Politicising and economizing – domestic water charges in Ireland - from a free public service, to pay-by-volume, and back again.

Abstract

Purpose – This paper explores why a country with significant under-investment in water infrastructure has not successfully imposed domestic water charges. Drawing on an economization lens, it examines how an economy emerged in the imposition of water charges but was subsequently hidden due to their politically motivated suspension.

Design/methodology/approach – Drawing on documentary evidence, a theoretically informed examination of the 'economization' process is set out. This examination recognises the central role sustainability plays in water management but illustrates how sustainability must be integrated with environmental, social, economic, cultural and political factors.

Findings –The findings set out the challenges experienced by a state-owned water company as they attempt to manage domestic water charges. The paper reveals that while the suspension of water charges has hidden the 'economy' within government subvention, the economic and sustainable imperative to invest in and pay for water remains, but is enveloped within a political 'hot potato' bringing about a quasi-political/quasi-economic landscape.

Originality– Showing how an economy around domestic water supply in Ireland was revealed, but subsequently hidden in 'the political', the paper illustrates how sustainability is as much about economics and politics as it is about ecological balance and natural resources.

Practical Implications – The findings demonstrate how the effective and sustainable management of domestic water supply requires collaboration between multiple participants, i.e. government, the European Union, private citizens, the water protest movement and the water company.

Social Implications – While highlighting the challenges faced by a country that has seriously under-invested in its water resources, the paper reflects the societal consequences of charging individuals for water, raising important questions about what water actually is - a right, a product or a political object.

Keywords - water, water management, water charges, economization, economic, political, sustainability.

Paper type - Research paper

Introduction

Water sustains human life, but clean, processed water comes at a cost - borne by government, the end-consumer, or both. Until recently, the Republic of Ireland (hereafter Ireland) was the only OECD country[1] to not impose domestic water charges resulting in decades of under-investment in water infrastructure. There are two general ways to fund water supply: indirect taxation or a direct charge, typically based on usage - the latter is preferred to encourage a sustainable water supply. Except for some rural areas in the 1980s and 1990s, a direct charging model did not apply to domestic users until the formation of a state-owned company - Irish Water - in 2014. This entity was purposed with managing domestic water billing to finance water infrastructure, representing an unbundling of the financing and management of domestic water supply from government to a corporate unit. The imposed water charges resulted in protest, prompting a move from an initial volumetric charge to a capped charge by the end of 2014. Political pressure intensified during a general election in 2016 and the newly formed government ceased charges, instead committing to the imposition of an excess usage charge – yet to be enforced. Irish Water remains but is financed through government subvention i.e. it receives central government funding to cover operational and capital expenditure. All of this occurred against the backdrop of a growing global water crisis, which Bunclark and Scott (2022) describe as deeply intertwined with the societal and environmental challenges of environmental degradation, urbanization and climate change. The availability, affordability and adequacy of water is central to the international sustainable development agenda, but sustainable development is deeply intertwined in economics and politics.

Using an economization lens, this paper's objective is to study the emergence of an economy around domestic water policy in Ireland, where 'economy' can be understood as actors (human and non-human), organisations and institutions acting to achieve an end. This is evident in this paper in how the economy around domestic water has been shaped and moulded by political and societal interference to such an extent that an initial economic mechanism (billing) has eroded. To borrow a phrase from Gregson *et al.* (2013), water management, to a large extent, became a political object. Poor water governance is a significant barrier to sustainable water management (UNESCO, 2009). Thus, this political potency represents a roadblock to a sustainable solution to Ireland's water problem. Given calls for an enhanced

[1] See https://www.cer.ie/customer-care/water/faqs

understanding of the role of the 'social' and 'political' in fostering sustainability (Hong and Hardy, 2022) the economization lens contributes to the analysis by placing the individual and society at its centre, allowing us to explore - in the case of Irish Water - how individual behaviours may be implicated in societal outcomes and vice versa.

The next section provides an overview of the literature on water management, with an emphasis on literature capturing both sustainability and economic aspects. This is followed by a discussion of the theoretical framing and methods used in this study as well as a detailed account of the management of domestic water charges in Ireland. Then, events are discussed through the lens of economization (Çalıskan & Callon, 2009; 2010; Callon, 1998), with some comments and limitations concluding the paper.

