Squeezed by austerity and pressured to recover costs: Portugal's municipal water operators in need of public bank finance

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ABSTRACT
This article maps the relationship between public banks and municipal water operators in Portugal. Multilateral public banks play a central role in financing the sector. However, access to public banking finance plays out unevenly across Portugal's heterogenous water landscape. While the state-owned bulk system appears to face no shortage of finance, there is evidence of a financing crisis at the municipal level, where austerity and pressures to recover costs through tariffs serve as obstacles to bank borrowing. With a new public financial institution in the making, the article argues that new public–public financing relationships should be explored.

KEYWORDS
Water and sanitation; public banks; European Investment Bank; neoliberalism; austerity; municipal economy

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Introduction

In Portugal, water is disputed, and its system of provision is heterogenous. Upon a visit to the country in 2016, the United Nations Special Rapporteur on Water and Sanitation noted the 'multifarious actors taking part in the provision of water and sanitation' and the 'tensions' within the sector (United Nations General Assembly, 2019). The most common form of water service is direct provision by municipalities. Under this model, water operators are situated within the municipality. They are not 'ringfenced' as corporate actors and there is no arm's-length distance between local authorities and water services. This represents a contrast to corporatized forms of provision elsewhere in Europe. However, the municipal form of direct provision is not the only one, and moreover, the Portuguese water and sanitation sector has by no means been immune to neoliberal pressures. In some places, municipal water companies have been established, while in others, municipalities have given concessions to private companies. There are also differences with regards to wholesales activities, or water capture. Most municipalities buy water from Águas de Portugal (AdP), a state-owned holding group, but some municipalities are responsible for water capture. A third group has handed bulk activities over to private companies (J. Fael, email correspondence, 28 October 2021; Teles, 2015).

Water and sanitation services in Portugal are highly polarized, with contrasting visions for the sector. The controversy does not only concern the question of public versus private ownership, but also scale, the relationship between state actors and municipalities, and prices. A series of organizations, municipalities and trade unions defend public ownership, municipal provision and local power over water (Água é de todos, 2016a; Associação Intermunicipal de Água da Região de Setúbal, 2014). The sector's regulator, on the other hand, is 'agnostic' to the ownership form, eager to see municipalities raise tariffs, and a promoter of aggregation (Cunha, interview, 2021; for the list of interviews, see Appendix A). Notwithstanding these contrasting visions, there is a widespread feeling that water privatization has failed. Several municipalities have remunicipalized water, including Mafra, Setúbal and Parede. Other municipalities have voted to do so, with insourcing pending (Public Futures, 2021).

Portuguese municipalities are not alone in remunicipalizing water. After decades of privatization, cities around the world have taken water back into public control. There have been at least 311 cases of water and sanitation municipalization over the last 20 years, affecting over 100 million people worldwide (McDonald et al., 2021). Remunicipalization has occurred in cities as far-ranging as Paris, Accra, Budapest, Buenos Aires, Cochabamba and Dar es Salaam (McDonald, 2018). There are good reasons to reconsider privatization. In England, where water privatization in the 1990s was justified with promises of network upgrades, the largest water and sewage companies have incurred mounting debt, whilst their investments have dropped significantly (Plimmer & Hollowood, 2021). This has generated pressure on drainage and treatment networks. In this fully privatized setting, rivers have become a 'chemical cocktail' where water companies regularly eject untreated human waste (Environmental Audit Committee, 2022). To overcome such public health and biodiversity hazards, the sector needs rethinking and reshaping.

If the shift towards remunicipalization is the new trend, it raises the question of how water and sanitation can best be financed (McDonald, 2018). Achieving universal, equitable and affordable access to safe drinking water (UN Sustainable Development Goal (SDG) 6.1) has been estimated to cost a total of US$150 billion per year. If the cost of reducing water pollution, protecting water-related biodiversity and developing integrated water resources management is added, infrastructure costs are expected to reach a total of US$6.7 trillion by 2030 (McDonald et al., 2021). Possible sources of finance include tariffs, municipal taxes, municipal cross-subsidies, central government transfers, multilateral transfers, and loans and grants from private and public banks. Globally, public sources of finance account for 90% of infrastructure investments (Hall, 2015, p. 10). They dominate water and sanitation. Exactly how much private banks lend to water and sanitation globally is unknown. However, this lending is understood to be 'extremely low' and to have declined significantly since the 2008 crisis. Some banks have ceased to lend to water and sanitation projects (McDonald et al., 2021).

This leaves a financing gap that can potentially be filled by public banks. Public banks are resurgent institutions. Over the last 15 years, public banks have contributed to tackling recessions and public health emergencies (Barrowclough et al., 2022; Stadheim et al., 2022). New public banks have been launched in several places. In Portugal the government launched the state-owned Banco Português de Fomento (BPF) during the Covid-19 pandemic. Compared with other financial institutions, little is known about public banks (Luna-Martínez & Vicente, 2012). Even less is known about their relationship to the water and sanitation sector (McDonald et al., 2021). To what extent do municipal water operators access finance from public banks? Do water and sanitation operators struggle to access private bank credit? Do public banks give them promotional lending? Is lending to the water and sanitation sector covered by public banks' mandates? Do public banks and municipal water operators have a relationship that reflects their respective 'publicness'? How do they consider the prospects of working together?

The aim of this article is to begin mapping the relationship between public water and sanitation operators and public banks in Portugal. It focuses on the extent to which water and sanitation operators borrow from public banks, whether they face a shortage of private banking credit, and how they view the prospects for working with public banks in the future. The findings are only preliminary, however, since only a selection of the sector's entities in Portugal informed the study.

The key findings are as follows. First, Portuguese water operators – whether municipal or multi-municipal – are indifferent as to whether they borrow from public or private banks. They view the national public bank Caixa Geral de Depósitos (CGD) as 'any other bank' that does not differ substantially from private institutions. This reflects the competitive logic of banking in Portugal, where municipalities are required to do public tenders for loans. Notwithstanding this indifference, *multilateral* public banks – notably the European Investment Bank (EIB) – have played a central role in financing Portugal's water and sanitation infrastructure.

