



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



FESSUD

FINANCIALISATION, ECONOMY, SOCIETY AND SUSTAINABLE DEVELOPMENT

Working Paper Series

No 194

The System of Provision for Water in Selected Case Study
Countries

Kate Bayliss

ISSN 2052-8035

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Author and affiliation: Kate Bayliss, SOAS, University of London

Abstract: This paper provides a synthesis of the main findings from five comparative case studies of the systems of provision for water and the role of finance therein. The paper shows that the policy approach adopted in each of the cases is remarkably similar with a strong commitment to neoliberal sector reforms from the 1980s onwards. However the extent and depth of reform is variegated, with England and Wales as an extreme outlier with far more extensive privatization and financialisation of water.

Using the sop approach, the paper explores the way that the delivery of water is contested among agents. Neoliberal policies are presented as scientific and politically neutral by their proponents but agents in the sector have competing priorities. Contestation is particularly prevalent where private companies are involved in service delivery but there are also tensions between different state agencies involved in the provision of water. Pricing is a key area of conflict. Cost recovery tariffs are unaffordable for many households and, in places, the sector is under strain. The neoliberal policies adopted are not neutral. Rather, there are winners and losers. Outcomes emerge from embedded power relations which are specific to individual locations and peculiar to water.

Key words: system of provision, water, privatization, financialisation

Date of publication as FESSUD working paper: December 2016

Journal of Economic Literature classification: P26, Q25, L33, H54

Contact details: kb6@soas.ac.uk

Acknowledgments:

The research leading to these results has received funding from the European



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



Union Seventh Framework Programme (FP7/2007-2013) under grant agreement n° 266800.

This paper builds on the extensive work of the authors of the country case studies. In addition thanks are due to the following for comments on earlier drafts: Piotr Lis, Nuno Teles, Ozlem Celik, Galip Yalman, Mary Robertson and Ben Fine.

Website: www.fessud.eu



Preface

This Working Paper provides a synthesis of the findings from a series of case studies prepared for Deliverable 8.25 exploring the systems of provision (sop) for water in the UK, South Africa, Poland, Portugal and Istanbul. The papers submitted for D8.25 of FESSUD, on which this Working Paper is based, are as follows:

K. Bayliss: Neoliberalisation of Water in South Africa, SOAS, University of London, with support from F. Banda and G. Isaacs, CSID, University of the Witwatersrand, Johannesburg

P. Lis: Financialisation of the Water Sector in Poland, Poznań University of Economics

N. Teles: Financialisation and Neoliberalism: The Case of Water Provision in Portugal, CES, University of Coimbra

K. Bayliss: The Financialisation of Water in England and Wales, SOAS, University of London

G. Yilmaz & Ö. Çelik: Case Study: Rethinking Istanbul Waters through Systems of Provision, Middle East Technical University, Ankara

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1 Introduction

This paper brings together findings from case studies carried out under Task 6 of Work Package 8 of the EU-funding research programme *Financialisation, economy, society and sustainable development* (FESSUD). These case studies have examined the system of provision (sop) for water in selected locations. According to the sop approach, sector outcomes emerge from relations between agents which are themselves embedded in historically evolved social and economic structures and processes. This is in contrast to orthodox economic approaches which view the world in terms of deviations from an idealized, market-like condition, subject to correction through regulation or otherwise. Originally devised in connection with consumption studies, this segment of the FESSUD research programme aims to extend the sop approach to consider public sector systems of provision with particular reference to housing and water (for more on this see Bayliss, Fine and Robertson 2013).

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 vertically linked to production processes. Participants in the sop have diverse and often competing interests with more or less permanent resolutions highly contested, and contestation continuing to evolve. These agents operate within structures, relations and processes which are far from neutral, and power relations shape the outcomes of the sop.

For the sop approach, each commodity has its own material culture (MC) which is unique in time and location and derived from the commodity itself and the context in which it is provided and consumed. The MC of water is distinct from that of housing. This is in contrast with orthodox approaches that consider outcomes to emerge from the combined actions of optimising rational individuals with all commodities treated in the same way subject to conditions governing supply and demand. The factors that shape cultural systems have been grouped by Fine (2013) under ten headings (known as the 10Cs): Constructed, Construed, Commodified, Conforming, Contextual,



Contradictory, Chaotic, Closed, Contested and Collective. The relevance and usefulness of the different Cs will vary, depending on the type of good, the sop and the reason for investigation.¹

Water has certain properties that affect its sop. It is an input into virtually all aspects of social and economic life not just in its own right but also as an input into industry, agriculture and energy. There is no substitute. It flows downhill (unless pumped) and sometimes has to be shared across regional and international boundaries. It is heavy to transport relative to value and so tends to be used close to source. Delivery is capital-intensive, relying on networks of pipes and pumps that are not easily moveable, so investments are long-term. There are considerable scale economies and delivery is usually monopolistic. Ensuring supply can be challenging due to variability in rainfall, and provision is affected by pollution and climate change.

The selected case studies show the importance of context. Each case presents a different set of issues and constraints when it comes to water. Differences are particularly prominent in the social and economic history as well as demographics and geological context. E&W is a high-income country with a sophisticated financial sector and long-established privatisation programme. Portugal, an EU member since 1999, is regarded as being part of the EU southern periphery where countries have faced challenges with loss of competitiveness and rising external deficits. Poland has been in the process of transition from a planned to a market economy since 1990. South Africa has also been through a major transition after the end of the apartheid in 1994, with extensive state investment to address the inequalities of the previous regime. The case study from Istanbul stands apart from the others in that it is a city (rather than a national study) with a very high population density. The case studies also present significant diversity in the geological aspects of water provision. South Africa and Istanbul are highly water-stressed and have constructed major infrastructure to divert water for long distances to urban locations. Elsewhere, water is plentiful and used close to source.

The MC of water has changed over the past three decades as part of a global shift towards a more "neoliberal" ethos in the provision of basic services. In most of 20th century Europe, water production was the preserve of the state which provided



investment to ensure universal access, and there were cultural and symbolic features associated with the expansion of water infrastructure at this stage (Gandy 2004; Swyngedouw 2005; Bakker 2007). In the UK, a rapid expansion in connections to the water network was funded largely by governments partly through local taxes and partly through concessional loans from central government (Fisher et al 2005).

Since the late 1980s, across the case studies (and elsewhere), the provision of water has been framed in a more commodified form. That is to say there is greater attention to water pricing as a tool to control the demand for water with increasing attention to water metering and prices that recover costs. Service provision is increasingly presented as a market with providers, if not necessarily in the private sector, encouraged to adopt business-like approaches to management. This policy shift is couched in an ideology of greater “water efficiency”, itself with increasing emphasis on the notion of scarcity – both of water and of finance. Policy discourse has shifted from one of abundance to one where resources are in short supply. This shift in narrative is presented as justification for the greater attention to financial and demand management that neoliberal practices provide.

While the case studies present diverse socio-economic and geographical contexts, they have all adopted a “neoliberal” ethos to water policy,² although there is considerable variation in way in which this ethos has been adopted in practice. All countries state a commitment to “cost recovery” pricing (critically discussed in detail below) but implementation of other aspects of the traditional neoliberal package (such as decentralisation and privatisation) have proved more challenging to apply to the water sop. E&W is an extreme outlier. Here privatisation took the form of divestiture with water and sewerage companies listed on the London Stock Exchange. Several companies have since been de-listed and a significant proportion of water provision is in the hands of global financial investors. In the other case study locations (and most of the rest of the world), water privatisation takes the form of a lease or concession contract and the extent of implementation has not been widespread, despite policy efforts.

The sop approach shows that the neoliberal framing of water provision has benefitted some interest groups over others since the early 1990s. Far from providing a neutral



policy package in which “markets” are shaped to improve environmental and societal outcomes, the case studies show that control and use of resources and finances are contested in the sector. There are winners and losers from the neoliberalisation of water. Outcomes stem from (newly) embedded power relations and these are specific to the individual case study locations. Consistently, however, the case studies suggest that neoliberalism has favoured powerful economic and political interest groups while low-income households (and labour although this is not covered extensively in the case studies) have lost out.

The paper is structured as follows. The following section reviews the country findings on water production. This is followed by a review of sector finance. Financialisation is covered to some degree but this has been limited outside E&W. The paper then turns to water consumption in the case studies, exploring the ways in which end users access water with particular attention to pricing and affordability. The subsequent section considers the role of the state both in terms of the institutional framework and in balancing the competing interests of agents in the sop. Section 5 concludes.

2 Production

Societies have always been organised around the consumption and distribution of water. In modern times, water production and distribution has become based on extensive capital investment in pipes and pumps. These are long-term investments, constructed and used over decades. Investments have been shaped by the political and economic systems in which they are located. Current sops have emerged from decades of evolving practices combined with geological, political and social imperatives. The long-lasting nature of water infrastructure means that there is a considerable lag between the prevailing political paradigm and that which produced the infrastructure (Mosse 2008).

All the countries studied have seen a fairly rapid expansion of access to water funded and implemented by the state and/or donors. In E&W this took place at the start of the last century. In Poland, Portugal and South Africa, it has been more recent. Both Portugal and Poland were required to increase access under directives from the European Union (EU). In Portugal this has been since 1986 and in Poland since 1993,

each with substantial EU funding. In South Africa, the country's infrastructure has been skewed towards a white minority. With the end of apartheid, the ANC government focused on an extensive investment programme to redress the inequality of the previous regime. The result has been a substantial increase in access since 1990, particularly in rural areas (Table 1), although "access" can involve varying quality of connection and of the water itself.

Table 1: Water consumption Piped on to premises % of population						
	Urban		Rural		Total	
	1990	2012	1990	2012	1990	2012
Poland ³	97	99	73	96	88	98
Portugal	96	100	83	100	88	100
South Africa	85	93	16	57	52	79
Turkey	91	99	51	97	75	99
United Kingdom	100	100	98	98	100	100
WHO/UNICEF Joint Monitoring Programme for Water Supply and Sanitation Country files (www.wssinfo.org)						

Water is abstracted from surface sources (rivers and lakes) and (under)ground sources (aquifers) for consumption by households, agriculture and industry. This is more or less a universal aspect. There is not much diversity across the cases in this regard. Water technology is not one of rapid change. Some cities have been using infrastructure that is over a century old. What do vary across locations and over time are the institutional structures and processes of water provision.