Literature, theoretical framing and method

Literature

As mentioned, this paper's primary motivation is to understand the emergence of an economy around domestic water in Ireland. In practical terms, this means understanding how to operationalise and fund the sustainable management of domestic water supply in Ireland, and in doing so to examine why Ireland is alone amongst OECD counties in its absence of domestic water charges. Thus, literature on the sustainable management of water supply is now explored.

Prior research has examined water management and conservation (e.g. Ahmed *et al*., 2018; Cabrera *et al*., 2013; Egan, 2015; Jollands and Quinn 2017; Kurland & Zell, 2010). Water utility companies emerge as crucial stakeholders in ensuring sustainable water provision. Their role in optimising resource allocation, promoting conservation and responding to evolving challenges such as climate change and population variations is critical to the long term sustainability of domestic water supply (Harvey andSchaefer, 2001; Lennox *et al.*, 2011; Quinn *et al*., 2016). The privatisation of water utilities is a key issue in this literature, much of which examines the challenge of balancing market dynamics with public interest whilst ensuring sustainable and equitable water management (e.g. Harper, 2019; Ogden andAnderson, 1999; Renzetti and Dupont, 2018). Bakker (2016) highlights some of the complexities of water governance in a newly privatised setting, specifically those relating to socio-political dynamics and power relations.

There is a wealth of literature on the financialization of water (e.g. Ahlers andMerme, 2016; Allen andPryke, 2013; Loftus andMarch, 2016; Merme, Ahlers, and Gupta, 2014; Schmidt and Matthews, 2018). Loftus *et al.* (2019) describe how a process of financialization has 'enabled apparently fixed and stable forms such as pipes, water treatment plants and sewers to be transformed into liquid assets, opening up new opportunities for sovereign wealth funds and pension fund investors (p. 1326)'. Indeed Bresnihan (2016) explored what he described as 'bio-financialisation' in Irish Water. Financial logics associated with financialisation are embodied within Ireland's state-owned water utility. The company was formed with self-sufficiency in mind, even though the key actor in its formation was the State, who '[enabled] the growing financialization of infrastructure - the financial enclosure of public goods and the shift from public utility to financial product (p.123)'.

Staying with the Irish context, decades of poor governance have plagued Irish Water leading to infrastructure neglect, water quality concerns and public mistrust. Cashman (2011) describes the symptoms of poor water governance as high levels of unaccounted for water, lack of proper metering, ineffective collection of water revenue, uneconomic tariffs, excessive staffing of water service providers and lack of accountability- symptoms clearly evident in Irish Water (Jollands and Quinn, 2017). It is clear however that the challenges associated with access, affordability and quality of water are so deeply intertwined with socio economic issues, it is difficult to separate the two. We see this in Quinn *et al.* (2016) who used social media data on Irish Water, drawing on a dataset of just under 355,000 tweets. They noted a majority of tweets could be classified as mentioning political/economic issues as opposed to sustainable water supply. This 'illustrates that tackling socio-economic issues, which are major impediments to tackling water issues, is difficult' (Quinn *et al.*, 2016, p. 3586;, see also Cosgrove and Loucks, 2015).

Much of this literature speaks to an overarching motivation for this paper, which is to consider what water actually is as an achieved end - a product, subject to market dynamics and commercialisation (e.g. Bakker, 2005, 2016); a service, essential for life and sanitation (e.g. Ahmed *et al*., 2018); an inherent right, to which there is universal access irrespective of socio-economic status (e.g. Sultana and Loftus, 2013); even a political object entangled in agendas and power dynamics at local, national and international levels (e.g. Loftus *et al*., 2019; Schiffler, 2015; Yates *et al*., 2017). The paper contributes to a body of literature which seeks to reformulate our understanding of what water 'is' (Boelens, 2014; Chen *et al.*, 2013; Krause

and Strang, 2016; Linton, 2012). This examination of the characterisation of water encompasses a complex interplay of economic, social and political dimensions which are teased out in the story of Irish Water.