Second, there is great unevenness in access to public banking finance across Portugal's heterogenous water system. Whilst the AdP group appears to face no shortage of funding, municipal actors are severely constrained. The main obstacles are austerity and the principle of full-cost recovery, which together discourage or even block municipal actors from incurring any debt – whether from private or public banks.

Finally, major infrastructure investments are needed. With a new public financial institution having been established, there may be scope for developing and improving the relationship

between these two sets of public actors and for channelling finance into the municipal level which appears to need it the most.

The remainder of the article is structured as follows. The second section presents the methodology. The third section provides an overview of public banking in Portugal; the fourth section examines the structure and history of the Portuguese water and sanitation system; the fifth section analyses the relationship between public banks and water and sanitation operators; and the sixth section concludes.

Methodology

The article draws on interviews and questionnaires with actors across the Portuguese water and sanitation sector. Questionnaires were conducted with municipal and multimunicipal water and sanitation operators – online and in person – between July and November 2021. Although no attempt was made at obtaining a representative sample, the informants reflect the heterogeneity of the Portuguese water and sanitation system. The sample includes informants from one municipality that provides water directly (Palmela Municipality), two municipal water companies (Águas e Energia do Porto and Águas de Gaia), and two multi-municipal companies from the AdP group (Águas do Douro e Paiva and SIMDOURO). The diverse characteristics of the water and sanitation operators are shown in Table 1.

The questionnaire included background information about the water and sanitation operators' basic characteristics, including the type of services provided, operational mandates, governance structure, sources of operating and capital expenditure, their satisfaction with financing levels, debt levels, and credit rating, as well as questions about the operators' experience with borrowing from public and private banks. The questionnaires were standardized, but there was scope for spontaneous and unstructured conversation. On several occasions, the questionnaire was conducted with two informants from the same organization simultaneously.

In addition to the questionnaires with the water and sanitation operators, several interviews were conducted with informants from key institutions and organizations. This included the sector's regulator Entidade Reguladora dos Serviços de Águas e Resíduos (ERSAR), the Associação Intermunicipal de Água da Região de Setúbal (AIA), which enhances collaboration between municipalities on the peninsula of Setúbal near Lisbon, and the Associação Água Pública, which campaigns for the right to water as a human right and against its privatization. These interviews were unstructured.

Finally, the study is informed by one interview with the Banco Português de Fomento. Many attempts were made at contacting personnel from CGD – which for long was the only remaining state-owned bank – but officials at the bank did not agree to give any interviews or answer the proposed questionnaire.

TABLE 1: Water operators' characteristics

Name	Palmela Municipality	Águas de Gaia	Águas e Energia do Porto	Águas do Douro e Paiva	SIMDOURO
Type of entity	Municipality	Municipal company	Municipal company	Multi-municipal company, AdP group	Multi-municipal company, AdP group
Founding year	1926	1999	2006	2017	2017
Services	Water (bulk & retail), sanitation (retail), other	Water, sanitation, other	Water (retail), sanitation (bulk & retail), other	Water (bulk)	Sanitation (bulk)
People served	102,000	320,000	500,000	Approx. 1,300,000	377,000
Employees	930 (municipality); 300 (WS)	356	533	140	80
Ownership	Water operator is internal to the municipality	100% municipality	100% municipality	AdP 51%, municipalities 49%	AdP 58.52%, municipalities 41.48%
Financing of OPEX	Tariffs, central government transfers, local taxes (% unknown)	87,6% tariffs and 12,4% public transfers from Town Hall	100% tariffs in water. Sanitation also financed by tariffs	100% tariffs	100% tariffs
Financing of CAPEX	Tariffs, public transfers from government, local taxes, borrowing (% unknown)	100% tariffs	90-100% tariffs. Up to 10% grants.	100% tariffs	100% tariffs
Financing from a public bank?	Yes	Yes	No	Yes	Yes
Financing from a private bank?	Yes	Yes	Yes	Yes	Yes, the predecessor company
Debt	Unknown	€51,5 million	€3 million	€35 million	€52.8 million
Credit rating	No rating	No rating	No rating	No rating	No rating

Public banking in Portugal

Public banks are 'dynamic' institutions. It is important to note that there is nothing 'inherent' about public banks (Marois, 2021a). They come in a variety of shapes and forms, but they are under state or other public ownership and control (McDonald et al., 2021). They can operate at various geographical levels – including the global, multilateral, national and subnational

(Romero, 2020) – and may (or may not) have an explicit 'public purpose mandate' (Barrowclough et al., 2022). Historically, countries across the world have set up public banks to meet a range of development objectives, including the construction of roads, dams or highways, and the growth of 'infant' industries (De Luna-Martínez et al., 2018). This does not mean that public banks are necessarily developmental. Nor are they inherently corrupt, as pro-market approaches have often held (Marois, 2021b).

Some public banks are neoliberal in their orientation, maximize profits and operate according to a competitive market logic (McDonald et al., 2021). Others have an exclusively social mandate and abstain from profit maximization (e.g., the Council of Europe's Development Bank – CEB). Thus, a 'dynamic' view of public banking rejects the view that public ownership determines a bank's function. Instead, public banks are socially contested institutions in the sense that societal actors may dispute their purpose. They are situated within concrete capitalist (and often financialized) societies, are subject to competing material interests, and their institutional function is shaped and reshaped by social forces (Marois, 2021a, 2021b). This is not only true for individual public banks, but for national public banking *systems*. The Portuguese case illustrates the contested nature of banking systems exceptionally well.

Over the last five decades, banking and finance have acquired a central place in social change in Portugal. During the fascist Estado Novo regime, a small and tightly knit bourgeoisie owned almost all industry and finance (Costa et al., 2010). The 1974 Carnation Revolution brought an end to the dictatorship and opened for a transition to democracy and an end to Portuguese colonialism in Africa. After a failed coup attempt in 1975, where members of the bourgeoisie participated, a Revolutionary Council was appointed, and almost the entire banking system was nationalized. Bank nationalization was justified on social and economic grounds, and it was operationalized with the help of bank workers' trade unionists. In the ensuing period, credit allocation was coordinated by the Bank of Portugal and bank workers' trade unions fed into this process (Noronha, 2013; Rosa, 2014). The 1976 Constitution maintained that 'all the nationalisations [. . .were] irreversible conquests of the working classes' (Rosa, 2014).

