsidiary in the Cayman Islands (although with Anglian Water it is the immediate parent of the water provider that is registered in the Cayman Islands). Welsh Water has a much simpler structure but also has a subsidiary in the Cayman Islands. This would suggest that there is a distinction to be made between types of private owner. The way in which the water provider is incorporated in global financial capital is not uniform.

The review of corporate structure shows that national boundaries have little significance in the ownership of water assets. This trend towards unlisted global financial and infrastructure conglomerates as owners reflects trends in infrastructure throughout the UK (OFT 2010). Water providers have become assets of international private capital as infrastructure has become an asset class (RiskMetrics 2008). Stakes in Thames Water have been bought and sold around the world. In sharp contrast with the localised control of services which dominated most of the last century, water companies are now part of global conglomerates linking them to other infrastructure investments in the UK and elsewhere. The parent company of the majority stakeholder in Thames, the Macquarie Group, operates in 28 countries. In the UK its infrastructure assets also include Bristol Airport and National Car Parks. The owner of Northumbrian Water, CKI, has stakes in energy companies. The owners of Wessex also own land and hotels in Asia. Whereas in the



past a local authority would make decisions regarding water in relation to other local services, now water is part of the international portfolio of investments of the conglomerate. Governance that was once conceptualised on a local physical geographical basis is now global with investments connected by finance (Torrance 2009).

With water production operating in the sphere of global finance, company managers face the dual objectives of meeting the demands of shareholders as well as local consumers. For the regulator the interests of private shareholders are compatible with those of consumers. What is good for investors is deemed good for consumers: “We expect companies to be efficient. A regulatory system that gives incentives to companies to be efficient, and to make profits, is in the best long-term interests of customers” (Ofwat 2008b, p.1). There are, however, clear reasons why these two agents are likely to have conflicting objectives. Shareholders want a good return on their investment. For listed companies, the share price and dividend yield are closely monitored by the financial sector. Companies promise dividend growth. Pennon, for example, in its 2013 Annual Report, says (p.12) that its group policy is to grow the dividend by 4% above RPI up to the end of 2014/15. De-listed owners of water companies have also benefitted from dividend payouts. One way to increase shareholder earnings is to increase prices. Customers have seen bills increase by considerably more than inflation since privatisation. There are clearly tensions between the objectives of shareholders and consumers. To some degree these are mediated through the state.

4 Regulation and the role of the state

There are several agencies involved in different aspects of regulation of the sector, most of which come under the Department for Environment, Food and Rural Affairs (DEFRA). Drinking water quality is monitored by the Drinking Water Inspectorate (DWI) using standards derived from EU regulation. The Consumer Council for Water



(CCW) represents water and sewerage consumers in England and Wales. The Environment Agency (EA) protects the environment and promotes sustainable development, playing a leading role in managing flood risk. Finally, the division of DEFRA with responsibility for economic regulation is the Water Services Regulation Authority (Ofwat). They state their responsibility as “making sure that the companies we regulate provide consumers with a good quality and efficient service at a fair price.”³⁴

There are agencies outside DEFRA that are involved in the delivery of water. If water companies are unhappy with rulings by Ofwat they can appeal to the Competition Commission which describes itself as “an independent public body which conducts in-depth inquiries into mergers, markets and the regulation of the major regulated industries.”³⁵ The Office of Fair Trading (OFT) protects consumer interests in the UK and is supposed to ensure that businesses are fair and competitive.

There are potential tensions between the objectives of the different regulatory agencies, with for example environmental regulation requiring greater spending to improve standards while economic regulation seeks to lower costs. Other countries have different arrangements. For example in the USA it is common for a single body to regulate across several network industries. The California Public Utilities Commission, in particular, regulates investor-owned companies in water, energy, transportation and communications (Consumer Focus 2010). Regulation is not just a set of rules but is also evidence of a set of social relations that shape and control economic activity. Furthermore, the regulatory framework goes beyond the parameters set by government agencies and outcomes emerge from the practical way in which the state engages with private enterprise. Regulation is social practice as well as economic imperative (Bakker 2007).

³⁴ <https://www.gov.uk/government/organisations/the-water-services-regulation-authority>

³⁵ <http://www.competition-commission.org.uk/>

4.1 Economic regulation

The economic regulator, Ofwat, is required to operate within the strategic framework and policy priorities set by the state via DEFRA. Most recently these are written in their strategy document Water for Life (DEFRA 2011). The primary tasks of Ofwat (according to the Water Industry Act (1991)) are:³⁶

- (a) to protect the interests of consumers, wherever appropriate by promoting effective competition;
- (b) to secure that the functions of a water and/or sewerage undertaker are properly carried out in England and Wales;
- (c) to secure that companies appointed to provide water and sewerage services are able (in particular, by securing reasonable returns on their capital) to finance the proper carrying out of those functions; and
- (d) to secure that the activities authorised by the licence of a licensed water supplier and any statutory functions imposed on it in consequence of the licence are properly carried out.

In short, then, Ofwat is required to protect the interests of consumers by ensuring that companies carry out their functions properly and to ensure that companies are able to finance their operations (financeability). The main regulatory tool used by Ofwat to achieve these aims is setting the upper price limit that each company can charge for water.

³⁶ Subject to these duties Ofwat has other responsibilities, listed in Ofwat (2010b, p.3):

- promote economy and efficiency by companies in their work;
- secure that no undue preference or discrimination is shown by companies in fixing charges;
- secure that consumers' interests are protected where companies sell land;
- ensure that consumers' interests are protected in relation to any unregulated activities of companies;
- contribute to the achievement of sustainable development; and
- have regard to the principles of best regulatory practice.

4.2 Price controls

The regulation structure applied is known as price cap or RPI-X also described as 'incentive-based regulation'. In the UK water sector, instead of X, the term K is used. Prices are set for five-year periods. Each company is allowed to increase their prices by the RPI and an additional amount, K, (which could be negative) which is based on the evolution of the company's cost base, the cost of capital, financing requirements, assumptions about efficiency and the size of the capital expenditure programme. The value of K is also adjusted for previous performance against specified targets. Determining the value of K is a lengthy, complex and contested area. Currently the regulator is in negotiations with companies over price setting for the next Price Review period which will determine prices from 2015 to 2020, a process known as PR14.

A key element in the value of K is the estimated cost of capital. This is supposed to be set at a level at which companies can finance their functions so that the price limits set will allow an "efficiently financed company to deliver its services to consumers and earn a return on capital, on average, at least equivalent to the cost of capital" (Ofwat 2009a p.141). The cost of capital is applied to the Regulatory Capital Value (RCV) which was initially calculated soon after privatization. New investment is added to the RCV and depreciated over the course of its asset life (Ofwat 2011b). Firms have had an incentive to have as high an RCV as possible leading to a bias towards capital rather than operating expenditure (although the next price review is set to change to a total expenditure approach with a view to preventing the capex bias).



4.2.1 The cost of capital

Ofwat works out a cost of debt and a cost of equity and then reaches what is termed the “weighted average cost of capital” (WACC) which is weighted by the assumed level of gearing (i.e. the ratio of debt to equity). The cost of capital is a central component of the regulatory process and has a big impact on price. Ofwat estimates that a 1% rise in the cost of capital results in approximately a 6 to 7% increase in household bills (NAO 2013b).

To calculate the **cost of debt**, Ofwat makes assumptions about various factors including the ratio of existing debt to new debt and the ratio of fixed to floating rate of interest debt. This is a complicated process. Tools involved include observing market data on bond yields, examining data on water company bonds, weighting valuation towards current market data or forward projections of bond yields and adjusting cost of debt estimates to take account of embedded debt which may be positive or negative when compared with prevailing interest rates (Ofwat 2011a, p.24).

The **cost of equity** is described as “the return required to induce the marginal investor to purchase shares in the business” (Competition Commission 2010, p.7). Ofwat uses the capital asset pricing model (CAPM) to determine the cost of equity and cites the Competition Commission (Ofwat 2011a, p.24): “we used the CAPM as we considered it was the most robust way to measure the returns required by shareholders.” According to CAPM, the required return on a financial asset is the sum of the risk-free return (i.e. the return on an investment that has a risk level so low that it is not considered to exist – such as government gilts) and a risk premium that compensates the investor for exposure to the systematic risk of the financial asset (beta).

The systematic risk (beta) is the return that investors require to compensate them for risks that cannot be eliminated by investors (for example through diversification). Equity beta is used as a measure of the systematic risk of a particular sector or firm which takes account of both the business systematic risk and the financial systematic risk. If a firm or sector has a beta which is equal to 1, this suggests its returns tend to move broadly in line with the capital market as a whole. If beta is greater than 1, returns vary more than the market as a whole. If they are less than 1, returns will vary less than the market as a whole. Systematic risk in the water sector is relatively low. In the 2009 PR, the equity beta was set at 0.9 to reflect the market uncertainty at the time and was lower than the beta of 1 that they used in the 2004 determinations (Ofwat 2009a, p. 128).

The WACC is a weighted average of the cost of equity and the cost of debt. The balance between the two is estimated for the calculation of the WACC in the price setting process, although in practice it will vary from this considerably (see following sections and Table 4). Table 1 shows the components of the WACC in the 2009 price review.

Table 1: Component parts of the cost of capital at the 2009 price review

Gearing (debt: RCV)	57.5
Cost of equity	
Risk-free rate	2.0%
Equity beta	0.9
Equity risk premium	5.4%
Cost of equity (post-tax)	7.1%
Cost of debt	
Cost of debt (gross of tax shield)	3.6%
WACC-gross of tax shield	5.1%
WACC-post tax	4.5%

Source: Ofwat 2011a

The level of gearing, at 57.5% was estimated to be a sustainable level to ensure the companies remain comfortably “investment grade”³⁷ (discussed below). The assumptions for the cost of debt drew on direct observations from the companies’ existing debt portfolios and forward projections weighted by an assessment of the mix of existing debt that will remain in place over 2010-2015 with new financing and refinancing requirement. The cost of equity was based on the view that the risk-free rate of interest may increase in the medium term and the relatively high risk premium reflected the economic backdrop at the time when emerging from the financial crisis and facing the onset of economic recession (Ofwat 2010a, p.27). Note that this is applied only to the regulated water utility and not to the rest of the companies in the corporate group structure of Annexes 1 to 4.

4.2.2 Other adjustments

The price determination for water companies also includes an assessment of company performance criteria which are evaluated over the preceding price review period. Ofwat indicators are grouped into four themes. Company performance is evaluated against targets for the following (Ofwat 2012b, p.3):

- Customer Experience (including service incentive mechanism (SIM) score and number of internal sewer flooding incidents);
- Reliability and availability (serviceability and leakage);
- Environmental impact (greenhouse gas emissions and pollution incidents); and
- Financial performance (including post-tax return on capital, credit rating – required to be “investment grade,” and interest cover).

³⁷ Two companies dominate the credit ratings agency industry: Moody’s Investors Service and Standard and Poor’s. They provide a credit rating which is an indicator of the future relative creditworthiness of securities. Grading is indicated by rating symbols with each representing a group in which the credit characteristics are broadly similar. Ratings from Aaa to Baa are considered “investment grade.” See Moody’s 2013b for more information.



Other incentives include the Capital Expenditure Incentive Scheme (CIS) which started in 2009 to provide an incentive for companies to outperform on their business plans. Those that set ambitious plans that were “below the baseline” receive higher rewards (Ofwat 2010c). The Asset Management Assessment (AMA) provides an incentive for companies to lower their capital maintenance expenditure.

The Revenue Correction Mechanism (RCM) was derived to address variations in revenue and to encourage companies to promote water efficiency.³⁸ The RCM is used to make an adjustment at the next price review to take account of each company's revenue outperformance or underperformance relative to the assumptions made in the 2009 price review. If a company collects less revenue in the current price review period due to demand reduction, this can be a factor taken into account in the next period. Where revenues fall due to lower consumption, this is captured in higher prices in the next price review period.

Firms see their K value (and hence customer bills) rise or fall in the subsequent Price Review depending on their achievements with regard to performance targets in the current review period. If customers are unhappy with their service provider, this should be reflected in the company's score for the “service incentive mechanism” (SIM) indicator. The aim is that firms are financially penalised in the next price review for poor customer service, meaning that this would put downward pressure on the price the company can charge. The process is intended to mimic competition.

4.2.3 The value of K

All of these extremely complex factors, as well as assumptions about efficiency gains and future investment programmes, go into the calculation of K which

³⁸ RD 14/07: Review of form of price control mechanism – letter from Ofwat to water companies http://www.Ofwat.gov.uk/pricereview/ltr_rd1407_revpricecontmech Accessed 31.5.2013.

determines the amount by which firms are able to increase prices above the rate of inflation. Table 2 shows the value of K for each year for the price review period 2010 to 2015. The average increase in price limits is 0.5% a year (above the RPI) but there are variations from -4.3% for United Utilities in 2010/11 to +4.6% allowed for Thames Water in 2012/13 (Ofwat 2009a).

Table 2: Values of K for water and sewerage companies, 2010 to 2015

Company	Annual price limits (K factors)				
	2010-11	2011-12	2012-13	2013-14	2014-15
Anglian	-0.7	0.0	1.4	1.1	0.9
Dŵr Cymru	-1.3	-1.3	-0.4	-0.4	-0.6
Northumbrian ¹	5.0	3.8	0.9	0.0	-1.0
Severn Trent	-1.0	0.0	0.0	-1.0	-1.1
South West	1.1	3.4	2.5	1.3	1.1
Southern	-0.7	0.0	3.6	3.3	-0.1
Thames	0.2	0.4	4.6	0.4	1.4
United Utilities	-4.3	-0.2	0.6	1.0	1.2
Wessex	0.3	0.3	1.9	1.9	1.5
Yorkshire ²	-1.2	-1.3	1.4	1.8	1.6
WaSC average (weighted)	-0.8	0.2	1.7	0.7	0.5

http://www.Ofwat.gov.uk/regulating/reporting/rpt_tar_2010-11settingprices

These values are set in advance for the following five years. Companies can appeal to the Competition Commission to challenge their K value. For example, Bristol Water (a water-only company) made such an appeal when there was a disagreement with Ofwat regarding the need for capital maintenance expenditure (Competition Commission 2010). Furthermore, if firms' costs increase over the course of the price review period they can apply to the regulator for an "interim determination" to reset their prices between five-yearly price reviews. In September 2013, Ofwat rejected a



request from Thames Water to add a further 8% to the average household bill. The grounds of the application by Thames included an increase in bad debts by more than anticipated since the 2009 PR and the higher than expected cost of land for development of a new sewerage plant.³⁹

Within the specified prices which are linked to the value of K, firms are able to take whatever measures they consider appropriate (within the parameters of regulation) to increase their profits. There is no limit to the dividends which they can pay out or regulatory constraints on the financial structure as these are considered to be determined by the market.

5 Regulatory challenges

The economic regulator, Ofwat, sees its role as controlling the private sector in the interests of consumers: “Our job is to make sure that your water company provides you with a good quality service at a fair price.”⁴⁰ However, the regulatory process is not simple a binary relationship where the regulator sets the rules and the firms follow. Rather, the sop approach understands the sector as a complex web of relations between agents with conflicting interests and bargaining positions. It is these that shape the settlements which lead to the outcomes for different parties.

The RPI-X price-cap structure was established in 1983 by Stephen Littlechild originally for British Telecom and has since been used for elements of most privatised utilities (gas, electricity, railways, airports as well as water). The idea is to protect against abuses of monopoly in privatised industry. But its role was considered to be temporary. Regulation was considered a means of “holding the fort” (against monopolistic abuses) until the advent of competition (Stern 2003, p.8).

³⁹ IB 20/13: ‘Ofwat confirms process for challenging Thames application for bill increases’

http://www.ofwat.gov.uk/mediacentre/ibulletins/prs_ib2013tmsidok

⁴⁰ <http://www.ofwat.gov.uk/aboutofwat/>



Water is never likely to be competitive but Ofwat is required to promote competition wherever appropriate (see section 4.1).

Over the years, the wider business of regulation has evolved and has recently attracted considerable attention in the wake of the financial crisis with proposals for reforms to curtail the activities of banks. The UK's Independent Commission on Banking (ICB) chaired by Sir John Vickers has called for measures to protect customers against high-risk investment banking activities to avoid a repeat of the financial crisis. Proposed measures include the ring fencing of banks' retail activities and increasing levels of equity in financing structures. However, while some contend that this will be damaging to the competitiveness of UK banks, others believe that the reforms do not go far enough. In particular, they fail to address the culture of risk-taking combined with high bonus payments for senior staff and the moral hazards posed by being "too big to fail."

There are parallels with the regulation of water and sewerage companies and many of the private owners operate in the financial world of the Vickers Report. Some owners are divisions of banks and most are financial institutions. The water business has moved on substantially from the time when RPI-X was developed to protect against monopolistic abuses. With companies in the hands of private equity investors, water has become an appendage of the financial sector and is a tool for revenue-raising. Owners are global consortia and conglomerates for which water is a small money-making cog. The regulatory structure has mostly dealt with this changing context by focusing the frame of reference on the practical performance of the water provider alone, leaving the wider financialised aspects to take care of themselves in the name of "market outcomes."

This section reviews some of the major regulatory challenges in the water sector grouped into three sections. First, as the sector has become more complicated, so has the regulation, with questionable outcomes. Second, the state is caught in a bind



when it comes to regulation because of the need to maintain attractiveness to investors, not just in water but in all aspects of infrastructure. Finally, there has been some regulatory innovation to strengthen the resilience of water providers against the effects of financialisation but finance is notoriously difficult to regulate.

5.1 Practical challenges

The basic premise of the regulation of water (and other privatised monopolies) is that the rules are set by the regulator to prevent monopolistic exploitation and to ensure that the companies operate in the social interest. A key challenge, however, is that the regulator has to rely on the companies to disclose important information about their operations, while companies have an interest in restricting and distorting the information that they provide. The traditional approach to regulation has been found wanting, so recent reforms have attempted to broaden the framework for monitoring water companies.

Ofwat has recently changed its approach to addressing information asymmetries. Until 2012, companies were required to submit extensive reports every year with data on numerous aspects of company performance, creating a growing regulatory burden. Company business plans were checked by 'reporters' to provide assurances about the quality of the data that companies submit. Engineering consultancies such as Halcrow, Atkins, Black and Veatch were all involved in the 2009 Price Review process.⁴¹ Over time the role of reporters expanded as the detail and complexity of the reporting requirements increased. Reporting was costing each company the equivalent of £1.5m a year and about £6m in a price review year (Ofwat 2010a p.19).

Companies complained about the high volume of information supplied, suggesting that there was duplication and the information was not always used. A Report by

⁴¹ All reporters summaries are available here:
http://www.Ofwat.gov.uk/pricereview/pr09phase3/sub_fbp_pr09partasumm



Consumer Focus (2010) raised concerns about the increased complexity (p.12): “There is a genuine problem of accountability to customers when the process gives rise to so much paperwork and consultations.” The Report highlighted a case where a water company had submitted 1600 pages of documents, analysis and justification to Ofwat’s PR09 process: “This level of overly detailed regulation of plans is not conducive to innovation nor effective scrutiny by stakeholders.”