Theoretical framing

This paper uses economization (Çalıskan & Callon, 2009, 2010; Callon, 1998) to frame the quasi-economic/political outcome which resulted from the introduction and subsequent cessation of domestic water charges in Ireland. This lens encapsulates the concepts of economization itself, economy and the economic. Callon (1998) coined the term economization, 'the processes that constitute the behaviours, organizations, institutions and, more generally, the objects in a particular society which are tentatively and often controversially qualified, by scholars and/or lay people, as economic' (Çalıskan & Callon, 2009, p. 370). Economization provides a valuable conceptual lens to examine phenomena in which economy and society are entangled/disentangled. This is illustrated in Gregson *et al.* (2013) which uses the lens of economization to broaden the discussion around recycling beyond that relating to the domestic behaviours and practices surrounding waste, into an economic activity spanning markets, manufacturing and industrial ecologies.

Economization can be understood in terms of two seemingly contrasting but ultimately interconnected perspectives: formalism and substantivism. The formalist position is closely associated with neo-classical economics, specifically the concept of instrumental rationality. Economic actors will always seek to maximize their individual well-being with the result that all societal action is a function of groups of individuals making choices based on trade-offs between alternative ends (Belshaw, 1965; Cook, 1968; Epstein, 1968; LeClair, Schneider & Herskovits, 1968; Schneider, 1974). The substantivists argue that the motivations of individual actors are socially determined. Drawing from political economy theory it contends that human activity, even if it benefits individual wealth maximisation, is a social phenomenon (Arensberg and Pearson, 1957; Malinowksi, 1922; Polanyi, 1944). These seemingly opposing methodological paradigms are looked at quite differently today- the two are seen as complementary. Formalism provides an analytical perspective and mathematical rigor, while substantivism enriches understanding by considering cultural and social contexts (Gao, 2021; Sobel and Poste, 2016). They diverge primarily in their starting point of analysis- formalists start with the individual while substantivists start with society itself. In this way Çalıskan and Callon (2009) use formalism to economize individual behaviours, while also using a substantivist lens to explore economy through a multiplicity of institutional arrangements

The economy is the outcome of the economization process, whether that be through a created economy or through the revealing of a pre-existing economy through some action (Çalıskan andCallon, 2009). This paper highlights how the gradual reveal of the economy around domestic water supply was continuously shaped and reshaped by changing political landscapes, and thus an economization lens is suited. The economic must be distinguished between its formalist meaning, i.e., individual behaviours leading to decisions to fulfil needs, and its substantivist meaning, i.e. the mechanisms through which society meets its needs. Through this epistemological dualism Çalıskan andCallon (2009) merge the individual and collective in considering what is economic. This simultaneous micro and macro analysis allows us to explore how individual behaviours impact and are impacted by societal shifts and political interference.

Also, in its description of the emergence of an economy around water, this paper unveils a form of latent marketization of domestic water supply in Ireland. Marketization is best described as a 'modality' of economization which encapsulates the establishment of markets, specifically around activities that were previously governed by non-market mechanisms such as government regulations or even social norms (Caliskan and Callon, 2010). It incorporates the numerous socio-technical arrangements that create value by organising competition between individuals, or agents. This description acknowledges a clear distinction between the 'things' to be valued and the 'agencies' capable of valuing them. This perspective places competition central to the marketization modality (Callon, 2017). Marketization provides a different perspective when competition is absent. It becomes necessary to expand beyond the traditional 'market centric' perspective and focus on other key factors including the introduction of pricing mechanisms and profit motives into non-market spheres (e.g. Hanson and Lindholst, 2016; Lindholst, Hansen and Peterson, 2016; Bretzer, Persson and Randrup, 2016; Osborne *et al.*, 2012). These studies highlight the influence of the political in how actors frame issues, negotiate power and regard the monetization of what was previously 'non market'.

The role of politics in economization encapsulates how the political is played out in everyday life (Michael, 2006). Literature in this area covers a multiplicity of issues from power dynamics and social structures to individual agency For instance, Barnett *et al.*'s (2008) examination of the consumer as an ethical agent demonstrates how movements and campaigns inform individuals (or consumers) of their moral responsibility. Consumption is problematised,