All the case studies have, to varying degrees, brought in substantial sector reforms over the last three decades. The water sops studied are situated on something of a

sliding scale of commodification, globalisation, corporatisation and privatisation of water production which can be considered as comprising a neoliberal package of policy reforms. Neoliberalism is also typically associated with decentralisation based on the supposition that it will increase local accountability and strengthen cost recovery policies (see below on cost recovery and Herrera and Post 2014 on decentralisation of water services). However, in the case studies, the trend is towards more rather than less centralisation to reduce the impact of fragmentation of service provision. E&W stands apart from the other case studies. Here, water is provided by ten private water and sewerage companies (and some smaller water-only companies) with boundaries based on river basins. In contrast, in each of Portugal, Poland and South Africa, delivery of water is largely the responsibility of municipalities although some large volume (industrial) consumers access water directly from bulk sources.

Each of these countries has undergone similar reforms which aim to structure production so that costs and revenues are ring-fenced, sometimes under a corporation owned by the state (known as corporatisation), and this can facilitate the introduction of private investment at a later stage. Other initiatives are the adoption of "cost recovery" pricing (required under the EU Water Framework Directive (WFD)), and in some cases privatisation with concession contracts (Poland, Portugal and South Africa) and divestiture (E&W). These processes are explored below.

2.1 Processes: (un)bundling and corporatisation

Water production has been substantially restructured in all countries. While there are similar processes observed in terms of commodification and privatisation, the sops are packaged in different ways as countries vary in the nature of horizontal and vertical integration. In E&W and Poland, the provision of water is vertically integrated, with the same organisation responsible for provision from the source through to end-user. In Portugal, however, the supply of bulk (ie water abstraction, treatment, elevation and adduction) water has been separated from retail (storage and final distribution to end consumers including tariff setting and collection) water in a process known as "deverticalisation". In South Africa there is a similar separation of bulk and retail water as well as a third level of horizontal stratification in the sop with an additional category



known as “raw water” which applies to untreated supplies, consumed directly from the water source. Users of raw water include large industries, mines and irrigators.

Notwithstanding these structural variations, water institutions in these countries have all undergone a process of corporatisation if to different degrees. The water sector in Portugal was substantially restructured in 1993. Prior to this date, water provision had been the exclusive responsibility of local municipalities - with the exception of Lisbon where water was managed by the state-owned enterprise Empresa Publica de Aguas de Lisboa (EPAL). This localised control at the, now elected, municipal level was significant in the country after the 1974 revolution. However, the sector was highly fragmented with some 300 municipalities responsible for all aspects of water provision from abstraction through to end-users. The restructuring in the 1990s took the form of separation of bulk water from retail water. Bulk water provision was consolidated through the creation of a series of companies across the country. In each of the bulk water companies, the controlling stakeholder was a newly-created state holding company, Aguas de Portugal (AdP), with a 51% stake, while the municipality (or a group of municipalities where the bulk provider served more than one) had a 49% ownership share. This represented a process of centralisation and consolidation

AdP was and continues to be owned by the state (with the state-owned development bank, Parcaixa, SGPS, holding a 19% shareholding (AdP Annual Report 2013)). Although ownership was to remain in public hands, it was expected that reforms would bring in principles of private sector style management. While the state retained ownership of the water sector, the new corporate concessionaires assumed control over businesses with a high degree of institutional and budgetary independence. The expectation was that new management, supposedly independent from political pressures, would enhance efficiency. And, for Portugal, this was also motivated by converging to European standards to meet the conditions set for accessing funding from the EU. The new forms of public management were intended to turn policy making into a technocratic process devoid of any political content and subject to financial constraints. Corporatisation of water introduced corporate accountability in management practices which served to embed financial practices further in the sector.

At the retail level, water in Portugal continues to be controlled by municipalities. Since 1993 they have had autonomy to raise finance independently, and some have introduced private concession contracts known as “public-private partnerships” (PPPs). There continues to be tension between municipalities and AdP which goes back to the separation of bulk from retail water and was not popular with many municipalities in Portugal. About a third of municipalities have refused to give up their control over bulk water and continue to operate an integrated system.

The above-mentioned processes of reforming segregation and decentralisation of water provision have affected financing. Investment at the municipal level in Portugal is more expensive than investment in the bulk sector because borrowing is on a smaller scale. Interest rates have been considerably higher at the municipal level than for the bulk providers where AdP has a stake because the scale of borrowing gives them access to cheap finance such as loans from the EIB which are not available at the municipal level (see below). However, many private operators in the retail sector have still managed to make a profit (see below).

In E&W a similar corporatisation process took place in the 1970s. Under the 1973 Water Act, water became the responsibility of Water Resources Authorities. These operated on the river basin, rather than municipal level. They were ring fenced so that funds could no longer be diverted into the local authority budget. From 1973 they were obliged to operate on a cost-recovery basis, and investment finance could be raised by borrowing from central government. After 1983 they were allowed to borrow from private capital markets. These changes shaped the sector that was privatised in 1989 (see below).

In South Africa, the water sector was restructured in the mid-1990s after the end of apartheid. The institutional framework has not changed substantially but the ethos of cost recovery as well as a commitment to ensuring universal access come under the 1997 Water Services Act. As mentioned above, South Africa has three tiers of water production (raw, bulk and retail water). In part, this has evolved as a result of the geographical and socio-economic development of the country. South Africa is classified as highly water-stressed but the country's areas of economic activity are not aligned with water availability. Water security has been achieved by large-scale

engineering and a well-developed system of dams to divert water to where it is most used. Gauteng Province, where the largest urban area, Johannesburg, is located, imports 88% of its water and relies on water from Lesotho via the Lesotho Highlands Water Project.

The users of raw water are those who take it directly from source or from large infrastructure, such as large industries and mines. In addition raw water is taken by bulk water companies who treat it before selling it on to municipalities or to other industrial consumers. Raw water infrastructure is financed "off-budget" largely under the control of the Trans Caledon Tunnel Authority (TCTA) a state-owned enterprise (SOE) established in 1986. There is a charge for raw water based on the costs of the infrastructure and it is distributed across those who use the infrastructure, rather than out of general taxation. TCTA raises private (and sometimes concessional) loan finance for infrastructure and allocates repayment costs across end users, securing financial commitments in advance. This means that the costs of specific infrastructures are allocated just to the users (mines, industries, water boards and water service authorities). This is based on the neoliberal pricing strategy known as "user pays" whereby the costs are allocated directly to users (rather than financed out of general taxation).

This approach to financing is in contrast to the integrated pooling of finance observed elsewhere, for example in vertically integrated water utilities. Furthermore this financing strategy only applies to new infrastructure and the result is that water is provided relatively cheaply to large volume consumers while those that receive water after it has been processed by water boards and municipal providers (ie households) pay a higher price. The country's 2013 water strategy envisages mobilizing more private sector finance for the "economically viable portion of water resource development; that is water supplies to users who can afford to repay loan finance, such as industries, mines and power generation and domestic users receiving high levels of water services" (NWRS2 DWA 2012b, p. 86). This approach which largely by-passes government spending (although there are some transfers from the state Department for Water Affairs (DWA)) also means that wealthy ('economically viable') users do not have to engage with government financing but are encouraged to contribute to

separate private financial structures for their own consumption. These also have the option of paying a premium to be in the bracket of “high assurance user” to ensure a more reliable water supply. Thus the application of the neoliberal pricing policy of “user pays” leads, potentially, to the hiving off of provision for the most wealthy who finance and use their own infrastructure separately from the users for whom provision is not necessarily “economically viable” (ie profitable).

In South Africa there are twelve bulk water providers (Water Boards (WBs)) that buy raw water, treat it and distribute it to industry, agriculture and municipal providers. There is considerable diversity in the economic health of water boards. Some have very high debts while others are profitable, in part due to the economic health of the region of the country which they serve. Water is then sold by the bulk WB to the Water Service Authority (WSA) (usually the municipality) which provides water to end-users. The country has 152 WSAs. Water is one of several services provided by municipalities. Paying for bulk water is a municipal cost item and water revenue goes into the general finance pool for municipal revenue. So water can cross-subsidise other municipal services.

The vertical segregation has meant that water users are considered as separate consumer groups. For the South African government, bulk raw water infrastructure has been planned for the needs of a specific sector “to the exclusion of other water users” so that the planning of bulk water infrastructure has not taken account of the water needs of communities and rural households.⁴ The result has been the construction of infrastructure and distribution networks that bypass these communities. Wealthy mineral production sits next to shack housing where residents lack basic services.

In Poland, in contrast, there is extensive horizontal segregation. Following reforms in 1990, water management was decentralised with responsibility devolved to local authorities (gminas). There are now 2,479 of these in the country. While the municipality is responsible for the provision of water there has been a step to distance the provision of water from municipal councils by establishing separate entities for water provision. The municipal authorities are required to delegate water management to separate organisational forms and there are now 1,807 of these in the



country with some providing services to more than one gmina. Of these, 656 take the form of “commercial law companies” and most of which (543) are majority-owned by the local authority (gmina). Other commercial law companies were owned by domestic capital and some had a share of foreign capital. In addition there are 582 organisations described as “budgetary establishments”; 286 “water companies” and 244 are “natural persons running business activities” (see Lis 2015, p.19 for more details). Even if water delivery is delegated, it is still the responsibility of the local authority. Water management in Poland then operates on a very small and fragmented scale in some cases. Efforts to create a separate entity for the management of the water has not always been successful and, in a number of cases, the water enterprise is owned by the gmina. In Warsaw, the municipal enterprise was converted into a public limited company – the Municipal Water and Sewage Company which is described as a joint stock company whose shareholder is the city of Warsaw. Similarly, in 2005, Aquanet SA was created as a joint stock company providing water and sewage services for the city of Poznan. Politics has been overt in the management of water in Poland with local government election candidates offering the promise of cheap water if they are elected (Lis 2015).

In Turkey the provision of drinking water was originally the responsibility of municipalities with the “Law on the Waters’ in 1926. However, in the wake of Great Depression, control became centralised. The Bank of Municipalities was established in 1933 to support the financing of municipalities’ investments. Yet it soon became clear that giving public loans to the municipalities was not enough to eliminate their financial difficulties. The Development Board of Municipalities was established in 1935 to provide drinking water to municipalities with a population of more than ten thousand under the auspices of the Ministry of the Interior.

