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Prospects for financialised water provision:  
Going beyond public/private ownership debates

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# Prospects for financialised water provision: going beyond public/private ownership debates

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## Abstract

In the last decades, water provision has undergone profound transformations. After the disappointing results of various privatisation experiences, both in developed and developing countries, a movement towards remunicipalisation of water provision took place. However, the return to the public domain of water systems has not entailed a retreat of private capital. Through the scrutiny of recent developments in Portugal, this paper argues that financialisation of the water sector has enabled a more pervasive and enduring participation of private capital, involving multiple institutional arrangements. This resulted in the increasing capture of income from household water bills by the financial sphere. A future scenario for the financialisation of water provision is presented, identifying the various new ways whereby finance may exert an ever growing influence over the sector.

Key words: Financialisation, Water provision, Portugal

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# Prospects for financialised water provision: going beyond public/private ownership debates

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## 1. Introduction

Water provision underwent major changes throughout the past decades, including new management practices (corporatisation), privatisation and an increasing role of private finance. Pioneered in high income countries, especially in England and Wales, these transformations have been replicated around the globe, albeit with significant hurdles, particularly in developing countries, and often with the sponsorship of international organisations, such as the European Union (EU), the World Bank or the Organisation for Economic Co-operation and Development (OECD).

Notwithstanding context-specific differences, the international movement towards the privatisation of water has been highly contested. Successful opposition has resulted in significant setbacks for this policy agenda, as the re-municipalisation of many systems, as was the case in Buenos Aires, Paris or Berlin (Ahlers, 2010). While major multinationals, such as Veolia, Suez and Águas de Barcelona, have retreated from many markets and been replaced by public entities, private finance continued to expand and become increasingly influential at the global level. Indeed, as financialisation processes progressed, entailing the growing role and power of financial markets, agents and motives in the economy and society (Epstein, 2005), the debate over public or private ownership of the water utilities has lost relevance as a measure of the continued expansion of private interests in the sector. Financialisation of water provision has diverse configurations in different countries, influencing provision in both public and private owned utilities. This is not only symptomatic of the plasticity of finance, but also of various ways by which private capital has entered the sector, ranging from more conventional privatisation processes (e.g. in the UK) to the rise of varied forms of public-private-partnerships (PPP) around the world.

At first sight, the varied ways in which private capital has expanded in the water sector may hinder foresight exercises both for the sector, in general, or for the role of finance in water provision, in particular. The water sector has its own specificities, which stem from the number of heterogeneous agents involved (consumers, local municipalities, central state, construction companies, financial

agents), whose power and influence is variegated at the regional and national levels. Capital's capability to permeate different provision arrangements should be, moreover, understood in light of the recent international financial crisis that affected, with asymmetric effects, the on-going neoliberalisation and financialisation processes in different countries. This new environment reinforces the importance of taking into account context-specific interactions between finance and water provision systems in order to better pinpoint the contents of financialisation in its geographically variegated forms, and their future implications (Peck and Theodore, 2007).

This paper is intended as a contribution to Work Package 11 (Foresight) of the FESSUD project, devoted to examining the future of financialisation. By focusing on the water sector, this paper aims at mapping "the future of financialisation, and the outcome of that process in terms of possible evolution of finance, financial markets sector and relevant policies over a 15 to 20 year time horizon". The ultimate goal is to further "our understanding of what is a sustainable economy, society and natural environment and how this in turn suggests changes in the actual working of financial markets" (Fontana, 2015: 4). Relying on the outputs of the FESSUD project, particularly those produced for Work Package 5 (Finance and well-being) and Work Package 8 (Finance, real economy and the State), the paper presents a future scenario for the financialisation of water provision. This will be based on a review of the current debate on on-going transformations of water provision, and on a case-study, the evolution of the water sector Portugal. The Portuguese case offers an example of a country where public ownership of water provision has been and still is prevalent, notwithstanding the rapid and intense financialisation of water provision since the early 1990s (Teles, 2015).

The case-study was built upon the systems of provision (SoP) approach to better capture the specificities and variegated structures of the sector. The SoP approach (Bayliss et al, 2013; Fine, 2013) argues for an interdisciplinary approach that goes beyond "horizontal" and disciplinary frameworks, such as the utility maximisation principle of neoclassical economics, the emphasis on emulation and social distinction of sociological perspectives, or the meaning deconstructing exercises of post-modernist studies. Instead, the SoP approach studies each good and service separately and in different geographical settings, adopting a "vertical" approach that focuses on the agents, institutions and relations involved in each SoP (state, producers, labour unions, distribution, consumers, finance, etc.). It aims to capture of the specificity of each good and service through the analysis of the different interest and power relations involved in its provision, going beyond the homogenising character attributed to consumption by neoclassical economics (Fine, 2013). The SoP approach pays special

attention to the way in which agents relate to each other grounded on “the premise that outcomes emerge from settlements between agents which are themselves embedded in historically evolved social and economic structures and processes” (Bayliss et al., 2013: 2). This approach has also devoted special attention to finance since “[t]he presence or intervention of finance shapes processes of provision and the behaviour of other agents”, considering, in particular, that “financial agencies are often proactive in trying to shape SoPs in favourable directions” (Bayliss et al., 2013: 11).

The paper is organised as follows, Section 2 starts by presenting an overview of the evolution of the water sector in the past twenty years, underlining the role of financialisation and the different configurations this process took in different countries. Section 3 presents the recent evolution of the Portuguese water system of provision, and examines the on-going financialisation of the Portuguese water SoP in light of the current crisis. Based on the Portuguese case, Section 4 identifies foreseeable trends in respect to the future financialisation of the water sector in its varied forms. Section 5 concludes the paper.

## **2. From Privatisation to Financialisation**

### **2.1 Privatisation and water provision: an overview**

Private management of water utilities is far from new. The first water privately managed networks dates back to nineteenth century in the cities of London and Paris. Yet the on-going urbanisation and the expansion of residential connections in the nineteenth and twentieth centuries required transforming water supply into a public service, changing its meanings. Instead of a private concern, water became increasingly perceived as a public service. These transformations were not detached from popular struggles for sanitation and public health or from the failure of private companies to connect poorer districts, being increasingly perceived as abusing their monopolistic power (cf. Dardenne, 2012). The change in the material culture of water consumption from private commodity to public service was thus the result of broader cultural changes concerning public health and the role of the state as well as a response to the growing abusive monopolistic power of private water utilities.

Private involvement became exceptional after World War II; municipal ownership and management were then the most usual forms of provision. There were also some significant exceptions. For example, in France, the percentage of population served by private providers never ceased growing during the twentieth century. Not surprisingly, the companies that later become the main private

multinational companies of the sector are of French origin: Lyonnaise d'Eaux, now Suez; Générale des Eaux, now Veolia.

From the 1980s onwards, and following the overall neoliberalisation of the economy, the presence of private capital rose in the sector. Assertions of private management superior efficiency, supported by conventional economic theory (especially principal-agent, public choice and property rights theories), together with substantial investment needs helped promoting the incursion of private capital and management into the sector worldwide (Bayliss, 2014).

International organizations, such as the World Bank, the OECD, and the EU, have played a pivotal role in pushing forward market-based reforms in water management. A crucial landmark was the 1992 Dublin conference, entitled "International Conference on Water and the Environment", which advanced a number of guidelines known as the Dublin Principles. While recognizing access to water as a human right, the Dublin Principles encouraged governments to manage water as an economic good so as to achieve efficiency and conservation of water resources (Wade, 2011). In developing countries, the Dublin Principles set new criteria for development aid, encouraging private participation (Pigeon et al., 2012).<sup>1</sup> What was previously understood as a universal public service with material and cultural specificities that precluded competitive markets, became, with the active participation of international agencies, an economic good, subjected to private provision, albeit with needed public regulation in the face of numerous market failures (monopolistic competition, failure of access, etc.).