Ofwat was concerned that the level of detail for which they were looking, and that companies provided, could mean that key risks become buried. The growth in information does not necessarily improve outcomes and the level of detail made it difficult to “see the wood from the trees” (Ofwat 2010a, p. 4). The same has been said of the regulating of finance (Fine 2013, p.20) where the increasing weight and complexity of regulation can make it less effective. More complex regulation to combat more complex financialisation has not worked and can be counterproductive. Increased complexity can lead people to manage the rules and act defensively while the bigger picture is neglected (Haldane and Madouros 2012).

In the water sector, collecting and analysing large volumes of data were no guarantee of compliance (Ofwat 2010a). The weaknesses of the regulatory foundations were revealed when it came to light in the 2000s that a number of firms had falsified information provided to Ofwat, and fines were imposed for deliberate misreporting (on Severn Trent, Southern Water and Thames Water). The details of the misreporting were not picked up through the regulatory process but originally came to light through disclosures⁴² from the companies themselves.

Ofwat has now changed tack and effectively places greater reliance on the companies to regulate themselves. Firms now have to provide Ofwat with a “risk and

⁴² “Severn Trent: from expose to fraud charges” This is Money, 23 November 2007 <http://www.thisismoney.co.uk/money/news/article-1616348/Severn-Trent-from-exposeacute-to-fraud-charges.html>



compliance statement” in which they set out how they have complied with their relevant statutory licence and regulatory obligations. Directors are required to confirm that the company has sufficient financial and management resources; that there are sufficient rights and assets available to enable a special administrator to run the business and to ensure that trade with associates is at arm’s length. They have to publish a statement explaining any links between directors’ pay and standards of performance, and they are required to maintain an investment grade rating.⁴³ The onus has shifted from the company ticking boxes to comply with the rules of Ofwat to one where directors have to ensure that the firm is adhering to the rules set by the regulator. Ofwat can still check up on enforcement of a specific detail or with a specific company but the process of checking all indicators of all companies has been set aside.⁴⁴

This is described as light-touch regulation which is also potentially a reward for good management (Ofwat 2010a). Whereas previously all firms faced the same level of monitoring, in their 2011 paper, Ofwat set out the principle that, where a company can demonstrate effective customer engagement and widespread support for a well-evidenced business plan that delivers value to customer, the plan will be subjected to a lower degree of scrutiny (DEFRA 2013, p.24). Ofwat is also proposing a “risk-based” approach to regulation where activities will be directed according to an assessment of risks to customers (Ofwat 2012a).

There have been additional measures to monitor activities of firms. Ofwat is increasing the involvement of customers via the recently established Customer Challenge Groups (CCGs): “We expect there to be a shift in emphasis from reporting to the regulator to the companies giving their customers confidence that they are fully meeting their obligations” (Ofwat 2010a, p.19). In broader terms the aim has been to shift the focus of firms away from the regulator towards the needs of

⁴³ <http://ofwat.gov.uk/regulating/compliance/reportingperformance/riskcompliance>

⁴⁴ Interview, Southern Water, January 2014.



consumers. This started with the introduction of the Service Incentive Mechanism (SIM) mentioned above, where firms' performance was assessed in part on the experiences of consumers. The emphasis on consumers has grown and in PR 2014 firms have to show that their business plans reflect the needs of consumers. The challenge, however, is that consumers are generally passive in the water sector in England and Wales. Water companies are generally invisible. Most customers do not know what they want from a water company beyond safe regular water at an affordable price. The delivery of water is highly technical on many levels. There are many ways in which companies can manipulate the presentation of information to suit their interests. Consumers cannot know if they are being treated fairly. This is discussed in more detail in section 8.3 on accountability.

In addition, retail competition is to be extended. The industry is being restructured, with companies separating their wholesale from their retail activities so that all non-household customers will be allowed to choose their water supplier from 2017. Greater competition in the sector is intended to "harness market forces to allocate and reveal the value of water and to support the development of effective and efficient competition for wholesale services and retail services" (Ofwat 2012c, p.12). This can, however, only have a limited impact on the sector as just around 10-13% of the overall cost of water and sewerage is accounted for by the retail component with most of the costs taken up with treatment and distribution. However, there are plans for wholesale competition in the future (Ofwat 2008a).

These changes place more emphasis on firms to confirm that they are fulfilling the terms of their licences and meeting the needs of consumers rather than supplying reams of reports to Ofwat. There are, however, some signals from other regulatory agencies that there are gaps in regulation. A study by the National Audit Office (NAO) raised concerns after their review of Ofwat. As part of this they checked a large infrastructure project and found that it was not clear that there was a reliable business case to justify the infrastructure when Ofwat decided to approve the



company's business plan. The NAO was also concerned that Ofwat does not review the extent of contingency costs in the companies' business plans with Ofwat considering this to be a matter for companies. Furthermore, Ofwat also does not have independent assurances that the infrastructure is provided to the agreed specification so companies can increase their profits by providing new infrastructure more cheaply than specified with a possible adverse impact of quality (NAO 2013b). While the previous method of data intensive regulation had limitations, in light of the NAO findings, there remains considerable scope for firms to manipulate operations to their advantage.

The final point to make on the practical challenges of regulation is that it is costly. Ofwat makes considerable use of consultants, and the latest price review and changes to legislation have led to overspending. Even with a light touch approach, regulation is not cheap. In January 2014, Ofwat spent £324,000 on consultancy fees. A total of £212,278.10 was spent on three separate pieces of work with PriceWaterhouse Coopers on technical consultancy for work on the recent Thames Water Interim Determination request to increase customer prices in 2014-15.⁴⁵ In February 2013, the Board of Ofwat approved a £21.5m budget for 2013-14 which included £5.6m for external consultancy and legal support. This, however, fell short of costs and a further £5m needed to be raised from licence fees and reserves (Ofwat 2014a).

5.2 Need to maintain investment

Ofwat has an obligation to ensure that firms maintain financeability which is defined as "how we make sure that the price limits we set are sufficient for efficient companies to raise the finance they need so that they can invest to deliver the service that customers expect" (Ofwat 2011b, p.4). A company is considered to be

⁴⁵ "Ofwat spends £324,000 on consultancy fees in January 2014" waterbriefing.org 13 February 2014.



financeable if its revenues, profits and cash flows allow it to raise finance on “reasonable terms” in capital markets (Ofwat 2009a, p.135). There are a number of financial ratios and indicators that are monitored by Ofwat to ensure that financeability is maintained including cash interest cover (i.e. funds from operations: gross interest), adjusted cash interest cover (i.e. funds from operations less capital charges: net interest), funds from operations: debt; retained cash flow: debt and gearing (i.e. net debt: regulatory capital value). There are various thresholds for each of these (Ofwat 2009a, p. 136; 2011b, p.22).

However, the main test for financeability is the credit rating provided by the three main credit ratings agencies: Moody's, Standard & Poors and Fitch. Firms need to maintain a credit rating well within “investment grade range” (Ofwat 2011b, p.22). The higher the credit rating, the lower the borrowing costs. Ofwat lists the important factors that shape credit ratings (Ofwat 2011b, p.19):

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

According to Moody's, credit ratings for water companies are weighted so that 40% of the rating value is based on the regulatory environment and asset ownership model (Moody's 2009). The regulatory structure itself, then, is a determinant of the financeability of firms, directly affecting the credit ratings of water companies which in turn has an impact on their ability to raise funds on the capital markets. This is a potential constraint on the regulator as stricter regulation, which reduces profits, runs the risk of reducing a company's credit rating and increasing their financing costs. According to Moody's (2012, p.5): “A less favourable [regulatory] regime could



result in downward ratings pressure.” Furthermore, stricter regulation runs the risk of destabilising the whole industry: “For more leveraged and therefore lower-rated funding structures, the stability of the ratings is not only in the interest of bond holders but also an important factor for the long-term sustainability of the financing structure itself” (Moody’s 2010, p. 13).

This shows that regulation does not amount to a set of exogenous rules that are observed by water companies. Rather, the regulatory process itself is intrinsic to the operation of the sector. Regulatory stability is clearly important to investors but also changes that reduce the returns are unpopular and threaten to lower the attractiveness of the sector. For example, in evidence presented to the UK Government in February 2013 on the Draft Water Bill it was suggested that “Uncertainty in the proposed legislation may have an impact on the way investors view the water industry, leading to increased financing costs ... Where we have recommended amendments to the legislation we have been conscious of the impact on investor confidence and any potential impact on the costs paid by household and business customers” (House of Commons 2013, p.3).

The majority of infrastructure investment in the UK is financed by the private sector (National Infrastructure Plan 2011). International investors have portfolios across sectors. For example, the owner of Northumbrian Water, Cheung Kong Industries (CKI) also has stakes in gas and electricity companies in the UK. The UK infrastructure portfolio of Macquarie was mentioned above. The UK’s national infrastructure plan intends to raise almost two-thirds of investment in the current pipeline from private sources (UK National Infrastructure Plan 2011, p.101). This means that the water regulator needs to avoid upsetting investors. In February 2012, a representative of the Singapore Sovereign Wealth Fund, GIC, which has stakes in Yorkshire Water as well as British Airports Authority, Associated British Ports and



the second largest holding of Royal Mail shares⁴⁶ wrote to Ofwat expressing concerns about proposed modifications to the pricing methodology, which “risk undermining the current stability of and confidence in the current regulatory framework” adding that “Such changes materially increase the perceived risk for investors in the UK water sector, potentially pushing up both the cost of equity and debt financing and ultimately the cost to consumers.” As before, there is an attempt to present the interests of private financial capital as aligned with those of water consumers.

Regarding the UK infrastructure plan, they say in their letter “the proposed licence modifications would undermine the stable and transparent regulatory regime” and would therefore “reduce the attractiveness of investment in UK infrastructure, and not just the water sector, at the time when the UK Government is actively trying to raise new sources of capital to fund large infrastructure projects.” GIC are suggesting that changes to regulation may be a deterrent to investors. This can also apply to listed companies. In 2010, Invesco Perpetual, the biggest shareholder in United Utilities disposed of almost all of its stake in the company, having already significantly reduced its stake in Severn Trent earlier in the year. The head of investment at Invesco had warned that equity investors might “exit the ship” if the regulator continued to behave like “Robin Hood.”⁴⁷

The regulator has to achieve a balance between the needs of investors and those of consumers but there is little that consumers can do if they are unhappy with the price they have to pay for their water, and most can afford a small price increase. If investors are unhappy with their returns, however, this risks jeopardising the country's whole programme of infrastructure investment. Tighter regulation runs the risk of, firstly, raising the cost of capital and, secondly, scaring firms away

⁴⁶ “Singapore buys 4pc of Royal Mail” The Telegraph 25 October 2013.

⁴⁷ “United Utilities investor pulls plug” Financial Times, 3 December 2010.



altogether. The regulator and the government have a strong incentive to skew prices to suit investors rather than customers.

Water pricing is inevitably a political issue. The settlement between firms and consumers involves political judgement, despite efforts to depoliticise the structure and create a strictly technical allocation. The political nature of the water pricing attracted greater attention towards the end of 2013. Under the terms of the 2009 price review, firms were entitled to increase prices but this was highly contentious in the context of declining real wages. The Environment Secretary, Owen Patterson, wrote to water firms asking them not to increase prices by the full amount allowed in the terms of PR09. The letter called on water companies to ensure customers got a fair deal stressing the tough times facing “hard working people.”⁴⁸ According to Moody's (2013a), the letter is further evidence of the politically-charged environment in which the water sector operates. Their position is that the letter to the companies' CEOs does not amount to interference with the independent economic regulation of the sector by Ofwat. But they caution: “However, if political pressure were to result in Ofwat departing from its established price setting methodologies and the outcome of the 2014 price review were politically driven, we would view this as a clear credit negative for the sector.”

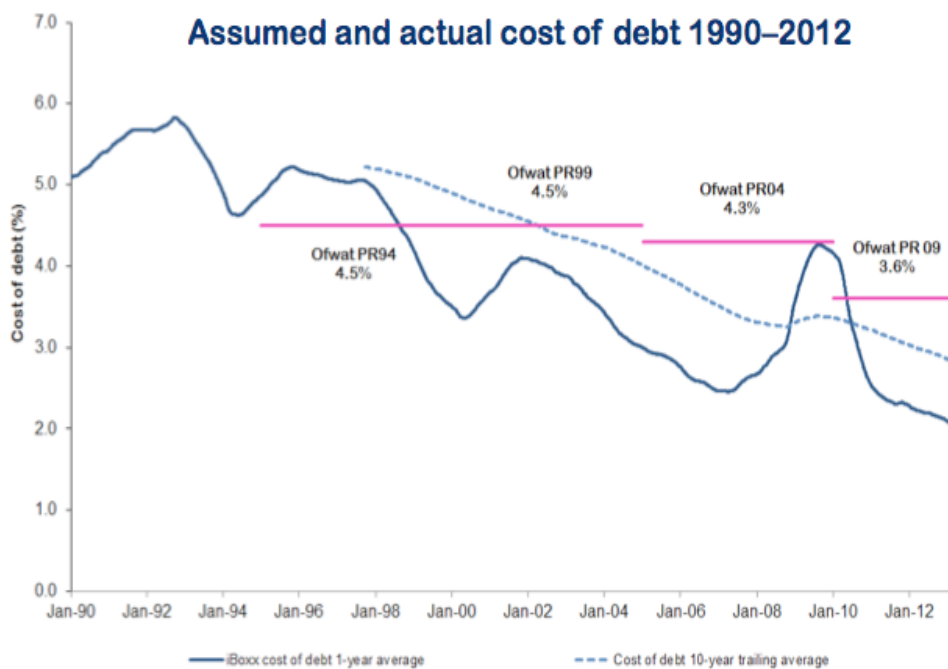
5.3 Uncertainty and headroom

The regulatory process sets prices in advance for a five-year period based on assumptions about costs. These cannot be known with certainty and the process requires judgements and assumptions regarding future costs. Past price determinations have provided what is termed “headroom” which allows for “any possible increase in the cost of capital that, as a result, might jeopardise a company's ability to finance its required capital programme” (Ofwat 2011a p.28). The

⁴⁸ “U.K. Urges Water Companies to Curb Increases That Top Inflation” Bloomberg News, 5 November 2013

cost of debt has consistently been below that assumed in the price reviews by Ofwat (Ofwat 2013) (Fig 4).

Figure 4: Assumed and actual costs of debt for Ofwat Price Reviews 1994 to 2009



Source: Ofwat 2013

Past price determinations have allowed some extra room for companies so that they can withstand unforeseen price shocks. In the 1999 and 2004 price determinations, companies were allowed additional revenue to ensure that price limits left them with sufficient financial flexibility to sustain operations and investment programmes in the face of possible cost shocks. This “revenue uplift” amounted (in 2009-10 prices) to £188m in 1999 and £508m in 2005. This boost to company finances is justified by Ofwat as follows: “We considered these uplifts were necessary for us to fulfil our



primary duty to secure that efficient companies were able to finance their functions” (Ofwat 2011b, p.24). Ofwat provides some leeway for firms in part in order to replicate a “normal company” for which an appropriate response to cost shocks might be to raise the price at which it sells goods, restricting or delaying investment, delaying dividend payments, considering alternative debt financing approaches or raising new equity. These options are more limited for a regulated company as they cannot raise prices so Ofwat allows some room for this in the price structure (which increases the price paid by customers).

At the time of the last price review in 2009, the economy was feeling the effects of the global financial crisis, and there was concern that financing costs might rise. In practice, however, interest rates remained low and the UK water sector has been attractive to investors, providing predictable returns with a perceived ‘safe haven’ status in the context of concerns in the euro area (Moody’s 2012b). The cost of debt has again been below the level assumed in the price review. Since then, Ofwat recognizes that “there has been a sustained decline in the market cost of debt with the result that consumers have borne the brunt of a cost of debt allowance that was higher than the market rates in previous price determinations” (Ofwat 2011a, p.29).

Companies have gained considerably since the last review by accessing debt at far lower interest rates than Ofwat assumed. Firms have also gained by restructuring their finances to increase the proportion of debt- rather than equity-based financing so that financial costs are lower than assumed in the 2009 Price Review. The regulatory process appears to be structured so that the earnings of firms are sustained – and even enhanced – while consumers pay more in the case of an increase in perceived risk. This is a key challenge of the RPI-X process. The gains from lower cost of capital should in theory be clawed back in the next price review period but this will also be affected by changes in expectations about the future cost of capital. While most households may be able to pay a bit more for water, the



regulator cannot risk firms not being able to finance themselves which tips the balance in favour of the water and sewerage provider.

5.4 Governing financialisation

As the water sector has become increasingly financialised and water is an asset of private equity firms, financial innovation has changed the financing structures of water companies and the nature of the corporate groups within which they are situated. In response, the regulator has introduced a requirement for firms to ensure that the licensed water company is protected. Most companies are required by Condition P of their licence to obtain legally enforceable undertakings from their ultimate controller(s)⁴⁹ that they will: provide the regulated company with all the information it needs to comply with its obligations under the Water Industry Act (1991); refrain from any action which would or may cause the regulated company to breach any obligations under the WIA (1991) and ensure that there are no less than three independent non-executive directors on the regulated company's Board (Ofwat 2014c).

In January 2014, Ofwat brought out a consultation paper setting out principles for the management of group companies, recognising that the existing regulations were established when most companies were listed on the stock exchange (Ofwat 2014b). In common with the shift to light-touch regulation above, these principles are intended to allow companies to take greater ownership of, and accountability for, delivery to customers and place less emphasis on meeting regulatory requirements. Part of the reason for this is the need to maintain legitimacy with customers as the system will collapse without payments from customers.

⁴⁹ The ultimate controller is defined in the licence as "any person who or which (alone or jointly with others and whether directly or indirectly) is (in the reasonable opinion of the Water Services Regulation Authority) in a position to control or to exercise material influence over the policy or affairs of the Appointee or of any holding company of the Appointee" (Ofwat 2014c, p.6).



Ofwat (2014c) sets out three principles that should apply as a minimum to any company operating in the sector in the context of delisting from the stock exchange:

- Transparency – the details of the group structure should be clearly set out with information on debt and equity structures and directors' interests;
- Risk – the company will not put the regulated company at risk and the Board of the regulated company should be allowed to “run the business as if it is a separate public limited company” (i.e. with sufficient resources and expertise) (Ofwat 2014c, p.12); and
- Long-term decision-making – the regulated company should be supported to address the long-term challenges of the business (population growth and climate change).