In the post-war era, there was further institutional restructuring as a new financial institution came into existence with enhanced capability to provide drinking water for municipalities, irrespective of the number of their inhabitants. With the merging of the Development Board of Municipalities and the Bank of Municipalities, the Bank of Provinces was established in 1945 with responsibility not only for the provision of finance to municipalities for infrastructural investments including water and sewage

systems, but also to provide technical support for such projects. The establishment of the Bank was followed two years later by the foundation of the Municipalities Fund, which augmented the financing capability of the Bank and remained as the main source of municipal finance for water systems. Investments in water and sewage systems constituted the major portion of the allocations made by the Bank for the following decades. Moreover, Water Administration units were established in 1947 in the three major cities of Istanbul, Ankara and İzmir.

The General Directorate of State Hydraulic Works (DSI), established in 1953, was given the task in 1960 of developing and financing water systems for municipalities with a population of under 3000 inhabitants and all villages. DSI is a national level institution that used the sources of the Treasury but the municipality was expected to contribute in cash or in kind (equipment and labour force) to DSI investment programmes in water systems. After 1964, this task was taken over by the newly-established Ministry of Village Affairs. With the rise in urban population of major cities due to increased migration from the rural areas, DSI was to be brought back into the provision of water for major cities with a population of more than one hundred thousand people, including Ankara and Istanbul, given the inadequate financial capabilities of the municipal administrations concerned. This meant effectively the centralisation of the provision of water as DSI was to assume responsibility for the planning and construction of water and purification systems for the use of households as well as of industry. The financing of these activities would entail the provision of loans to the municipalities with 30-year maturity without any interest as proscribed by Law no: 1053 enacted in 1968. However, the management of the water and purification systems would be undertaken by the municipal administrations once they were completed by DSI (Çınar, 2006a, 2006b).

With the transition to neoliberalism from 1980 onwards, another round of institutional restructuring was initiated. This entailed a new division of labour among the institutions concerned, namely, Ministry of Village Affairs, the Bank of Provinces, DSI and municipal administrations. The restructuring brought in qualitative changes in the financing of water and sewage systems and increases in prices. With the establishment of Greater City Municipalities for cities such as Istanbul in 1984, the role of the Bank of Provinces in the provision of water diminished significantly. This

signalled the transition from Water Administration units to a new model called 'ISKI model water management', initiated first in İstanbul, and subsequently reproduced in other Greater City Municipalities. İstanbul Water and Sewerage Administration (ISKI) was initially established as a separate institution to meet one of the conditions attached to receiving loans from the World Bank in 1981. Then in 1984, ISKI became an institution of the Greater İstanbul Municipality. The main distinction of the ISKI model was its policy on the pricing of water, bringing in 'the user pays' model.

The case studies show that the structures of the water sectors continue to evolve. In the UK, vertically integrated private water companies are going to be required to separate their bulk water production activities from retail as the retail part is due to be subject to competition from 2017 for business customers. Meanwhile in Portugal, taking advantage of the current significant financial constraints in some municipal providers, there is a plan to integrate AdP into some municipal provision, thereby vertically integrating the sop. And bulk water is being consolidated with nineteen corporate entities being reduced to just four. There is also consolidation in South Africa with twelve bulk entities being reduced to nine. In Portugal the aim of consolidation is to reduce the gap between bulk water tariffs of coastal regions and the interior (where tariffs are higher) so there will be more pooling and greater regional pooling of costs and charges. In South Africa there is very weak capacity in some bulk providers, in part reflecting the socio-economic context in which they operate. The weaker are being de-established and in some cases their operations taken over by better performing WBs.

2.2 Processes: Privatisation

There has been some privatisation in each of the case study locations although the E&W case stands out with the sector having been entirely in the private sector for the past 25 years. Here, water companies were privatised by listing on the London Stock Exchange. This process has not been replicated in any other country. In E&W, infrastructure investment is entirely the responsibility of the private company. Ownership stakes in the companies are bought and sold. Since privatisation in 1989



there has been considerable change in the ownership structure and its forms. Most of the companies have been delisted from the stock exchange and are owned privately. Four out of the ten water and sewerage companies are now owned by “special purpose vehicles” (SPVs) which are shell companies put together by financial investors. These have set up complex off-shore corporate group structures which have allowed the water utilities to amass very high debt levels while staying just within the boundaries of the legal regulatory framework. These companies have added some of the debt that they used to acquire the company to the debt of the water utility with the interest payments covered by consumers’ bills.

This is a more profound transition than observed in the other countries. Elsewhere in the case studies (and in the world) privatisation in the water sector usually takes the form of a concession or lease contract (the distinction being which party is responsible for ownership of infrastructure) for a number of years. Despite extensive efforts, privatisation has not been widespread. Reforms in Portugal in 1993 have allowed the entry of private capital in the sector and this has taken different forms. In some municipal companies, private capital holds only minority stakes in corporate concessionaires and the municipality remains the majority stakeholder. This approach is intended to leverage more private finance. The country now has 29 retail private concession contracts out of 380 managing entities and two bulk level private concessions at the municipal level out of sixteen managing entities. However, while private concessions are few in number they are mostly in densely populated areas and so they cover 13% of the population in the retail sector.

Three major Portuguese and Spanish construction companies have come to dominate the water privatisations in Portugal: Aquapor, Indaqua and AGS. Aquapor has the strongest presence with numerous municipal and multi-municipal concessions across the country as well as minority stakes in some municipal companies. Aquapor was originally part of the ADP group but started to bid for municipal retail concessions and to reorganise the internationalisation of AdP, ultimately being privatised in 2008. The company is now owned by the construction firms DBB, AGS and Bragaparques. The other two firms are also owned by construction firms for which diversification arose out of the use of idle funds following the stagnation of the housing construction



market over the previous fifteen years. Overall these companies have found the water sector to be profitable. The private concessionaires AdPlanalto, AGSPFerreira and AdPFigueira have achieved operating margins of 60.4%, 55.9% and 50.5% - well above the threshold recommended by the regulator, ERSAR.

But privatisation has proved expensive in Portugal. The case study cites an audit report that shows that the municipalities bear most of the financial and operational risk, for example from changes in costs due to changes in the reference "Euribor" rate. This is in part attributed to failings in the capacity of the state agencies to negotiate contracts and the absence of monitoring units to supervise implementation.

In Poland, the water and sewerage function has been established as separate, at arm's length from the local authority. There have been few concession contracts apart from a thirty-year concession signed in 1992 to a joint venture company owned 51% by the French company, SAUR and 49% by the City of Gdansk called Saur Neptun Gdańsk (SNG).⁵ Elsewhere in the country, privatisation did not take off despite policy efforts with this aim. In Poznan for example, there was a plan to privatise the water supply in 1996 but this was rejected. According to Hall, Lobina and Motte (2005) the city council rejected the privatisation proposal on the grounds that the city had already improved the efficiency of its water services and had obtained investment finance from the EIB. While water providers in Poland have been established separately from the local authority, large-scale privatisation has been limited. The high level of fragmentation of the sector is a challenge for privatisation, and a process of consolidation is difficult due to the separate price setting process in each gmina. The establishment of a central regulator, discussed further below, would be a step towards more widespread privatisation in the sector (Lis 2015).

In South Africa municipalities are able to subcontract water services to private providers, but this has not occurred on any scale. Of the privatisation initiatives in the 1990s and 2000s only two long-term concessions remain (in Nelspruit and Dolphin Coast), and these have both now been brought under the control of a single owner, Singapore company, Sembcorp. Elsewhere in South Africa, three contracts signed in the Eastern Cape in 1999 were either terminated or not renewed. Johannesburg had a



management contract with the French multinational, Suez, for five years from 2001 but this was not extended when it expired in 2006.

While privatisation in the form of concessions has not been widespread, there has been smaller-scale private involvement, for example, with contracts to build and operate wastewater treatment plant. In South Africa, Veolia has a 20-year contract to provide water treatment through the Durban Water Recycling Project.⁶ In Warsaw, Veolia Water Solutions and Technologies built a wastewater treatment plant in 2013. The project cost 769 million euros with 40% funded by the European Cohesion Fund and 60% by the Municipality of Warsaw.⁷

Of the privatisations that have taken place, there has been some consolidation of ownership and private water companies are part of global conglomerates. Sembcorp which now owns the two South Africa concessions also owns a water-only company in Bournemouth in England. Veolia sold its Portuguese concessions in 2013 to Beijing Enterprises Water Group (BEWG) Ltd which was incorporated in Bermuda as an exempted company with limited liability and the shares are listed on the Hong Kong Stock Exchange.⁸ There are parallels with the English privatisation pattern as the Beijing company, that took over the utility CGEP from Veolia, is in part financing this with loans from the new shareholders. The shareholder loan will be paid interest annually by the utility, CGEP, to its parent holding company. So, the utility pays interest to the owners of the company on funds used to buy the company. Interest is another form of shareholder distribution along with dividends. And the interest is tax deductible.⁹

Each privatisation contract is associated with numerous risks. These include the risk that the infrastructure will not be built on time or to specification; that the currency will fall in value while funds have been raised in foreign exchange; that the cost of key inputs (eg power) will increase; that interest rates will increase; that demand for water will not be as predicted; that end users will not pay their bills; that the government will change the rules of engagement or adjust prices to reduce revenues.

Privatisation brings together agents with competing objectives and the allocation of risk is subject to contested negotiations. Investors want low risk while the procuring



authorities want them to bear high risk. The reality of risk allocation is complex, emerging in part from the bargaining positions of agents involved and this is different across locations and sectors and risks change over the course of a project. The process of privatisation itself creates and shapes risks. Where the private sector is remunerated on the basis of units sold, a fall in consumption will lead to a shortfall in revenue (see section 4 on Consumption). Privatisation contracts are based on assumed revenue streams derived from anticipated demand. While this is generally fairly predictable with water, changes in the way it is provided, for example, increases in pricing and metering, can lead to reductions in demand. In the privatisation literature, this is known as "demand risk". The case studies showed that generally, contracting firms were insulated from this risk.