providing individuals with dilemmas and choice. The empowerment that comes with this choice provides individuals with a political identity. Warner (2002) speaks to the cultural complexities of politics by drawing on Habermas and Foucault to examine the role of language, media and ultimately power in shaping public discourse, highlighting how certain voices are silenced while others dominate. Clough (2009) looks through micro and macro lenses of social life to explain how social structures, power dynamics and cultural contexts are deeply intertwined. Her approach to social enquiry explores the lived experiences of individuals, but individuals that exist within communities. Hawkins (2011) reveals an interplay between the political and its social context in her examination of plastic bottles as public and market devices. She uses Callon's (1998, 2007) concept of hybrid formation to explore how the growth in use of plastic bottles from the 1990s opened a virtual space in which the water bottle became a political object - simple practices such as refilling a bottle or using a public water fountain became political practices. This interplay between consumers and movements, individuals and society, people and communities is suited to an economization lens which uses simultaneous micro and macro lenses to explore how the individual (i.e. the formalist) and the collective (i.e. the substantivist) shapes perceptions and drives behaviour. This paper uses the economization lens to draw out how the political played out in the story of Irish Water. In doing so it contributes to this literature stream on politics in everyday life , but moreover it builds on the economization literature by breaking down the key behaviours, organisations and institutions which existed in Ireland over a twenty-year period to describe how an economy around domestic water emerged. The study goes beyond prior economization literature, however, by describing how the 'revealed' economy was subsequently hidden as a result of political and societal interference, such that water charges have still not been imposed in a country with a significant under-investment in water infrastructure. In doing so, the economization lens illustrates how sustainability is equally about economics and politics compared to ecological balance and natural resources.

Methods

This study uses document analysis to systematically find, select, appraise and synthesise (Bowen, 2009) publicly available evidence on the attempted imposition of domestic water charges in Ireland. Evidence consists of government and European Commission policy documents, parliamentary debates, government legislation and media reports spanning a period from 1983 to 2022, with a greater emphasis on 2015 to 2022. The latter period is focused for two reasons. First, it continues tracing the story beyond the time frame of prior studies, namely

Bresnihan (2016) and Jollands and Quinn (2017). Second, this latter period is interesting as it captures the cessation of domestic water charges and (political) efforts to reinstate some form of user-based charge. All documents were sourced online from direct sources such as the Irish Statute book, the Irish parliamentary website, websites of government departments and on-line newspaper archives. A detailed review of these documents first facilitated the development of a timeline of key events leading to the instigation and ultimate cessation of domestic water charges. Then, the key actors underpinning these events were identified, including domestic water users, water charge protestors, the government and opposition political parties, the European Union and Irish Water. Next, a narrative of events was constructed, during which key observations and areas of interest were noted, prompting either a search for additional documentary evidence or further consideration within the literature. Different sources of evidence contributed in different ways - media output provided context and contributed to the timeline; government and European Commission documents provided insight into key policy decisions and practices; and, parliamentary debates gave valuable insights into the discourse and debate amongst key actors. Similar approaches have been used in other studies examining water policy and management (e.g. Egan and Agyemang, 2019; McDonald-Kerr, 2017) as well as broader studies in the area of public policy, sustainability and accounting (e.g. Feng *et al*., 2014; Gauthier, 2017; Quinn and Feeney, 2020).

This was followed by an iterative process of interpreting the evidence per the constructed narrative in the context of the study's theoretical lens. A key first step in this analysis was acknowledging the epistemological dualism of the formalist economic model which prioritises the behaviour of individuals and their decisions to fulfil their needs; and, the substantivist economic model which necessitates a broadening of the lens to understand how humans interact with their social and natural environments. In conducting the formalist analysis, key individual actors in the story were identified (i.e. domestic householders) to explore their values and behaviours in relation to water charges. This necessitated an almost suspension of these individuals' institutional context to focus entirely on the motivations for, and implications of, their actions. The substantivist analysis was akin to building a map - setting out the key individuals (i.e. again householders) and institutions (i.e. the Irish government, opposition parties, Irish Water, the European Union, the United Nations) and exploring how the interactions and interdependencies between them gave rise to a failed attempt to impose domestic water charges. This analysis facilitated a theoretically informed discussion, presented later in the paper, describing how domestic water in Ireland became economic through the

imposing of domestic water charges on householders; then through the cessation of these water charges because of societal pressures and political interference, became mainly political.

Domestic water supply in Ireland

This section sets out key events and issues, starting with the formation of Irish Water in 2015 and the levying of domestic water charges on householders. It then describes the cessation of these charges because of societal pressure and political interference before ultimately discussing the ongoing pressures in funding domestic water supply.