These principles and recommendations from the regulator seem to be pushing for some degree of separation between the regulated company and its corporate group although these are broad principles and the company itself is responsible for meeting standards. However, the regulator does not get involved in matters related to deeper financialisation such as group financial activity, borrowing or dividends. When firms are taken over, Ofwat has a consultation process, and this raised some concerns from observers related to financialisation but Ofwat did not see any reason to modify the licenses and was satisfied with assurances from the investors. For example, when Yorkshire Water was taken over, the Consumer Council for Water (CCW) sought assurances about the ability to identify successfully the entities that were to provide the undertakings under licence Condition P (Ofwat 2009b). When Thames was taken over, both CCW and infrastructure consultant, Martin Blaiklock, considered the ownership structure to be unnecessarily complex. Blaiklock raised concerns about the lack of information available regarding the new owners (Ofwat 2007a). Ofwat in the consultation took the view that it was up to Yorkshire Water to demonstrate compliance with the licence requirements (Ofwat 2009b). Similarly with the takeover of Thames Water, Ofwat's position was that consumers should be able



to assume that a change of ownership will have no adverse impact on the price or quality of service (Ofwat 2007a).

With regard to gearing, Ofwat have said time and again that the capital structures adopted are a matter for companies and the markets (e.g. Ofwat 2009b; Ofwat 2007a, Ofwat 2011b). However, where capital restructuring brings about “tax efficiencies” these should be passed to customers at the next price review (e.g. Ofwat 2009b; Ofwat 2007a, Ofwat 2011b). If firms can access capital more cheaply by using more debt finance rather than equity, Ofwat considers that companies can benefit in the short term by “outperforming” on Ofwat’s assumptions (which means raising capital more cheaply than estimated in the price review process) but customers benefit from this cheaper financing over time through the price setting process (Ofwat 2011b, p.36).

In response to suggestions that Ofwat should specify a cap on gearing levels or set specific liquidity ratios, the regulator sees disadvantages to bringing such measures into the companies’ licences. Such ratios are considered to be contrary to the incentive-based regulatory framework and to reduce flexibility to change financing arrangements in the future. In addition, credit ratings provide an opinion on the future ability of a firm to meet its commitments while the regulator could only obtain historic financial ratios which would be less useful. Furthermore, there are practical difficulties with determining the most appropriate financial ratios and threshold levels: “we are unlikely to be in a better position than the credit rating agencies or the markets themselves to determine appropriate constraints on financial ratios and capital structure” (Ofwat 2011b, p. 41).

This suggests that the regulator has limited capacity with which to guard against predatory financial practices. Ofwat cannot control what firms do with regard to financial engineering without more invasive and intrusive regulation, and experience suggests that more regulatory complexity does not improve outcomes. The fallback



position is to increase reliance on credit ratings agencies, the markets and the companies themselves. Financial companies (which now own some of the WaSCs) have proved extremely difficult to control. The financial crisis showed the unpredictability of finance. Fine (2013, p.18) cites Engelen to say that “finance is now technically ungovernable so that any attempt to restore finance to some kind of equilibrium or balance is futile because instability is written into its DNA.” With regard to regulation, the quote continues, “with bricolage, restorative regulation ceases to be an external constraint and becomes an input for future financial improvisation by creative bricoleurs.” This could apply equally to the water sector. Regulatory constraints have led to financial innovation, particularly in relation to gearing and debt.

6 Finance and financialisation

When water was privatized, private finance was perceived as a substitute for public funding in order to reduce the burden on the public purse. Twenty-four years later, water companies are used to raise revenue for international financial corporations in ways that were unimaginable in 1989. Where water was once a dull predictable utility investment, it has now become a speculative asset.

While the regulator, Ofwat, controls the price that the regulated company can charge. However, a whole world of financial innovation has evolved around this regulated component. Water firms are part of global companies, many with offshore ownership and complex transactions within a corporate group. Group companies, particularly those owned by private-equity firms, transfer revenue, debts, dividends and interest up and down companies within group structures to maximize shareholder returns.⁵⁰ Mostly this activity is outside the scope of Ofwat.⁵¹

⁵⁰ Just a brief look at the accounts of the Thames Water group gives a hint of the complexities of the inter-company financial flows. The ultimate (UK) parent is Kemble Water Holdings, and 97% of the group income comes from the regulated business (TWUL). Yet within this, funds move around



Supporters of privatization argue that the structure that has evolved has benefitted customers, making firms more efficient and enabling capital investment. Certainly the period since privatization has provided a consistent and stable supply of good quality water throughout the country. However, this does not preclude financial restructuring in the interests of shareholders. Levels of debt have escalated to pre-privatisation levels and beyond, and interest payments have increased hugely. High gearing levels have reduced the creditworthiness of some firms and increased vulnerability to price shocks. This section looks at some of the financial innovation taking place in the sector and considers the effects this may have.

6.1 Spending on investment?

There is no question that there has been substantial infrastructure investment on the part of water companies. Frontier Economics shows that the industry has invested around £100bn since privatisation, which is equivalent to £5,000 for every household in England and Wales (Frontier Economics 2013). Investment is now reportedly running at some £80 million per week.⁵²

Most of the companies regulated by Ofwat are 'cash negative' (e.g. Ofwat 2010b, p.29, Ofwat 2011b) which means that they spend more each year than they collect from customers' bills. According to Ofwat, this is to finance capital investment with borrowings that are repaid from customers' bills over the medium to long term (say, ten to forty years) (Ofwat 2010b). At privatisation, the need to raise finance for

between companies. For example, Kemble Water Liberty Ltd has a loan to its subsidiary, Kemble Water Structure Ltd of £2.4bn which incurs interest at 18% and a loan to its parent – Kemble Water Eurobond Plc - of £2.3bn which incurs interest at 18% (Kemble Water Liberty Ltd Accounts, 2013, p.13). Kemble Water Finance Ltd owes its parent, Kemble Water Structure Ltd, £3.1bn at interest of 18% (Kemble Water Finance Ltd accounts 2013).

⁵¹ Except for the proviso of Condition P in the licences of water companies that requires that, where it is part of a large group, the regulated company has to avoid any actions that would place the regulated company in breach of the conditions of its appointment (Ofwat Glossary of Terms).

⁵² www.water.org.uk



investment was considered to be temporary to address a backlog (Helm 2005). In the years following privatization, it was assumed that capital investment would tail off over time and the companies would become cash positive. But investment has continued to remain high despite the generally negative cash flow (Ofwat 2011b, p.37). Investment finance is raised on capital markets. In many respects, it seems that finance is simply regarded as a tool for capital investment which generates an appropriate return for investors.

However, there is clearly a disconnect between the raising of finance to pay for infrastructure investment and the increasingly intricate financial operations within complex group structures which seem to be aimed at maximising shareholder returns. In 2013, Sonia Brown, the Chief Regulation Officer of Ofwat, referred to companies making a 28% return on investment (Ofwat 2013). Turner (2013) shows how companies have made high returns with dividend payments and gains in share prices as well as tax avoidance strategies. Investors have shown strong interest in the English water sector. The high premiums offered in takeover bids indicate that water companies are attractive investments. In 2011, Northumbrian Water was bought for £2.4bn which was about 30% more than the regulatory capital value (RCV - a rough proxy for enterprise value). In June 2013, a £5.3bn bid for Severn Trent was rejected, even though the final bid represented a premium of 36% on the company's RCV.⁵³ Companies would appear to be making considerably more profit than the 5.1% cost of capital on which their prices were set in the last review (Table 1). The rest of this section considers recent trends in the financing activities of companies and explores ways in which shareholder value may be increased.

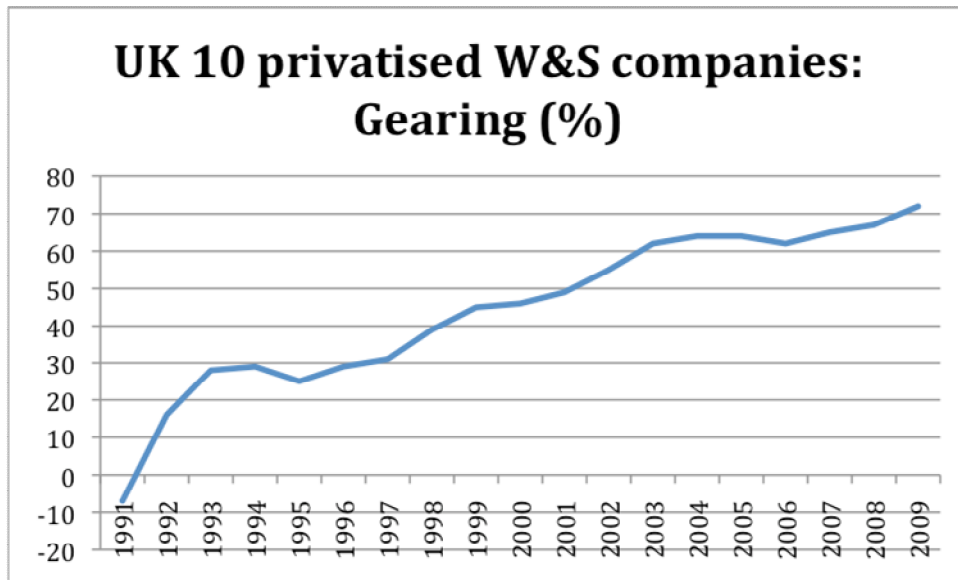
6.2 Financial complexity and increasing debt

⁵³ "Water companies' M&A pipeline blocked" Financial Times 13 June 2013.



The level of gearing in the sector has increased dramatically over the past decade (Figure 5) as firms have moved to replace equity with debt. As recently as the last price review process in 2009, Ofwat assumed a gearing level for the sector of 57.5% (Table 1). However, by 2013 some companies had gearing levels that were much higher, reaching more than 80% in some cases. These firms obtain only a fifth of their financing from equity.

Figure 5: UK ten privatised water and sanitation companies: gearing (%)



Source: Armitage 2012

Some firms have much higher levels of gearing than others. Table 3 shows the credit rating and the gearing level of nine of the ten water and sewerage companies in England and Wales. The table shows that private-equity owned water companies have the highest levels of gearing (Yorkshire (82.6%); Southern (81.3%); Anglian (80.4%); and Thames (79%)).⁵⁴

Table 3: Credit ratings and gearing levels for WaSCs

⁵⁴ South East Water Ltd, a water-only company, had the highest gearing level at 83.6%.

Credit rating ⁵⁵	Outlook	Company	GEARING -Net debt/RAV
A3	Stable	Dwr Cymru (Welsh Water)	61.7
A3	Stable	United Utilities Water Plc	62.7
A3	Stable	Severn Trent Water Ltd	66.7
A3	Stable	Wessex Water	68.1
Baa1	Stable	Northumbrian Water Ltd	70.4
Baa1	Stable	Thames Water Utilities Ltd	79.0
Baa1	Stable	Anglian Water Services	80.4
Baa1	Stable	Yorkshire Water Services Ltd	82.6
Baa2	Negative	Southern Water Services Ltd	81.3

Source: Moody's 2013c

The increase in gearing has been achieved by a combination of increasing debt and reducing (or at least not increasing) equity. For the nine for-profit companies studied in depth in this research, some have seen huge increases in net debt over the past ten years (Table 4). The biggest rise is with Thames Water where net debt has increased by 183%. Yorkshire and Southern have also seen debts increase by over 100%. The total value of net debt has increased by 63% in the past ten years. Meanwhile, equity has fallen by 37% over the same period.

⁵⁵ Based on corporate family and not class of debt.

Table 4: Change in net debt, equity and fixed assets, 2003-2013 (£m, 2013 prices)⁵⁶

	Net Debt			Equity			Fixed Assets		
	2013	2003	%	2013	2003	%	2013	2003	%
Yorkshire	3,424	1,587	116	2,507	2,122	18	6,280	4,358	44
Anglian	5,262	4,451	18	946	2,144	-56	5,034	5,002	1
Southern	3,548	1,701	109	914	1,085	-16	4,264	3,561	20
Northumbrian	2,323	1,658	40	886	1,158	-23	3,471	3,361	3
South West	1,600	1,176	36	480	1,248	-62	2,555	2,587	-1
Wessex	1,682	1,340	26	202	515	-61	2,167	2,064	5
Severn Trent	4,623	2,943	57	868	2,855	-70	6,738	6,360	6
United Utilities	6,030	3,366	79	2,054	2,880	-29	8,651	7,109	22
Thames	8,373	2,962	183	1,234	2,061	-40	9,298	6,663	40
Total	36,865	21,184	74	10,090	16,068	-37	48,458	41,065	18

Source: Author's calculations using company reports

To determine whether the increase in borrowing was accompanied by a parallel expansion in capital expenditure, the table shows the change in the value of tangible fixed assets as stated in the company accounts over the same period. Total fixed assets have increased by just 18%. Borrowing may not match size of the change in the asset base exactly but the scale of the discrepancy suggests that borrowing is for reasons other than to invest in capital assets. On average, net debt has increased by over four times the increase in value of tangible fixed assets. Possible reasons why firms may have increased debt are explored below but first I consider how gearing can be raised to such high levels.

⁵⁶ Data was converted to 2013 prices using the Office of National Statistics Retail Price Index data, <http://www.ons.gov.uk/ons/datasets-and-tables/data-selector.html?cid=CZBH&dataset=mm23&table-id=2.2>

6.3 Financialisation and securitisation

The use of complex financial tools has been increasingly commonplace in water companies. These have been used to combat risk, for example, hedging against changes in exchange rates and interest rates. In some cases, some more complex derivatives are considered to have increased vulnerability. Southern Water has a lower credit rating than the other companies at Baa2 with a negative outlook (Table 3). According to Moody's,⁵⁷ this "reflects additional risks embedded in the company's derivative portfolio." The company has established £1.3bn of swap arrangements, in part to compensate for lower-than-forecast revenue over the current price review period.⁵⁸ The company has devised what Moody's calls a "synthetic index-linked debt" which is a conventional fixed rate bond with index-linked swaps. Moody's sees the benefit from the swaps as short-lived and believes they will limit future financial flexibility. They also point out that the credit rating is in part due to the high level of debt: "the negative outlook reflects the company's comparatively highly leveraged capital structure and embedded cost of debt which leaves the company more exposed to the risk of a challenging regulatory price determination than many of its peers."

Firms are constrained because raising their gearing levels can affect their credit worthiness, and hence their credit rating, which needs to be maintained according to the terms of their licences. However, a method of financial restructuring has been devised which reduces the ratings impact of gearing increases. Five water companies have carried out this process, known as Whole Business Securitisation (WBS). The first WBS in the water sector was carried out by Welsh Water when it was taken over by the not-for-profit Glas Cymru in 2001, a company limited by guarantee. With little finance with which to buy the company, a new financing arrangement was

⁵⁷ "Moody's affirms Southern Water's ratings, maintains negative outlook" Global Credit Research, Moody's 12 August 2013, https://www.moody.com/research/Moodys-affirms-Southern-Waters-ratings-maintains-negative-outlook--PR_279757

⁵⁸ Interview, Southern Water, January 2014.



devised by the Royal Bank of Scotland (RBS), to enable the company to be bought with very high levels of debt. This has been described as a “debt-only model” (Helm 2005, p.14). The model has since been adopted by the four private-equity owned firms, Anglian, Thames, Southern and Yorkshire.

The process of WBS allows the securitisation of the company's future revenue streams. A Special Purpose Vehicle (SPV – a company created specifically for this purpose) is created which acts as an intermediary between the financiers and the water company. The SPV raises funds by issuing bonds and makes a loan to the borrowing company (the water provider). Finance is raised on the basis of the identifiable cash flows from the operating revenues of a segment of a business, which with water companies is the revenue stream from future bill payments. The SPV has no physical assets as security for the raising of finance. With the WBS structure, the only material asset of the SPV is the right to be paid principal and interest under its loan to the borrowing company, and it is this which is securitised. So future revenue streams, which are derived from customers paying their water bills, are packaged into a tradable financial product and sold to investors. This type of financing arrangement is best suited to firms with stable and predictable cash flows from the operating revenues of a segment of a business. So a regulated water utility is ideal. Regulatory stability is required to ensure the predictability of future revenues.

The securitisation process requires that the water/wastewater business is typically separated from other activities and ring-fenced. In order to protect the quality of the assets, covenants are set that provide protection for lenders. A securitised company agrees or “covenants” to maintain the assets to a certain standard. These are usually categorised as lock up, trigger events and events of default. The combination of factors such as the ring-fenced nature of the business and the restrictions in covenant package provide what is known as a “rating uplift” which means that that high levels of gearing are associated with a higher credit rating than previously. This



can reduce a firm's cost of borrowing or means that firms can maintain a lower credit rating with a higher level of debt.

This kind of financial restructuring has enabled companies to consolidate at least some of the debt that they raise to buy the water provider (acquisition debt) into the debts of the company itself via the securitisation structure. All five of the companies that have established WBS have at least one subsidiary in their ring-fenced group located in the Cayman Islands. One of the reasons for this is to overcome restrictions in UK corporate law regarding the raising of debt to facilitate an acquisition. The 2013 accounts of Yorkshire Water state (p.14) that "the raising of debt under a WBS by a UK company in respect of debt used to facilitate an acquisition (e.g. Kelda Group Plc's acquisition in February 2008) is not possible for those UK companies allowed to issue listed corporate debt. This is not the case for companies incorporated in the Cayman Islands and is the reason why the Cayman Islands is now a commonly used jurisdiction for establishing WBSs." According to Stuart Siddal, the Finance Director of Thames Water, there were no tax advantages to the company having a subsidiary in the Cayman Islands as the funding vehicle was registered in the UK for tax: "the Cayman Island companies are there purely to comply with UK company law requirements for the acquisition financing structure."⁵⁹

As a result of this structure, investors have been able to buy water companies in part using debt that they then add to the debts of the company which contributes to the increase in gearing. When Welsh Water was taken over by Glas Cymru, the acquisition was financed at first using a bridging loan from Citigroup and RBS and this then was refinanced by the WBS which was secured by the company's assets based on the future revenue which itself relies on regulatory stability. This was described as "the first large transaction which relied on an analysis of a regulatory

⁵⁹"Our conscience is clear over tax and profits, says Thames Water", Daily Telegraph, 10 June 2013.



framework to support the credit.”⁶⁰ This approach was followed by the takeover of Anglian Water in 2002 leaving the water part of the business “financed almost entirely by debt.”⁶¹

The financial complexity of corporate group structures makes the impact of increased leverage more difficult to identify. Intercompany loans have increased substantially and firms transfer revenue to and from holding companies in the group. A paper from Moody's suggests that one of the reasons for creating a loan to a holding company in the wider group is to “upstream the proceeds from the introduction of the highly leveraged structure” (Moody's 2010 p.10). A combined study of the electricity and water sectors by Ofwat and Ofgem (2006) suggests (p.30) that transfers across group companies can obscure the underlying finances of the group: “equity finance in the regulated business can be manufactured by the group issuing debt from a holding company.” The regulatory boundaries only apply to the licensed water provider but this may be owned by a holding company that carries additional debt. There are no regulations on the holding company to maintain investment-grade status although the report suggests that the credit ratings agencies would take the financial health of the holding companies into account in their assessment of credit worthiness.

Table 3 shows the different outcomes from the securitisation process. Welsh Water now has one of the highest credit ratings and lowest gearing levels while the four private-equity owned firms have the highest gearing and lowest ratings. This suggests that the outcome is not derived from the securitisation process itself but from the way in which it is used and the motives of the company owners. The reasons for, and impact of, high gearing are considered below.