The total transfer of assets and management to private entities, as observed in the England and Wales privatisation experience, was unusual. The entry of private capital was carried out in many other different ways through a variety of arrangements that went beyond straightforward privatisation. The World Bank (2006) distinguishes five types of private involvement in water provision: 1) Management contracts - the private sector "supplies management services to the utility in return for a fee"; 2) Affermage/leases - the private sector runs the business, but does not finance investments in infrastructure assets, keeping either customer revenues and paying a fee to the contracting authority (lease) or keeping a fee based on the volume of water sold; 3) Concession - the private sector runs the business and finances investment, but does not own the infra-structure; 4) Divestiture - the private sector runs the business, finances investment, and owns the infrastructure assets; 5) Joint

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<sup>1</sup> For instance, in Dar-es-Salam, 164.4 million dollars of World Bank funding was subjected to contract lease to private contractors (Pigeon et al., 2012).

ownership - with varying degrees in what is the extent of public ownership, the “jointly owned companies” require the parties to determine who has management control. These categories are helpful not only because they overcome simplistic oppositions, such as that between private and public ownership, but also because they encompass various types of Public-Private-Partnerships (PPP).<sup>2</sup> The most common PPPs are either Affermages/leases or concessions, where private agents take over the whole responsibility for extended periods, around 20-30 years, but property remains in public hands (Hall and Lobina, 2003).

These forms of private capital participation were particularly popular in the expansion strategy of water services in developing countries. These countries lacked funding for the demanding investments the water sector requires and were vulnerable to international policy prescriptions in the wake of the structural adjustment processes of the 1980s. Countries in Eastern Europe (e.g. Czech Republic, Hungary, and Romania) and South America (e.g. Bolivia, Argentina and Chile) were the first to experience full-scale entry of private capital (Hall and Lobina, 2003). The number of international companies participating in these arrangements was, however, limited. The justification rests in the significant barriers to new entrants due to the oligopolistic power of the more established firms and the capital-intensive profile of this industry, but also because of the lack of opportunities as tenders involve long-term contracts (usually lasting more than 20 years), and favour incumbents through the renewal of previous concessions (Hall and Lobina, 2003).

The entry of private capital to boost investment in the water sector was controversial and subject to numerous setbacks, particularly in developing countries where this investment was most needed (Hall and Lobina, 2007). Various factors have been identified to account for such failure: high economic risk resulting from the long-term character of these investments, exposing companies to unpredictable politically-determined changes in tariffs, currency fluctuations and contract renegotiations; the difficult implementation of the full cost recovery principle, which would deny large swathes of the population access to water; contract cancellations due to political motivations, etc. (Bakker, 2013). The Asian financial crisis, followed by economic and political turmoil in Latin America, put a halt on the privatization of water systems, particularly in developing countries. Multinationals operating in the sector have since changed their investment and internationalization strategies. They have rolled back their direct control of water systems, prioritizing instead technical assistance services “based on long-term outsourcing of functions by public sector water companies” (Hall and

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<sup>2</sup> <http://ppp.worldbank.org/public-private-partnership/agreements>.

Lobina, 2012). Multinationals have thus preferred management contracts, selling infra-structure to financial investors (March and Purcell, 2014) in what the World Water Council, together with OECD, points at as a “shift towards more ‘asset light’ and less capital intensive PPP models” (WWC, 2015: 9).

Meanwhile, a number of systems have been re-municipalised, both in developed countries (e.g. Paris and Berlin) and developing ones (e.g. Buenos Aires and Dar-es-Salam). The Paris example (part of a larger movement towards re-municipalisation in France) has particular significance as it involves two major French water multinationals: Veolia and Suez. In Paris, re-municipalisation began in 2010 when the left wing mayor, Bertrand Delanoë, did not renew Veolia and Suez contracts, bringing water provision back to municipal control through a new public body named Eau de Paris. This resulted in a 8% decrease of the water tariff in 2012 - after years of above inflation increases, totalling an overall rise of 195% in real terms between 1985 and 2009 (Pigeon et al., 2012; Hall and Lobina, 2012). While re-municipalisation in Paris was mainly driven by highly expensive tariffs charged by private operators, in developing countries it was also driven by lack of compliance with contracted investments. This was the case of Buenos Aires (cf. Azpiazu and Castro, 2012) and Dar-es-Salam (cf. Pigeon et al., 2012), where disappointing disastrous privatisation experiments were followed by renationalisation. However, in the Argentine case, this occurred in the mist of political and economic rupture after the 2003 default and peso devaluation. Nestor Kirchner’s presidency defined a new strategy for the sector, freezing tariffs and investing heavily in infra-structure. In the Dar-es-Salam case, bringing back water provision to the public domain, after the failure of privatisation period between 2003 and 2005, and the introduction of private management practices did not change substantially the way the sector operated (Hoedman et al., 2012). In the grip of international donors, such as the World Bank, Tanzania’s Government ended up supporting private sector involvement in water provision. In 2013, Tanzanian vice-president called for a more “conducive environment” for the private sector which “assures sustainability and promises reasonable return on investment in the sector” (in Bayliss, 2013).

From this it follows that re-municipalisation experiences are also varied. Indeed, this recent movement towards re-municipalisation has been dubbed by Bakker (2013) as part and parcel of a “post neoliberal period”, where re-municipalisation goes hand in hand with new forms of private capital participation, namely PPPs. Rather than a return to a previous situation, these new developments are more aptly conceived of as refinements within neoliberalism: “In the case of water (as in many other instances), this has a spatial dimension, as private companies intensify ‘cherry-



picking' of the most profitable neighbourhoods, cities and countries in which to operate" (Bakker, 2013: 257).

Without overlooking actual setbacks in the privatisation agenda (due to strong political anti-privatisation campaigns, particularly successful in countries and cities that went through most radical political changes, such as in Argentina) the fact of the matter is that private capital continued to grow worldwide in water provision. Although the number of PPPs declined, the extensive study on PPPs in the water sector by Phillipe Marin (2009: 2) for the World Bank, concludes:

The population served by private water operators in developing and emerging countries has continued to increase steadily, from 94 million in 2000 to more than 160 million by the end of 2007. (...) Out of the more than 260 contracts awarded since 1990, 84 percent were still active at the end of 2007, and only 9 percent had been terminated early. Most cancellations were in Sub-Saharan Africa, a challenging region for reform, and in Latin America, among concession schemes.

According to the World Water Council, more than a trillion dollars per year investment is still needed in the water sector in OECD countries plus China, Russia, India and Brazil, tripling the investment needs of other sectors, such as electricity and transport (WWC, 2015). For developing countries the "funding gap" amounts to 103 billion dollars per year. This signals a major potential role for finance in the sector, which has not been overlooked by International Financial Institutions (IFIs). In the post-crisis financial world the mobilisation of private finance in water provision investment is seen as one of the most, if not the main, interesting investment opportunity. This is particularly so in a world plagued by what has been identified as a savings glut borne from global imbalances in search for yield in a low interest rate world (Wolf, 2014). While these savings have "(...) swelled the coffers of institutional investors such as pension funds and insurance companies, Sovereign wealth funds and other financing institutions. Very little of this has so far been placed in infrastructure, and even less in water" (WWC, 2015, p. 10). IFIs are thus faced with the challenge of participating in new PPPs and developing financial and capital markets that would channel private funding from financial markets to the sector.

Moreover, foreseeable water scarcity and rising demand create good prospects for private investment in the water sector. This is explicitly anticipated by the financial powerhouse Deutsche Bank (DB), which estimates the need for a US\$400-500 billion investment worldwide in water and thus the opportunity for private involvement and profit-making, though contingent to higher tariffs that are "set to climb over the next few years" worldwide (DB, 2010). For DB, the most obvious recipients of

these large investments are both wealthy countries where water is naturally scarce (e.g. the Middle East) and emerging countries with dynamic economies and fast growing urbanization, such as India or China (DB, 2010), where access is more urgently needed. Water scarcity, due to natural factors or otherwise, will entail higher tariffs and thus more business opportunities.

To sum up, analysis of on-going transformations in water provision must go beyond the dichotomy between private and public ownership. Such dichotomy limits the analysis of the scope and form of private capital involvement in water provision, particularly those stemming from the rising role of finance in various spheres of social provisioning. Along with the supposedly superior efficiency of private management, the financing needs for investment in the sector have been one of the most recurrent arguments for private involvement in water provision. This in turn paves the way for a deeper involvement of finance and broader financialisation processes in on going and future transformations of water systems of provision.