A set of neoliberal changes to banking and finance were introduced in the 1980s and 1990s and this was intertwined with European and monetary integration (Rodrigues et al., 2016; Stadheim, 2021). In the 1980s, three constitutional revisions opened banks to privatization (Rosa, 2014) and the sector was privatized at an astonishing speed. Between 1990 and 1996, public banks' market share dropped from 74% to 24%, and it remained stable thereafter (Antão et al., 2009, p. 432). Hence, the 1985–95 period witnessed a remarkable change in the financial ownership structure, resulting from the creation of new private banks, the entry of foreign institutions and, most importantly, privatization of state-owned banks (Pinho, 1997).

Thus, CGD has for long been Portugal's only remaining state-owned bank. It was established in 1876, after the Bank of Portugal and the Treasury (Lains, 2022). Soon after its creation it became both a state savings bank and a deposit bank. CGD came to be a main destination for individual savings, and as a result, it would serve as a development bank for public works, industry and agriculture (Lains, 2022). Until the late 1920s, an important function was to finance public debt. However, António de Oliveira Salazar was committed to fiscal discipline, and a series of reforms in 1929 reversed CGD's role vis-àvis the public sector (Reis, 1997). CGD nevertheless remained an important institution during the fascist regime. Salazar maintained that 'the reconstruction of the country [could] not be achieved without a strong credit structure – in the metropole and in the colonies' (Salazar 1930, cited in Reis, 1997).

CGD is currently a universal bank (CGD, 2019) and the largest retail and commercial bank in Portugal. It is part of the CGD Group, which comprises many financial institutions in Portugal and abroad (CGD, 2019; DBRS, 2020). CGD's total assets amount to €91,375 million (Orbis, 2021).

During the eurozone crisis and after, CGD has been subject to pressures to privatize and restructure. In 2011, Portuguese authorities were compelled to request a rescue package from the European Commission (EC), the International Monetary Fund (IMF) and the European Central Bank (ECB) (Stadheim, 2021). It was conditional on a structural adjustment programme, and the creditors sought to include CGD on the list of enterprises to be privatized. This was averted (Cardoso, 2016). As a result of CGD's last recapitalization, the bank had to implement a 'strategic plan' agreed with the EC between 2017 and 2020 (Cavaleiro & Vicente, 2020; CGD, 2019). This included a reduction in international operations, non-performing loans and branches (Stadheim, 2020). Currently, CGD's mission is to make 'a decisive contribution to the development of the national economy in a framework of balanced evolution between profitability, growth and financial strength, accompanied by prudent risk management, to enhance the stability of the national financial system' (CGD, 2022). This makes CGD a market-oriented (and externally dominated) institution as far as public banking is concerned.

In its economic response to the Covid-19 pandemic, the Portuguese government merged three pre-existing financial institutions – Instituição Financeira de Desenvolvimento, S.A.; SPGM – Sociedade de Investimento, S.A.; and PME Investimento – to create a single institution, Banco Português de Fomento (BPF), which was established with the EU's permission in November 2022 (BPF, 2022). The government argued it was 'essential' to proceed with the creation of an 'authentic promotional bank' (República Portuguesa, 2020), with Decree-Law no. 63/2020 establishing BPF's formal mandate, tasking it with 'improving the financing conditions of non-financial corporations, to boost investment, development, innovation, territorial cohesion, carbon neutrality, the circular economy, environmental sustainability and business restructuring'. The BFP will also administer state guarantees and investment funds, act as a credit agency for exports and raise finance on capital markets (Diário da República, 2020). Thus, the BPF has a legally established mandate which may be regarded a 'public purpose mandate', and which can *potentially* be mobilized to enhance social and environmental objectives such as water and sanitation provision. This mandate sets it apart from CGD.

Water provision in Portugal

The basic characteristics of Portuguese water and sanitation policy emerged in the late 19th century. High mortality prevailed, particularly among children. Scientific knowledge about the relationship between water and sanitation and infectious diseases was growing. This justified water policies as a matter of public health policy (Pato, 2011). A financial crisis in 1890–91 led Portugal to default on foreign debt and to exit the gold standard, and the country was excluded from international financial markets (Lains, 2008). Faced with this, there was limited capacity to develop water and sanitation at a national scale. A series of policies were nevertheless formalized between 1899 and 1901, and municipalities were given the main responsibility for water infrastructure (Pato, 2011).

By the 1970s, Portugal continued to be characterized by 'enormous sanitary underdevelopment', high mortality rates and 'morbidity' caused by infectious diseases linked

to an absence of basic hygiene. The population was poor by Western European standards, and this was reflected in low water and sanitation coverage. Following the 1974 Revolution, substantial efforts were made to solve sanitary problems. A cholera outbreak in Algarve in April 1974 rapidly spread towards the north, and this highlighted the pressing need for intervention (Pato, 2011). Public bodies for water and sanitation were set up, a new degree in sanitation engineering was launched, and municipalities prioritized water and sanitation infrastructure as 'urgent problems'. In 1981, the first national plan for water and sanitation set ambitious goals for coverage. It was to be implemented by municipalities, but the central administration would help with investments. This led to substantial progress. Between 1975 and 1990, the share of the population with access to domestic water distribution systems increased from 40% to 80%, and the share of the population with access to sewage networks increased from 17% to 62% (Pato, 2011; Teles, 2015).

The main investors were municipalities, the newly nationalized enterprise Empresa Pública das Águas Livres (EPAL) in the Lisbon region, and the national state. The sources of financing included the central government, local authorities and CGD, which gave local governments beneficial loans at reduced rates. Soon after the Revolution, water and sanitation operators received loans from the United States – one in 1976 and one in 1977 – and from the EIB (Pato, 2011; Teles, 2015). The EIB gave two loans in 1977 – to finance irrigation in Vigia and Tras-os-Montes and a dam on the Azibo River, among other issues (EIB, 2021a).