⁶⁰ “2001: Glas Cymru's £1.92bn bond: foundation of secured bonds/WBS International Financing Review, IFR 2000 Issue Supplement.

⁶¹ “Securitisation deals of the year” IFLR 9 April 2003.



6.4 Why increase gearing?

Why should firms increase borrowing to such high levels? There has been some increase in capital investment but this is only part of the reason for the increase. One factor is that debt is cheaper than equity. As table 1 shows, debt is lower risk and so attracts a lower rate of return than equity. Shifting the financing structure to higher levels of debt, rather than equity, will lower financing costs below those assumed in the price review. This alone will ensure that companies 'outperform' on the cost of capital assumed in the price review. However, there are also other possible reasons for the rise in gearing. Ofwat (2011b) attributes a growing proportion of the increase to financial restructuring and "past dividend policies" (p. 36).

Most water companies pay little or no tax. This has been the subject of growing media interest⁶² and has been covered extensively, for example, by Turner (2013) and has been taken up by Liberal Democrat MP, Simon Hughes.⁶³ The low tax payments are largely the result of deferred tax arrangements which stem from measures to encourage investment. However, interest payments are tax deductible and so high interest payments will reduce tax liabilities. Interest payments by water companies have soared in the past two decades. The yearly charge for net interest payable for the nine England WaSCs increased from £288m to over £2,000m in the twenty years from 1993 to 2012 (in 2012 prices).⁶⁴

A report commissioned by Severn Trent and National Grid (2012) suggested that high gearing was initially driven at least in part by the tax advantages to be gained by increasing debts. This is spelled out in the 2013 accounts of Yorkshire Water which state (p.14) that the securitised model provides protections which means "companies can finance themselves with increasing amounts of debt. This means they pay less corporation tax."

⁶² EG: "Water companies pay little or no tax on huge profits" The Guardian, 10 November 2012; "Thames Water paid no corporation tax for the year" BBC News, 10 June 2013.

⁶³ <http://simonhughes.org.uk>

⁶⁴ Author's calculation based on data from company reports.



Where the interest paid is to shareholders on loans to the company, there are even greater benefits for the owners of water companies. A study by Corporate Watch (2013) found that companies are borrowing from subsidiaries of their owners, based overseas at high rates of interest which is received tax free by the shareholders because the loans are issued through the Channel Islands stock exchange as “quoted Eurobonds.” These loans are often issued from off shore exchanges and so the interest received is not taxable while interest payments reduce the tax liability of the company.⁶⁵ The companies cited by Corporate Watch are Northumbrian Water, Yorkshire Water, Thames Water, Anglian Water and Southern Water. The 2013 accounts of the ultimate parent of Southern Water, Greensands Holdings Ltd, show interest of £67.9m payable to the shareholders on loans of £633.9m (p.81). However, this has been accrued rather than paid.⁶⁶ The 2013 accounts of Thames Water Utility Ltd (the regulated company) show that interest was paid to shareholders of £17.5m (TWUL Annual Report 2013, p.75).

At the same time as companies have been increasing their debts, they have been paying high dividends. High debts can lead to more returns to shareholders. RiskMetrics (2008, p.7) cites investors in Thames, Macquarie: “the sustainable and growing long term cash flows of infrastructure assets mean that infrastructure assets can typically support more debt than other businesses which can increase returns to shareholders. This indicates the importance of financial structuring and capital optimisation in enhancing shareholder returns to owners of infrastructure assets.” According to Armitage (2012, p.465), “Companies have paid out dividends that have been substantially greater than their free cash flows whether measured before or after interest payments. As a result companies have had to gear up to

⁶⁵ “Eurobond tax scandal: Tax avoidance figure is just ‘the tip of the iceberg’, Margaret Hodge tells HMRC” The Independent, 28 October 2013.
<http://www.independent.co.uk/news/uk/politics/eurobond-tax-scandal-tax-avoidance-figure-is-just-the-tip-of-the-iceberg-margaret-hodge-tells-hmrc-8909553.html>

⁶⁶ Interview, Southern Water, January 2014.



meet their investment expenditure and dividend payments.” Allen and Pryke (2013, p.426) cite evidence to show that Thames Water used an increase in debt to finance dividend payments. Moody's reported prior to a bond issue by Thames Water Utilities Cayman Finance Limited that, “future debt issuance under the MTN Programme will be principally for the purpose for funding TWUL's [Thames Water Utilities Ltd] capital expenditure programme, refinancing maturing debt and funding distributions to shareholders.”⁶⁷ Turner (2013) shows how Yorkshire Water increased gearing in 2006 which led to huge dividends being paid out to investors resulting in a return for debt and equity investors of 24.1% in that year, and the returns increase to more than 30% if the increase in share value is taken into account.

The takeover process can be associated with a hike in gearing and with dividend payouts. For example, at the time of the takeover of Anglian Water in 2007, it was reported that the company's gearing was to increase “from around 78% up to a maximum of 83% as a result of a dividend payment to the consortium members.” Furthermore, “The dividend of £215m was paid to the consortium members by Anglian Water on 7 March *to facilitate achieving the increase in gearing*” (Ofwat 2007b, p.5 emphasis added). This would seem to indicate that the increase in borrowing is not in response to investment needs, but to finance distributions to shareholders. The wording of this extract suggests a causality where dividends are taken out with the objective of increasing gearing. Similarly, when Yorkshire Water was sold for £3bn in November 2007,⁶⁸ in the same year, a special dividend payment was made of £717m as well as the normal dividend of £109m.⁶⁹

Acquisition debt can also increase gearing at the time of a takeover. Yorkshire Water transferred all its existing debt to a securitisation structure which incorporated

⁶⁷ Moody's Investor Service, Thames Water Utilities Cayman Finance Limited / Thames Water Utilities Finance Limited, Pre-Sale Report, 10 August 2007.

⁶⁸ <http://www.globalwaterintel.com/archive/9/7/general/yorkshire-water-refinancing-nears-completion.html>

⁶⁹ Annual Report 2008.

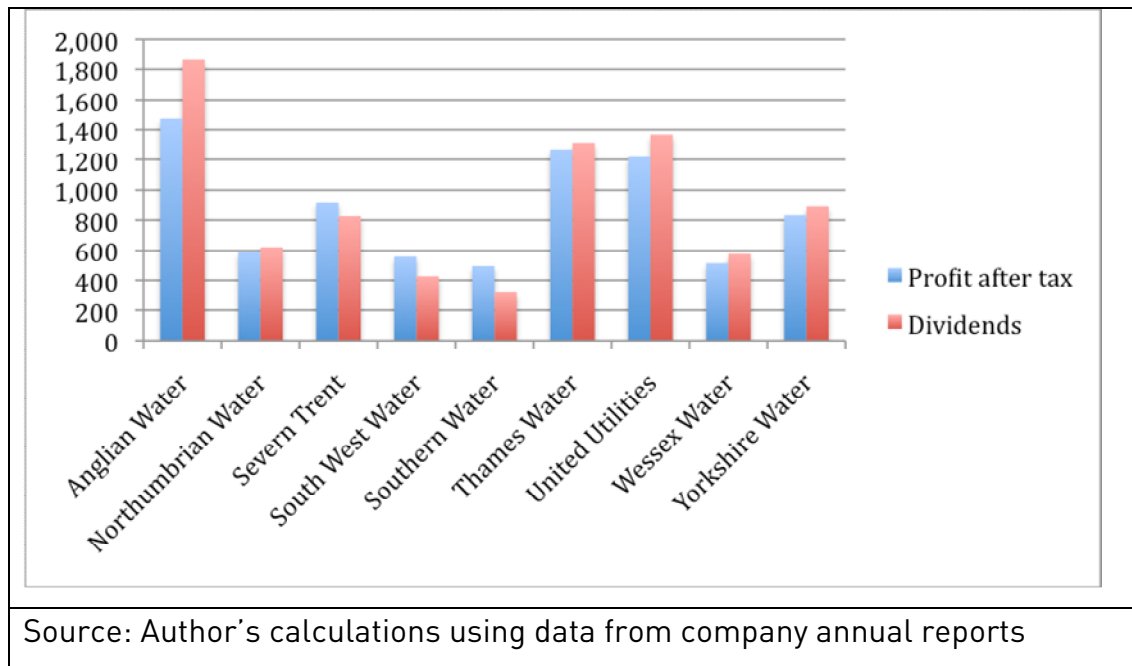


some of the acquisition debt. The company then reported that they expected a stepped increase in gearing over time from around 66% of debt to RCV to the maximum permitted by the securitised structure of 85% after which they expected to maintain a highly leveraged structure consistent with other water companies (Ofwat 2009b). When Northumbrian Water was taken over, the acquisition was financed with £232m of new debt which was transferred to Northumbrian Water Ltd and increased their gearing from 56% to 62% (Ofwat 2011e). When Thames was taken over, all the existing debt of Thames Water Utilities Ltd was transferred into a securitisation structure and some acquisition debt was to be refinanced also within this structure: "The first drawdown of £900m is intended to refinance certain acquisition debt."⁷⁰

Over the past five years, companies have often paid more in dividends than they made in profits. Figure 6 shows the total profit after tax and dividend payments of England's nine water and sewerage companies for the past five years. For six of these (Anglian, Northumbrian, Thames, United Utilities, Wessex and Yorkshire Water), cumulative dividend payouts have exceeded after-tax profit over the five-year period. Companies are paying out more than their profits so equity is declining. This is not sustainable in the long term.

Fig 6: Total profit after tax and dividends paid 2009-2013 (£m)

⁷⁰ <http://www.linklaters.com/News/LatestDeals/2007/Pages/3302.aspx>



Armitage (2012) finds that the practice of high dividend payments occurs across the sector, and all the water companies have behaved in a similar manner. Each has paid out consistently large amounts in relation to their profits and especially in relation to their cash flows. Even ignoring the special dividends, all the companies have paid regular dividends that were substantially greater than their available cash flows after interest. Armitage (2012) reviews the evidence to assess the reason for such consistently high dividend payouts and concludes that high payments are expected by shareholders while managers “may just cater to, or even be forced by proxy vote to meet, extreme investor demands” (p.487, citing Baker and Wurgler 2004a). Measures to align the interests of managers and investors are discussed in the next section.

Certainly, the other reasons considered by Armitage (such as agency costs) offer little explanation but he fails to consider why shareholders would make such extreme demands on corporate finances. Given that there are no regulatory constraints on dividend payouts, beyond maintaining the financial ratios required to keep the company's credit rating intact, owners have an incentive to seek as high



dividends as they can within the regulatory boundary of the need for investment grade credit rating. Private equity owners, operating in global markets can make more use of their capital by extracting as much as possible from water companies to finance other investments. For these investors, the English water companies are just a small part of an extensive investment portfolio. By stretching their balance sheets to the limit, increasing borrowing to a point where they stay just within investment grade boundaries, they are able to increase their global wealth further.

6.5 Is high gearing a problem?

For Ofwat, it is up to companies to determine how they want to structure themselves with regard to debt and equity. The regulator does not want to intervene to prevent any such “market-led structures” (Ofwat 2011b, p. 38), although they have modified the licences of highly-g geared firms with ring-fencing provisions to provide assurance that the companies will be able to finance their regulated activities. Some have called for more intervention by Ofwat such as explicit credit and liquidity thresholds in company licences. However, as mentioned earlier, Ofwat’s position is that such interventions would undermine the ethos of incentive-based regulation. Furthermore, while Ofwat is aware of the potential threats posed by high gearing (less flexibility and greater vulnerability to cost shocks than traditionally structured companies), it is not clear that they would be able to do a better job of assessing potential for future financial failure than the companies themselves, together with the credit ratings agencies which is why they have not intervened (Ofwat 2011b, p.38).

Rather than being alarmed by the rapid increase in gearing, Ofwat sees this as evidence of the strength of the regulatory regime, demonstrating a high level of confidence in the sector: “Stakeholders have acknowledged this stable and



transparent regulatory framework as a factor that has allowed the companies to sustain a relatively high level of gearing, but still maintain investment grade credit ratings” (Ofwat 2011b p.37). Ofwat also sees that high gearing can bring benefits for consumers. If capital restructuring leads to lower tax payments these benefits are expected to be passed to customers at the next price review (Ofwat 2007b, p5; Ofwat 2011b, p40).

High gearing is less of a problem in the UK regulated water sector than elsewhere. This is because the risk profile is so low that investment grade ratings are consistent with a degree of leverage that would be inconceivable for most other industries. Cash flows are highly predictable and regulated UK utilities are seen as a safe haven next to the turmoil of the Euro area (Moody's 2012a, p.11). There is no competition, consumers have to have water, and the policy regime has been generous to investors. According to Armitage (2012, p.489) “Shareholders would not expect most companies to gear up persistently in order to pay their dividends, only those companies which are well suited to do so. The water companies were unusually well suited because of their low business risk, their lack of opportunities for investment beyond the investment agreed by Ofwat and because they started life with no debt.”

It has been suggested that the risk of investment in UK water is further lowered because of a perception that companies would be rescued by the state in the event of financial difficulties. Research by Severn Trent and National Grid (2012) found that investors in water and energy are likely to assume that companies will be bailed out in the case of financial distress and this leads them to excessive debt levels. In their survey they found that equity investors believed that investors in a highly geared company did not bear the full risk. Furthermore, the debt itself could protect firms against tighter regulation. According to Bloomberg Businessweek: “The debt mountain at UK water companies is their best defence against politicians seeking to



cut the cost of living.”⁷¹ Research by OXERA, cited in Turner (2013, p.48), also indicates 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.” These findings would seem to indicate that there is a perception in some parts of the sector that high debts offer a form of protection for investors, implying that water companies have an element of “too big to fail” which creates moral hazard where companies do not see that they bear the full risk of highly leveraged financing structures.

6.6 Costs of gearing

Despite the efforts of Ofwat to maintain financeability, credit ratings have declined since the 1990s. Although there is some variation in the sector, companies are clustered around a credit rating of BBB+ which represents a fall from the average credit rating of AA- in the mid-1990s (Ofwat 2011b, p.19). This decline in ratings correlates directly with the increased levels of debt (Table 3). While gearing has increased, levels are considered to have reached a steady state at the point at which ratings are just within investment grade as required by the regulator.⁷² UK water utilities are not expecting to pay down their debt from revenues so long as the base value of regulated assets is maintained or growing. They need to manage their debt repayments to reduce exposure. Maturing debt is generally expected to be refinanced by new borrowings as it falls due.

There are clear tensions between the efforts of the regulator to maintain a regulatory environment that is conducive to financeability at the same time as firms are stretching their balance sheets to the limit to take out debt which lowers the

⁷¹ “Debts Keep Water Firms Off-Limits for Politicians: UK Credit” Bloomberg News, 18 October 2013 <http://www.businessweek.com/news/2013-10-18/debts-keep-water-firms-off-limits-for-politicians-u-dot-k-dot-credit>

⁷² Interview, Moody's, November 2013.



credit rating. Highly leveraged firms are less able to withstand shocks and their financing structure is less flexible. Companies may struggle in response to the current price review. The WACC on which price controls are based is expected to be lower in the next price period (PR14) in part because Ofwat will revise their expected gearing levels upward. For firms that are highly indebted, this may lower their interest rate cover ratio which is a key indicator for ratings agencies. Highly leveraged companies may have to inject equity to maintain a financial profile in line with guidance for specific rating categories. However, the private equity ownership structure is attractive to the financial sector because of its closed ownership. Increasing equity through share issues is unlikely to be a viable strategy (Turner 2013) which leaves increasing equity through retained earnings (and lower dividends) as the only available option.

Moody's have indicated that a reduction in the allowed cost of capital by Ofwat in the 2014 price review to a level that was significantly below that proposed by companies would be 'credit negative'. The listed companies United Utilities and Severn Trent would remain strongly positioned but the highly leveraged companies (including Anglian Water, Thames Water, Yorkshire Water and Southern Water) "would face negative ratings pressure if management and shareholders are unable to implement balance-sheet strengthening measures in the face of a challenging price review."⁷³ Negative ratings lead to increases in financing costs.

The sector is financed by payments of customer bills. The distributional impact of high borrowing depends on how the loan finance is used. The securitisation structure means that loans are taken out on the strength of future payments by consumers. Increasing debt is essentially a transfer from the consumers of the future to today's water providers. If this is invested in long-term infrastructure which will be used to provide services in the future, this may be an equitable redistribution.

⁷³ "Moody's says Ofwat's PR14 changes are credit negative for the UK water sector" waterbriefing.org 23rd December 2013



However, if this is used to fund transfers to shareholders via excessive interest and dividends, this is regressive. Lower dividend and interest payments could be used to reduce customer bills directly and a lower gearing level would improve credit ratings, resulting in lower capital costs which would further reduce the burden on end users.

High debt levels constrain the ability of companies to borrow further which creates challenges where infrastructure investment is needed. Thames Water in particular has come in for considerable criticism for its high dividend payouts coupled with requests to increase customer prices. In order to finance investment in a new sewer infrastructure (the Thames Tideway Tunnel) at a cost of around £4.1bn, Thames plans to increase household bills in the region of £70 to £80 a year.⁷⁴ In 2013, the company put forward a request for a price increase to finance new investment while over the past five years, the company has paid £1.3bn in dividends. The company's increase in debt has not been associated with any change in the value of the company and now the increase in investment required can only take place with an increase in household bills: "the private sector capital that was supposed to be made available for the renewal of London and the South-East's ageing water infrastructure which now consists largely of a mound of leveraged debt, to put it bluntly, appears to have been used to benefit investors at the expense of households and, indirectly, their rising water bills" (Allen and Pryke 2013, p.432).

7 Changes in company costs: Interest, management and labour

Water companies' spending patterns have changed in the past two decades. There has been a substantial increase in the proportion of turnover allocated to interest payments and to directors' remuneration while the proportion going to salaries and

⁷⁴ <http://www.thamestidewaytunnel.co.uk/doctlib/p2-funding-how-the-project-will-be-paid-for/>



This project has received funding from the European Union's Seventh Framework Programme for research, technological development and demonstration under grant agreement no 266800



wages has declined. This is consistent with other studies of the impact of financialisation on the labour share of income (Dünhaupt 2013; Rossman and Greenfield 2006).

Table 5: Average % of turnover for the England WaSCs⁷⁵

	1993	2003	2013
Directors' remuneration/ Turnover	0.1318	0.1302	0.2052
Salaries and wages/turnover	15.37	11.38	10.22
Interest payable/turnover	4.61	14.37	19.50

Source: Author's calculations using data from Company Annual Reports, various years

For each of the nine WASCs in England, the proportion of turnover allocated to each of these three account headings was calculated at ten-year intervals and then changes in the allocation were compared over time. The (unweighted) average across the nine WaSCs is shown in table 5. Over the past twenty years, the proportion of turnover allocated to directors' remuneration increased by 56%, all of which has been since 2003. This allocation declined slightly in the ten years to 2003. At the same time, the proportion of income allocated to salaries and wages has declined by over 30%, from around 15% of turnover in 1993 to 10% in 2013. Meanwhile, interest payments have soared over the period, accounting for nearly 20% of turnover in 2013 compared with just 5% in 1993.