In Poland, in 1993 the private water company in Gdansk installed over 800 meters. By 2005 there were 30,000 meters installed. This led to a rapid decrease in demand in Gdansk, thereby reducing revenue for the investor. Household consumption fell by 15% in a single year in 1995. The price was increased several percent to compensate SAUR's associated losses (as an 'exceptional circumstance') (de la Motte 2005). Consumers then had to pay a higher price as a direct result of reducing their consumption.

In Portugal, all the contracts had to be revised with most of the amendments referring to adjustments of expected demand as this was overstated in the initial contracts. Most cases extended the contract period. This means that the firm's revenues were maintained and paid over a longer period to compensate for shortfalls from demand contraction. In E&W private water firms are supposed to encourage customers to use less water under the Abstraction Incentive Mechanisms (AIM). Furthermore the expansion in the use of metering is also intended to reduce consumption. However, the Revenue Correction Mechanism (RCM) is intended to compensate firms for loss of such revenue and allows firms to increase prices in the next price review to compensate for a fall in demand (CCWater 2013).

These cases are discussed in more detail in the section on consumption but the point here is that privatisation changes the way in which consumption affects agents. While a reduction in the volume of water consumed may be generally desirable for



environmental reasons, with a private investor this becomes a revenue loss which reduces shareholder returns. If water were in the public domain, costs and expenditures could be revised accordingly. However, where private investors are expecting a return, they need to be compensated for a fall in demand if this is not anticipated.

The way in which private capital is engaged in water is limited in the case studies considered. E&W is an extreme outlier. In the other case studies, water providers have been created as a stand-alone corporatized entity, run along private sector lines. Water privatisation, where it has occurred, has taken the form of a fixed term lease concession but has not gone as far as transferring ownership of infrastructure to private investors. Outside E&W, privatisation has not been widespread due to limited profitable opportunities, government reluctance and public opposition. In Portugal, the privatisations that have occurred have been profitable but limited to the higher income areas. It is more difficult to attract private investors to rural areas with low incomes and higher costs. The private sector has already creamed off the most lucrative privatisation contracts which may limit the scope for further private transactions. In South Africa there was a strong anti-privatisation protest movement and, as the discussion below indicates, many end users struggle to pay for water which is less attractive for investors. There were some short-term management contracts in the country which ran their course (for example in Johannesburg) and now water is in the public sector.

This fits with global trends. Water is the sector that has attracted the least of all private investment according to the World Bank Private Participation in Infrastructure (PPI) Database. The sector has the most cancellations or projects under distress. There is also a reported trend in the sector towards remunicipalisation in a number of cities across the world including Paris and Berlin (Kishimoto et al 2015). It is only in E&W where the structure of privatisation is deeply embedded and investors have very secure returns that a return to public water provision seems extremely unlikely.

The involvement of the private sector in water in Turkey started in the middle of the 1990s through involvement of foreign finance. For example, some of the biggest water companies in the world were involved in the management and provision of water from



Antalya Municipality for 10 years; for a dam in Izmit for 16 years; and for Cesme and Bursa as well. The World Bank, Europe Investment Bank (EIB) and Kreditanstalt für Wiederaufbau (KfW) had an important role in the involvement of the private sector in water management in Turkey. As well as the banks and finance corporations, multinational firms, i.e. Suez, Thames and Serco consortiums, have provided foreign loans to the water sector in Turkey. The involvement of these companies took the form of the 'build-operate-transfer' model (Çınar, 2006b). However, it seems so far there has not been any such private sector involvement in İstanbul for water provision.

2.3 Labour

In E&W, the process of privatisation under Thatcher's Conservative government in the 1980s was associated with a direct political agenda to break the power of trade unions. The restructuring of the sector into regional water providers created a more fragmented and therefore weaker union base in the sector. Although sector workers are part of national trade unions, employment terms and conditions are negotiated at the company level. The case study shows that a growing gap has emerged between payments to directors and expenditure on salaries and wages. 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 reflecting a widening gulf between payments to senior executives and the employees in the sector. Directors' remuneration is designed to ensure that their interests are aligned with those of shareholders. Senior staff are given shares in the company so they benefit financially from the payment of dividends and bonuses are awarded in part for improving shareholder returns.

In Istanbul, there are three trade unions in the water provider, ISKI and they have seen their membership decline in the past decade as services have been subcontracted. The conditions of workers in subcontracting firms is precarious

In Portugal, reductions in labour costs – both through wage cuts and downsizing - have to some extent counteracted increased financing costs during the current financial crisis (see below). Furthermore, union power has been weakened by sector restructuring. The corporatisation processes have involved the proliferation of



“individual labour contracts” that are not covered by collective agreements. In addition, the current restructuring of the bulk sector will involve lay-offs, according to the trade unions.

3 Finance (and financialisation)

The water sectors in the case studies have been financed over time by different combinations of government funding, donor grants, borrowing from banks and bond issuance. The case studies show different levels of financial complexity and involvement of the financial sector in the provision of water. As before, the experience of E&W is an outlier with the financial sector deeply involved in the sector, and ownership in the hands of financial companies. The E&W case showed all the “classic” aspects of a financialised sop with substantial rentier transfers, a big increase in proportion of revenue going to directors at the expense of labour, financial engineering, and revenue derived from financial practices rather than the production of water. This was not so significant for the other countries.

3.1 Capital investment finance

The state has played a significant role in investment in water infrastructure in much of the twentieth century in most OECD countries (Bakker 2005). In the UK, the sector was largely in state hands until the late 1980s. In South Africa, central government grants continue to be disbursed to finance infrastructure to connect low-income communities to infrastructure networks. In addition to government finance, countries have benefitted from external grant funding. Both Portugal and Poland have received substantial investment finance from the EU. Between 1993 and 2012 28% of investment by AdP was funded by direct fiscal transfers from the EU, and support continues.

Concessional loan finance has been important, for example from the DBSA in South Africa. All countries (but not Istanbul) have had loans from the European Investment Bank (EIB) which has a specific water lending programme.¹⁰ The EIB lends to developed and developing countries and is the largest source of loan finance for the water sector compared with other International Financial Institutions (EIB 2008). In Portugal, AdP has seen a substantial increase in debt (from 744m euro in 2003 to



3,000m euro in 2013) and about 60% of this debt consists of loans from the EIB. In the case studies, the EIB lends to several water providers including the Durban water utility, eThekweni, and Welsh Water, Severn Trent and Southern Water in E&W. In Poland, the EIB has provided loans to the municipalities of Krakow and Warsaw for investment in infrastructure including for water.¹¹

According to Lis (2015, p.36), the index of financing assets with equity capital (equity capital compared to total assets) was between 62 and 75% for the median of a group of water companies analysed in a study of 144 companies conducted by the Polish Waterworks Chamber of Commerce (IGWP). The study found that the larger the enterprise, the greater the share of equity capital in the balance of the enterprise. For Lis, this raises a fundamental question regarding the relationship between the rate of return on investments and the cost of the foreign capital involved, and this will determine to a large degree the return on equity capital and decisions concerning the structure of financing the assets of a water and sewage enterprise. The European Union plays a key role in providing finance regardless of the return on capital. Debt servicing costs with the financial surplus (net profit plus amortisation to total debt servicing ie capital instalments plus interest) amounted to 3.5-4.6% for the median of enterprises under analysis (from 7.7% to 14.3% for the average). The index of above 1.2% was obtained by 85% of enterprises. Although there are limitations with this index, it is assumed that enterprises did not have a problem with debt servicing.

EIB loans have long maturities and preferential interest rates and their relative importance as a funding source for water is rising. The EIB lends to support EU water policy (EIB 2008). Bank lending supports sector consolidation with loans for the investments of service providers who operate at regional or multi-municipal levels. In Portugal, AdP was able to access EIB funding while smaller municipal water companies were not. In new member states, EIB loans have been used to support the creation of regional water utilities with appropriate operating and financial frameworks and necessary tariff reforms. The EIB states that it will "support cost recovery to ensure that service providers are financially sustainable" (p.9, EIB 2008). The EIB also supports policies to promote "Demand Side Management" which includes metering and pricing which are intended to improve what is termed "water efficiency"



discussed in more detail below. Given the extensive reach of the EIB in the water sector, this would seem to be a significant means by which neoliberal hegemony in the sector can reach across countries.

Bond issues to finance infrastructure have a long history with municipal finance and urban development. Infrastructure finance has always been interlinked with capital flows, and infrastructure bonds have been a core element of the development of modern capital markets (Gandy 2004). The case studies all showed that bond finance was standard practice to raise finance for infrastructure investment. In South Africa, the cities of Cape Town, Johannesburg and Ekurhuleni and Tshwane have issued municipal bonds mostly to finance large-scale infrastructure projects. Similarly in Poland, municipal bonds have been increasingly important. Galiński (2013) shows how these have been used to finance infrastructure in Poland, including water and sanitation in part to cover the country's own contribution to EU investments. Mostly these were purchased by commercial banks. Although the municipal bond market in Poland is small relative to most of the EU, it is the largest bond market in the countries of Central and Eastern Europe.

Public water companies, for example TCTA and Rand Water in South Africa, have issued bonds. TCTA is active in international financial markets raising money through the issue of bonds, long-term project loans and commercial papers. TCTA also uses derivatives to hedge risk exposure which is mainly the risk of changes in foreign currency exchange on the repayment of foreign loans and interest rate changes. In Portugal, AdP issued bonds of around 600 m euro to a very small number of foreign investors during the 2000s. This was to match long-term investments with long-term debt. The success of these bond market operations is attested by the low interest rates charged (1.8% interest rates in 2013).

As with TCTA, AdP has also moved towards more sophisticated financial interventions with a number of interest rate and exchange swap derivatives mostly to protect against the variability of interest rates. Most of these derivatives were contracted with international banks (Citigroup, BBVA) as the domestic banking sector lacked the necessary know-how. However, these came under the spotlight due to losses made by a number of public enterprises involved in complex SWAP derivatives. Although AdP

was one of the SOEs that was least affected in the country, the company still suffered notional losses of 25m euro in 2011 and 14m euro in 2012. The losses mainly related to interest rate swaps set up to try to hedge a rise in interest rates but after an intervention by the ECB in 2012, rates come down. Other SOEs suffered greater losses, as they had been involved in more complex derivatives. A new law has imposed stricter rules over contracting of derivatives for SOEs and these are now subject to approval from the Portuguese Treasury.