The 'tensions' that exist in the Portuguese water and sanitation system (United Nations General Assembly, 2019) can be understood in historical context. According to Teles (2015), the 1974 Revolution was followed by two decades of 'permanent tension' between municipalities and the central state, where municipalities resisted efforts to connect the national and local levels. Water provision continued to be the municipalities' exclusive responsibility. Municipalities ensured its capture and distribution, and the value chain was integrated with no separation between bulk and retail (Fael, interview, 2021; Teles, 2015). The only exception was Lisbon, where water was provided by EPAL, a successor of Companhia das Águas de Lisboa, which was established in 1868 and reconstituted as a state-owned enterprise following the Revolution (EPAL, 2022; Teles, 2015).

The year 1993 marked a turning point (Fael, interview, 2021; Teles, 2015). Various steps were taken towards a neoliberal – albeit incomplete – reconfiguration of water and sanitation. The legislative changes and subsequent alterations to organizational structure and governance revolved around four main tendencies: first, an opening up for water privatization; second, a corporatization which went hand in hand with an aggregation and centralization of what continued to be a largely publicly owned bulk system; third, a separation between bulk and retail; and fourth, the creation of a regulator.

Decree-Law no. 372/93 opened the capturing, treatment and distribution of water up to private companies. It stated that:

> [T]he need to promote a true industry in water and solid waste treatment requires a rigorous strategy that safeguards national interests, enables a growing corporatisation of the sector, including private capital, and allows an acceleration in the pace of investment.

Both bulk and retail services in water and sanitation were opened to private capital (Diário da República, 1993). The sector could now be privatized 'from deposits to the tap' (Fael, interview, 2021). Between 1994 and 2020, 30 concessions were given to private companies in water distribution (J. Fael, email correspondence, 28 October 2021). For the municipalities,

concessions to private companies helped them avoid debt (Teles, 2015). Indeed, in many municipalities, privatization took place where there was a need for investment (Bastos Cardoso, interview, 2021). Having said that, the neoliberal pressures did not lead to a full-scale privatization.

The corporatization of water and sanitation involved the introduction of multimunicipal companies and the creation of Águas de Portugal (AdP) in 1993. AdP is the largest actor in the sector, and it operates across the county through its multi-municipal companies which sell bulk services to municipalities. It is a publicly owned limited liability company and its shareholders are the national wealth fund Parpública – Participações Públicas, SGPS, S.A. (81%) and CGD (19%) (AdP, 2020a). AdP holds a majority share in the multi-municipal companies (between 51% and 100%), and municipalities are minority holders (Teles, 2015; AdP, 2015a, 2015b, 2020a). For example, Águas do Douro e Paiva, which captures and treats water, has a 100% public capital, of which 51% of the shares are held by AdP and the remaining 49% are held by 20 municipalities (Águas do Douro e Paiva, 2017). AdP also holds full ownership of various international enterprises and branches, including in Angola, Guinea Bissau, Cape Verde and East Timor (Teles, 2015). Its vision is to be a 'state business tool for implementing public policies and achieving national objectives in the environmental sector in order to promote (a) universality, continuity and quality of service, (b) the sustainability of the sector and (c) the protection of environmental values' (AdP, 2020a).

After the creation of AdP, most municipalities handed bulk activities over to the multi-municipal companies. The corporatization of the sector engendered a division between bulk and retail (Pato, 2011; Teles, 2015). It facilitated greater scale in bulk services and a move towards centralization. This by no means lead to a homogenous water structure, with some municipalities refusing to give up bulk activities. By 2014, AdP's bulk systems in water supply covered 71% of the Portuguese population, and its wastewater services covered 67%. The rest were served by municipalities that resisted the handover (Teles, 2015).

For the municipalities the outsourcing of bulk services was not the only effect of corporatization. Corporatization also led to the creation of municipal companies in number of places. With the legislative changes in 1993, municipalities continued to be responsible for water distribution, but they could now give out concessions, to either municipal or private companies (Teles, 2015). Examples of corporatized municipal water operators include Águas de Gaia and Águas e Energia do Porto.

The growing marketization and corporatization of the water sector created a need for a regulatory agency. Comissão de Acompanhamento de Concessões (CAC) was established in 1995 to oversee the multi-municipal companies in the bulk system. CAC's powers were limited when it came to tariffs and investments, and in 1997, Instituto Regulador de Águas e Resíduos (IRAR) was set up to oversee concessions. Entidade Reguladora dos Serviços de Águas e Resíduos (ERSAR) replaced IRAR in 2009 and continues to regulate water and sanitation (Rodrigues et al., 2016; Teles, 2015). ERSAR oversees municipal concessions and public tenders, evaluates water tariffs and is the drinking water inspector (Cunha, interview, 2021).

ERSAR has gradually come to pursue the principle of full-cost recovery (Teles, 2015). The Water Framework Directive (WFD) introduced the principle of cost recovery and pricing as an incentive for sustainable water usage at the EU level, and these principles were soon adopted in Portugal (Martínez-Fernández et al., 2020). Law no. 58/2005 (the 'Water Law') outlines a tariff regime which 'ensures tendentially and within a reasonable period of time the recovery

of the initial investment and any new investments in expansion, modernisation and replacement, deducted from the percentage of subsidies and non-repayable subsidies' (Diário da República, 2005).

The upward pressure on retail water prices resulting from cost recovery has faced resistance from municipalities, many of which have refused to adopt it (Teles, 2015). Faced with high water tariffs in the multi-municipal bulk system (Cunha, interview, 2021) compared with the rates they charge from households, many municipalities became indebted to AdP (Fael, interview, 2021; Teles, 2015). The Portuguese Ministry of the Environment has regarded cost recovery to be successfully implemented in wholesale activities, but not in retail. There, price determination is 'delicate' since it requires reconciling the incorporation of costs into tariffs with users' ability to pay. The ministry has noted that:

> The complexity of the problem has resulted in a high number of units charging [. . .] political tariffs which is in clear contradiction with the principle of integral (or even substantial) cost recovery, posing questions around the viability and sustainability of these services, since a significant part of investment and [. . .] maintenance costs are supported by the taxpayer and not by the final consumer. (Ministério do Ambiente e do Ordenamento do Território, 2007, pp. 50–51)

This suggests that full-cost recovery has effectively failed at the municipal level. Reflecting how disputed tariff setting and cost recovery are, ERSAR's role is also contested, particularly its power over pricing. It acquired the power to define water tariffs in 2014, which hitherto had been reserved for municipalities, but in 2021 ERSAR was deprived of this role (Cunha, interview, 2021; Teles, 2015). The measure was proposed by the Portuguese Communist Party (PCP) and supported by the Socialist Party.