## 2.2. Financialisation and water provision

Financialisation is a term that has been used to characterise the latest stage of capitalist development. While the overarching definition offered by Epstein (2005: 3), as denoting “the increasing role of financial motives, financial markets, financial actors and financial institutions in the operation of the domestic and international economies”, is comprehensive enough to be widely accepted, the use of the term varies. It can account for the ascendancy of the principle of shareholder value in corporate governance, the dominance of capital-markets based financial systems over bank-based ones, the explosion of financial trading, a new pattern of accumulation dominated by financial profits, and so forth (Stockhammer, 2004). However, these different uses of ‘financialisation’ leave the mechanisms producing the growing influence of finance and its particular contents largely unspecified.

Unsurprisingly, the different understandings and uses of the term are present within the nascent literature of financialisation as applied to the water sector. March and Purcell (2014), for example, focus on the dominating role of shadow banking in shaping the structure of one of the major multinationals of the sector, Águas de Barcelona. They argue that financialisation in the water sector is the result of the entry of financial international institutional investors in the ownership of water companies in a context marked by macroeconomic and financial instability, which is taken to create a burden on water sector multinationals due to currency devaluations and capital flight. The authors then examine the conversion of water sector assets into financial assets and their potential to be

exchanged and leveraged by “shadow banking” financial agents, such as pension funds. These financial agents would eventually crowd out traditional private players, namely major transnational corporations, who are unable to compete in these new markets, promoting further short-termism in strategic planning for the sector.

However, March and Purcell’s approach builds on the conceptual opposition between “real” corporations and financial agents, which may be problematic as it may veil the potential financialised character of the operations of water multinationals. The authors do point to the new “financialised character” of water multinationals, which account for the substitution of long-term direct involvement in ownership and management of water services by a short-term strategy based on management and technology contracts to concessions now owned by new financial institutional agents. But multinational corporations are here depicted as non-financial passive agents who have been forced to change their business model rather than active players that have benefited from the financialisation of water. Meanwhile, the focus of the authors on securitisation of water assets, while a reality in some parts of the world, overlooks other forms of financial expansion in the sector, such as through traditional bank loans or (syndicated) bond issuances, which may be prevalent or becoming prevalent in many parts of the world without developed capital markets.

Bayliss (2014) has a different take on water financialisation, understood as the skewed support of private financial capital through a particular architecture on which service delivery is based. The disappointing experience of private ownership of utilities is here contrasted with the renewed interest in private investment in the sector through complex financial instruments, such as water-targeted investment funds and water-focused exchange traded funds (ETFs) that have stakes in numerous water systems around the globe. Although financialisation of the water sector seems to remain in the financial realm of new agents and instruments, the conceptualization offered by Bayliss has the theoretical advantage of laying the ground for a more systemic approach, and one that is more focused on the particular forms and contents the financialisation of the water SoP take in different geographical contexts (Teles, 2015). Such approach requires extensive use of case-studies in different geographical contexts, where financial agents and markets are in different stages of development and interact in particular ways with context-specific relevant institutions (Bayliss, 2015b).

In her work on the English and Welsh case studies, Bayliss (2015a) depicts the evolution of the sector since the 1970s, and analyses the role played by the different agents in its shaping (from the regulator

(Ofwat) to the emergent financial agents), as well as that played by modern finance. In both countries, water provision was privatised during the 1980s by the Thatcher government, based on arguments of increased efficiency and greater investment that private capital would bring. But, in a first phase, what privatisation produced was ownership dispersion through the floating of shares, with the State holding a golden share. This situation rapidly evolved to a concentration of the sector through a wave of takeovers and the entry of major water multinationals, such as Aguas de Barcelona, Suez and Generaux d'Eaux. More recently, these multinationals have retreated from the English and Welsh markets being partially substituted by new financial players, namely private equity companies that have promoted the stock exchange de-listing of many water providers. The use of complex ownership structures that make use of special purpose vehicle companies, usually established in off-shores, together with the secure nature of the cash flows provided by water tariffs, allowed new financial owners to raise funding from international markets and leverage their capital. English and Welsh water providers then attained a level of gearing not apparently compatible with their high financial ratings, which allowed them to get funding at low(er) interest rates, leveraging their gains. The compliance of rating agencies with this model is underpinned by the state regulator, Ofwat, interested in the good financial ratings of the water providers that enable the on-going funding of their operations and investment.

The process of setting water tariffs by Ofwat follows a "price cap" model where the "weighted cost of capital" is one of the main costs considered. Accordingly, the market tariff approved by the regulator is based on assumptions of future gearing levels and the costs of debt and equity, which are calculated with complex weighting models of present market data, and on performance, efficiency and future investment targets. This means that a considerable number of financial and non-financial assumptions are involved in the calculation of water tariffs, with non-negligible impact on the final price to the consumer. For instance, Ofwat "estimates that a 1% rise in cost of capital results in approximately a 6% to 7% increase in household bills" (Bayliss, 2015a). The structure and operating practices in the water sector in England and Wales are thus designed to reap large financial returns and from various sources, including financial fees, interest and dividends, which are variables in the formula of calculation cost recovery tariffs used by Ofwat. The English and the Welsh case studies can thus be taken as the most advanced forms of financialisation of the water sector. New financial agents (private equity firms, rating agencies), motives (capture of secure cash-flows to leverage investment) and markets (stock market, money markets, derivatives, etc.) all have become more pervasive in these two countries.

Bayliss's account, based on the SoP approach, examines the permeability of finance without falling in the traditional opposition between the real and the financial spheres. It instead shows how entangled both spheres are. And it integrates in the analysis all relevant agents in the sector, including both the new players such as "shadow" financial agents, and more conventional financial players such as banks, which might be still predominant in many countries outside the main financial centres. The latter calls for a more attentive consideration of the broader international context, particularly taking into account the insertion of particular economies in the international financial arena. This is the point of the next section.

### 3. The financialisation of the Portuguese water SoP

The recent evolution of the water provision in Portugal is shaped by the neoliberalisation and financialisation of the Portuguese economy and society in the context of the process of European integration. The years after the 1974 revolution were marked by a considerable investment effort by public entities in the improvement of what were then highly deficient water and waste systems. However, the management of these systems remained in the hands of the newly empowered local councils.<sup>3</sup> This created difficulties for the central State in the coordination of public investment, particularly in the more capital-intensive parts of water provision. In 1993, the sector was reorganised, introducing three major institutional transformations: the corporatisation of the public sector; the introduction private enterprise practices in water management, which aimed to bring in cost recovery practices in water bills; and private capital investment. These changes were justified by the need to enhance investment to upgrade the different water provisions systems across the country, which still had important deficiencies.

#### 3.1 Recent transformations

Corporatisation involved the deverticalisation of water provision systems, separating the (capital intensive) bulk sector (capture, treatment and storage of water) and the retail sector (storage and final distribution). The retail sector remained in the hands of local municipalities, which held the power to fix and charge tariffs to domestic users. The bulk sector was regionally integrated into newly created 19 multimunicipal companies where municipalities only kept a 49% share. The control of the sector was transferred to the newly created public holding "Águas de Portugal (AdP)" (Waters of Portugal) that has 51% in each of these new companies. Corporatisation of the sector, through the

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<sup>3</sup> In 2015, the country is administratively organised around 308 municipalities.

creation of these new public companies was understood as a way to enhance efficiency, since professional management was considered to be less permeable to political pressures than public management directly subjected to political power. Moreover, the introduction of the corporate management model was also motivated by the need for convergence with European rules to meet the conditions for accessing investment subsidies from the then European Economic Community (EEC), and loans from European Investment Bank (Pato, 2011).

Given the municipal control of water provision, inherited from the 1974 revolution, the transfer of power to AdP had to be agreed voluntarily by municipalities. Allured by the promise of new investment in the capital-intensive bulk sector, without incurring further costs, most municipalities accepted this new architecture. Today, these companies cover around 7.1 million people in bulk water supply and 6.7 million in bulk waste water management, which account for around 71% and 67% of the Portuguese population, respectively. Municipalities that refused to participate in this process cover the rest of the population.