The emergence of Irish Water

In Ireland, the Local Government (Sanitary Services) Act 1962 permitted the charging of businesses water usage. Domestic users paid rates for services (including water supply). Rates were abolished in 1977 resulting in increased direct taxes. Central government paid support grants to local authorities, excluding the need for billing of domestic water and refuse collection services. A new government in 1983 reduced support grants and enacted the Local Government (Financial Provisions) (No. 2) Act, 1983, allowing local authorities to charge for domestic water usage. However, there was no compulsion to charge and up to the early 1990's only some did; the largest and most populated areas in Dublin did not. For strategic reasons, the Local Government (Dublin) Act was passed in 1993, dividing Dublin (the capital)into four new local authority areas – three of whom introduced a flat charge ranging from £50-90. Public protest followed, and in the year of a general election, the then government passed the Local Government (Financial Provisions) Act, 1997, Section 2 stating 'after the 31st day of December 1996, a sanitary authority may not make a charge for a supply by them of water for domestic purposes'. It continued so until 2014, removing what Jollands & Quinn note as 'a major potential source of funding needed to sustain (and/or improve) a water supply was untapped' (2017, p.173). These mid-90s public protests and the subsequent political movement which emerged from their impact has been noted in detail by Jollands and Quinn (2017).

As the economic boom in Ireland turned into recession by 2008, funding for central/local government services again became a focus of attention. In November 2010, the Irish government accepted a bailout package to rescue the economy, which would see domestic water charges come to the table again. Following the bailout, the government published a *National Recovery Plan 2011-2014*, setting out detail on intentions for domestic water charges

which would yield additional revenue streams to 'improve the General Government position' (Department of Enterprise, Trade and Employment, 2010, p.78).

At the same time (November 2010), a Memorandum of Understanding (MOU) was signed by the Irish government with its European bailout partners. Within the MOU, a commitment to recover the cost of water service provision was given, in line with Article 9 the EU Water Framework Directive (WFD). In March 2011, a programme[2] of the newly elected coalition government stated:

> The new Government will create Irish Water, a new State company that will take over the water investment maintenance programmes of the 34 existing local authorities. It will supervise and accelerate the planned investments (Programme for Government, 2011-16, p.14).

This commitment was encompassed in the Water Service Act 2013, the first legislation to permit domestic water charges since 1997. Part 3 of this Act permitted Irish Water to install domestic water meters and by the end of 2016, it was estimated that 873,000 of 1.4 million households had meters installed (Expert Commission, 2016). Our analysis identifies the water meter as an actor (see Figure 1 below). As noted in our introduction, economies consist of human and non-human actors. We acknowledge that there are indeed other actors involved in the installation, maintenance and reading of water meters, but in the context of this paper, it is the meter itself which is the key actor because it facilitates accountability by creating the charge. The 2013 Act also appointed the Commission for Energy Regulation (CER)[3] as the regulator to oversee Irish Water's implementation of domestic charges. Following a submission and consultation process, the CER decided charges from October 1st 2014 to December 31st 2016 should be at a rate of €2.44 per 1,000 litres of fresh water metered and a corresponding amount for wastewater. An annual allowance of 30,000 litres per household was to be free, with an additional 21,000 litres for each child under 18 years[4]. A period of nationwide protest followed, particularly in urban areas. In a single weekend, 150,000 people protested as part of the 'Right2Water' campaign. The protests raised concerns amongst members of government of the threat to their re-election in Spring 2016 (McCormack *et al.*, 2014). In late November 2014, the Minister for the Environment quashed the CER recommended charges and introduced a flat

[2] See http://www.taoiseach.gov.ie/eng/Work_Of_The_Department/Programme_for_Government/Programme_for_Government_2011-2016.pdf

[3] The CER was rebranded as the Commission for Regulation of Utilities in 2017. As the CER, it regulated the electricity and gas sectors. With the addition of water to its portfolio, its name was changed.