The regulatory structure combined with pressure from shareholders has brought down wage costs, and such reductions are considered to be evidence of an increase in efficiency. However, interest payments, which have increased substantially, are not judged on the same terms. Arguably the high interest payments made by water companies are as inefficient as a high wage bill but they are not treated as such and they are outside the remit of the regulator. In addition, company performance is often assessed by the operating profit or the EBITDA (earnings before interest, taxes, depreciation and amortisation) so a company with low operating costs but

⁷⁵ Thames, Severn Trent, United Utilities, Yorkshire, Anglian, Southern, South West, Wessex, Northumbrian.

high interest payments is considered to be efficient. Allocations to the financial sector go unchecked but payments to employees face downward pressure.

The data indicate a growing gap between payments to directors and expenditure on salaries and wages. Table 6 shows the ratio of the average remuneration of the highest paid director for the nine companies compared with the average wage (also averaged across the companies at ten year intervals).

Table 6: Ratio of average wage to remuneration of highest paid director (£000)

	1993	2003	2013
Highest paid director	120.5	245.8	981.6
Average Wage ⁷⁶	17.8	25.1	33.1
Ratio	6.8	9.8	29.6

Source: Author's calculations using data from Company Annual Reports, various years

The table shows that in 1993 the remuneration of the highest paid director was in the region of 7 times the average wage but, by 2013, this ratio had risen to almost 30 times reflecting a widening gulf between payments to senior executives and the employees in the sector.

Downward pressure on wages comes from both shareholders seeking high returns and from targets set by the regulator. There is, then, every incentive for firms to seek to reduce employment costs which may affect pension costs, training and numbers employed.⁷⁷ Several companies reported that they would need to lay off staff as a result of the price review process in 2004.⁷⁸

⁷⁶ Calculated as total salaries and wages divided by number of employees for each company.

⁷⁷ Interview, UNISON, December 2013.

⁷⁸ For example, in the 2005 Annual Report of Severn Trent it was reported that following Ofwat's price determination, "manpower efficiencies of up to 350 posts" would be achieved over the 5-year regulatory period (p.12). Similarly Anglian Water in their 2005 Annual Report cite redundancies as a factor which will help the company to achieve the regulator's efficiency targets: "Of these savings [of £12m per annum] approximately £10 million per annum will contribute to reduced operating costs for

While there is downward pressure on employment costs, payments to directors have increased substantially. Table 7 shows the emoluments of the highest paid directors for the nine WaSCs in England.

Table 7: Remuneration of highest paid director (£000)

	2013
United Utilities	2,000
Severn Trent Water	1,338
Anglian Water	1,332
Yorkshire Water	1,091
Thames Water	993
Southern Water	632
South West Water	499
Wessex Water	487
Northumbrian Water	462
Average	982
Average 2003*	246
Average 1993*	121

Source: Author's calculations and company reports

*2013 prices

manpower (the remaining annual savings will be realised in capital expenditure). The reduction in manpower costs and other identified initiatives will generate a significant proportion of the total operating efficiency savings required by the regulatory settlement in the AMP4.⁷⁸ In their 2005 Annual Report South West Water reports (p.3): "The additional efficiencies required over the K4 regulatory period (2005-2010) include a £13m per annum reduction in base operating costs by 2010 and the company has already implemented a number of reorganizational and restructuring initiatives in order to attain the demanding efficiency targets imposed, including a manpower reduction programme which will see employee levels reduced by 100 over the period." Even the not-for-profit Welsh Water states that they will achieve the efficiency targets set by Ofwat by "headcount reduction" among other measures.



The table shows that in the past twenty years, the average remuneration of the highest paid director has increased from £121,000 to £982,000 in real terms. The increase has been particularly marked in the past ten years. The highest paid director is at United Utilities with total remuneration of around £2m in 2013.

A large proportion of directors' earnings are based on bonus payments, and these are usually contingent on achieving targets which are established to align the interests of directors with those of shareholders. Severn Trent, for example, sets targets for directors with the express purpose of aligning directors' and shareholders' interests.⁷⁹ Thames pays a maximum award of 112.5% of base salary in the form of an annual bonus which is structured to "reward significant improvement in the Group's financial and operational performance" (Annual Report 2013, p. 48). The directors of the LSE-listed firms receive part of their remuneration in the form of company shares so they have a personal financial interest in the performance of the firm.⁸⁰ Northumbrian Water in their 2013 accounts (p.61) provide details of the Annual Bonus for directors which is based on a series of targets. Fifty percent of the bonus relies on meeting financial targets. Finally, when the Chief Executive left Anglian Water in 2010 (to join Ofwat) he was awarded a severance payment of £10m which was justified on the basis of the gains to shareholders. When he joined, the share price was 525p per share, and three years later the company was sold for 1578p per share.⁸¹ The huge increase in directors' remuneration would seem to be associated with a shifting dynamic which does not just amount to a financial incentive but provides a way of measuring worth. Together with bonus

⁷⁹ Severn Trent Annual Report 2013, p.60.

⁸⁰ United Utilities Plc, for example, has a "deferred bonus plan" where 50% of a director's gross bonus is deferred into company shares for three years. They say that this "aligns the interests of executives and shareholders through the delivery of an award in shares" (United Utilities Plc Annual Report 2013, p.58).

⁸¹ "Anglian Water chief 'was worth' reported £10m severance" *Huntspost* 24, 19 November 2010.



payments, directors are largely evaluated on the gains in shareholder value which feeds into the culture of the industry.⁸²

Developments in the water sector echo those of the wider economy where real wages are falling and payments to directors are increasing. The Office of National Statistics reports that in real terms the average earnings of UK employees in 2012 had fallen to roughly 2003 levels (Levy 2013). Calculations by the Trades Union Congress show directors' pay rising seven times faster than average wages.⁸³ Research by Unison shows that Chief Executive pay in the FTSE 100 companies has increased from 40 times average workers earnings in 1998 to 120 times in 2013.⁸⁴

The trends in the remuneration structure of water companies is in line with common practice in the private sector. The regulator may see these developments in the cost structure as market outcomes. But rather than a gain in efficiency, the systemic changes in allocations outlined above indicate that some agents are gaining and some are losing, and these settlements derive from the parameters established in a regulatory process which supports the needs of some more than others. The sop approach sees the shift in allocation from labour (and other operating expenses) to directors and the financial sector in terms of relations between agents. This is not so much a market outcome as the result of the contestation between agents with conflicting agendas.

The reduction in the share of turnover allocated to labour costs is consistent with the objectives of privatisation which included a weakening of trade union power (Kay and Thompson 1986). This has been achieved to some degree by the privatisation process which created a fragmented structure so that each company negotiates terms and conditions with staff, even though these are represented by national trade

⁸² Further research is required to learn more about the role of directors and the proportion devoted to financial management.

⁸³<http://www.tuc.org.uk/economic-issues/directors-pay-rising-seven-times-faster-average-wages>

⁸⁴ <http://www.unison.org.uk/news/richest-uk-bosses-just-got-richer>



unions (GMB and UNISON). Terms and conditions vary considerably across the country.⁸⁵ Furthermore, labour is not regarded as a stakeholder in the sector in the same way as investors or consumers. Ofwat does not formally consult with trade unions in policy design nor in the Price Review process although representations are made by UNISON and GMB.

One person's efficiency gain can be another's exploitation. More research is needed to determine the extent to which cuts in operating costs have affected the terms and conditions of workers. A survey by GMB of 9,000 water company employees has found that workers are experiencing high levels of stress, and this was particularly noticeable in Thames Water. Workers employed by Welsh Water and Scottish Water scored significantly lower in terms of stress levels, job insecurity and pensions' concerns. Workers in these companies were also far less likely to see cost-cutting and lack of investment as adversely affecting customer service.⁸⁶

8 Outcomes

The UK water sector has consistently provided high quality water largely without interruption since privatisation. The quality of water on the nation's beaches has greatly improved. However, concerns remain regarding affordability, equity and accountability.

8.1 Affordability and equity

The sector's revenue is virtually entirely financed by bills paid by customers. There are no state subsidies. When the private sector provides investment, this is all repaid – and the interest and the costs of consultants etc - by revenue from bills paid by users. Furthermore, water is essential and monopolistic so customers have no

⁸⁵ Interview with GMB.

⁸⁶ GMB Press Release January 2013, <http://www.gmb.org.uk/newsroom/gmb-water-workers-seek-changes>

choice but to pay their bill (or default on payment). For most customers, their only involvement in the water sector is in paying their water bills.

Average water bills have three key components (Ofwat 2011b): operating costs; capital charges (including infrastructure renewals and current cost depreciation); and return on capital (including interest payments, dividends and tax and described as “that part of the revenue requirement that provides the returns necessary to remunerate debt and equity investors” (Ofwat 2011b, p.9)). For the 2010-15 price allocation, the revenue from customer bills is distributed as set out in Table 8.

Table 8: Allocation of revenue from customer bills (%)

Operating Costs	38.6
Infrastructure renewals	8.5
Current cost depreciation	23.1
Return on capital	26.8
Tax	3.0

Source: Ofwat 2011a, p.8, Ofwat 2011b, p.9

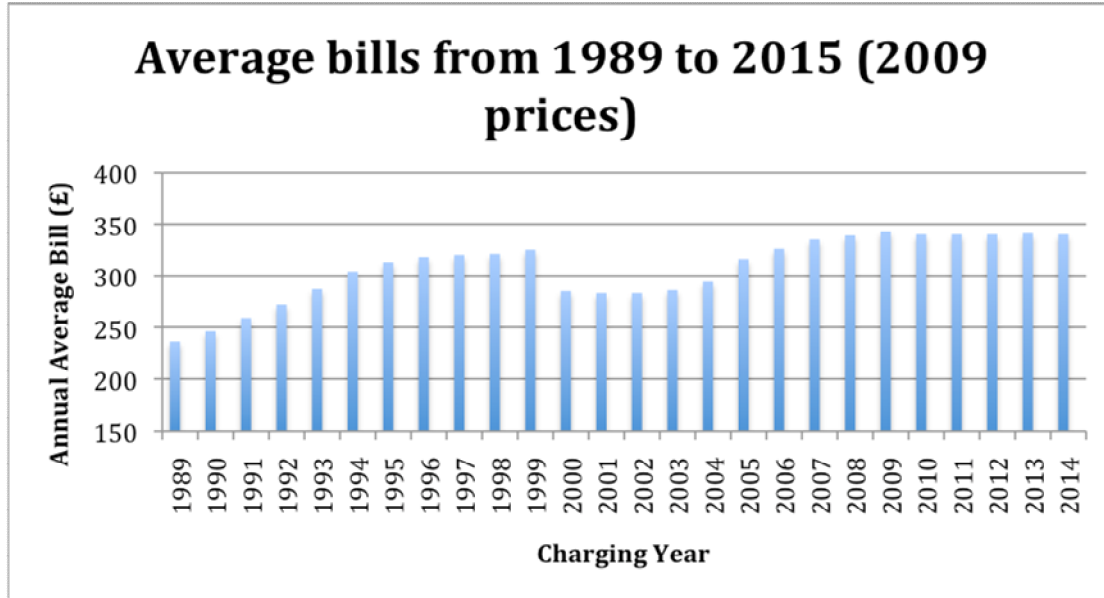
Table 8 shows that nearly 27% of the customer bill for water goes to pay for “return on capital.” Given that the average household bill is £360 and there are around 22.5m households in England, if 26.8% of each bill goes to financial costs, this indicates a total transfer to the financial sector of more than £2bn per annum and this is without including industrial consumers. This is just to pay for the financing costs and not for any physical investment. The water sector generates a substantial transfer of revenue from households to finance.

At the other end of the sop from the dividend and interest payments to the financial sector, households are finding it more difficult to pay their bills. Figure 7 shows the average household water bill since 1990. Following a steady rise, there was a reduction after the 1999 price review and steady climb since then, reaching a plateau



from 2009. Average household bills have increased by 40% in real terms since privatisation (NAO 2013b).

Fig 7: Average household water bill

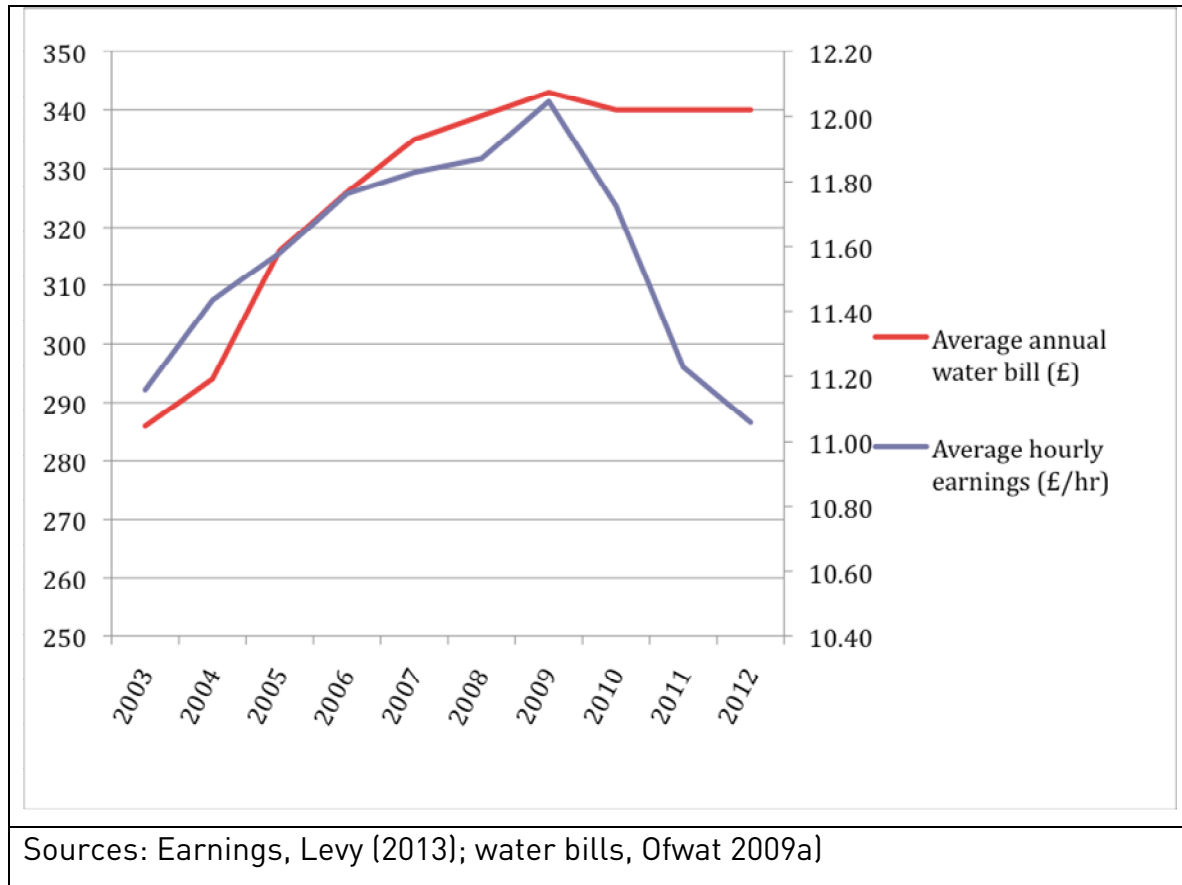


Source: Ofwat 2009a. The figures from 2010 onwards are projections using the price limits set for these years in the 2009 price review.

Over the past ten years, bills have increased faster than overall prices and more than household incomes. In 2013, real wages fell to slightly below their level in 2003. Household water bills increased from £286 to £340 over the same period. These diverging trends are shown in Figure 8.



Fig 8: Average earnings and household bills (in real terms)⁸⁷



Measures of affordability of water typically are based on the proportion of household income that is spent on water and sewerage. Affordability risks arise when a household spends more than 5% of their disposable income on these bills (Ofwat 2011g).⁸⁸ In 2011-12, 12% of households in the UK spent more than 5% of their income on water and sewerage bills compared with 8% of households in 2002/03 (NAO 2013b) indicating that affordability is falling. Those that have trouble paying for

⁸⁷ 2012 prices for earnings and 2009 prices for water and water prices are based on those set in 2009 for the next five years.

⁸⁸ According to the United Nations it was agreed when access to water became recognised as a human right in July 2010, that water facilities and services must be affordable for all. The United Nations Development Programme (UNDP) suggests that water costs should not exceed 3% of household income - http://www.un.org/waterforlifedecade/human_right_to_water.shtml



water are, on the whole, the poorest and there is a statistically significant relationship between debt and deprivation (Ofwat 2011g, p.27). Ofwat reports that 90% of households who spend more than 5% of their income on their water and sewerage bills (2.2 million households) have an income of below £160 a week (or £8,000 a year). Huby and Bradshaw (2012) find that those who are classified as water poor are more likely to be lone parents, more likely to be in receipt of benefits, and more likely to live in a household without a meter.

The majority of households are unmetered and receive a flat-rate bill based on the rateable value of their property, but the sector is in a state of transition with a move to increase the proportion of metered households. In 2010 around 37% of households had meters. The shift to metering is optional for most households except in water-stressed areas. According to Ofwat, metering is supposed to use price signals to lower water use, as metered charges provide a clear financial incentive for customers to use less water. Research from the water industry is cited to show that customers reduce their water use when they have a meter, and research reportedly shows that “customers regard metered charges as the fairest way to pay for water, particularly if everyone has a meter” (Ofwat 2011f, p.13). However, the strategy of allocating infrastructure costs across all customers through the metered pricing mechanism can be regressive. According to a study by the National Audit Office, the policy of financing infrastructure investment via household bills (which is the case for water and energy investment) is more regressive than taxation as it requires proportionately greater expenditure from those on low incomes (NAO 2013b).

The relationship with meters is not straightforward. There are winners and losers. The switch to metering, with charges based on consumption rather than a flat rate based on property value, is likely to benefit small households in properties with high rateable value. Large households in low value housing are likely to lose out. Such households are not necessarily on low incomes but families with three or more children are over-represented among families experiencing, or at risk of, relative



income poverty (DWP 2011). The decision to opt for a water meter appears not to be based on simple economic rationality. Households sometimes prefer the regularity of a fixed price bill even if it is higher. There may be suspicion of a water company that is offering to install a water meter.⁸⁹

Low-income households are often less 'active' consumers, meaning that they may be excluded from the best deals and are less proactive in terms of the way that they deal with the switch from flat-rate to metering tariffs. There seems to be evidence that a large number of households that could benefit from switching to water metering do not do so, and this appears to contribute to the prevalence of water poverty, especially among single-adult households (Hirsch 2013, p.25). When customers switch to a water meter, this pushes up the price for the remaining unmetered customers. According to Ofwat (2011f, p15) "some unmetered customers are paying bills that are high relative to their own water use." This contributes to a cross-subsidy from less active and on average worse-off groups to more active and on average better-off groups.