Corporatisation was also introduced at the retail level. Various municipal companies were created with the single purpose of managing retail provision of water and waste water treatment. While most of these companies retained public ownership being owned by the local municipality, several municipal companies were created in partnership with private capital holding a minority share. National construction companies were the main new private partners, which, in many cases, benefitted directly and indirectly from contracts with these municipal companies. But the biggest change at the retail level, introduced from 1993 onwards, was the entry of private capital through PPPs in municipal concessions. Coinciding with the expansion of water multinationals across the world, a small number of municipalities covering large populations conceded their retail systems to multinational companies, such as Veolia, for extended periods. Again, the expectation was that this would allow new investment financed from sources other than municipal budgets.

The introduction of private enterprise management practices in the provision of water was enforced through the creation of a regulatory agency for the sector (also encompassing solid waste management). First established, in 1995, as Supervisory Commission for Concessions, the scope of the regulatory agency has expanded with its institutional transmutations. In 1997, it became the Institute for the Regulation of Water and Solid Waste (IRAR) with the mandate to monitor water and waste services of a growing number of concessionaires. In 2009, The Water and Waste Services Regulation Authority (ERSAR) replaced IRAR, becoming the regulation authority for the entire water

and waste sector. In 2014, ERSAR became an independent body with more autonomy and strengthened sanction and regulation powers. As a regulatory body, the ERSAR mandate rests on the principle that a natural monopoly ought to be regulated to ensure the adequate protection of consumers. However, the concern with market efficiency is pervasive. While ERSAR clearly endorse as its mission “to ensure adequate protection of consumers (...) by promoting the quality of the service provided by the operators and guaranteeing socially acceptable pricing”, it emphatically stresses the need of safeguarding “the financial viability and best interests of the operators, irrespective of their status” (ERSAR, 2012: 17). This concern is explicitly conveyed in its endorsement of the total cost recovery principle in the calculation of the prices of water and water waste services, and the recommended targets for the return on capital on these investments of about 5-10%, which are legally established since the mid-1990s and based on the 10-year government bond market rate to which is added a “risk premium” of 3% (Silva, 2010).<sup>4</sup>

### 3.2. Investment and debt

Since the early 1990s, European grants and abundant foreign credit available (from the European Investment Bank, domestic banks and foreign bonds) funded an impressive evolution of investment in the water and water waste systems. Coverage of water supply and water waste improved, particularly in treated water waste, with coverage rising from 25% in the mid-1990s to 75% at the end of the 2000s (Figure 1). The expansion of coverage was followed by an improvement in the quality of water supply. The percentage of “safe water” to total supply – calculated by ERSAR on the basis of required frequency of water analysis and compliance with defined parameters of water quality – has evolved from 50% of water supply in 1993 to 98% in 2013 (ERSAR, 2014). Besides household services, there was also significant progress in the treatment of river basins and coastal waters.

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<sup>4</sup> It should be noted that ERSAR does perceive as problematic rates of returns above these thresholds (ERSAR, 2012).

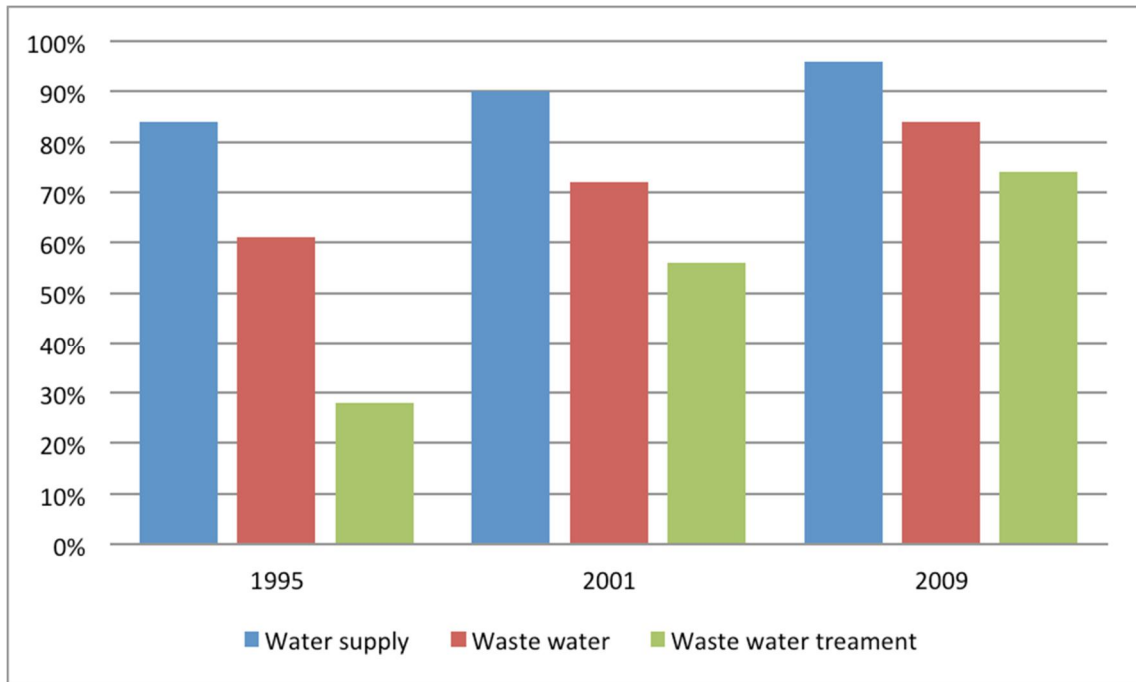


Figure 1. Coverage of Water Supply and Waste Water (INE, % of total population)

Annual investment in the sector grew extensively in the 2000s (Figure 2), from 364,5 million euros in 1999 to almost 1400 million euros in 2010 (nominal terms). In the bulk sector, debt increased from 438 million euros in 2003 to 2470 million in 2012 (representing about 39% of the sector assets). In the retail sector, including also retail waste treatment, debt rose from 119 million euros in 2003 to 552 million euros in 2012 (representing about 55% of the sector assets) (ERSAR, 2014).



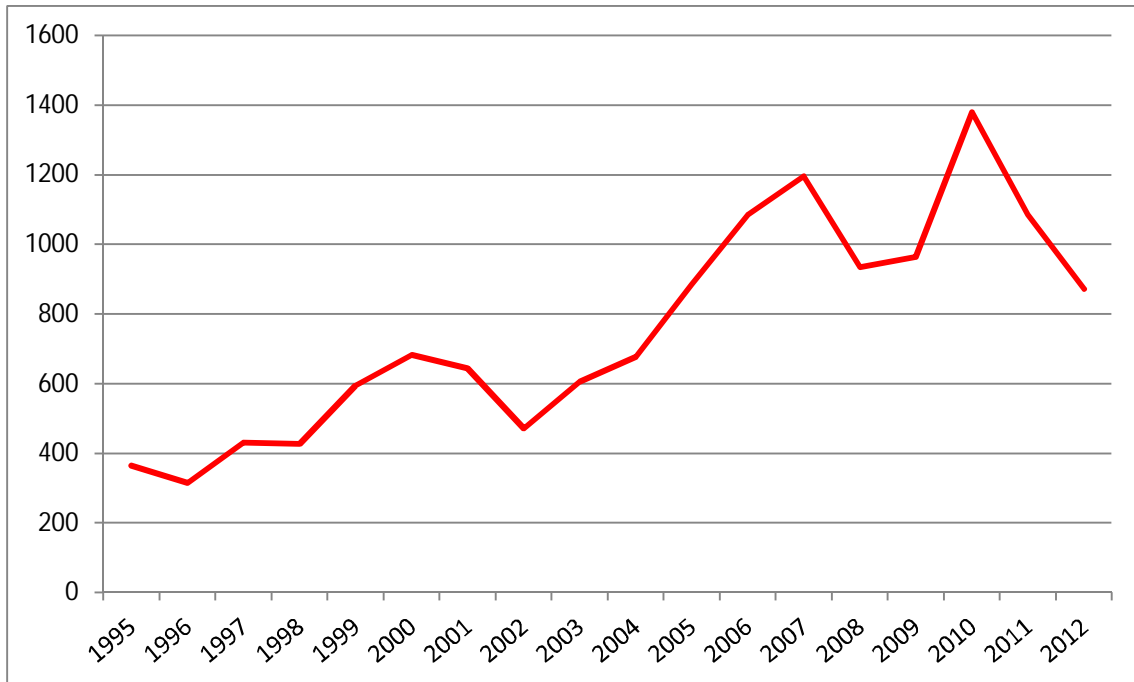


Figure 2. Total Annual Investment (Public and Private) in Water Supply and Water Waste Sector (Pordata, million euros, current prices)