The private water companies in E&W also issue bonds, and these have been involved in the most complex financial processes of all the case studies. The English water companies that are owned by financial institutions have created securitisation structures with special purpose vehicle companies established off-shore to allow extensive debt consolidation. These financial flows are difficult to trace, and complex group structures and inter-group company transfers cloud the picture further. These companies are the most deeply entrenched in the financial sector and some have securitised payments of water bills for decades to come.

Generally, governments can access finance more cheaply than private companies. Governments are typically associated with a very low risk exposure and so they can secure finance at lower rates of interest. In addition, private investors also need to make a profit which pushes up costs. This was made explicit in the case studies where the sector regulators in Portugal and E&W calculate an expected rate of return for private investors which adds a premium to the rate of interest on government borrowing. In Portugal, the regulator recommends a target rate of return on capital based on the 10-year government bond market rate to which is added a risk premium of 3%. In E&W, the estimated cost of capital for private water companies is based on the "risk free" return on government gilts to which is added a risk premium to compensate investors for the exposure to risk associated with capital markets. Although government borrowing is cheaper, this increases public debt which governments are seeking to avoid so decision-making can be biased towards privatisation.

Largely, the nature and extent of financialisation of the water sector in the CSCs mirror the country's wider experiences with financialisation. In the UK the financial sector is



a core component of the economy, and the City of London is a global financial hub. The scale of financialisation of water is to a large degree driven by the companies that operate in this sphere (including investment banks, asset management firms and global financial companies). For Portugal, being in the Eurozone has directed the nature of financialisation as the country has benefitted from access to cheap foreign capital, and foreign bank loans have financed significant investment in the sector in the past 20 years. Financial liberalisation in Portugal opened the market to new private banks, and the privatisation of the banking sector and liberalisation of financial markets after 1989 were important for the development of a strong private domestic financial sector. The development of the financial sector was important for the development of capital markets which subsequently organised the wave of privatisations in the economy. However, financialisation in the country has been very uneven. AdP, the bulk water provider, has, with its scale of operations, become adept at financial practices. It has accessed various sources of credit and is well integrated into the international financial sphere. In contrast, retail systems are fragmented, diverse and more vulnerable to external pressure. There is therefore renewed pressure to integrate the municipality-controlled retail service into AdP. In South Africa, the nature and extent of financialisation is highly skewed, like the financial sector itself. Some water companies issue bonds and use derivatives (such as TCTA and Rand Water) while others serving poor areas with weak capacity lack any kind of financial sophistication and depend on central government support.

Countries have fared differently from the global financial crisis and the crisis in the Eurozone. In 2011, Portugal was forced to request official financial assistance from the Troika¹² to refinance public debt. In the water sector, there was greater pressure on municipalities to ensure that prices were at cost recovery levels. This process has been aided by a fall in labour costs in the public sector (a result of requirements of the country's financial "bail-out") which has off-set an increase in financing costs. However, the impact has been varied. The bulk water companies operating in areas that are more remote and sparsely populated and those with more recent investments have suffered losses due to high operating and financial costs. In E&W, the financial crisis was expected to make it more difficult (and expensive) for private investors to raise finance. This was a factor that came into the 2009 price review process when

prices were set for the following five-year period, 2010 to 2015. As a result the regulator, Ofwat, allowed prices that were generous to investors to ensure that they would be able to finance their operations. In practice, the E&W water sector has been particularly attractive for investors offering both secure returns and a haven outside the turmoil of the Eurozone so the cost of financing for water firms has been lower than anticipated in the price review and firms have made additional profits as a result, although the latest price review looks set to require a slight reduction in water tariffs.

In Istanbul responsibility for water lies with the state-owned water company ISKI which is responsible for water pricing. The pricing model is based on the idea of “user pays” and ISKI aims to make a profit of 10%. This is in contrast to the old pricing model which was run by the local council and their decision on the tariff was without any profit seeking. All the other relevant water services were given to ISKI and in this way the central state subsidies were cut and the whole water provision process started to become market-based (Çınar, 2006a). The role of the DSI and Bank of Provinces weakened and local governments were empowered. However, after the 2000s, with the changes in the central state’s policies, a new round of institutional reorganisation was put into effect, thus DSI and Bank of Provinces gained their powers back. However, the important difference between the powers of the institutions in the past and today is the change in the form of financing. In the previous period, both sets of institutions were using state subsidies to fund water provision, but in the 2000s, the institutions of the state as well as those of the municipal authorities started to resort to borrowing from international financial markets for the financing of their investment in water provision (Çınar, 2006b).

3.2 Debt

Debt has become far more significant in different ways and this was addressed in three of the case studies (E&W, Portugal and South Africa). There two aspects of debt in the sector that were addressed in the country studies. First, there is the debt incurred from borrowing by the water provider (public or private) and, second, there is debt that accumulates where water consumers have failed to pay their water bills.



The increase in debt has been one of the most defining aspects of the development of sector financing in E&W. Some companies have greatly increased their net debt and the level of gearing (ratio of debt to equity) has increased dramatically since privatisation. In the latest price setting exercise for the water sector (PR14), the regulator, Ofwat, calculated the industry cost of capital based on an assumed gearing ratio of 60 to 70%. In the previous price review exercise in 2009, the estimated level of gearing for the sector was only 57.5%. There is diversity across the companies. The not-for-profit company, Welsh Water, has the lowest gearing level, at 61.7% while Yorkshire Water, owned by a group of largely financial investors based in Jersey, has the highest gearing ratio at 82.6%.

Looking in detail at the components of gearing over the past decade, the case study shows that net debt has increased by an average of 74% while equity has declined by 37%. While the private water companies have invested extensively in the sector, the increase in gearing was not matched by an increase in fixed assets. Debt financing offers advantages over equity finance because it is cheaper and it is regarded as "tax efficient". It is also clear that the increase in debt in some companies in E&W has been used to pay for dividends to shareholders (PWC 2013). These debts are not expected to be paid off any time soon with new debts taken on to pay off old ones. End users continue to pay the financing costs of such debts with almost one third of household water bills going towards "return on capital" which covers interest and dividend payments. The interest charged in the annual accounts of England's nine water and sewerage companies increased from £288m in 1993 to more than £2,000m in 2012 in real terms.

In Portugal, during the 1990s, infrastructure investment was financed by borrowing and AdP was of pivotal importance in channelling external funding to the multi-municipal concessionaires that it controls operating in bulk water supply and waste water. AdP has had finance direct from the EU, long-term debt from EIB and bonds and short-term loans from the banking sector. While about 60% of AdP debt consisted of loans from the EIB, private banking debt accounted for about 20% of total debt in 2013 and includes loans from major foreign banks such as Deutsche Bank and DEXIA and domestic banks too. AdP also has recourse to bond markets (mentioned earlier).



The high level of debt means that AdP is vulnerable to changes in interest rates, particularly to refinancing interest rates from the ECB. The cost of AdP's debt increased from 2006 to 2008 due to the rise in the reference ECB interest rates which also influences the benchmark European interbank rate with EURIBOR. With the drop in ECB interest rates in late 2008 and 2009 the average interest rate dropped to the record low of 2.7% in 2010. However, in 2011 in the midst of the Portuguese sovereign debt crisis, the decoupling of domestic interest rates from the rest of the Eurozone is discernible. Interest rates rose from 2.7% in 2010 to 3.7% in 2012. Since then, and helped by the expansionist ECB monetary policy, interest rates have again dropped. Nonetheless, given the weight of debt in AdP, the bulk provider's balance sheet and the renewed pressure for cost recovery tariffs, recent financial instability shows the vulnerability of consumers to fluctuations in international financial markets. Higher interest rates result in higher flows channelled from consumers, through tariffs, to the financial sector.

The retail water sector in Portugal has been more vulnerable to fluctuations in financial markets than the bulk sector as the smaller scale of operations at the municipal level means that service providers have to pay higher rates of interest than AdP. Retail water companies have seen interest rates rise from 5.4% in 2001 to 7.4% in 2011. Private concessionaires were particularly affected by the rise in interest rates with higher levels of indebtedness (as measured by ratio of debt to assets). However, this has not prevented them from earning significant returns with operating margins in the region of 21.7% and considerably higher for some private concessionaires

In South Africa, in contrast, debts of water boards (from borrowing) have fallen. Aggregate long-term debt has decreased from R7bn to R3bn between 2004 and 2011 while equity levels have almost tripled over the same period. This is mainly attributable to Rand Water and Umgeni Water reducing their debt levels substantially. While financialisation is not deeply embedded in the sector, a review by SALGA in 2013 indicated that a number of WBs were seeking prices to provide a higher net profit margin than previously. The justification for a higher margin is the need to obtain or maintain a minimum interest rate cover to satisfy lenders (SALGA 2013, p.8). The municipalities in South Africa are also not heavily indebted (at least in terms of loans)

although they borrow, with some issuing bonds and taking out bank loans. The water utility in Durban, eThekweni, has stated its policy to minimise dependence on borrowing in order to reduce future revenue committed to debt servicing and redemption charges, and it maintains a gearing ratio below 50%.

These three case studies show diverse experiences with, and attitudes to, debt finance across and within countries. High debts are not an essential requirement for water financing, and some public utilities have made an effort to keep borrowing costs down. In E&W debt finance has grown dramatically for some companies and this is associated with a large increase in financing costs. While such an increase in any other expense (for example, labour) would be regarded as inefficient, distributions to the financial sector are not categorised in this way.

Debts in the sector have also risen due to unpaid bills. Both Portugal and South Africa have a growing backlog of unpaid bills owed by municipalities to the bulk water provider. In Portugal, municipalities have often refused to adopt cost recovery principles despite pressure from the regulator, ERSAR. They have not increased tariffs and some do not charge for waste water at all. This has led to mounting debts owed to bulk concessionaires (eg AdP). These have escalated with rising bulk tariffs and deterioration of municipalities' budgets with the new financial rules imposed by the troika memorandum. From 2007 to 2011 their debt almost doubled reaching 400m euros in 2011 and 535 million in 2013.