Bad debts in the sector due to non-payment of water bills have been increasing, and these are now estimated to add about £15 to each household bill on average (DEFRA 2011). The amount of bad debt in the water sector has been rising at a significantly faster rate than for other utilities and is more than three times that of the energy sector even though energy bills are three times higher (Ofwat 2011g). There is considerable evidence to indicate that, on the whole, those that do not pay their bills are poorer households.

Customers in debt to their water company were more likely to: live in areas associated, with incomes below £20,000, and be earning less than £10,000 a year, have a significant other debt and a history of being in debt (for example owing more

⁸⁹ Interview, Consumer Council for Water, September 2013.



than £10,000 and having a County Court Judgement); have worse than average credit risk scores; have recently relocated; be aged 25 to 45 years and be single. Ofwat concludes (2011f, p.28): “income levels appear to be an important risk factor for water debt.” Furthermore, almost all of the companies in England and Wales have indicated to Ofwat that the economic recession has had a significant impact on levels of customer water debt. Over the past decade, calls to National Debtline related to difficulties paying water bills increased from 597 in 2003 to an estimated 22,870 for 2013 (2013 figure pro rata based on data for first 8 months of the year).⁹⁰ This suggests that customers with water debts are facing increasing hardship and are concerned about bill payments so the picture is more complex than a ‘refusal to pay.’

Water is not categorised as a priority debt (unlike, for example, housing costs, energy bills and council tax).⁹¹ Since 1999, water companies have been banned from disconnecting customers that fail to pay their water and sewerage bill. According to DEFRA, bad debts are a problem “because households cannot be disconnected if they do not pay their bills” suggesting a causal relationship (DEFRA 2011, p.8). However, the link is not clear-cut. Franceys (2008, p. 191) cites research by Accent Marketing and Research which found that customers with water debt typically have multiple debts and are continually juggling bills trying to decide which to pay next and how much. The study did not find that the ban on disconnection had an impact. In fact, most customers were convinced that they could be disconnected for not paying their water bill (Franceys 2008).

There is limited financial support for those who struggle to pay. Around 95,000 customers in England and Wales are on the WaterSure tariff, which allows certain customers with water meters to have their bills capped at the annual average bill for

⁹⁰ Email correspondence with National Debtline, November 2013.

⁹¹ Interview, Citizens Advice Bureau, October 2013.



the company. However, the eligibility criteria are restrictive⁹² and this is a small proportion of the 2.2 million households that pay more than 5% of their income on water bills (cited above). Until 2010, the terms of companies' licences prevented them from exercising "undue discrimination" between customers, and this was interpreted as a ban on any kind of cross-subsidy for poorer households. Section 44 of the Flood and Water Management Act 2010 addressed this issue by enabling water and sewerage undertakers to include social tariffs in their charges schemes. They are now able to reduce charges for individuals who would otherwise have difficulty paying their bill in full. DEFRA takes the view that this is better managed by companies at the local level so they can take account of local circumstances, needs and the views of their customers (DEFRA 2012b).

However there are restrictions. First, the social tariff has to be "cost-neutral" which means that the revenue that a company loses by offering a social tariff needs to be balanced by the reductions in costs that it experiences from the introduction of the social tariff. Cost reductions might include a fall in debt recovery costs. There is no rebalancing or cross-subsidy allowed and there is no compensation for companies (Ofwat 2011d, p.4). Second, the cross-subsidy to support disadvantaged households also has to be acceptable to the customers that pay for it. A social tariff requires the consensus of the households who will be financing it (DEFRA 2012b, p.6). According to DEFRA "The key test is that the proposed level of cross-subsidy should have broad customer acceptability." The Government's view is that a charge of up to 1.5% of the average annual household water and sewerage bill across England would be a reasonable amount of cross-subsidy to expect non-qualifying households to provide under a company social tariff but this figure is "offered as a broad indicator rather

⁹² To qualify, households have to be metered, in receipt of qualifying means-tested benefits or tax credits and have three or more children living at home under the age of nineteen, or somebody in the household with a medical condition which necessitates a high essential use of water. This is funded entirely by a cross-subsidy from other water consumers. On average it adds about £0.49 per year to the bills of non-eligible households (DEFRA 2012a). Water UK press release 2.11.13.



than a cap” (DEFRA 2012a, p.8). This is part of the wider initiative to increase customer engagement in monitoring water company activities.

The picture, then, is one of rising bills and falling incomes with increasing numbers of the most deprived struggling to pay their water bills. Social policy has been devolved from the state to water companies and their customers. Affordable water is not seen as a human right but, firstly, rests on whether support for poorer households costs less than the costs of non-payment and, secondly, depends on the benevolence of water companies and other customers who need to approve social tariffs and bring in charitable provisions.

The language of the sector is harsh towards those that fail to pay their water bills. For example, “We remain of the view that it is unacceptable for honest customers to be forced to subsidise those who refuse to pay their water bills” (House of Commons 2013, p. 24). A press release from the Environment Secretary, Owen Paterson called for “a crackdown on bad debt with the industry’s worst performers challenged to match the performance of the best.”⁹³ Ofwat brought out a paper in 2010 titled – “A drain on society – what can be done about water debt?” (Ofwat 2010c).

The sop approach aims to link consumption and production in the wider socio-economic context. Consumers are at one end of a financial process that links into the production of water. At the other end lie the financial investors that have stakes in the companies that own water companies with many intermediaries along the way including company directors. The previous sections showed that vast sums are being paid in interest while complex financial mechanisms make it difficult to track the flows of funds in corporate structures before they reach their offshore owners, largely untaxed. These activities continue unchecked as long as the water company can continue to carry out its functions. There seems to be a bias in a regulatory

⁹³ “Action on affordable water bills” Press Release, Rt Hon Owen Paterson MP
<https://www.gov.uk/government/news/action-on-affordable-water-bills>



framework that comes down heavily on the poorest households while the financial engineering of wealthy investors is ignored. This is not to argue that households should not pay their bills but rather that the issue of payment needs to be considered in the context of the entire cost structure of the industry to determine if this is a fair distributional outcome.

8.2 Accountability

There has been a policy shift recently to place greater emphasis on the views and needs of consumers. There is a sense that, if customers are going to have to pay for investment, then they need to be consulted. For example, in the Walker Review on customer charges, it is stressed that “if water customers are to pay for these improvements, it is vitally important that they are consulted on the additional costs before governments agree to them - or water prices will begin to be seen as a ‘stealth tax’ and face real opposition, as has already occurred in the South West” (DEFRA 2009).

Ofwat is required to “incentivise companies to ... increase the quality and responsiveness of their customer service” (DEFRA 2013, p.24.). In 2006, the Consumer Council for Water (CCW) was established to promote the interests of domestic and business consumers in England and Wales. CCW holds regular consultations to ensure that they are active in the areas that are of most relevance and concern to end-users. They list their priorities for 2013 to 2016 as follows (CCW 2013):

- Value for money with fair and affordable charges;
- Improving customer service to reduce complaints;
- Safe, reliable good quality water;
- Sustainable sewerage with minimal sewer flooding; and
- Speaking up for water customers.



CCW makes representations on behalf of end users and makes statements to the press on consumer issues. With support from the CCW, water companies have appointed independent customer challenge groups (CCGs) made up of representatives of local regulators and interest and consumer groups. Their role is to challenge the quality of the water company's customer engagement process and to assess how well the company's proposed outcomes and outcome delivery incentives reflect its customer engagement and customers' views and priorities. The Southern Water CCG describes itself as a "critical friend" to the water company.⁹⁴ Vulnerable customers would not be able to engage in the issues of water regulation as they are far too complex and so need to rely on CCGs and experts to look after their interests.⁹⁵

The 2014 Price Review aims to take greater notice of the views of end users and places considerable emphasis on the customer. According to Sonia Brown "the level of expenditure should be undertaken based on what the customer wants" and later the company "could cut its bills if that is what its customers want, given the margin available" (Ofwat 2013, p.16). The CCGs are required to approve the company's business plan. In their review of the business plan by Southern Water, the CCG identifies six customer priorities – responsive customer services; a constant supply of high quality drinking water; removing wastewater effectively; looking after the environment; better information and advice and affordable bills (SWCCG 2013). The expansion of competition in 2017 is also intended to make water companies more customer-responsive.

However, increasing the role of customers in shaping the activities of water companies faces constraints. First, despite efforts to engage and inform customers, research often finds that most customers have little awareness of the governance system and not much engagement with their water company beyond paying their

⁹⁴ Interview, Southern Water Customer Challenge Group, November 2013.

⁹⁵ Interview, Citizens Advice Bureau, October 2013.



bills. Research commissioned by the CCW regarding the current price review process found that most customers had little contact with their water company and there was little awareness of Ofwat or CCW.⁹⁶ Another study on consumer attitudes to water, based on a series of workshops with water customers, found that most respondents had no idea who owned their water company (many thought the owners were French). The corporate structure was largely unknown, not a high priority for respondents and was not felt to impact on perceptions of value for money (Creative Research 2013). Possibly because water constitutes a small part of household expenditure, supply is regular and of high quality, and there is no choice, consumers do not appear to have much interest in having a greater involvement in making their water companies more accountable.

Second, accountability is clouded by the density of the technical issues involved. Customers are asked to engage with companies on the issues that are important to them, and this often comes down to the delivery of a good service at a reasonable price. But customers are unable to know what is a fair price. As the Southern Water CCG points out in its report, it has challenged the shareholders to be more open and transparent around the financial and tax affairs of the business. But when it comes to whether or not the shareholders are making returns which are fair, they are not in a position to judge: “the CCG is not the best body to answer this question” (SWCCG 2013, p.24). All the CCG can do is engage with consumers to see if the business plan is acceptable but this does not necessarily justify the prices charged.

The CCW goes some way to promoting consumer interests within the technically complex parameters. For example, they have conducted research which shows that water company profits were raised by £720m in the two years between 2010 and 2012 due to the low interest rates and higher-than-expected inflation. Their research indicates that water companies have “beaten profit assumptions by Ofwat ... by

⁹⁶ SPA Future Thinking ‘Threshold of Acceptability’ prepared for CCWater, July 2013, http://www.ccwater.org.uk/upload/pdf/Threshold_of_Acceptability_Report_final.pdf



around 30 per cent in the past two years.”⁹⁷ While CCW promotes the interests of consumers, the latter are mostly unaware of their efforts. The nature of the water sector is such that customers need to rely on the state and industry experts to look after their interests.

Third, the consumer consultations only touch the surface of the sector. Many issues are not referred to consumers. Customers are not, for example, asked to approve payments to directors or dividend payments or hikes in gearing. On the website of Southern Water, the ‘Investors’ Information’ page is password protected, saying “The information contained in it is only available to certain current holders of Southern Water Services (Finance) Limited bonds as debt creditors of Southern Water Services (Finance) Limited, Southern Water (Greensands) plc or to investment professionals.”⁹⁸ Changes in ownership of the company take place without reference to customers. Sales of stakes in Thames Water took place behind closed doors (see above) and the price paid was not disclosed. As a result consumers and the regulator cannot know how much revenue firms are making from holding stakes in water companies.

In the water sector, consumers are largely passive agents in the sop for reasons outlined above. Their engagement requires the impetus and support of state initiatives (for example the establishing of CCW and CCGs with support from Ofwat) but even then, their capacity to challenge the water providers is limited: first, by the technical nature of the sector which has been accentuated with the opaque financial structures that have been established; and, second, by the number of significant factors (such as payments to directors and finance costs) which are beyond the scope of customer engagement. As a result, despite efforts by the regulator to create a more market-oriented framework where the firms have to respond to the needs of consumers, this is only feasible to a superficial extent. Firms consult

⁹⁷ “Water groups open coffers amid regulatory push to share profits” Financial Times 14 July 2013.

⁹⁸ <http://www.southernwater.co.uk/about-us/about-southern-water/investors/>



consumers on the issues which they say are important to them but consumers do not know what the issues are, let alone understand them.

Paying for water is like paying a tax. There is no alternative and water has to be consumed by everyone. Yet little is known about the ownership arrangements of water providers, and firms are not held to account for their financing arrangements beyond meeting the targets set for the delivery of the service. There are many unknowns about the sector. The identity of the final recipients of distributions from companies is unclear. The full cost of financial intermediaries is unknown. If customers are to have a genuine say in the governance structure of the sector beyond a token gesture then full disclosure of this information is required. It is debateable whether, even with full disclosure, consumers would be able to grasp the financial complexities of operations, let alone have an impact on outcomes.

9 Conclusion

The water sector in England and Wales has been transformed in the decades since privatisation. Considerable investment has ensured that end users have access to a regular supply of good quality water. Coastal waters are much cleaner. However, prices have increased, more households are struggling to pay their bills, while private owners have made considerable returns.

Ownership structures have evolved substantially since companies were listed on the stock exchange in 1989. The financial sector is now deeply embedded in the structure of water delivery in England and Wales. Finance is raised on international capital markets. Complex financial transactions are commonplace, and some companies are owned by financial firms. This paper indicates that the extent and impact of financialisation is not a standard feature of privatisation but is related to the nature of the company owners. Some water companies owned by private equity finance have both subsidiaries and holding company owners based off shore. In



some cases the ultimate owners are difficult to trace in part because they change as ownership stakes are bought and sold. Financial engineering in some firms has led to large increases in debt accompanied by substantial increases in payments of interest and dividends. Such practices risk leaving firms unable to pay for future investment without seeking to increase the price that they can charge customers.

The sop approach aims to locate consumption within distinct and distinctly structured systems that are commodity-specific. The paper shows how consumers and producers are linked in a regressive financial process. At one end of the sop, customers are required to pay into the sector pool of funds and there is little choice about this. These funds are used to pay for capital investment in the sector and to cover financing costs including interest and dividend payments to shareholders. Some companies are owned by investment funds operating on behalf of the world's richest investors. Indeed, Northumbrian Water is owned by a corporate group controlled by the eighth richest person in the world. Along the way, fees are paid to financial advisers, some based in offshore financial centres. The paper shows that the tariffs paid by consumers reflect financial costs which have provided high returns to private investors.

There is no need to travel far to look for more equitable alternatives. Welsh Water is owned by a company limited by guarantee which distributes dividends to customers or reinvests any profits made. The company has low gearing and a high credit rating. However, the company still operates in a financialised structure which is to some degree outside the scope of democratic accountability. Scottish Water, however, is owned by the public sector. The company borrows from the state, and efficiency levels match those of the privatized companies in England.⁹⁹

⁹⁹ Comparing the efficiency of Scotland with England it was found that (contrary to expectations) "upon closer examination it appears that by 2006-07 ... Scottish Water had already reduced its costs to a level comparable with those in England and Wales" (Ofwat 2011h, p.37).



The state is at the heart of the sop. The financialisation process has been shaped by the nature of water and the regulatory environment, without which the securitisation carried out by some firms would not be possible. While similar processes may be observed in other sectors and locations, the specific nature of the securitisation derives from the historically evolved structures and processes in England and Wales. And the state shapes the distributional impact of sector financing. Measures to support those who struggle to pay their bills are minimal compared with the concessions made to allow transfers to wealthy owners. In large part the state is constrained because there is little that can be done to limit the impact of financialisation without rethinking the entire structure of the industry – which risks damaging the confidence of investors in UK Plc.

Things are changing in the sector. The current price review (PR14) looks set to be more demanding on water companies than previous reviews. The regulator is consulting opinion on how to protect water providers from activities of companies in the wider corporate structure, and the water White Paper is set to require firms to separate their retail and wholesale activities. However, for these measures to make a significant dent in the structural inequality of the sop, investors will need to see their revenues fall, in which case they may decide they can make higher returns elsewhere.



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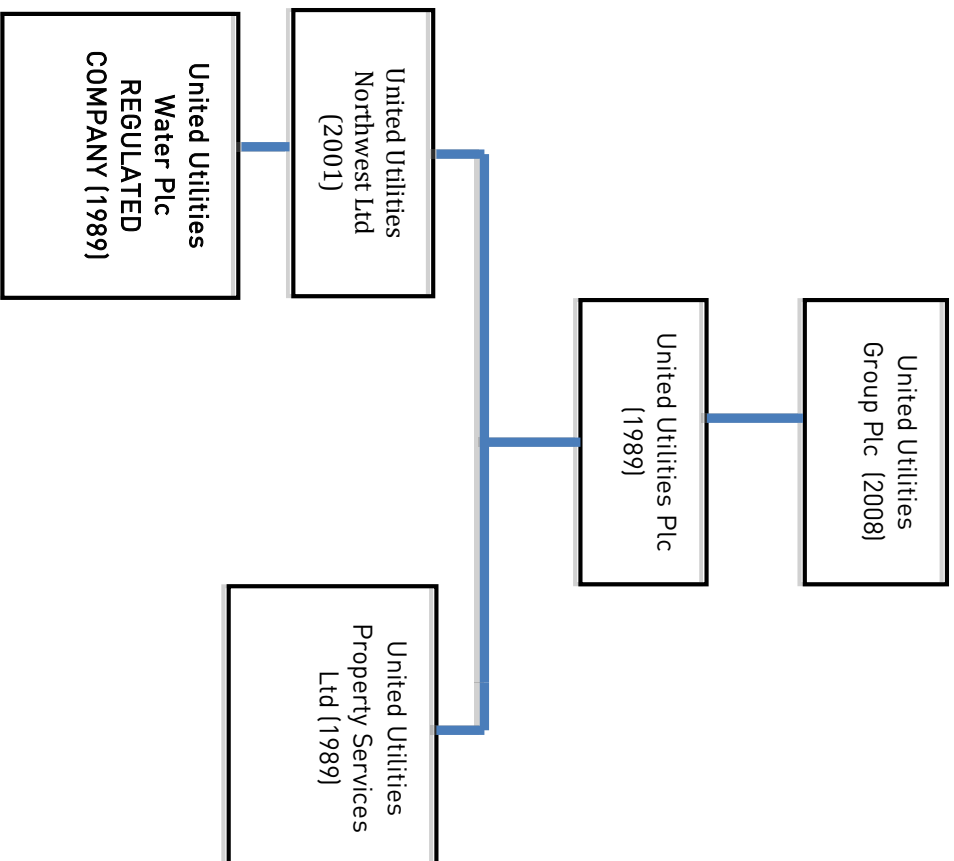
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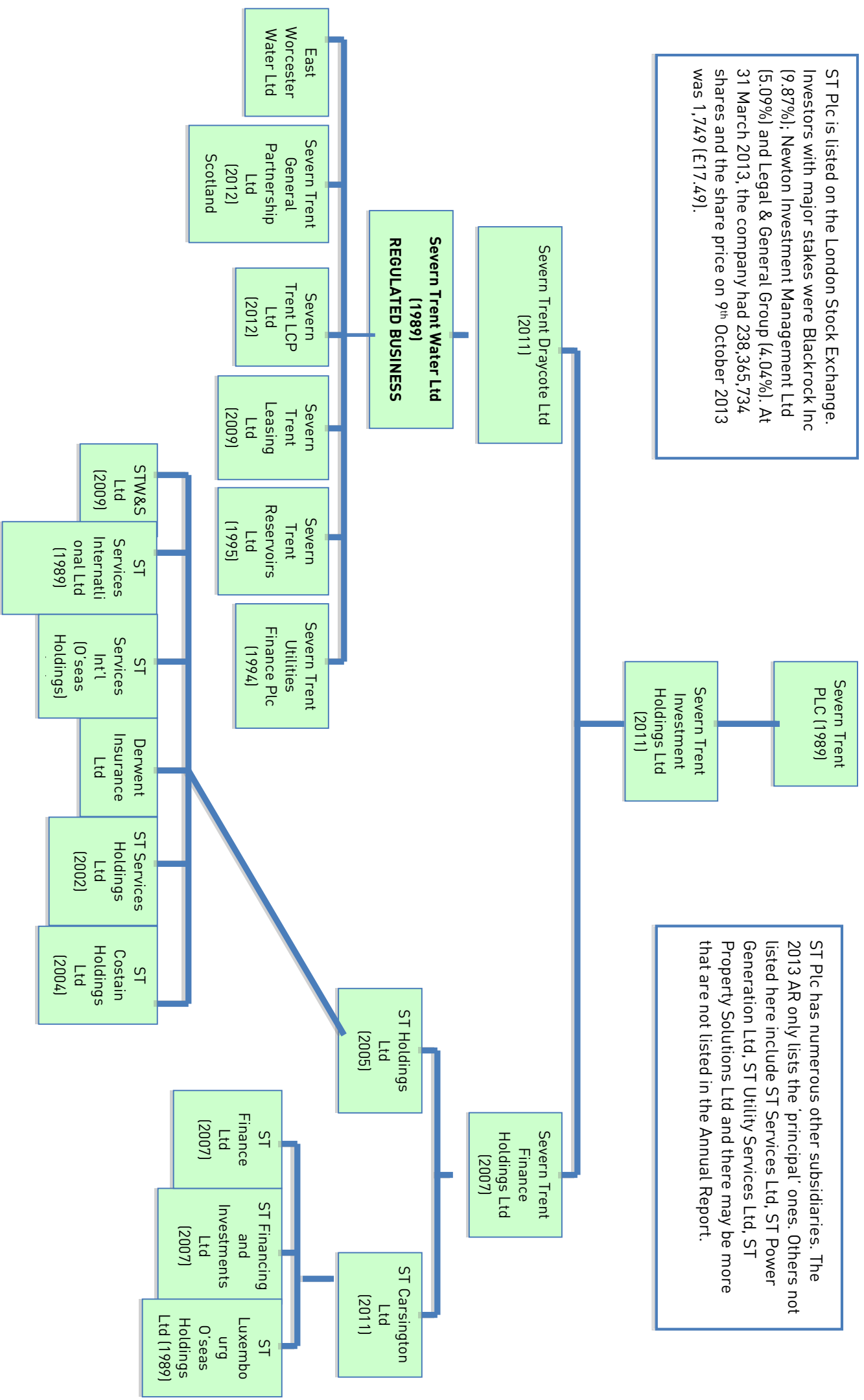
Annex 1: Ownership: listed companies