[4] See https://www.cru.ie/publications/24251/

charge of €260 for a family household and €160 for a single occupancy household - applicable to the end of 2018. These new flat charges were embodied into the Water Services Act 2014, but consumers with meters installed could choose to pay based on volume used if lower. The 2014 Act also prohibits the reduction or cut-off of water supply and states that Irish Water shares can only be sold following a plebiscite and the establishment of a Public Water Forum to represent the interests of Irish Water customers. As noted by Jollands and Quinn (2017), and described thus far, there are many actors in the story of domestic water supply in Ireland. The basic actors are shown in Figure 1.

[Insert Figure 1 about here]

2015 – 2017: The rise and fall of domestic water charges

The events around domestic water charging in Ireland from 2015 to 2022 are recounted here and in the next section. Key events are shown in Figure 2. To begin, a flat charge of €260 per annum became effective from January 1st, 2015, reduced by a €100 water conservation grant which any Irish Water customer could obtain. This regime continued through 2015, and as noted by Quinn *et al.* (2016), protest (on social media platforms) was considerably less than previous. Customers could, if usage was lower, pay on a volumetric basis at the rate of €3.70 per 1000 litres. Irish Water did not disclose details on the level of compliance with the billing regime during 2015, but reports suggest a compliance rate of 60-70%, dropping in 2016 (RTE, 2016) - the reason for this is detailed later. A press release in May 2016 (see Irish Water, 2016) reported compliance at 64% of all households, increased from 44% the previous year with revenue in 'first full year of billing €144.2m or 53% of total revenue due from domestic charges for a full year' (Irish Water, 2016).

[Insert Figure 2 about here]

During the introduction of water charges a two-party coalition government prevailed - Fine Gael (moderate conservatives) and Labour (moderate socialists). This government was formed in 2011, meaning the next general election was due by 2016. Again, water charges became an election issue. The government parties held their positions while others, such as Fianna Fáil (a moderate republican party), sent contradicting messages to the electorate - it eventually opposed the charging regime and suggested a 5-year ceasing of charges (O'Conner, 2016). The

reason given by various political parties and independent politicians for their opposition to domestic water charges typically echoed that of the protests - the notion of additional cost to already burdened households as detailed by Jollands and Quinn (2017). The following extract from a Sinn Féin[5] pre-election policy document is a good example:

> Successive austerity policy and fiscal decisions have deepened inequality in Ireland, prolonged the recession, starved vital public services of much needed investment in resources and infrastructure, as well as *increasing costs for households.* (Sinn Féin, 2015, p.3, emphasis added).

Interestingly, this Sinn Féin document includes a cost of abolishing Irish Water - €80.6 million - noting this is 'not only achievable, it is fiscally prudent' (Sinn Féin, 2015, p.2)[6]. As a result of the mixed messages on water charges within such statements, the level of consumers paying water charges declined pending the outcome of the election. On polling day, a turnout of 65% was recorded (Dáil Éireann, 2016), a relatively high figure for Irish general elections. No combination of parties could form a majority government[7] leading to weeks of negotiation. Eventually, the two larger parties - Fianna Fáil and Fine Gael - emerged as the only option, given their political ideologies as well as their stance on domestic water charges. By late April 2016, Fianna Fáil agreed to support Fine Gael and an alliance of independents in a minority government. A 'Confidence and Supply Agreement' was agreed which included strong mention of domestic water charge issues (among other items) which can be summarised as follows:

- Irish Water will be retained as a single national utility in public ownership.
- The Government will establish an External Advisory Body on a statutory basis to build public confidence in Irish Water, advising on measures to improve the transparency and accountability of Irish Water.
- The Government will, within six weeks of its appointment, introduce and support legislation in the Oireachtas[8] to suspend domestic water charges for a period of nine months from the end of the current billing cycle - extendable if required.

[5] Sinn Féin is considered a more republican and left-wing party than Fianna Fáil.
[6] Sinn Féin also tabled a Bill in the parliament to abolish water charges on 28 September 2016. - see http://oireachtasdebates.oireachtas.ie/debates%20authoring/debateswebpack.nsf/takes/dail2016092800034?opendocument#HH00100 .
[7] A Fine Gael/Fianna Fáil combination was possible, but these two parties view themselves as old enemies dating back to the Irish Civil War in the 1920s.
[8] Both houses of the Irish parliament.

- The Government will establish within eight weeks of its appointment an Expert Commission to make recommendations for the sustainable long-term funding model for the delivery of domestic water and wastewater services by Irish Water (Source: Fianna Fáil, 2016).