Without any funding from the State budget, due to EU Stability Pact's deficit limits, the scale of the investments was achieved with foreign capital loans, to which the Portuguese economy had privileged access since the beginning of the 1990s until the 2011 Eurozone crisis. The participation in the European Monetary Union (EMU) allowed the Portuguese economy to benefit from a new and unconstrained access to capital at historically low interest rates in international (European) markets. Financial inflows increased dramatically and, while below the relative importance they had acquired in some European countries, the weight of financial assets to GDP increased 255 percentage points between 1995 and 2013, with the banking sector holding around 50% of all financial assets (Reis et al., 2014)). However, and similarly to peripheral countries that liberalized their capital accounts and privatized and re-regulated old and new financial markets (Becker et al., 2010), Portugal suffered a progressive loss of external competitiveness in that domestic financial stability implied an overvalued real exchange rate within the European Zone. The result was the growth of investment in domestic non-tradable sectors, including the water sector, relative to the rest of the economy and escalating levels of foreign debt.

AdP, with its corporate structure, was of pivotal importance, channelling most of its external funding to the regional bulk companies that it controls and that operate in bulk water supply and water waste sectors. The scale of AdP enabled it to acquire financial know-how in domestic and foreign financial

markets, having had access to three different funding sources: European subsidies, long-term debt (mainly coming from the European Investment Bank (EIB) and bond issuance); and short-term loans from the banking sector. Debt grew from 744 million euros in 2003 to 3000 million euros in 2013 in nominal terms (Figure 3).

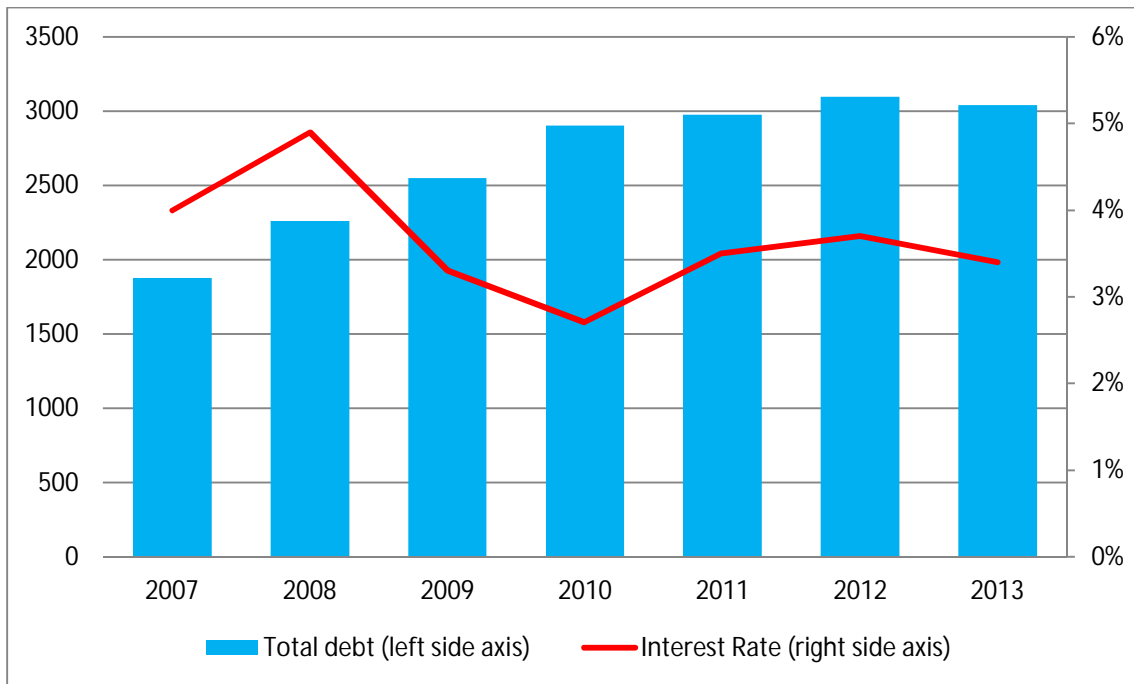


Figure 3. AdP debt (million euro) and average interest rate (AdP)

About 60% of AdP debt consists of EIB loans with long maturities and low interest rates, whose relative importance as a funding source rose from the beginning of the 2000s. Private banking debt, accounting for about 20% of total debt in 2013, refers to loans both from major foreign banks, such as Deutsche Bank and DEXIA, and domestic ones, such as BPI (AdP, 2013). AdP also resorted to bond markets, issuing bonds of around 600 million euros to a very small number of foreign investors during the 2000s in order to match their long-term investment with long-term debt. The success of these bond market operations was attested by the low interest rates charged (amounting to 1.8% in 2013), showing both the scale achieved by AdP as a company and its deep involvement with international finance (AdP, 2014). Finally, the financial sophistication of AdP and its financialised profile is also clearly attested by the volume of interest rate and exchange rate SWAP derivatives, most of which aimed to protect against interest rate volatility. Contracted mainly with foreign banks, the use of these sophisticated financial products has been in the public spotlight due to the losses incurred by many

public corporations. However, AdP is one of the least affected, having nonetheless suffered notional losses of 25 million euros in 2011 and of 14 million euros in 2012.<sup>5</sup>

It is not surprising that the described institutional changes (corporatisation and transfer of responsibilities from local municipalities, private capital involvement, new regulatory framework) did not face much popular resistance during the 1990s and early 2000s. Such transformations coincided with extraordinary progress in the provision of water and waste water and the relative contained growth of the tariffs set by municipalities (Teles, 2015).<sup>6</sup> Nonetheless, the increasing role of finance in water provision - through debt that funded most of the new investment - set the scene for a new stage where the relation between finance and water domestic consumers is increasingly tighter. Rising financial costs associated with rising debt enhanced regulatory powers to enforce the cost recovery principle. Hence, the new corporate structures, whose survival depended on this principle, lead to the streaming of income from households to finance through tariffs, which have risen considerably and above inflation in the past decade (Figure 4). The financialised character of water provision in Portugal thus becomes apparent since water bills increasingly reflect financial costs and the rising influence of the financial sector in the Portuguese water sector.

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<sup>5</sup> With mounting losses in complex SWAP derivatives in a number of public enterprises, a new law now imposes stricter rules in contracting derivatives, making them subject to Treasury approval.

<sup>6</sup> Albeit recent steady increases, tariffs are still below costs in most municipalities. Only a few retail private concessions adopt tariffs well above the national average (Teles, 2015).