There is a broad feeling in the sector that water privatization has failed. The problems have revolved around water affordability, investments and how financial risk has been distributed between municipalities and concessionaries. The Portuguese Court of Audit has shown that contracts between municipalities and private concessionaries have been based on forecasts about population growth and water usage that failed to materialize. These forecasts were provided by the private concessionaries. In turn, excessive investments were carried out. The Court of Audits notes a 'systematic lack of rigor and prudence regarding the technical and economic assumptions underpinning the financial modelling of the projects in question, which ends up benefiting the concessionaires'.

Furthermore, the contracts have imposed various types of risk on municipalities and not on the private actors. For example, 74% of the contracts expressly cover the possibility of reimbursement if there is a reduction in the volume of water sold or in the number of customers. Water consumption and billing have tended to be 10–30% below the forecasts. Some contracts have even covered the risk of changes to the bank spread and operational risk, which may result from increased maintenance costs (Tribunal de Contas, 2014). Thus, the concessions were associated with a socialization of risk where the cost of the private sector's incorrect forecasts were passed on to municipalities and users. The principle of full-cost recovery effectively did not apply to private concessionaires. Some of these problems were highlighted by UN Special Rapporteur on Water and Sanitation: 'water and sanitation contracts handed significant benefits to private entities to the detriment of municipalities and consumers' (United Nations General Assembly, 2019). The UN special reporter acknowledged Portugal's outstanding progress in recent decades but expressed concerns about the human right to water among the vulnerable and marginalized, notably people in informal settlements – particularly the Roma community

and people of African descendent – and the 'new poor' who have been pushed into poverty by austerity (UNHCR, 2016).

Despite their contrasting positions on ownership, profits, tariffs and cost recovery, the informants for this research acknowledged that privatization has not succeeded. While left-wing actors in defence of municipalities say that water privatization has been a profoundly negative for users and municipalities (Vitorino, interview, 2021), the regulator does not share the 'stigma' against private capital and maintains that the problems were caused by information asymmetries and unrealistic assumptions, among other issues (Cunha, interview, 2021).

Privatization has faced resistance. With the support of almost 45,000 signatories and the largest trade union confederation in the country, the campaign Água é de Todos (Water Belongs to Everyone) proposed a Citizens Legislation Initiative to prevent water privatization in 2013 (Água é de Todos, 2016b; Penha Gonçalves, 2019). The national parliament voted it down twice (Fael, interview, 2021). However, the last new private concession was signed in 2019, and since then, Portugal has remunicipalized water in several places. Remunicipalization has been provoked by concessionaries' decision to drastically raise tariffs or to underinvest, or external assessments have led local governments to conclude that remunicipalization will make water cheaper (European Public Service Union, 2020; Municipio de Setúbal, 2021; Water News Europe, 2017). Some informants observed a reduction in the political appetite for privatization compared with a few years ago (Lemos, interview, 2021). Additionally, the Covid-19 pandemic appears to have generated greater awareness of public water operators' crucial role in securing public health. Water operators kept distributing water when clients lost income or jobs and when businesses temporarily shut down, and a moratorium prevented them from turning off the tap when customers could not pay the water bill.

Relationship between public banks and municipal water companies

Public banks – particularly multilateral public banks – have played a central role in financing Portugal's water and sanitation system. After the 1974 Revolution, the EIB channelled funds into the sector, and continues to do so. Despite this, Portuguese water operators are indifferent to bank ownership. They see CGD as indistinguishable from private banks. This reflects the current neoliberal and competitive institutional landscape in which public banking operates, where CGD is a profit-making bank and where municipalities are required to do public tenders for bank loans. Furthermore, access to public banking finance plays out unevenly across Portugal's heterogenous water landscape, and there is evidence of a financing crisis at the municipal level. This financing crisis is connected to fiscal consolidation and austerity at the municipal level, which translate into borrowing constraints being imposed on municipal water operators, along with pressures to fully recover costs through tariffs. Together, these policies serve as obstacles to taking up *any* bank loan. Major investments are needed in the future, and faced with these needs municipal actors are open to collaborating with public banks. However, this requires a break with the current austerity paradigm which is associated with pressures to recover costs through tariffs.

The EIB: an abundance of finance in the bulk system

European integration has had a contradictory impact on water and sanitation in Portugal. On the one hand, the EU has passed environmental legislation for water source protection, water

quality and access. The latter required enormous infrastructure investments. The EU has also provided subsidies and direct transfers to the Portuguese water sector, which financed 28% of the AdP's investment between 1993 and 2012. On the other hand, the Maastricht criteria set limits for public deficits and debt which precluded public investment. They lent themselves to a preference for private sector investments through municipal concessions. The EU was also the source of neoliberal principles focused on cost recovery, incentives and pricing (Martínez-Fernández et al., 2020; Teles, 2015).

The first EIB financed water and sanitation operations were signed off in 1977 (EIB, 2021a). Portugal's entry into the EEC in 1986 made additional financing sources available, notably Community Funds and Structural Funds, which benefitted water and sanitation. After joining the EEC, Portugal benefitted from the EIB's long-term loans and low interest rates (Pato, 2011; Teles, 2015). The first project after EEC membership was signed off in 1987. Thereafter, EIB financed projects for water and sanitation were signed regularly – almost every year between 1992 and 2012 (EIB, 2021a). In total, the EIB has financed more than 45 projects in water and sanitation in Portugal for approximately €3.2 billion, accounting for 6% of the EIB's operations in the country (EIB, 2021a, 2021b).

Today, EIB finance particularly benefits the AdP group and its multi-municipal bulk system. Being the largest player in the sector, AdP has acquired 'financial know-how' and access to diverse sources of funding, including EU subsidies, EIB loans, other bank loans and bond issuance. The EIB has become an increasingly important source of funding. In the first decade of the 2000s, the AdP group's investments expanded, leading to growing company indebtedness (€3 billion in 2013), and by 2013, AdP owed 60% of its debt to the EIB (Teles, 2015).