In South Africa, there is a similar vulnerability in the sop. Municipalities owed US\$320m for bulk water at the end of June 2014. The issue here is not that municipalities refuse to increase tariffs to cost recovery levels (as in Portugal) but that revenue collection is low at the municipal level. Analysis of municipal finances indicates that households have amassed substantial debts in unpaid water bills, and this has led to the municipalities' failure to pay for bulk water. Reference is often made to what is termed a "culture of non-payment" which derives from protests in the apartheid era. In addition there are illegal connections among poor and wealthy communities. There is also compelling evidence to indicate that water tariffs are unaffordable for most of the population. In E&W, the proportion of household bills unpaid has been increasing and affordability is falling.



These three case studies all raise concerns regarding increasing indebtedness. In E&W and South Africa, more households are struggling to pay their bills while, in Portugal, municipalities have kept prices low but are amassing debts to bulk water providers. Despite different structures and contexts, the financing of water in each of these sops is generating significant increases in indebtedness at different stages of the production chain which may be creating instability. In Poland water enterprises finance their activities primarily with their own capital. Foreign capital is mainly obtained from European Union funds with a relatively low share of commercial loans. Ownership concentration (with one gmina serving as an owner) led to obtaining a minimum net return on sales by an enterprise. The economic profit constituted a minor objective for such enterprises. In the majority, their owners did not aim at obtaining higher profits from the activities of water and sewage service enterprises and the realisation of the right to a dividend. According to Lis (2015, p. 34), such actions were “probably not accepted by the local communities”.

In Istanbul, between 1998 and 2000, the investments of local governments in drinking water were as much as the investments of DSI and Bank of Provinces. However, almost half of the rising capacity of local government spending was gained from foreign finance. It was also evident in DSI's finance sources that almost a quarter of its investment was financed from outside the country and, in 2003, it has risen to cover half of the investments. However, the investments of Bank of Provinces remained in equities. While local government investments declined after 2000, central state institutions' investment rose. The Bank of Provinces, as well as the DSI, started to increase their investment by obtaining foreign loans. For example, the Bank of Provinces signed a project worth 213 million Euros with the World Bank in 2006.

4 Consumption of water

As mentioned above the sop analysis aims to consider the chains of provision that connect production with consumption. As shown in Table 1 above, access to water has increased considerably and is approaching universal coverage in all of the countries except South Africa where low rates of access persist in some rural areas. Consumption of water is not just about the provision of physical infrastructure. It also needs to be affordable and so is determined by pricing and income levels.

Table 2 shows the price of water in Euro/m³ for the largest cities in each of the case study locations along with the figure for GDP per capita. Although incomes vary substantially there is not such a diversity in water prices. In Warsaw and London, water is charged at a flat rate regardless of volume consumed while Lisbon and Johannesburg have an “increasing block tariff” (IBT) discussed below.

Table 2: Water prices in the largest cities of the case studies

	Quantity (m ³)/month	Currency*	Euro/m ³	GDP/capita (Euro)
London (£)		1.32	1.02	47,237
Lisbon (Euro)	Up to 5		0.25	26,805
	6 to 15		0.65	
	16 to 25		1.53	
	>25		1.93	
Johannesburg (Rand)	Up to 6	Free		13,529
	6 to 10	5.84	0.42	
	10 to 15	9.27	0.66	
	15 to 20	12.91	0.92	
	20 to 30	16.86	1.21	
	30 to 40	17.88	1.28	
	>40	21.98	1.57	
Warsaw (PLN)		4.20	.99	40,232

Istanbul	Household	4.13	1.37	
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*Converted to Euro at rate prevailing on 31.12.2014 (www.xe.com)

Sources: Thames Water Metered Charges, EPAL Water Charges, Johannesburg Water Charges; Brookings Global Metro Monitor Map 2013-14.¹³

In Poland tariffs are set every year on the basis of “necessary revenues” which are allocated across recipients in different ways and the water and sewage enterprise chooses the structure and type of tariff according to different criteria. Water tariffs are supposed to cover all the costs associated with running the business activities of enterprises in the water sector and to “bring a decent profit” although water companies also benefitted from some subsidies from the local authority (Lis 2015, p.26).

Over the past three decades, in many countries, water has become classified as an economic good rather than a public service. This process has its origins in what are known as the ‘Dublin Principles’ the fourth of which reads: “Water has an economic value in all its competing uses and should be recognized as an economic good”. The principles were formally adopted at the United Nations World Summit in Rio in 1992 and have since been repeated in numerous policy and strategy documents (for example the Global Water Partnership founded in 1996 by the World Bank, UNDP and SIDA). Significantly for most of the case study countries, this approach to water is incorporated in the EU’s 2000 Water Framework Directive (WFD) (Directive 2000/60/EC). According to the WFD “Adequate water pricing acts as an incentive for the sustainable use of water resources and thus helps to achieve the environmental objectives of the Directive”.¹⁴ This policy approach is supported by a discourse of scarcity both of resources (in the context of climate change) and of finance (particularly since the financial crisis).

EU member states had a deadline of 2010 to establish water-pricing policies according to the terms of the WFD. The principles of cost recovery and “polluter pays” were to be applied to all water services (EU 2010). Cost recovery pricing in E&W was introduced in the 1970s and predates the WFD. In South Africa cost recovery was a core principle of the country’s post-apartheid water policy as articulated in the



Ministry's 1994 White Paper. As shown above, the involvement of the EIB also suggests the South Africa has a commitment to the EU's policies of "water efficiency" and "demand management".

All countries in the study incorporate some notion of "cost recovery" in their pricing policy which requires that water tariffs are set at a level that covers the cost of production. This also known as "economic pricing". The two purported advantages in this way of setting prices are that, first, the water utility will be financially sustainable and, second, consumers will become aware of the economic cost of water production and will adjust their consumption appropriately (ie "demand management"). Cost recovery is promoted as an antidote to politically-motivated pricing where low water charges are used to garner political support. To be effective in reducing demand, cost recovery also requires end users to be metered. All of these water sector reforms are portrayed as measures to improve "water efficiency" (see for example EIB 2008; Ofwat 2014).

There are, however, major limitations when it comes to applying the concept of cost recovery. While presented as scientific and politically neutral, there is considerable discretion in how cost recovery is adopted and calculated in practice. The allocation of costs is a question of negotiation and contestation. The evidence from the case studies indicates a number of ways in which the approach is moulded to suit some agents over others. Cost recovery in practice creates specific distributional outcomes in the sop and raises a number of concerns.

First, capital investment costs have proven to be particularly malleable when it comes to applying cost recovery pricing techniques. For example, in E&W, prices are not based on actual costs but on assumptions about future costs. The terms of the Price Review in 2009, where prices were set for the subsequent five years, were expressly generous to water companies in part because the financial crisis was expected to impede firms' ability to raise finance. In practice, financing costs were considerably lower than assumed and private companies have benefitted financially, effectively creating a transfer of finance from end users to shareholders in the name of cost recovery.



Second, in all of the case studies – and most of the world – the construction of water infrastructure predates the application of cost recovery pricing. Historical costs tend to be neglected in cost recovery approaches. In E&W, the capital valuation of infrastructure at privatisation was a fraction of its actual value so company shares were oversubscribed at privatisation and share prices increased rapidly. The costs of pre-existing infrastructure do not appear in cost recovery calculations which tend to centre on new investment costs. This is a sharp issue in South Africa where pre-existing infrastructure served the white elite in wealthy areas, and these costs are not recovered. However, new investment costs to roll out the network in areas previously without infrastructure are ascribed to less wealthy areas. Cost recovery in practice seems to mean that new investment is charged and older investment is not, advantaging those who are already provided for.

Third, where companies are allowed to make a return on capital investment, there is a bias towards capital investment expenditure over other costs. In E&W the pricing structure has created a “capex bias” and in Portugal there have been tensions between AdP and municipal providers. AdP has been investing more than is required for existing water demand. The municipalities been required to pay the costs of this investment expenditure in the name of cost recovery even though the costs are higher than warranted by demand.

Fourth, both E&W and Portugal have seen a change in their cost structures with a declining share of income going to wages and an increase to financing costs which reflects falling trade union power, troika conditionality in Portugal and an increase in rentier payments. Higher labour costs are seen as an indicator of less efficient production while higher interest payments are not judged in the same way. The ethos of cost recovery, while superficially neutral and scientific, is in practice supportive of this changing social structure and its adverse distributional implications.

Fifth, an obvious contradiction in the “demand management” concept is that, a fall in demand, can lead to an unwelcome reduction in incomes for private operators that are remunerated on the basis of units sold (see above). This is overcome in E&W with a “revenue correction mechanism”, whereby loss of income due to a reduction in consumption is recovered in a price increase in the next price review period. Thus the



application of cost recovery principles to promote demand management means in practice that customers have to pay a higher price for reducing their consumption in response to price signals. If you try to save money by using less water your price will go up. The less you use the more you pay per unit. Consumers collectively may as well do nothing.

Finally, outcomes can be regressive. It is more expensive to provide water to remote rural areas and to high-density slum areas located on the margins of cities than affluent urban areas or high volume industrial consumers. Those that face higher water charges are often the less wealthy communities. The effects depend on the extent of decentralisation. Greater pooling and centralisation can lead to a more equitable distribution of costs across users. In South Africa, the adoption of cost recovery has meant that large volume water users that can access bulk water directly pay a lower unit price than households.

In practice water prices are heavily contested. In E&W the price review process entails extensive negotiations between water companies and the regulator and considerable amounts are spent on consultants by all parties. In Portugal, the sector has been a battlefield between municipalities and the central state mediated by AdP and ERSAR regarding the definition of water tariffs. In Portugal since 2014 the regulator has been given the power to set prices and impose these on municipalities. This has been in part the result of the financial crisis creating a more favourable climate for the imposition of cost recovery principles with an emphasis on the financial stress of the sector. According to Lis (2015), in Poland, the water and sewage service sector is not supervised by a central regulatory authority. It is the role of every gmina to supervise the functioning of water and sewage enterprises under the Act of 7 June 2001 on collective water supply and collective sewage discharge

Countries vary in the measures they take to support consumption by low-income households. Table 2 above shows that Portugal and South Africa do so through a lower tariff for low consumption levels. In South Africa, low-income households (and in some locations all households) are eligible for a free basic amount of water equal to six cubic metres a month, known as "free basic water" (FBW) policy. There are, however, problems with this. The IBT structure requires metering and so does not work for the

poorest households who may lack a connection (more of a problem in South Africa than Portugal). Furthermore, high household size can quickly push a household to higher levels of consumption and this is more common in low-income families. In Portugal, this is addressed to some degree with the Family Water Tariff which charges a decreasing tariff for higher tiers for households containing five or more members. There is also a social tariff based on proof of low household income in most water providers. However, their scope is very limited, reaching only around 4% of consumers while the poverty rate in the country is 18%. In addition, the average subsidy is rather small at around 2.2 euros a month per household.¹⁵ ERSAR expects to impose social tariffs to all providers in 2016.