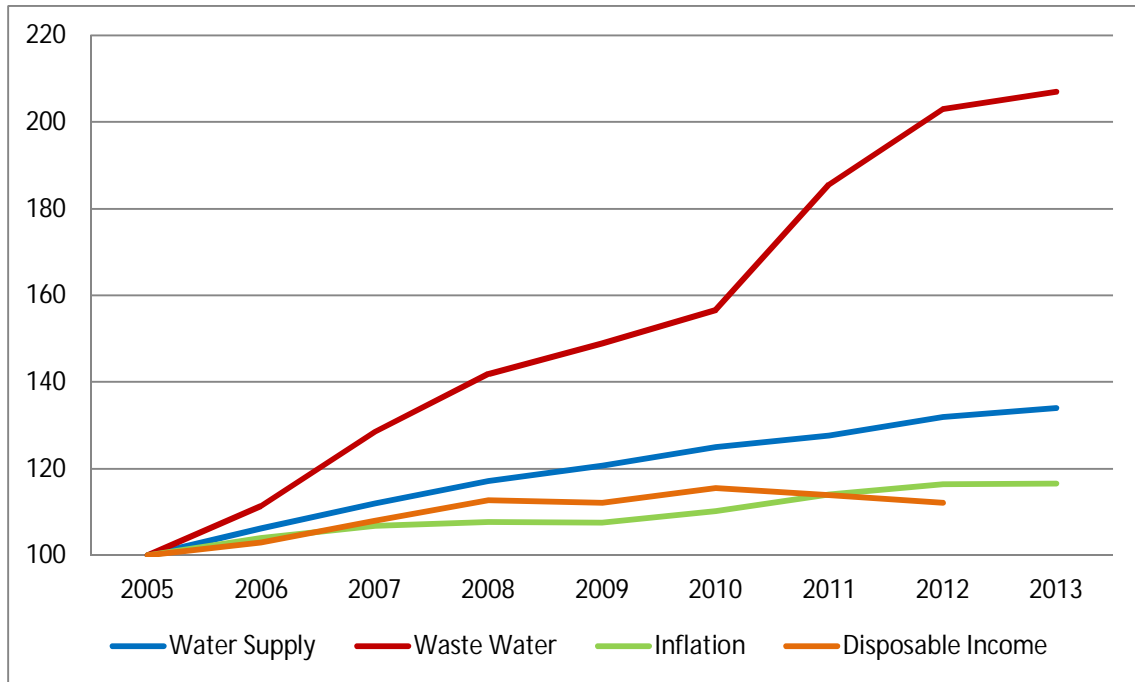


Figure 4. Water provision prices, inflation and disposable income evolution (INE, 2005=100)

Reflecting increased investment and output, overall annual costs have significantly increased in bulk sector concessionaires, from 258 million euro in 2002 to 572 million euro in 2012 (ERSAR, 2014). Financial costs played a non-negligible part in this evolution, having gone from 15 million euro in 2003 to 106 million euro in 2012. This spectacular rise of financial costs results from the combined effect of rising debt levels and the recent rise in interest rates due to the Eurozone crisis, from 3.3% in 2002 to 4.2% in 2012 (ERSAR, 2014). The growth of financial costs was somewhat counterbalanced with the decline in labour costs, due to cuts in wages and benefits in the public sector, declining, on average per concessionaire, from 28900 euro in 2007 to 23700 euro per worker in 2012.<sup>7</sup> Nonetheless, charged tariffs of the bulk sector have been rising well above inflation, from 0.29€/m<sup>3</sup> in 2002 to 0.52€/m<sup>3</sup> in 2012 (ERSAR, 2014).

Costs have also risen in the retail sector (including the water waste system). Again, this evolution is due to rising levels of debt in corporate management companies (public and private), which is contracted with significantly higher interest rates than the bulk sector. On average, interest rates paid by the retail sector were 5.7%, in 2003 and 2012, reflecting the small scale of most of these providers (mainly municipal public companies). Labour costs per concessionaire fell, on average,

<sup>7</sup> These wage cuts were part of the financial “bail-out” conditionality imposed by the “troika” of official lenders (IMF, European Commission, European Central Bank).

from 19300 to 17200 euro per worker (ERSAR, 2014). Tariffs have consistently grown, from 1.24 €/m<sup>3</sup> in 2005 to 1.59 €/m<sup>3</sup> in 2012 in water provision, and from 0.57 €/m<sup>3</sup> in 2005 to 1.02 €/m<sup>3</sup> in 2012 in water waste tariffs. Reflecting both higher bulk tariffs and the costs of investment in retail, these tariffs have been increasing at a consistently higher rate than inflation and despite the negative evolution of disposable income in the past few years (ERSAR, 2014). Retail prices have been growing at a slower pace than bulk prices, reflecting the control over the setting of water tariffs on the part of municipalities and their unwillingness to adopt cost-recovery prices.

### 3.3 Crisis and mounting financialisation

The international financial crisis contributed to further expand financialisation processes in water provision in Portugal. Its impacts go well beyond increasing financial costs and decreasing labour costs. They also include foreign capital flight, rising interest rates, overindebted municipalities and public expenditure cuts, which aggravated what was already a difficult financial situation. Building on the transformations of the previous two decades, these new financial and economic constraints created yet more favourable conditions to deepen the financialised character of the Portuguese water sector.

At the outset, the crisis and ensuing conditional financial bailout of the Portuguese State placed the whole public sector under austerity in order to comply with European public budget and debt targets. The effects of austerity on the whole economy have been detrimental, with GDP contracting 6% between 2008 and 2014 and unemployment rising to 12% in 2015.<sup>8</sup> The financial conditionality imposed by official foreign lenders (IMF and EU) has created a favourable climate for deepening transformations of water provision in Portugal. The reinforcement of the power of the regulator is key. In 2014, Decree-law n°10/2014 granted new powers to ERSAR, which has now legal powers to impose tariffs on municipalities that adopt the full cost-recovery principle. Municipalities, which traditionally had the power to fix tariffs for end consumers of water supply and waste water, have contested the new law, having taken up a legal battle against the Government on the grounds that it constitutes a loss of municipal power that is constitutionally protected (i, 5/02/2014). Burdened with the tariffs charged by the bulk AdP corporations and facing political pressure from citizens not to raise tariffs, many municipalities have refused to adopt the total cost recovery principle. This has resulted in the accumulation of municipal debt to the AdP group, now estimated to be over 550 million euro (AdP, 2014). The regulator, ERSAR, does not seem to be sensitive to municipal (and household)

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<sup>8</sup> Statistics Portugal ([www.ine.pt](http://www.ine.pt)).

grievances. Excess capacity in bulk systems, resulting in excess supply of water to municipalities, is adjudged to be due to previous recurrent technical mistakes that should not jeopardise the whole principle of total cost recovery.<sup>9</sup>

Meanwhile, given the precarious financial position of municipalities in the wake of the financial crisis, many were forced to resort to central State financial bailouts (Programa de Apoio à Economia Local). Having the Troika memorandum as blueprint for these bailouts, the memorandums impose on municipalities the “[m]aximisation of prices charged by the municipality, through the revision of tariffs, attending to the user-payer principle, (...) [adopting] the maximum value recommended by ERSAR (...)” (p. 10).<sup>10</sup>

Facing steep expected increases in tariffs, particularly from the bulk water provision companies located in the interior of Portugal, where investments were more recent and costly, Government has restructured all AdP's multimunicipal companies in order to achieve more homogeneous national tariffs that dilute the increases necessary to achieve full cost recovery pricing. The 19 corporate bulk entities have then been merged in four regional companies: North, Centre, Lisbon and South. The aim was to reduce the gap between the tariffs of the coastal (urban) regions, where current costs are low given their high population density, and the interior of the country with higher costs. Such integration should allow a slower evolution of tariffs, assuming subsidisation of tariffs in the interior, sparsely populated areas by the more densely populated coastal areas. However, and contrary to what has been upheld by the Government, the on-going mergers do not seem to result in any economies of scale, as ERSAR explicitly pointed out in its technical appraisals of the process (ERSAR, 2015). Moreover, this restructuring has been facing strong resistance from the municipalities. The mayor of the municipality of Porto, for example, considered this process illegitimate and warned that it would imply, in the short term, a rise of 40% of the tariffs charged to final consumers in this city.<sup>11</sup>

Finally, the “horizontal” restructuring at the regional level is to be complemented by a “reverticalisation” of the retail and bulk segments, implying the total withdrawal of municipalities from water provision. This is a likely scenario given the financial stress these municipalities are under. In the new context, in which the regulator ERSAR has acquired new powers, the proposed

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<sup>9</sup> The problem of excessive capacity was pointed out in a parliamentary report (Parliament, 2012). For example, in the municipality of Campo Maior the contract with the bulk company reached a level of consumption of 520m<sup>3</sup>, 30% above the actual consumption level (DN, 09/12/2013).