AdP's bargaining power and relationship to the EIB serves the multi-municipal subsidiaries which do not have their own credit rating and do not raise finance on open financial markets. AdP collects information about their investment plans, negotiates the loan packages and allocates the funds. The EIB loans are negotiated on a regular basis, and most of AdP's multi-municipal companies benefit from them. For example, Águas de Douro e Paiva and SIMDOURO have both received EIB financing. For the multi-municipal companies, this procedure allows easy access to finance without burdensome reporting requirements. Águas de Douro e Paiva and SIMDOURO report directly to the AdP group, which has access to internal company information. The EIB loans did not require additional reporting requirements (Lagoa, interview, 2021).

Uneven access to finance: austerity and cost recovery

The abundance of EIB finance is not experienced evenly across Portugal's heterogeneous water system. While the multi-municipal subsidiaries in the bulk system have benefited handsomely from EIB financing though AdP's position as a large state-owned enterprise, this cannot be said about the smaller municipal water operators interviewed for this research, none of which are in receipt of EIB or EU community funds. The informants from Águas de Gaia expressed a need for EU community funds (Bastos Cardoso, interview, 2021) and Palmela Municipality called for a more inclusive distribution:

> Palmela commits a large part of its budget to maintaining the systems and, therefore, especially in municipalities as vast as this one and with low population density, argues that, at the European level, Community funds should be more inclusive. The application criteria should create equal opportunities for all municipalities and not the other way around (which the Government has not,

> in our view, defended). [. . .] As it stands, the rules mean that, in most cases, only highly populated municipalities, or multi-municipal systems in the wholesale sector, which do not exist in our region, have access to the funds. [This] leaves out those who really need European funding. (F. Pésinho, email correspondence with Maria Luis Silva Nunes, 10 December 2021)

This does not mean that no EIB funds reach Portuguese municipalities. Following municipalities' accumulation of debt to companies in the AdP group, the latter struck a deal with the EIB in 2020. With the EIB funds, AdP reduced the debt of 18 municipalities by approximately 11% (AdP, 2020b). Notwithstanding this, the deal may be illustrative of the asymmetries in the Portuguese water system, where municipalities have accumulated debt due to the price differences in retail and wholesale, with adverse effect on municipalities (Fael, interview, 2021).

Of the three municipal water operators interviewed, two reported that they face severe financing constraints. Beyond the uneven access to EIB and EU community funds, these obstacles are owed to two intertwined sets of logic: austerity at the municipal level and the pressures to recover costs through tariffs.

A striking finding was the extent to which municipal water operators rely on tariffs paid by households and businesses to finance their operating and capital expenditure (Table 1). Águas e Energia do Porto reported that tariffs finance 100% of operating expenditure and 90–100% of capital expenditure (with the remainder financed by nonrepayable grants). The company took up its first bank loan during the Covid-19 pandemic, which had created a liquidity crisis due to a revenue loss of £3 million. Águas e Energia do Porto also develops energy related projects (including electric charging points in the city, energy efficiency in the municipal buildings and energy related services in impoverished neighbourhoods). For these activities, the company is 100% financed by the municipality. The 'municipality gives [them] everything [they] spend [on energy] – not a cent more or less' (Anon. interview 1, 2021). This suggests that there are no cross-subsidies between energy, water and sanitation, which is consistent with the principle of full-cost recovery. Águas de Gaia reported that tariffs finance 87.6% of the company's operating expenditure and that public transfers from the city hall finance the remaining 12.4%. The company's capital expenditure is 100% financed by tariffs.

Palmela Municipality, which provides water directly, gave somewhat different responses. Tariffs, public transfers from the central government, and local taxes are all sources of operating expenditure. The percentage share of each source was unknown. This could be due to some operating expenditures financing several activities, making it difficult to compartmentalize the cost of each municipal service. Capital expenditure is financed by tariffs, public transfers from the central government, local taxes and bank loans. The percentage share of each source of capital expenditure was also unknown, but the informants pointed out that in activities related to water, the municipality maintains an 'equilibrium' between costs and revenue. This does not apply to sanitation. According to the informants, this is due to the high prices charged by the AdP company SIMARSUL, from which the municipality buys bulk sanitation services (Faim, interview, 2021).

Illustrating the asymmetrical relationship between municipalities and AdP, it can be noted that Palmela municipality holds 12.30% of SIMARSUL's shares and is one of eight municipalities which together hold a 49% stake (SIMARSUL, 2021). Despite this, the municipality does not receive dividends from SIMARSUL. The profits are invested in SIMARSUL (Faim, interview, 2021), hence, the minority stake does not assist the municipality's capital expenditure and investments in sanitation.

Palmela Municipality's elected councillor Fernanda Pésinho, from the coalition between the PCP and the Greens, expresses explicit opposition to the full-cost recovery model and a preference for cross-subsidies at the municipal level:

> For decades, the Municipality of Palmela has invested in sanitation and water supply infrastructure. [This has been] at the expense of the municipality's own budget, which to some extent includes revenue from tariffs charged of users. [There is] a strong component of subsidization, [and this] follows the logic of social policies, since the municipality does not allow the [water] system's real costs to be reflected in the tariffs.

Pésinho goes on to explain why the full-cost recovery principle is unsustainable from the perspective of basic needs and users' affordability, in its specific demographic and geographical context:

> We have a municipality with about 465 km2, with 411.41 km of sanitation network (domestic and rainwater) and 670.6 km of distribution network, to serve only about 29,000 users. This means that if the municipality were to pass the real costs of the systems on to the users, as the regulator – ERSAR – seeks to impose, the principle of universality and accessibility to these services, which are essential to life, would be compromised.