Even though both parties had differing policies on domestic water charges, the above agreement showed a commitment to Irish Water as an entity. The Expert Commission was established as agreed, with its constituent members announced on June 29th 2016[9]. The key objective of the Expert Commission was to assess and make recommendations on the funding of domestic public water services in Ireland. These recommendations would then be considered by a special government committee and a decision made on the future of domestic water charges in 2017.

The resulting *Report on the Funding of Domestic Public Water Services in Ireland* (see Expert Commission, 2016) was published in November 2016 and extended to 65 pages. It noted 'the total number of parties with whom the Expert Commission met or from whom submissions were received was 70' (Expert Commission, 2016, p. 5). Submissions were received from various actors - leading political parties, protesters/protest movements, professional bodies (e.g., engineers and lawyers), trade unions, environmental organisations, the regulator, local authorities, the EU, Irish Water itself and individuals. The Expert Commission recommendations took these differing submissions into account. A key recommendation from the Expert Commission was that each household receive a sufficient allowance to cover normal household usage[10] - to be determined by reference to metered readings. In terms of Irish Water, its role in this recommendation is still central as it would, in effect, bill the government for standard usage and consumers for wasteful usage.

The understanding of 'cost' of a sustainable water supply entails an economic cost, which must be sustainably funded over time. The charging mechanism above proposes that Irish Water generate revenue from water supplied - whether paid by the direct consumer or the

[9] See http://www.housing.gov.ie/water/water-services/policy/establishment-expert-commission-domestic-public-water-services

[10] The notion of a fair free allowance has consistently received mention since the 2009 Programme for Government, but what constitutes such an allowance is still elusive.

government (as the customer for a standard allowance of water). Thus, Irish Water would have a continuous direct funding model which would cover the costs of water production as well as 'further investment in infrastructure' (Expert Commission, 2016, p.35). On the latter point of investment, the Expert Commission referred to the need to consider sources of funding to cover the cost of infrastructure investment, given that Irish Water was deemed a non-market entity by the European Commission in 2015[11]. This designation means Irish Water is considered part of the government balance sheet and is a government-controlled entity. The previous government had sought a structure for Irish Water as a market-entity that could raise funds on the financial markets (Bresnihan, 2016). The Expert Commission's recommended billing model would, from an economic perspective at least, provide a stable and guaranteed revenue stream into the future and this should be attractive to the capital markets should Irish Water seek to raise funds in the future.

Another issue voiced by protesters and included in the Fianna Fáil/Fine Gael agreement on government is the future ownership of Irish Water. They noted that 'Irish Water is a subsidiary of BGE (Bord Gáis Éireann), which is currently state-owned' (*ibid*, p.175) and this is still the case. The Irish Water company was formed in the same way as any company in Ireland, meaning it has shares that, in theory, can be sold. It has been suggested that Irish Water could therefore easily be privatised (Pope, 2016) and this was directly addressed by the Expert Commission. The Commission recommends 'the adoption of a suitable constitutional provision on public ownership of water services be more fully addressed' (Expert Commission, 2016, p.31).

The Expert Commission's report was passed to a Joint Committee on the Future Funding of Domestic Water Services. This was a parliamentary committee of 20 members from both Houses of the Oireachtas (parliament) and across all political parties. The Joint Committee meetings, while predominantly held in private, were the source of much political debate, media commentary, legal debate and changing political positions The result of the Joint Committee

[11] The full text of the European Commission advice can be found here http://ec.europa.eu/eurostat/documents/1015035/6761701/Advise-2015-IE-Classification-of-Irish-Water-Summary.pdf. In brief, the classification referred specifically to capped charges and the lower than expected revenue due to unpaid bills.

deliberations was a set of recommendations to the Government - published in April 2017[12] - to be enshrined in legislation, which can be summarised as follows:

- That the public water systems be given recognition in the Irish Constitution, retaining public ownership indefinitely.
- Ensure dedicated funding is allocated to Irish Water, in effect giving it a revenue source.
- That any usage more than 1.7 times the average usage of 133 litres per day be considered wastage and thus charged.
- That the metering programme continue, and all new builds must have a meter installed.
- That water charges as introduced by 2014 legislation be abolished.