<sup>10</sup> [http://www.nedal.uminho.pt/0\\_content/Governo-Municipios.pdf](http://www.nedal.uminho.pt/0_content/Governo-Municipios.pdf)

<sup>11</sup> <http://www.aguadoporto.pt/noticias-aguas-do-porto/agua-no-porto-pode-subir-devido-a-decisao-ilegitima-do-governo>

reorganisation of the sector indicates a growing role of Águas de Portugal in retail water provision. Although this configures a reorganisation within the public sector, it would entail the removal of democratic deliberation in water provision traditionally guaranteed by municipalities, directly accountable to voters. AdP, even if still being formally publicly owned, has been progressively privatised, and it has gradually integrated corporate interests and financial criteria in its management practices. For instance, in the waste management segment, a sub-holding company of Águas de Portugal, Empresa Geral do Fomento (EGF), supervised the operation of multimunicipal companies serving 60% of the population. In stark contrast to the water segment, all regional corporations belonging to EGF were financially viable. However, plans to privatise EGF faced strong resistance from some municipalities, issuing court orders against it, but ultimately failed in their intent. EGF was privatized in 2014, being bought by the Portuguese construction company Mota-Engil. In the face of the recent experience, this suggests that the privatisation of the public holding company AdP seems to be just a matter of time depending on the success of the “horizontal” restructuring. Nonetheless, total privatisation of AdP is not the only option. Given the on-going verticalisation of provision and reinforced control over the whole water delivery process, from source to waste management, water privatisation can take other forms. It may be partially privatised – with private capital buying a part of the company - or, more probably, remain in public hands while expanding its own private retail concessions, particularly in major urban centres where water provision is already a profitable business, such as in the Lisbon area, where investment is older and not subjected to indebtedness.

The impact of the crisis on the domestic private sector is also relevant for the future of water provision. With Portuguese firms among the most indebted of the world and with reduced access to international debt markets, new opportunities arise for foreign players. This means that the Portuguese private water sector is now more open and attractive to foreign investors, offering the guarantee of stable stream of future cash flows stemming from the provision of an essential but ever more expensive good. The private companies in the sector consist of companies that hold municipal retail concessions, covering around 13% of the population (Teles, 2015). The biggest private player, Aquapor, initially part of the AdP group, was privatised in 2008 and is now owned by one major Portuguese construction company DST. Indaqua, which was controlled by three different construction companies, has now two major shareholders, the Portuguese construction company Mota-Engil (45%) and the German financial group Talanx (50%). AGS, formerly controlled by a consortium of Spanish and Portuguese construction companies was sold in 2014 to Japanese conglomerates, Marubeni and INJC. The growing participation of foreign capital in the Portuguese water SoP suggests

the expectation of a future wave of privatisations. Recent investments would then be a foothold on the Portuguese market, placing new private contenders on a more favourable position for future privatisations, in the form of new concessions, as was explicitly stated by the Marubeni conglomerate.<sup>12</sup>

It should also be noted that all these major private players have internationalised their operations, particularly to Portuguese speaking countries (Aquapor in Angola, Mozambique, and Cap Vert; Indaqua in Angola and AGS in Brazil). As it happened elsewhere, the entry of private capital in retail concessions saw the entry of major multinationals in the Portuguese market, such as Veolia, Suez and Aguas de Barcelona. However, Lusagua, where Suez and Aguas de Barcelona operated was sold to Aquapor in 2001 and Veolia Portugal was sold in 2014 to the Chinese group Beijing Water Systems, thus confirming their disinvestment international strategy of the past years. The latter case is pointed as following the financialised model already seen in England and Wales. This Chinese company uses a sophisticated financial scheme, where an off-shore company based in Bermuda bought the retail concessions run by Veolia through a shareholder loan which will be paid by cash-flows the Portuguese utility will provide through tariff increases (Bayliss, 2015b).

Years of growing financialisation of water provision slowly but surely constructed a market for the sector. The acute economic and financial crisis will ultimately ensure the financial grip of the sector. The burden of debt, the entry of new financial agents and a regulatory model that enforces market discipline on the different agents involved in this SoP have opened the path to further privatisation, this time with the direct involvement of new international financial agents.

#### **4. Prospects for financialised water provision**

Recent research has shown the varied ways in which financialisation has permeated the water sector in different national settings (Bayliss, 2015a, 2015b). Comparatively, the Portuguese water SoP seems to stand in an intermediate position in terms of the presence of finance in the sector, with the English and the Welsh cases serving as exemplars of most financialised systems. As we have seen, finance has been crucial to the evolution of the water SoP in Portugal after the 1974 revolution, first through rising levels of (foreign) debt and, at later stage, through the use of more sophisticated instruments (e.g. PPPs, private concessions) and with the intermediation of new agents (e.g. foreign multinationals and new financial agents). Significant changes are still under way, intensifying the

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<sup>12</sup> [https://www.marubeni.com/news/2014/release/ags\\_eng.pdf](https://www.marubeni.com/news/2014/release/ags_eng.pdf)



corporatisation of the sector, private enterprise management practices through cost recovery tariffs and the entry of private capital. However, reflecting the more peripheral position of the Portuguese economy and of its financial system, the relatively weaker role of capital markets means that a full convergence of the Portuguese water SoP to the financialised models present in countries with well-developed financial markets, such as the UK, is highly unlikely. Portuguese water SoP still exhibits a relatively small reliance on sophisticated financial instruments and water and waste water tariffs are still determined on grounds other than those based on strict financial market-based criteria. The recent evolution of water provision in Portugal can be thus particularly enlightening in envisaging the future of financialised water provision in other geographical contexts around the globe.

The Portuguese water sector seems to have evolved along the same broad lines, even if with a time lag, as those of England and Wales. Indeed, while corporatisation began in the 1970s and privatisation in the 1980s in those countries, in Portugal corporatisation and privatisation has been partially carried only from the 1990s onwards. Nonetheless, in England and Wales this was mainly achieved through the capture of cash flows that enabled the leveraging of financial vehicles now controlling water provision. However robust, particular well-identified trends in most financialised countries cannot be taken as common trajectories that less-financialised countries will eventually follow. The SoP approach stresses that the permeability to finance is not only commodity-specific, requiring linking consumption to chains of production, but also that it is shaped by many various social, political, economic, geographic and historical factors, which are context-specific (Bayliss et al., 2013). Indeed, a distinctive feature of the Portuguese case is the municipal control of water provision, which has acted as a force of resistance to further the financialisation of the sector. The international insertion of national economies is also particularly relevant in this case determining the access through which means and in which conditions to finance. As we have seen, in Portugal, the financialisation of the water sector is intrinsically associated with the process of European integration, and more recently, with participation in the Eurozone, which enabled access to European financial inflows, mainly in the form of debt.

#### **4.1 Increasing financialisation**

Notwithstanding country-specific differences, and based on the Portuguese case, two different trends are discernible in respect to the role of finance in water provision. First, although the forms private finance may take differ from core countries, such as the UK where the whole water provision systems were privatised, water provision have increasingly become more financialised. Entry of private finance

in the sector has been promoted by International Financial Institutions, such as the EU (as seen in the case of Portugal), the World Bank (mostly in developing countries) or the OECD. They have played and will continue to play a paramount role in setting an agenda for the transformation of water utilities and the whole system of provision. For example, the report by the “High Level Panel”, convened jointly by the OECD and the World Water Council (2015), emphasises the role new financial actors and products may play in leveraging public funding (taxes, tariffs and Official Development Aid, etc.), stressing increased efficiency and the balancing of risks associated with private finance involvement. Hence, the continued privatisation of the water sector will likely continue but not necessarily entailing full-fledged selling of water utilities assets and subsequent control by financial agents. Instead, it will expectedly do so through new agents and instruments that attempt to protect financial investments from economic and political risks that affected many past private concessions.

Although banks are still seen as “by far the largest potential source of investment finance” (WWC, 2015: 28), new financial agents are identified as potentially new private sources of funding. This is especially so considering that banks are still slowly recovering from the international financial crisis, with limited involvement in new investments. Institutional financial agents are then poised as major future actors in water provision worldwide, albeit not necessarily directly involved in utilities management. Private equity, pension and sovereign funds are pivotal. Private equity funds, although still concentrated in developed OECD countries, will be in the future increasingly involved in utilities, either by offering a secondary market for infrastructure finance, reducing liquidity risk as they allow original investors to exit the market, or by buying stock of utilities associated with financially attractive infrastructure. Sovereign wealth and pension funds are also perceived as promising, given their wider geographical reach of investment, more “patient” investment profile and desire to “balance risk and reward” through demand for different types of financial securities (bonds, equities).