The municipal water operators interviewed for this research are under pressure to not incur debt. This is related to austerity at the municipal level, which is complementary with full-cost recovery insofar as water operators are under pressure not to incur any form of financial loss. During the Eurozone crisis, austerity hit municipalities hard, with reductions in central government transfers, restrictions on municipal debt levels and limitations on the creation of new municipal enterprises (Silva & Teles, 2019). Thus, austerity potentially precludes the possibility of developing long-term developmental relationships with public banks. Informants from Águas e Energia do Porto said that 'Until one year ago we did not need [loans] and there was a political message from all of our shareholders [i.e., the municipality] not to incur debt.' The informants said that 'there is a very strong political message' with regards to tariffs being directed to 'maintain continued efficiency' (Anon. interview 1, 2021). Águas de Gaia has borrowed from various banks – both private and public – and did not report having received similar instructions. However, if the company makes a loss for three consecutive years, it will automatically close down (Lemos, interview, 2021). Palmela Municipality is subject to debt ceilings imposed by law, and this is at the expense of investments that are needed.

Public banks are 'just like other banks'

Despite the centrality of *multilateral* public banking in the development of Portugal's water and sanitation infrastructure, municipal and multi-municipal water operators are indifferent as to whether they borrow from private banks or the national public bank, CGD. Almost all the water operators interviewed had borrowed from public banks (Table 1). The two multi-municipal water operators Águas do Douro e Paiva and SIMDOURO had both borrowed from the EIB. Águas do Douro e Paiva's predecessor company had borrowed from CGD. Palmela Municipality obtained a loan from CGD in 2010 which targeted water. Águas de Gaia had borrowed from CGD and were satisfied with the access to finance, the amount provided, the repayment period, support and technical services and the reporting requirements. They had also borrowed from private banks, and their level of satisfaction was very similar. Águas e Energia de Porto was the only operator that had never borrowed from a public bank. Neither the

informants from Águas e Energia de Porto or Palmela Municipality had the experience necessary to compare private and public banks.

The dominant sentiment among water operators in Portugal is that CGD is just like other commercial banks. When asked what they saw as 'the major difference between public and private banks when it comes to financing water and sanitation', the informants from Palmela Municipality said, 'it does not exist'. Informants from Águas e Energia do Porto said there was 'no major difference between public and private banks', and the informant from Águas do Douro e Paiva and SIMDOURO maintained that 'right now, CGD and the other banks are more or less the same'.

While some water operators viewed the similarity between public and private banks favourably, others lamented it. Palmela Municipality is dissatisfied with its level of funding for operating and capital expenditure and lacks credit lines. They found it unfortunate that Portugal's public bank acts like a private bank and underlined the need for credit lines for water and sanitation. Águas da Gaia, on the other hand, appears to face no shortage of financing options and views the convergence between public and private banks favourably:

> When private banks entered Portugal [. . .] they brought a new flexibility at all levels – in customer relations, even the buildings were nicer. [. . .] The public banks, which were situated within a competitive logic, had to follow suit. It took long, but they got there. [. . .] If we didn't know that [CGD] was public, perhaps we wouldn't notice the difference. (Lemos, interview, 2021)

The water operators' perception that public banks are just like other commercial banks reflects the competitive logic in which CGD operates. In the Portuguese case, EU rules condition the scope for developing a relationship between public water operators and public banks. EU regulation on public procurement requires that public sector acquisitions and purchases above a certain amount are made through a tendering process (Silva Pinto, 2015). In Portugal, credit is no exception. The EU Directive 2004/18 enshrines core EU principles such as 'competition', 'non-discrimination' and 'transparency'. The Portuguese Public Contracts Code (Decree-Law no. 18/2008) regulates public procurement (Mateus et al., 2010). Additionally, municipalities' debt and borrowing are regulated by Law no. 73/2013 – a legacy from the Troika period – which states that borrowing requires the municipal assembly's authorization and evidence of consultation with at least three credit institutions and information about their lending conditions. They also need to demonstrate the municipality's debt capacity (Diário da República, 2013). Reflecting this, the competitive process secured through public procurement was frequently mentioned in the interviews, and some informants expressly identified it as a driver of the convergence between private and public banks.

A change in paradigm?

Significant investments are needed in Portugal's water and sanitation infrastructure, particularly in retail systems and in network renovation (PENSAAR, 2015). The municipal water operators interviewed all have planned investments or are in need of investments. Palmela Municipality, which provides wholesale and retail water services, see the debt ceiling imposed on the municipality as an obstacle to necessary long-term investments. The systems are 50–60 years old and need renovation (Silva Nunes, interview, 2021). On the peninsula of Setúbal the organization Associação Intermunicipal de Água da Região de Setúbal is planning an intermunicipal water provision system which covers Palmela and other municipalities (Vitorino, interview, 2021). In the area served by Águas de Gaia, networks need substitution,

requiring investments in the order of €10 million. The informants expressed a need for EU community funds, which currently only support network expansion and not substitution. With almost 100% coverage in the area, existing funds are of little help (Bastos Cardoso, interview, 2021). Nearby, Águas e Energia do Porto is planning a major project which will involve the refurbishment and renewal of water treatment plants in Porto city. This will require investments of around €40–50 million, but tariffs cannot finance this (Anon. interview 1, 2021).

With these ongoing and planned investments, municipal water operators are open to working with public banks. The perception that public banks are undisguisable from private banks is not an obstacle against building new public–public relationships. Palmela Municipality is dissatisfied with their funding for capital expenditure and welcomes credit lines from public banks. So does Águas de Gaia, as long as the banks' bids are competitive. Águas e Energia do Porto is open to working with public banks to finance their upcoming project. Given the focus on the circular economy, they considered it likely that the project will attract non-refundable grants. Whilst planning a public tender, the informants said that the company will 'look at every solution' as far as finance is concerned, be 'proactive' and 'knock at every possible door'. This is likely to include CGD, BPF and the EIB.

In Portugal, ongoing changes in public banking point in the direction of a greater overlap in municipal water operators' and public banks' mandates. The new BPF's legally established role includes directly financing and facilitating (alone or in collaboration with the EIB) 'sustainable infrastructure', 'carbon neutrality', the 'circular economy' 'environmental and energy infrastructure in the area of hydric resources and waste management'.