United Utilities Group Plc is listed on the London Stock Exchange. Investors with major stakes at the time of this research (October 2013) were BlackRock Inc (5.12%), Pictet Asset Management UK Ltd (4.99%), AXA SA (4.93%), Legal& General Group (3.94%) and Norges Bank (3.01%). The closing share price was 695 on 10th October 2013.

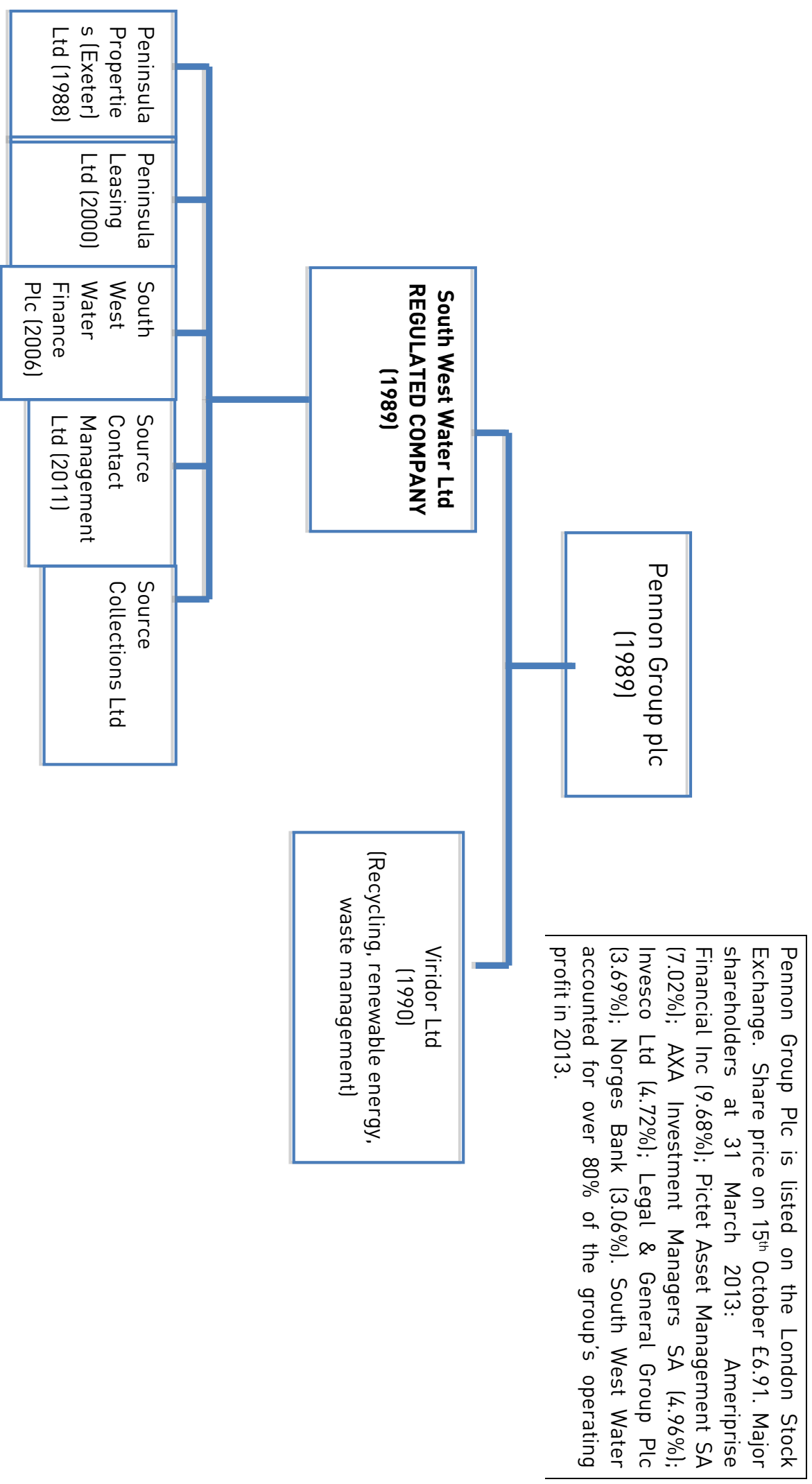


UU Water has minority shares in two companies and a majority share in Lingley Mere Management, a property management company.

ST Plc is listed on the London Stock Exchange. Investors with major stakes were Blackrock Inc (9.87%) and Newton Investment Management Ltd (5.09%) and Legal & General Group (4.04%). At 31 March 2013, the company had 238,365,734 shares and the share price on 9th October 2013 was 1,749 (£17.49).

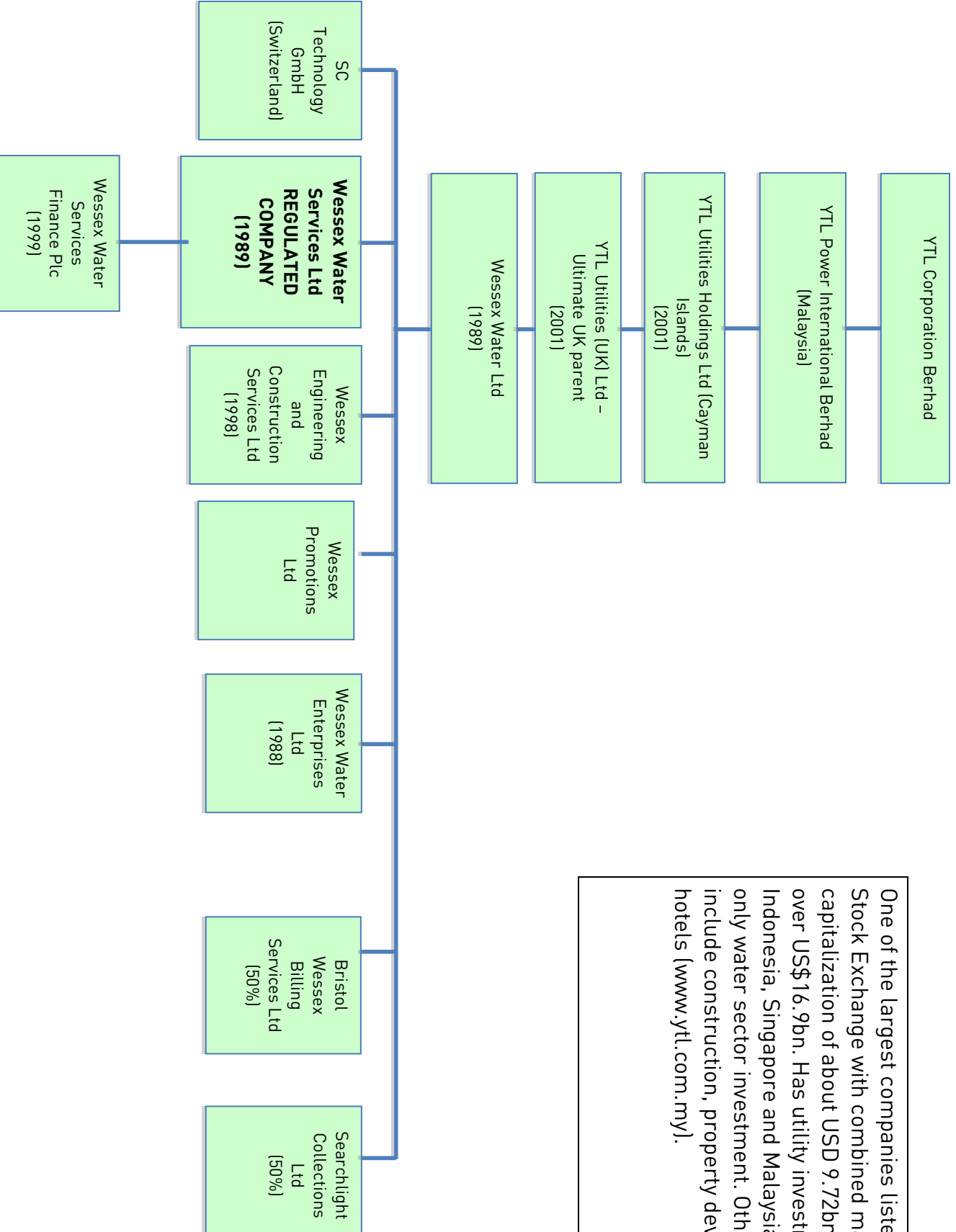


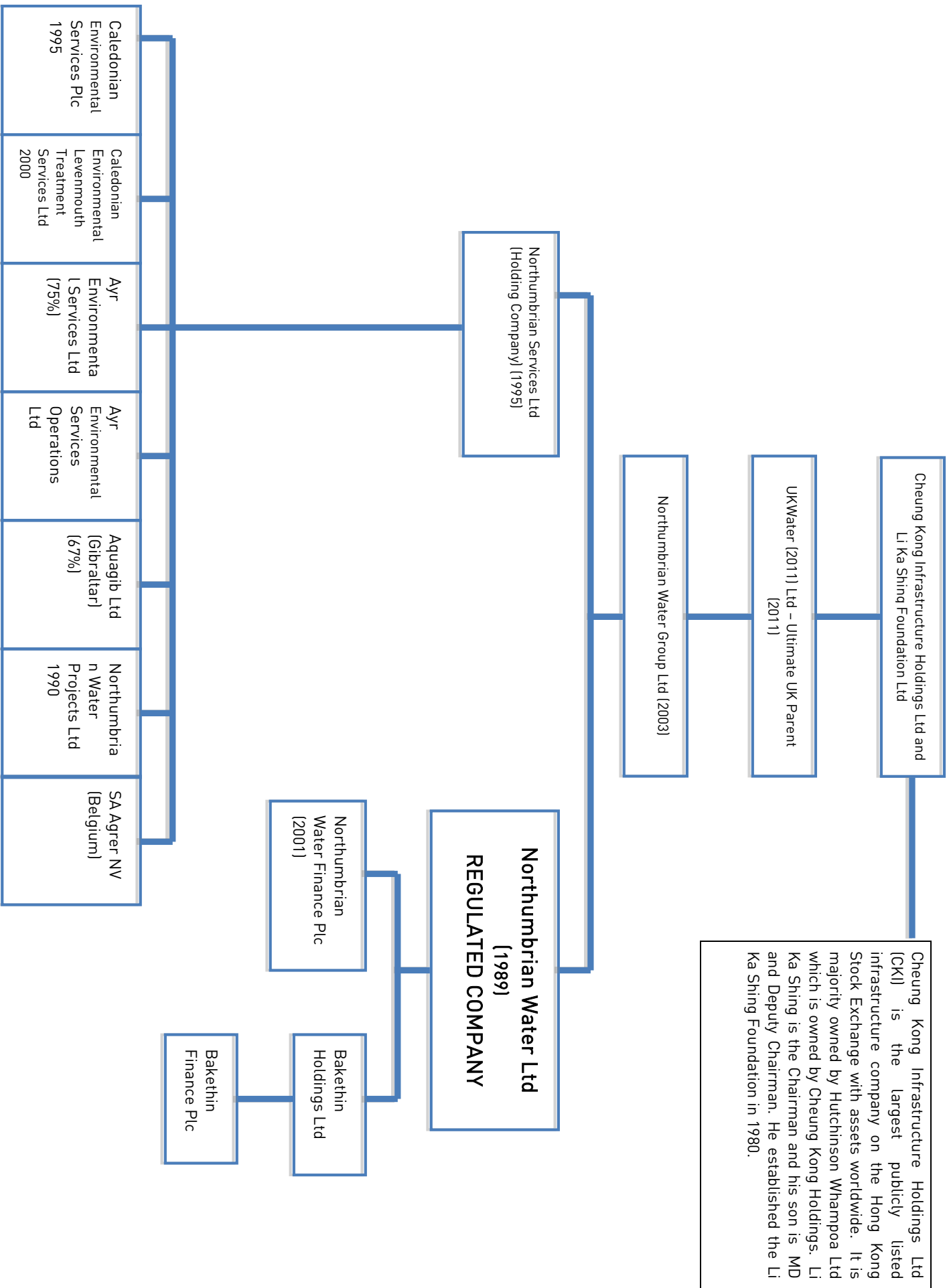
ST Plc has numerous other subsidiaries. The 2013 AR only lists the 'principal' ones. Others not listed here include ST Services Ltd, ST Power Generation Ltd, ST Utility Services Ltd, ST Property Solutions Ltd and there may be more that are not listed in the Annual Report.



Annex 2: Ownership: Infrastructure Companies

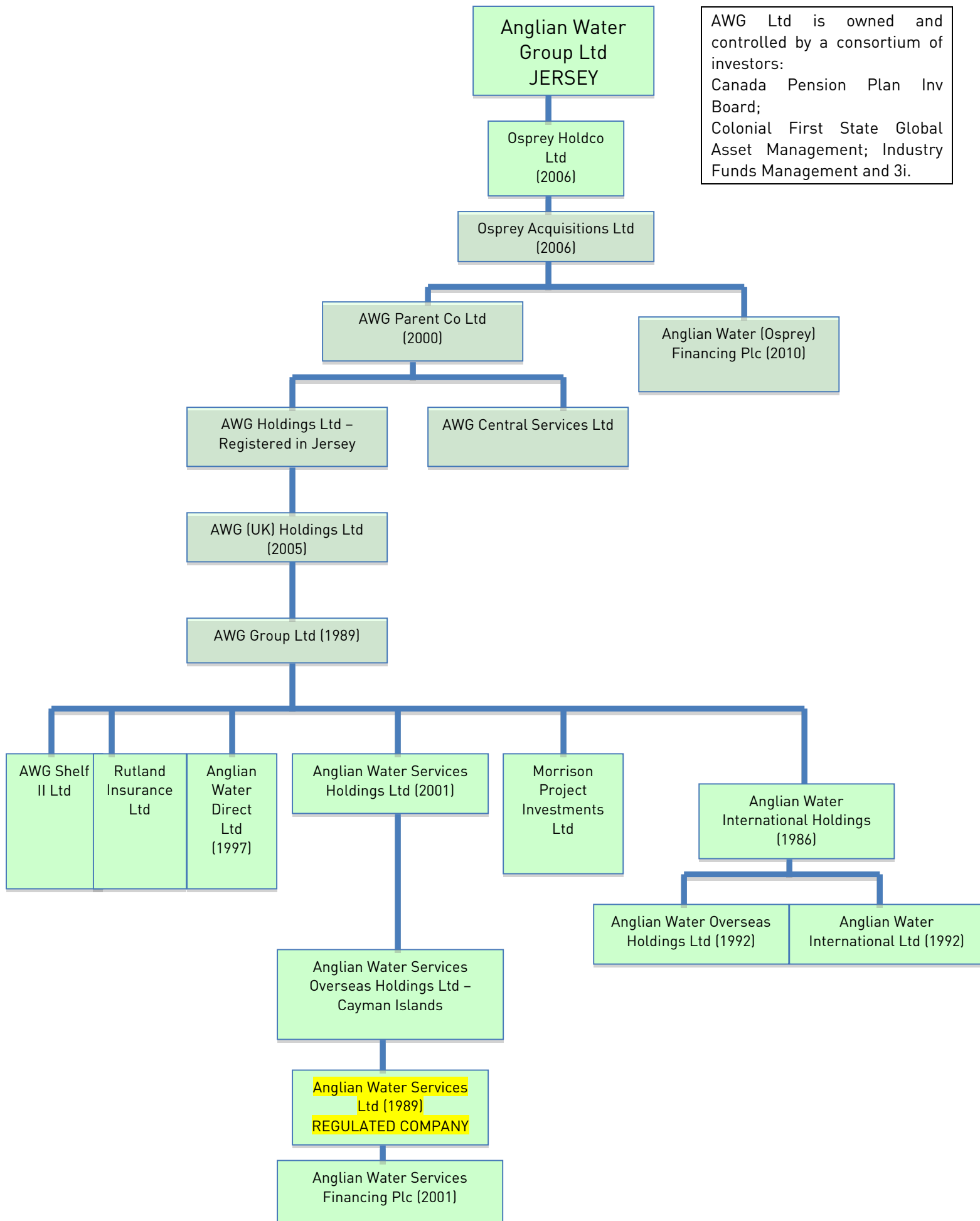
One of the largest companies listed on the Malaysia Stock Exchange with combined market capitalization of about USD 9.72bn and assets of over US\$16.9bn. Has utility investments in Australia, Indonesia, Singapore and Malaysia. Wessex is the only water sector investor. Other activities include construction, property development and hotels (www.ytl.com.my).