It follows that the arousal of new and old financial agents in the water sector will necessarily involve the creation of new financial products tailored to their risk/reward demands. The growth of project bonds, financial guarantees from states, IFIs and new instruments and methods, such as results and performance based finance, are new ways of reducing risk for financial investors. Nonetheless, growing financial flows to water provision seem certain in the future. These may take different forms: rise of indebtedness, stock exchange listing and de-listing (depending on what is the best financial strategy); proliferation of derivative contracts based on water sector assets; emergence of new and bigger financial markets and instruments, such as the newly created Exchange Traded Funds exclusively dedicated to “water” assets. All of them point to a growing and more intense intertwining

of the water sector with finance in future investment, albeit with varied configurations, not least in regard to forms of property (private, non-profit, public), specific to each national context.

A good example of the recent mobilization of private finance to the utility sector is given by the EU “Juncker plan” that aims to mobilize 21 billion euro of European funds (with 5 billion euro contribution from the EIB) to support a total investment of 315 billion euro. Given the high capital intensity of water systems, it is not surprising that investment in water infrastructure, including waste water treatment plants and water supply facilities, is on the plan’s list of priorities. European states, fiscally exhausted and subjected to strict fiscal rules, welcomed the plan since it aims to leverage private investment through a small stake of European public money. However, the plan points to what may be a reinforcement of the indebtedness problems that affected the European periphery. Being more secure than direct investment, it is likely that debt will be the preferred form for private capital flows into water infrastructure in peripheral countries. But what may well be financially sensible at the micro level for specific investments, may add to more structural, macro level problems, as it did in 2011 in Portugal, where private and public debt ultimately feed into external debt and financial crisis.

The current euro crisis also demonstrates how financialisation of water SoPs is dependent on the international insertion of national economies. The Portuguese case shows that the financialisation of water provision was by and large favoured by the insertion of the country in the European Union, which facilitated access to EU structural funding, EIB loans, and loans from other EU banks. The high indebtedness of the country and of the water sector made them both more vulnerable to the international economic and financial crisis. Hence, in tandem with what has been a remunicipalisation of water systems in many countries, not least in the home country of the largest water companies, France, new opportunities have arisen for a new wave of private foreign capital entry, where financial agents started to participate as stakeholders, further promoting the concentration and fluidity of capital in a sector traditionally rooted in specific territories and political communities. The Portuguese case suggests that financial international insertion, with the semi-peripheries and peripheries of the world economy more vulnerable to financial instability, influences the extent, shape and impacts of financialised water. Increasing indebtedness, financial volatility and crisis in peripheral and semi-peripheral countries will very likely raise conflicting interests that may then enhance the power of international financial actors over local water utilities, as it has been strengthened in Portugal since the Eurocrisis.

The geographical expansion of financialisation should not be taken as a uniform process across the globe. Major financial centres – London, New York, Tokyo and Frankfurt – will be increasingly influential in water provision, since they are the headquarters of many of the new emerging institutional financial investors and the privileged marketplace of the liquid and sophisticated securities markets, assisted by countless “off-shores”. The centralisation of financial flows, from which water provision will be increasingly dependent on, denotes then an international hierarchical structure of finance that puts the provision of basic goods in the hands of agents hardly accountable for either consumers or sovereign countries, thus limiting the possibility of democratic participation in the decisions affecting how water provision is organized in the future.

#### 4.2 Privatisation by other means

Future privatisations in the form of divestiture or concessions are not likely to target whole systems of provision given the large needs of investment in water infrastructures, the disappointing experiences of multinationals and the promise of new, more “risk balanced”, financial vehicles. Instead, as recent experience shows, private capital will most likely target particular parts of more mature water systems where the need of investment is smaller and tariff predictability is higher, conforming to what the literature has defined as “cherry-picking” (Bakker, 2013). This is the second major trend that we can envisage from our exercise. This is not to say that the influence of finance will be limited. Private influence over water utilities is likely to continue, contingent to the ability to ensure a predictably stable streams of income, thus being attractive to private investors. While many water provision systems may remain public, there will be plenty room for the participation of private capital and finance, as the Portuguese case illustrated.

The private and increasingly internationalised character of funding will most likely impose new private finance “friendly” forms of management cutting across both private and public utilities, including corporate structures for providers, cost recovery conforming tariffs, etc., thereby replacing non-commodified forms of accessing water. The World Bank points to a reform cycle of five different parts, namely: 1) Deliver services more efficiently through reduction of costs and increased revenue; 2) Pricing water properly, considering financial, resource and environmental costs; 3) Improve public expenditure, through subsidy targeting and better budget execution; 4) Bolster sector governance, promoting transparency, independence and accountability; 5) Public resources leverage, attracting private finance in the form of loans, bonds guarantees, etc. (Rodriguez, 2012). The envisaged reform

cycle is very similar to what was the described reform process through which the Portuguese water system went through, sponsored by the EU. Likewise, the World Bank highlights the corporatisation of management in order to boost efficiency, the creation of regulatory bodies that supervise the sector and, most importantly, cost-recovery tariffs (Rodriguez, 2012), which are of crucial importance for attracting new sources of private financial funding for infrastructure investment.

This suggests that the opportunities opened to private capital are not limited to the “cherry picking” of profitable projects. As shown by the Portuguese case, finance is able to bypass context-specific hurdles (municipal control, lack of financial viability of certain investments, etc.). Its influence may be exerted through more indirect ways – for instance, imposing financial principles on management and operations of utilities as a condition for investment, which, ultimately, shape how provision is organised. Notwithstanding inevitable heterogeneity intrinsic to each system of provision, finance is able to penetrate different institutional realities, private and public, through the prerogative of capital to impose its own standards, homogenising international financial investment in the sector. The growing involvement of finance in the sector will also benefit adjacent private interests, such as those involved in the construction of new water systems, highly intertwined with finance in many countries (Portugal, being, again, an example). The financialisation of water across the globe will increasingly connect households to the world’s financial centres. While this connection will be made simply through household consumption of water, water bills will become yet a new source of revenue of the financial sector uniting local consumers with global finance.

Finally, the on-going financialisation of water will not be peaceful. The burden of financial costs of water provision on consumers will most likely foster new forms of political mobilisation, particularly in countries more vulnerable to international financial volatility, where financial costs can rise significantly in a short time span. This has been the case in Portugal, suggesting a more relevant role for local level political actors/movements where the losses of democratic participation are most salient. Considering the vital importance of water, it will not be surprising if water becomes a preferential channel of popular mobilisation against more general commodification processes. The experience of Argentina, Bolivia (Fabricant and Hicks, 2013) or, more recently, Greece all seem to point in that direction (Nikolau, 2014). Hence, financialisation may sooner rather than later be faced with political struggle over the democratic control of a natural resource of such vital importance as water.

## 5. Final remarks

Based on the evolution of the Portuguese water system of provision, put in the perspective of on-going transformations in other parts of the world, the paper attempted to identify foreseeable trends in the financialisation of water and in its impacts. While emphasising the different configurations this process took in different countries, two foreseeable trends were identified: 1) the deepening of financialisation processes even if taking many and varied forms throughout the world; 2) the more selective and risk rewarding penetration of private capital in general, and particularly finance, in water provision in the aftermath of the current international crisis

It is then expected that finance will go on exerting its influence and power over this essential natural resource. Benefiting from its plasticity to homogenise different forms of provision (public and private), it will continue reaping increasingly streams of income from consumers and channel them to speculative international capital markets. The extent to which this foreseeable trend will materialise will ultimately depend, on the one hand, on the appetite of finance in a very volatile financial world, and, on the other hand, on popular mobilisation around water provision at the local, national and international levels and its capacity to resist the financialised obstacles to accessing this essential good.

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## 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
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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
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