The BPF will support 'social investments', particularly in health. Furthermore, the BPF will 'finance long-term investment projects to be developed by the public sector at central, regional and municipal level' (Diário da República, 2020). Public water operators have crucial responsibilities for public health and the environment. For example, Águas e Energia do Porto has legally established responsibilities for rainwater, drainage and rivers (Águas e Energia do Porto, 2020). Águas de Gaia's mandate includes 'the cleaning and clearing, rehabilitation [. . .] of rivers and streams' and the 'management and maintenance' of beaches and bathing zones in Vila Nova de Gaia (Águas de Gaia, n.d.). Thus, there can be no doubt that the public purpose mandates of municipal water operators and BPF coincide.

The BPF's legally established focus on financing projects at the municipal level could be part of a solution to municipal actors' need for finance. For the moment, BPF is at the beginning of figuring what it means to be a 'green bank'. It works alongside private financial institutions to correct market failures. So far, BPF does not lend directly, and it does not lend to public institutions (Mouta, interview, 2022). As this new institution takes shape, inspiration may be sought from relationships between public banks and public bodies elsewhere. Ideally, it should involve long-term, low cost and easily accessible credit, as witnessed in the cases of the Nordic countries and the Netherlands, outlined in Juuti et al. (2022) and Schwartz and Marois (2022) in this special issue. Pooling of risk may help achieve this. For example, in the Nordic countries investments are to a large extent financed by public bank finance. Water and sanitation operators assess their financing needs and submit requests to municipalities, which subsequently bundle the loan requests together with all other municipal financing needs. The loans tend to come from specialized municipal banks, which raise finance on international capital markets. This model has the advantage of maximizing scale, minimizing risk, and obtaining beneficial financing terms that can be passed on to municipalities, including those

with small and rural populations which may otherwise struggle to obtain affordable credit (Juuti et al., 2022).

Water and sanitation credit also lends itself well to 'green finance'. As such, lending to municipal water and sanitation operators in Portugal could *help* the BPF to become a 'green bank'. Other public banks – notably the German KfW and the Council of Europe's Development Bank – mobilize their public purpose mandate in their engagement with capital markets, and this in turn helps them expand their lending capacity (Stadheim et al., 2022).

Conclusions

This article has sought to investigate the relationship between public banks and municipal water and sanitation operators in Portugal. Some of the questions that guided the research included: Do municipal water and sanitation operators borrow from public banks? Do water operators struggle to access private banks' credit lines? Do public banks have promotional credit lines for the water and sanitation sector? What is the water operators' experience with public banks and how do they consider the prospects of working together in the future? These questions concern how water and sanitation infrastructure *is* and *should* be financed. They were motivated by the recognition that internationally there is a huge gap in water and sanitation infrastructure spending and that this is unlikely to be fully covered by central government spending (McDonald et al., 2021).

The evidence shows that the development of Portugal's water and sanitation sectors benefitted substantially from *multilateral* public banking after the 1974 Revolution and continues to do so. The EIB has played a crucial role. However, access to financing is uneven across Portugal's heterogeneous water and sanitation system. While the *state* actors within the wholesale sector (AdP's multi-municipal companies) have generous access to EIB funds, the same cannot be said about the *municipal* water operators interviewed for this research. They all lacked access to EIB funds. Furthermore, this research shows that when asked to compare public and private banks, Portuguese water operators see them as largely indistinguishable. Their view of the national public bank CGD is that it is 'like any commercial bank'. While most of the water operators had borrowed from a public bank at some point, several municipal operators are currently prevented from doing so. The pressures to recover costs through tariffs, together with austerity at the municipal level, discourage them from borrowing from any bank – whether public or private. These policies serve as an obstacle to building long-term public–public relationship between these two sets of public institutions. Finally, this research found that the Portuguese water and sanitation sector is in need of long-term investments. With planned investments, municipal operators welcome the prospects of working with public banks. The new BPF has legally established responsibilities for public health and the environment, and these coincide with the water and sanitation sector's responsibilities. Hence, there are clear overlaps between their respective 'public purpose mandates'. Given municipalities' responsibility for water provision, these overlapping mandates should be explored.

Several themes still require more research. First, a more systematic overview of the extent to which austerity and debt ceilings preclude investments in water and sanitation infrastructure is needed. Second, further investigation is needed into the unevenness in access to EIB funds. This would necessitate a more systematic overview of municipalities that provide water directly (i.e., the most common form of provision in Portugal) and the extent to which they are excluded from EIB funds. Third, some informants suggested that the EIB funds are used to

pressure municipalities into aggregation. This points to a nexus between processes of regional integration and reorganization of scale within water and sanitation provision, which was not possible to investigate. Fourth, a fuller analysis of the relationship between municipal water operators and public banks requires more research into the banking side. This can provide insights into the strategies, mandates and organizational cultures of the relevant public banks, something which necessitates interviews with staff and board members from CGD, BPF and the EIB (on this point, see
Clifton et al., 2022).

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Appendix A: Interviewees

Anon. Águas e Energia do Porto Porto, 28 October 2021.
Anon., Águas e Energia do Porto Porto, 28 October 2021.
Bastos Cardoso, A. Finance personnel, Água de Gaia. Online, 16 July 2021.
Cunha, A. Director of the Department of Water Systems, Entidade Reguladora dos Serviços de Águas e Resíduos. Lisbon, 29 October 2021.
Fael, J. Secretary General, Associação Portuguesa Água Pública, Lisbon 27 October 2021.
Fael, J. Secretary General, Associação Portuguesa água Pública, Email correspondence, 28 October 2021.
Faim, J. Director of the Department of Environment and Urban Services, Palmela Municipality, Online, 5 November 2021.
Lagoa, P. Finance personnel, SIMDOURO and Água do Douro e Paiva, Porto, 28 October 2021.
Lemos, M. CEO, Águas de Gaia. Online, 16 July 2021.

Mouta, H. Director of Economic Studies, Banco Português de Fomento, Porto, 7 June 2022.
Pésinho, F. Elected Councillor, Palmela Municipality. Email correspondence with Maria Luis Silva Nunes, 10 December 2021.
Vitorino, N. Secretary General, Associação Intermunicipal de Água da Região de Setúbal, Lisbon, 26 October 2021.
Silva Nunes, M. L. Councillor's Advisor, Palmela Municipality, Online, 5 November 2021.