The IBT is not implemented in E&W. There is some limited financial support for low income households but water companies are restricted in the social support that they are allowed to offer. There has to be a business case for support meaning that the costs of support for disadvantaged customers must be "cost-neutral" and must be outweighed by the reduction in debt recovery costs.

When it comes to the human right to water, countries also vary in the treatment of households that fail to pay their water bills. In E&W it is illegal to disconnect a water supply for non-payment. This is not the case in the other countries. In Poland, a water and sewage enterprise can cut the supply of water or close a sewage terminal if the recipient of the services has failed to settle the payment due for two complete accounting periods (usually two months), or if there has been illegal consumption of water or illegal discharge of sewage. If the supply is disconnected, the water enterprise is obliged to provide a supplementary point for drinking water. This is usually outside the house but within the town. But there is no data on how many have been disconnected from the water supply systems for non-payment. In Istanbul, water supplies are disconnected for non-payment and the water meter is removed if the debt is not paid within six months.

In South Africa, disconnection for non-payment is routine and this can wipe out the social benefit of access to a free basic water supply. Bond and Dugard (2008) cite World Bank advice to the first post-apartheid water minister, Kader Asmal, that there needed to be a "credible threat" of cutting the service if the country was going to attract private



investment in municipal water provision. More recently, given the potential public health risks associated with disconnecting household water supplies, innovative approaches have been explored such as installing flow-limiters and pre-payment meters for water. Some households have managed to keep consumption low to stay under the FBW threshold but for many this has meant that life is dominated by keeping water consumption to a minimum. An increased policy focus on revenue management has led in some cases to the contradictory situation where, on the one hand, government-funded infrastructure is rolled out to connect low-income areas while, on the other, these are then disconnected for non-payment. For the sop approach this is an example of the conflictual and contested ways in which the sop is constructed.

In E&W, bad debts in the sector due to non-payment of bills have been increasing at a significantly faster rate than for other utilities even though prices for other services such as energy have increased faster and use up a higher proportion of incomes. Here, end users cannot be disconnected and debt support agencies such as the Citizens Advice Bureau advise households prioritise more significant bills (such as housing costs). There is considerable evidence cited in the case study to show that those that do not pay their bills are poorer households. The regulator, Ofwat, is exploring the possibility of introducing some of the punitive measures that have been implemented in South Africa that fall just short of disconnection, such as flow limiters.

The case study reports showed diversity in terms of affordability. In E&W, average household bills have increased by 40% in real terms since privatisation in 1989. Prices have remained more or less steady for the past five years. However, real wages have fallen substantially since 2009 and a rising proportion of households is struggling to pay for water. In 2011-12, 12% of households spent more than 5% of their income on water and sewerage bills compared with 8% in 2001/02. There has been an increase in bad debts in the sector, and this has been rising faster than debts for other utilities.

In contrast, in Portugal water charges are low and just 1% of household expenses is devoted to water supply and waste water, which is below the OECD threshold of 3%, although there is an upward trend in prices. For the bottom income quintile, water charges represent 1.5% of household spending and there is considerable diversity

across the country. The ratio of lowest to highest charges is 1:31. of average monthly bill.

Meanwhile, in South Africa there is evidence cited in the case study to show that water is not affordable for 63% of households in the country. The Report by the Department for Water Affairs states: "Given the high percentage of households in South Africa that are not expected to be able to pay for water, it is thus unsurprising that the revenue collected by almost all municipalities is insufficient to cover operating and maintenance costs and that almost all municipalities are heavily dependent on operating subsidies. This in turn affects the ability of municipalities to pay the water board for bulk water charges" (DWA 2014 p.12).

These findings support the commentary above, indicating that, while tariffs are affordable in Portugal, they are too low to cover the costs of bulk water. In South Africa, tariffs would cover costs but they are not paid because they are unaffordable. The result is the same with the retail water segment accumulating debts to bulk water providers in both countries.

The case study countries provide some support for low income households, and in 2010 the United Nations General Assembly explicitly recognized the human right to water and sanitation (UN Resolution 64/292) and acknowledged that clean drinking water and sanitation are essential to the realisation of all human rights. Explicitly this means that everyone has the right to a minimum level of water for basic consumption. This has been set at 50-100 l/c/d (enough to meet basic needs according to WHO) and it needs to be "affordable". On this, the UNDP suggests that water costs should not exceed 3% of household income. Countries vary in the extent to which the right to water is reflected in national legal frameworks. South Africa is one of the few countries that make an explicit reference to the right to water in national legislation.¹⁶

The human right to water is reflected to some degree in sector policy (although not explicitly linked to human rights). Social policy for water varies across the countries. The IBT provides cheap water to low volume consumers and free water to some households in South Africa. In E&W, a (slightly) discounted price is provided to a number disadvantaged households that meet particular criteria. As with the rights-



based approach, these policies are based on meeting the minimum required for basic needs. Where “equity” comes into policy debates, this relates to providing individuals with a small amount of consumption. There is little support for more substantive measures to improve equality of outcomes in the sector. Given that everyone has to consume water, alternative financing methods could lead to more equitable outcomes, for example financing out of progressive income tax or (as is still the case in much of the UK) water bills based on rateable property values. However, the neoliberal ethos, is enshrined in the EU WFD which rules out alternative approaches to sector finance.

A legal challenge was raised in the courts in South Africa on the grounds that the FBW amount was not sufficient and the prepayment meters were unlawful as the South African Constitution guaranteed a right to water. After appeal it was ruled that 42 l/c/d is sufficient for the FBW amount and prepayment meters are lawful.¹⁷ The rights-based approach then comes down to tweaking the limits of how much water is necessary for consumption. The wider inequalities escape scrutiny. The international water rights framework does not exclude cost recovery for water services and nor does it stipulate the provision of free water or the public ownership of water supply. It simply specifies that everyone is entitled to affordable water for personal and domestic uses. This basic needs approach, rather than calling for a fair distribution of water access and pooling of resources, only provides for the bare minimum for basic survival for the most disadvantaged and does not affect the high volume consumers. This could be considered to be not so much about redistribution or social equity so much as smoothing away the harshest social costs of neoliberalism.

5 Role of the state

For the sop approach, the role of the state is understood in terms of relations between agents. This is reflected in but not limited to the institutional structures. The state is not a monolithic entity but has diverse and sometimes conflicting roles in the provision of water and these vary across countries. The state is the provider of water, the regulator, the financier and also a consumer. Even within some facets of state activity there can be conflict (for example with environmental and economic regulation). States themselves have to respond to supra-national agents. Most significant in the

case studies is the European Union which sets policies in the WFD which need to be adopted by the governments of member states.

A number of publications in the last decade have concluded that access to water is a political issue. Most cities produce enough drinking water to satisfy human health but the available water is often distributed in a highly unequal manner (Swyngedouw 2006, UNDP 2006). Access and affordability are political questions related to economic and political power rather than absolute scarcity. This is borne out in different ways in each of the case studies. States set the parameters which allow interest groups to access and use water resources in different ways with consequences for the distribution of wealth and power in society.

The institutional structure varies in the extent to which the provision of water is separate from other operations of the state. In E&W, water companies operate independently of the state apart from regulation. Meanwhile, in South Africa, water is one of several basic services provided by municipalities with water revenue incorporated into the overall revenue base. In Portugal also for most municipalities, water revenue goes into the general finance pool. However, in both Portugal and South Africa municipal debts to bulk water providers have been rising. In SA, there have been suggestions that water-related central government subsidies to municipalities should be paid directly to bulk providers. In Portugal, the regulator, ERSAR, is fighting to require municipalities to ring fence water revenues and force those that are indebted to ADP to transfer at least half the tariff revenue to bulk providers. In Poland water providers are regulated by the local authority (gmina) which is responsible for authorising tariffs but there has been an on-going discussion in the country about introducing a central regulator. Lis (2015) raises some concerns about the role of the gmina as the regulator of water. The gmina is not independent, often having a share in the ownership of the water provider and also subject to political pressure to lower the price of water and sewage. According to Lis (and citing the President of the Chamber of Commerce, p.31) water is still regarded as a political vote-winner. Local government officials keep prices down and use the promise of cheap water as an election banner. In addition, gminas often lack the technical capacity for effective regulation and the council of gminas failed to adopt a resolution on the authorisation

of tariffs. In addition, the establishment of a central regulator raises administrative challenges, for example with such a large number of gminas (and there are 2,479) and each with their own tariff.

There are different approaches to regulation in the countries studied. In E&W the economic regulator, Ofwat, has considerable influence on the sector, and there have been recent innovations to try to increase the role of consumers in corporate control with the creation of Customer Challenge Groups (CCGs), established at the behest of the state. Portugal also has an independent regulator, ERSAR, managing over 500 operators in the water and waste sector. Unlike Ofwat, ERSAR regulates water quality while in E&W this is the responsibility of a separate government agency, the Drinking Water Inspectorate. In Poland, water enterprises are regulated by local authorities which operate on such a small scale that many lack capacity for effective regulation, and there are calls for a national regulator. In South Africa, regulation is the work of different elements of government. The Department for Water Affairs is responsible for water but the Treasury sets limits on municipal borrowing.

In Turkey, the role of the state in water provision and management has changed over time. Local governments were the main state bodies in the provision of water until the 1930s. Since then, water provision was centralised and different institutions (i.e. DSI, ISKI and Bank of Provinces) have shared the power of water provision and management. However, as Turkey has become more involved with global economic dynamics and developed closer relations with the World Bank, there has been a transfer of power to the local municipalities in order to source foreign debt and create public private partnerships.