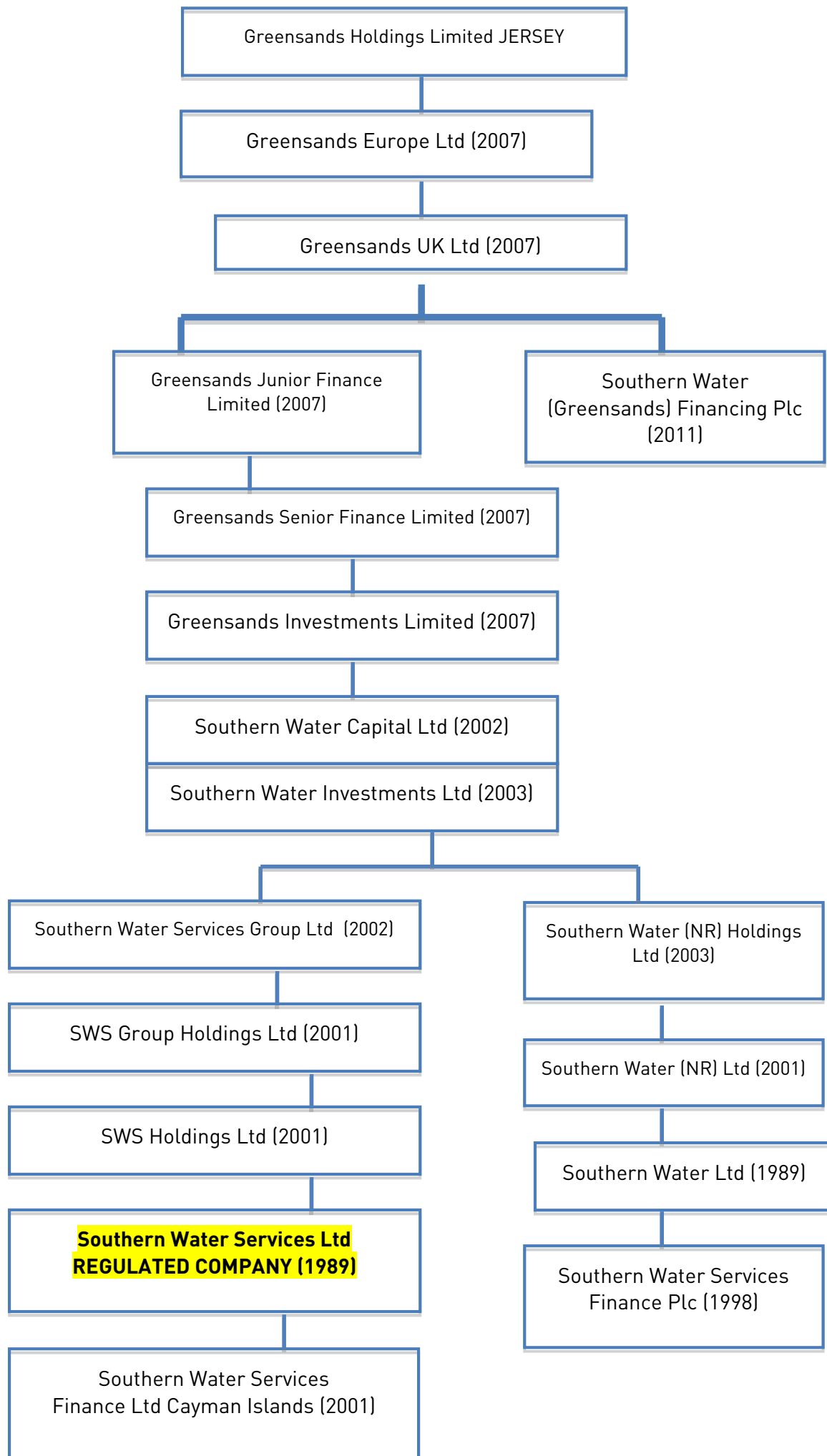
Cheung Kong Infrastructure Holdings Ltd (CKI) is the largest publicly listed infrastructure company on the Hong Kong Stock Exchange with assets worldwide. It is majority owned by Hutchinson Whampoa Ltd which is owned by Cheung Kong Holdings. Li Ka Shing is the Chairman and his son is MD and Deputy Chairman. He established the Li Ka Shing Foundation in 1980.

Annex 3: Ownership Infrastructure companies

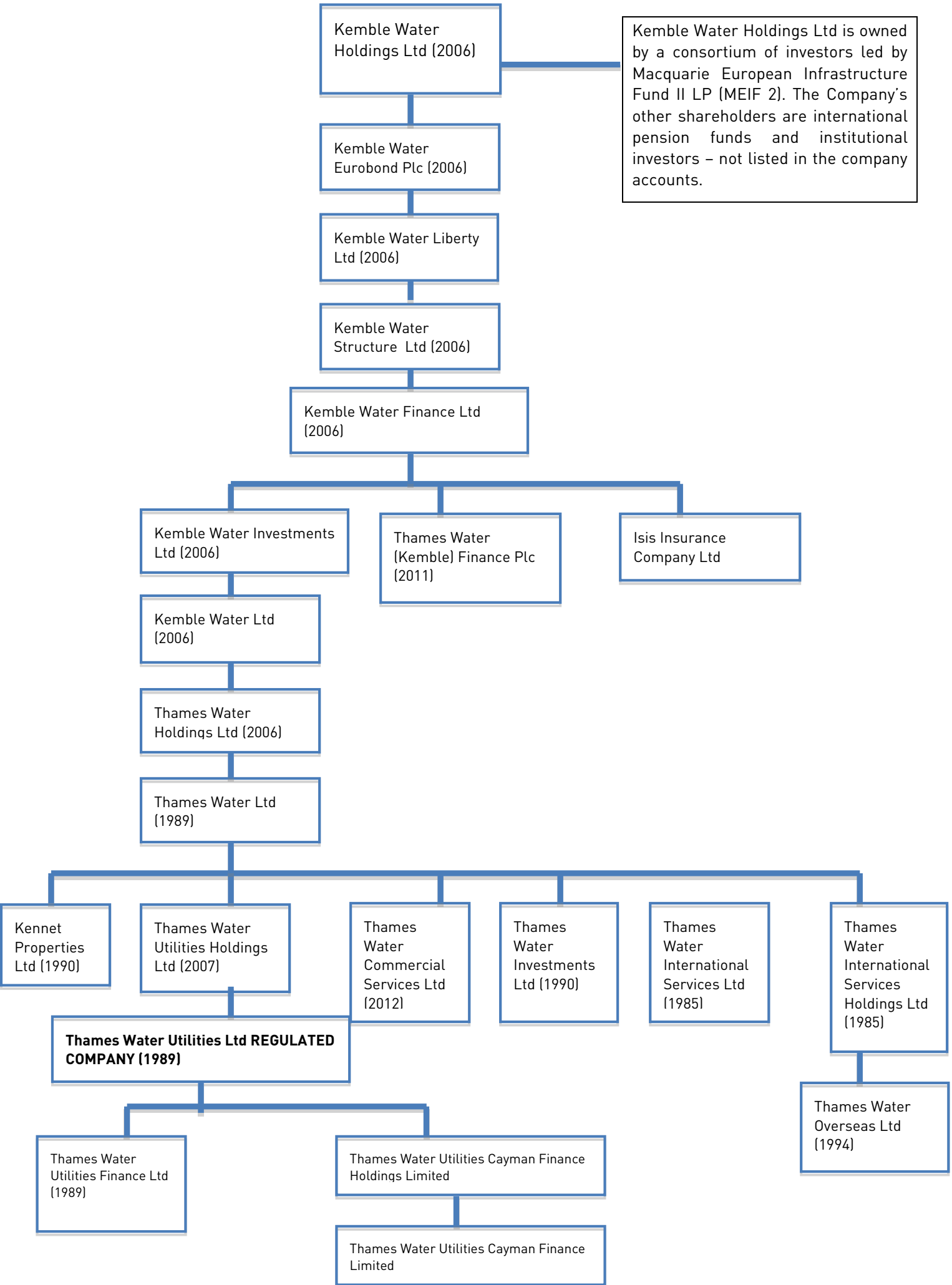


AWG Ltd is owned and controlled by a consortium of investors:
 Canada Pension Plan Inv Board;
 Colonial First State Global Asset Management; Industry Funds Management and 3i.

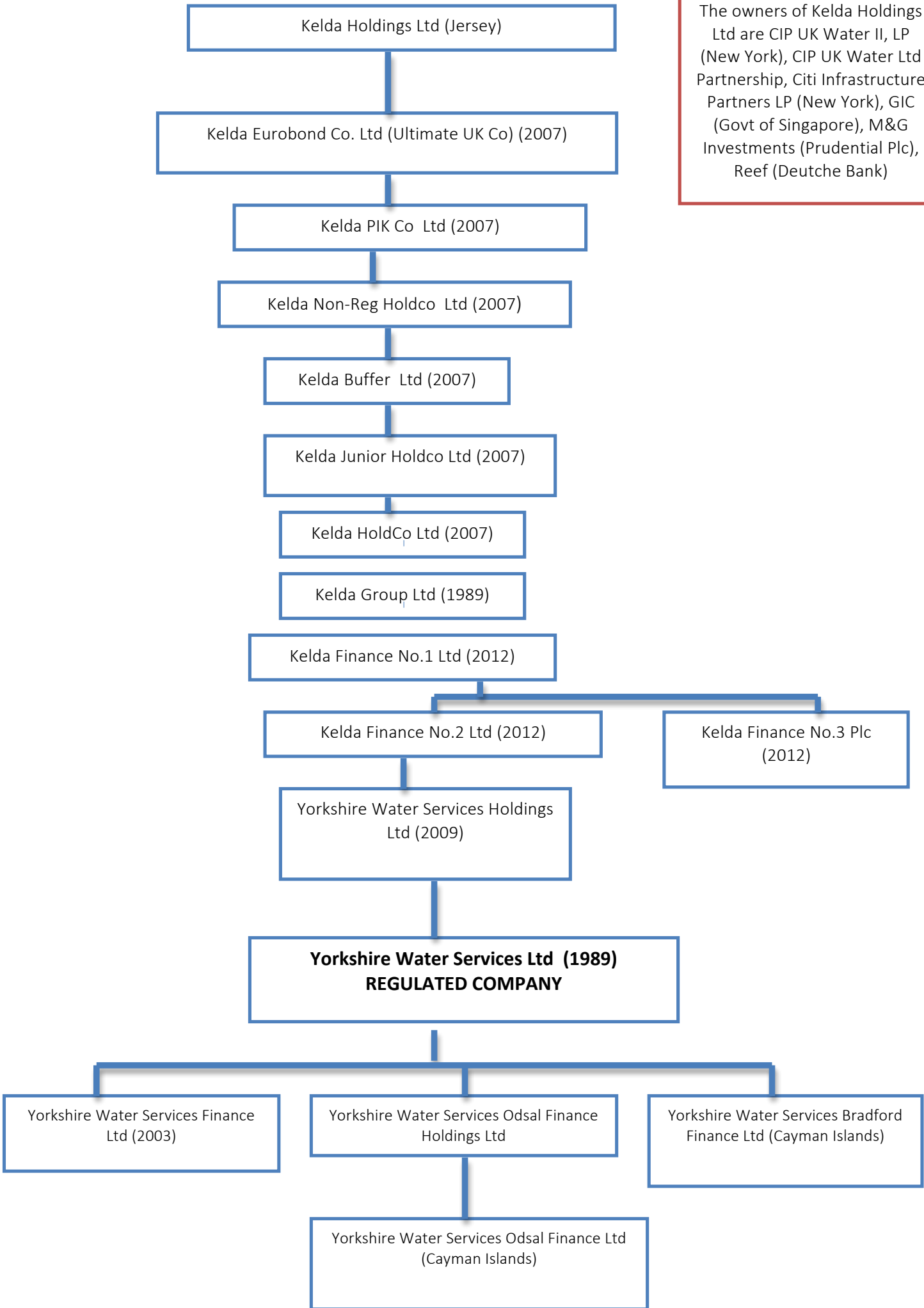
Greensands owners include IIF International, the Northern Trust Company, UBS Global Asset Management, Sumaya



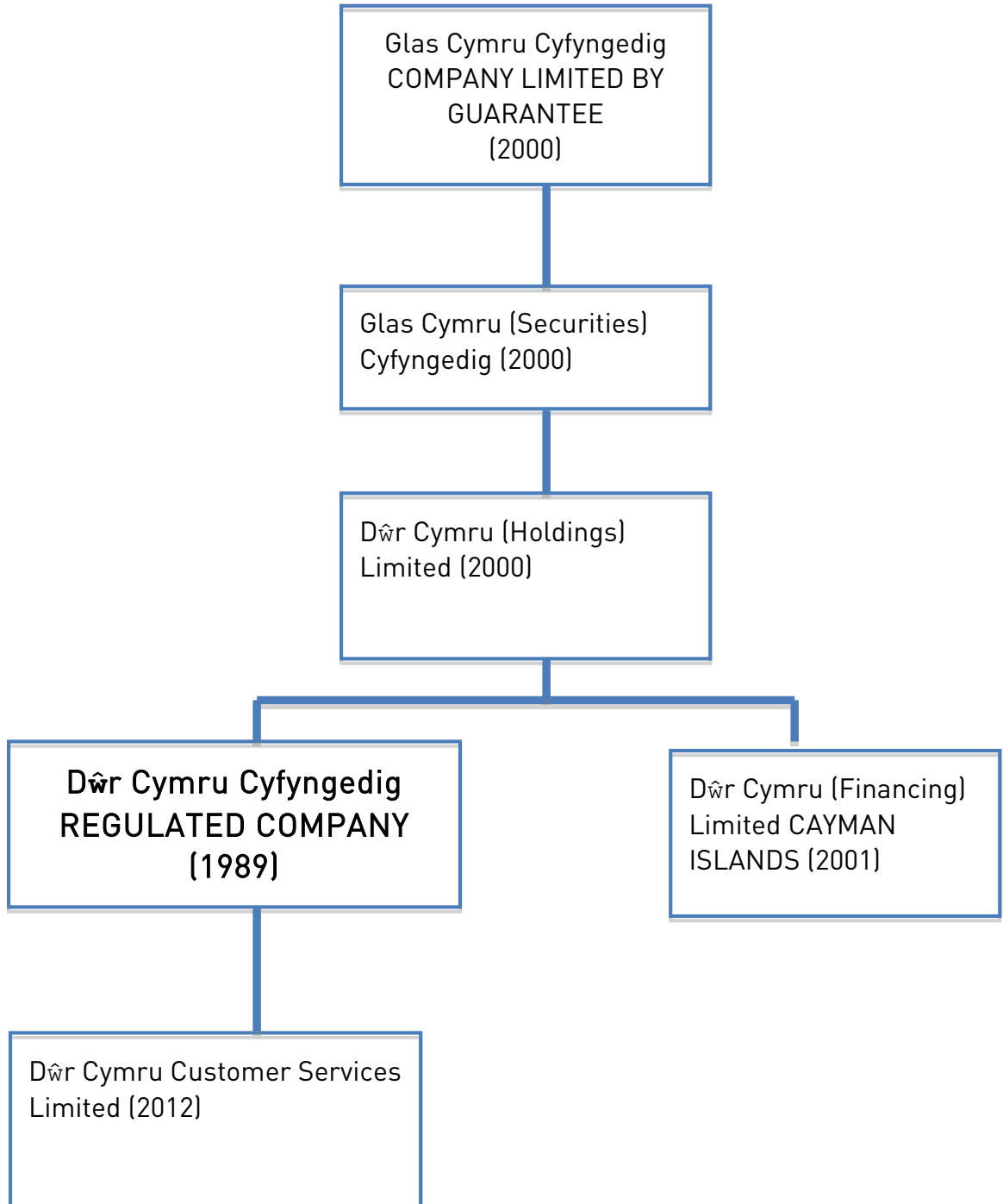
Kemble Water Holdings Ltd is owned by a consortium of investors led by Macquarie European Infrastructure Fund II LP (MEIF 2). The Company's other shareholders are international pension funds and institutional investors – not listed in the company accounts.



The owners of Kelda Holdings Ltd are CIP UK Water II, LP (New York), CIP UK Water Ltd Partnership, Citi Infrastructure Partners LP (New York), GIC (Govt of Singapore), M&G Investments (Prudential Plc), Reef (Deutsche Bank)



Annex 4: Ownership: Welsh Water



Financialisation, Economy, Society and Sustainable Development (FESSUD) is a 10 million euro project largely funded by a near 8 million euro grant from the European Commission under Framework Programme 7 (contract number : 266800). The University of Leeds is the lead co-ordinator for the research project with a budget of over 2 million euros.

THE ABSTRACT OF THE PROJECT IS:

The research programme will integrate diverse levels, methods and disciplinary traditions with the aim of developing a comprehensive policy agenda for changing the role of the financial system to help achieve a future which is sustainable in environmental, social and economic terms. The programme involves an integrated and balanced consortium involving partners from 14 countries that has unsurpassed experience of deploying diverse perspectives both within economics and across disciplines inclusive of economics. The programme is distinctively pluralistic, and aims to forge alliances across the social sciences, so as to understand how finance can better serve economic, social and environmental needs. The central issues addressed are the ways in which the growth and performance of economies in the last 30 years have been dependent on the characteristics of the processes of financialisation; how has financialisation impacted on the achievement of specific economic, social, and environmental objectives?; the nature of the relationship between financialisation and the sustainability of the financial system, economic development and the environment?; the lessons to be drawn from the crisis about the nature and impacts of financialisation? ; what are the requisites of a financial system able to support a process of sustainable development, broadly conceived?

THE PARTNERS IN THE CONSORTIUM ARE:

Participant Number	Participant organisation name	Country
1 (Coordinator)	University of Leeds	UK
2	University of Siena	Italy
3	School of Oriental and African Studies	UK
4	Fondation Nationale des Sciences Politiques	France
5	Pour la Solidarite, Brussels	Belgium
6	Poznan University of Economics	Poland
7	Tallin University of Technology	Estonia
8	Berlin School of Economics and Law	Germany
9	Centre for Social Studies, University of Coimbra	Portugal
10	University of Pannonia, Veszprem	Hungary
11	National and Kapodistrian University of Athens	Greece
12	Middle East Technical University, Ankara	Turkey
13	Lund University	Sweden
14	University of Witwatersrand	South Africa
15	University of the Basque Country, Bilbao	Spain

The views expressed during the execution of the FESSUD project, in whatever form and or by whatever medium, are the sole responsibility of the authors. The European Union is not liable for any use that may be made of the information contained therein.

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