In South Africa large consumers are able to pay in order to ensure that they receive a more secure water supply than others (known as "high assurance" consumers). The country's "economically viable" consumers of raw water are encouraged to finance their own water infrastructure "off-budget" so that they can by-pass government funding procedures. Since 1994 policy has been based on separating those that can afford services, and for whom providing water was 'financially viable', from those who cannot and who need to receive government subsidy. The state then is left with the provision of services that are not economically viable and does not have revenue to do



so from the viable elements. The scope for cross subsidy is diminished. The state also faces competing priorities with pressure to promote economic development. These tensions are clearest in South Africa, where mining development threatens to pollute the water supply for Gauteng Province and poor water quality can have far-reaching impacts, for example on agricultural production. Yet the National Development Plan proposed expansion in agricultural activity even though water supplies are likely to be insufficient. The case study shows that the state is pursuing several agendas simultaneously and these are in conflict with one another with resolution liable, in the case of water, to the better off and powerful.

Water prices are set by the state. As shown above, this is far from a scientific or politically neutral process. Rather the price reflects a distribution of finance across end users and producers. As a result water pricing is a contentious issue. In E&W, pricing is the source of intensive negotiations between the regulator and the private water companies with the regulator wanting to keep prices down and companies pushing for as high a rise as possible. Prices are contested in different ways elsewhere. In Portugal municipalities disregard instructions from the regulator, ERSAR, to increase prices to cost recovery levels and keep them deliberately low. In Poland also, it appears that local authorities have manipulated water prices to keep them low in order to garner political support. Clearly cost recovery policy and rhetoric are distinct from practice.

The case studies found considerable diversity both across and within the case studies regarding the capacity of state organisations. In Portugal, the state bulk water provider, AdP, operating on a national scale, has been able to acquire financial skills and accesses domestic and foreign financial markets. In contrast, some small municipalities have shown capacity constraints, for example in negotiations with private concessionaires and in monitoring contracts.

In South Africa, some water boards have been heavily reliant on government subsidy while others (Rand and Umgeni) issue bonds on the capital markets. An assessment of water service authorities in South Africa found that most are not performing well. Revenue collection was the indicator with the greatest failings. Capacity constraints lead to a downward spiral of weak revenue and poorly maintained infrastructure and

deteriorating quality. Water treatment plants, bulk water supply, reticulation and water storage systems are not well maintained. Many are in disrepair across the country and sanitation systems are often in a very poor condition.

Weak state capacity has adverse impact on social policy. In South Africa central government grants have been underspent due in part because local municipalities have not been able to disburse the funds. This can mean that grant funding is reduced in the following year. Weak municipalities are less able to monitor private contractors, and this increases the risk of corruption and maladministration. This has also been the case with private concessions in Portugal. In South Africa, the municipalities that most need the funds are the least able to spend them. According to a WRC study in South Africa, "municipalities are continuously in a crisis management mode with limited management information and poor decision-making processes, financial and technical management" (McKenzie et al 2012 p x).

In E&W the state has a regulatory function and does not provide water directly. Capacity levels are not regarded as a limiting factor in this sop. However the case study paper highlights some constraints and challenges in the regulatory process. The price of water is a locus of intense negotiation between the regulator and private water companies. The state's position is affected by the practical challenges of dealing with the uncertainties of future costs, the need to ensure that the sector (and the country) is seen as an attractive investment opportunity and the impenetrable financial engineering conducted by some private operators. While state capacity is not a constraint on the provision of water, the financial innovation in the sector is increasingly difficult to control and greater reliance is placed on external financial monitoring bodies such as credit ratings agencies to provide information of company performance.

Each of the case studies shows that sector finances are manipulated for political ends in different directions. In E&W, private companies are pushing for high prices in order to increase shareholder returns. The state is faced with a balancing act in terms of meeting investors' demands and consumer welfare. In Poland and Portugal, however, the municipalities want to keep prices low to suit local political ends. While cost



recovery pricing has been adopted throughout the case studies, in practice this is open to manipulation to suit political ends.

In Portugal the EU has a substantial impact on policy with three particular aspects that shape the water sop. First, the Maastricht Treaty fiscal criteria required a budget deficit of at most 3% of GDP which led to large constraints on public investment. As a result, direct public investment in water after 1993 was almost non-existent. At the same time, to meet the terms of the WFD, substantial investment was required and much of this was financed by direct fiscal transfers from the EU (between 1993 and 2012, 28% of investment by AdP was funded this way). Finally, the WFD requires that prices cover costs. This structure created a need to source new funding arrangements which included direct subsidies from the EU and loans from the EIB with long maturities and low interest rates. The need for more investment while setting limits on government borrowing leads governments to turn to the private sector. The neoliberal framework in Portugal has been driven more or less by a set of external constraints and opportunities. But the transformation has also been promoted by domestic agents and has been beneficial for particular segments in the country in particular financial and construction sectors.

In E&W where the national infrastructure plan relies heavily on private investors, the state needs to ensure that their needs are prioritised (over end users). Companies go to considerable lengths and expense to lobby national governments and the EU to promote their interests and this must have some impact (or they would presumably stop).

The case studies show diversity and conflict in the role of the state as different agents compete for economic and social control. In Portugal there is tension between municipalities and the regulator, in E&W between private water companies and the regulator, while in South Africa social tensions are rising as basic services are provided to large industrial consumers but denied to low-income households. States have responded to such tensions in different ways, deriving from historically-evolved structures and processes.

6 Conclusion



This review of the financing of water shows that similar processes and structures can be observed to varying degrees across the countries, and these are underpinned by a neoliberal ethos in each case. The sop approach highlights the contestation and conflict between agents that leads to diverse results from the implementation of similar policies. Contestation emerges over pricing with upward pressure in some locations (from private providers in E&W) and downward pressure in others (from local politicians in Poland). Contestation is also evident in the battle for control of water and this is particularly the case in Portugal where municipalities have been strongly resistant to the growing power of the regulator, ERSAR. The National Association of Portuguese Municipalities (ANMP) has been opposed to the role of ERSAR in setting tariffs and the privatisation of the waste services companies. ANMP also supports the on-going legal battle between some municipalities and private concessionaires in retail systems.

There is also contestation over usage of water and this is mostly predominant in South Africa with economic expansion in the National Development Plan requiring more water than is available in the country. Water is directed to industries with economic and political weight while poor households often struggle to pay and many are disconnected.

Despite the contradictions and questionable welfare impact of neoliberal water policies, opposition is not widespread outside South Africa. In Portugal, there is very little resistance to tariff increases. The resistance movements that exist are organised around the trade unions in opposition to privatisation. In South Africa, there have been extensive protests against the policy of disconnection and forced installation of prepayment meters with residents of Soweto mounting a legal challenge against the City of Johannesburg.¹⁸ In E&W water provision gets little media attention compared with other basic services that consume a larger proportion of the household budget such as housing and energy bills.

This comparative study of water provision shows that while the countries have adopted similar neoliberal policies, these have played out differently depending on the context. The role of private financial capital has been highly significant in England and Wales while in South Africa the system of provision continues to be framed by the extensive



inequality of the apartheid era and the country's industrial structure. In Portugal the position of the country in the EU periphery has been significant and Poland's relatively recent transition has shaped sector development.

This study has also brought out some commonalities in the different contexts. The state has had a significant role in providing services, despite efforts to increase private management and finance. Even where provision is fully privatised in E&W, the state is closely involved through regulation. The policy paradigm that is prevalent in all of the case studies is one of linking costs and charges as closely as possible to the individual consumer, with metering and initiatives such as "cost recovery" and "user pays". However, the discussion above demonstrates that water costs are not always clearly identifiable nor easily assigned to individuals or groups. Furthermore costs are likely to be highest for the most difficult to reach and those who need new investment. Taken to its logical conclusion, this policy approach risks charging the highest prices to those who can least afford it. Social policy in the sector is strongly underpinned by a business perspective and designed to smooth the rough edges off the above structure. Equity is addressed in terms of meeting basic needs rather than addressing redistribution. This is, however, the only policy game in town, particularly with the weight of the IFIs ruling out alternatives. Neoliberal policies are widely depicted as politically neutral and scientifically objective but, in the water sector, the sop approach shows that there are winners and losers and outcomes stem from embedded power relations which are specific to the individual locations.

¹ See Bayliss, Fine and Robertson 2013 for more details on these and how they relate to the provision of water and housing.

² The nature of neoliberalism, with application to water and housing, is the subject of a separate thematic report.

³ These data are all from the Joint Monitoring Programme which compiles indicators using several sources but there are inconsistencies with some national level data. The Central Statistical Office in Poland puts the percentage of the population connected to the public water supply at 88% for 2011 (GUS 2013).

⁴ Department of Water Affairs General Notice, Notice 888 of 2013, No.36790

⁵ www.sng.com.pl

⁶ www.veoliawaterst.co.za/municipal-water-treatment

⁷ Veolia Press Release, 29 March 2013.



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- ⁸ “BEWG successfully acquired Portugal assets of Veolia Water” Press Release, Beijing Enterprises Water Group Ltd, Hong Kong, 25 March 2013.
- ⁹ “BEWG successfully acquired Portugal assets of Veolia Water” Press Release, Beijing Enterprises Water Group Ltd, Hong Kong, 25 March 2013.
- ¹⁰ <http://www.eib.org/infocentre/publications/all/eib-s-water-sector-lending-policy.htm>
- ¹¹ <http://www.eib.org/projects/pipeline/2006/20060253.htm>
- ¹² ECB, IMF and EU.
- ¹³ <http://www.brookings.edu/research/reports2/2015/01/22-global-metro-monitor> (Accessed 9th March 2015).
- ¹⁴ http://ec.europa.eu/environment/water/water-framework/info/intro_en.htm
- ¹⁵ <http://www.epal.pt/EPAL/en/menu/customers/tariff/special-tariffs>
- ¹⁶ See righttowater.info for details of the status of the right to water in different countries.
- ¹⁷ See court ruling, *Mazibuko and Others v City of Johannesburg and Others*, www.saflii.org
- ¹⁸ See court ruling, *Mazibuko and Others v City of Johannesburg and Others*, www.saflii.org

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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

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Published in Leeds, U.K. on behalf of the FESSUD project.