Some points are worthy of elaboration. First, the average usage should be set by the CER, based on metering data. The charge for wastage has yet to be decided, but it would seem the CER will have the power to adjust the average usage figure should there be initiatives to curb water usage. Second, the Joint Committee suggested that the constitutional protection of the water systems be inserted under Article 28(4). Article 28 itself deals specifically with the role of Government[13], and thus this inclusion of the protection of water gives it the highest political and legal meaning in the Irish State.

On April 13th 2017, Dáil Éireann (lower house of parliament) backed the Expert Commission's report, abolishing water charges by a majority of 96 votes to 48[14]. Then Minister for Housing, Planning, Community and Local Government, Simon Coveney, told Dáil Éireann that the deal agreed on water charges was a 'victory for sensible politics' and 'that significant investment was required in the water infrastructure […] we cannot walk away from our obligations, including those we face from the EU water framework directive'. Fianna Fáil leader, Micheál Martin, noted to his parliamentary party meeting that, ultimately, people would know that the party had stayed true to its commitment to end water charges (O'Halloran, 2017).

In November 2017, the Water Services Act 2017[15] was signed into law. This Act provided for domestic water charges only where the volume of water consumed exceeds the stated

[12] The full report is available at https://www.gov.ie/en/publication/ca32e-report-of-the-joint-committee-on-the-future-funding-of-domestic-water-services/
[13] See here http://www.irishstatutebook.ie/eli/cons/en/html .
[14] The vote and debate can be seen here - https://www.oireachtas.ie/en/debates/vote/dail/32/2017-04-13/65/
[15] http://www.irishstatutebook.ie/eli/2017/act/29/enacted/en/pdf

annual threshold amount. This threshold is determined by the Commission for Regulation of Utilities (CRU) - the former CER - and was set for a five-year period at 213,000 litres annually per household - higher then the previous allowance noted earlier. The Act also provides for an additional allowance amount for domestic premises with more than four occupants, and for exemptions in the cases of certain medical needs. Excess use charges will be approved by the CRU, who stated that these would not commence until Q3 of 2020 at the earliest (see below). The rules and processes determining excess use charges would be decided by the Minister for Housing, Planning and Local Government, the CRU and Irish Water and are to be published in the CRU's annual Irish Water Charges Plan. The current rates and thresholds, as stated in the CRU's most recent Irish Water Plan 'reflect the CRU's decision on Irish Water's allowed revenue for the Revenue Control period from 1st January 2020 to 21st December 2024'[16].

2018 – 2022: Government subvention

Water charges were due to return by the end of 2020, in the form of bills for excess usage (see Table 1) i.e., households using more than 170% of the average demand. This average demand was determined by the CRU based on data supplied by Irish Water from meters installed at households. It was estimated that just 7% of households would pay excess usage charges. The revenue to be collected was very small, reducing fear of a public backlash (Brennan, 2019). Looking at Table 1, taking the highest average daily usage of 386 litres (2014), this equates to just under 141,000 litres for 365 days, which is considerably lower than the 213,000 litre allowance per household. However, these charges were postponed once again amid challenges surrounding the practicalities of measuring water usage during the COVID19 pandemic as well as concerns over data protection.

[Insert Table 1 about here]

Table 1 shows Irish Water's reported revenues and other data for the years 2014 to 2022, during which the company commenced and subsequently ceased billing for domestic water usage. Non-domestic revenue per Table 1 arises from billing water users such businesses, industry, agriculture, hotels and other accommodation, educational or sports facilities, as well as hospitals, community or charitable services. Government subvention revenue arises from the government purchasing from Irish Water at the market price on behalf of customers. New

[16] https://www.cru.ie/wp-content/uploads/2020/04/CRU20053-IW-Water-Charges-Plan-003.pdf

connections revenue are contributions from customers in respect of the cost of connecting them to the water network. Prior to being separately disclosed this amount was included in non-domestic revenue. The revenues and profits shown in Table 1 are reflective of the economic (see next section). At the same time, the existence of Irish Water as an entity publishing its own financial statements is reflective of a higher degree of accountability as outlined by Lieberherr *et al.* (2012).

Several interesting aspects of the water story remain unresolved and are useful to highlight before discussion in the next section. Ultimately the water protest movement played a role in having water charges abolished. However, there is an expectation – and a legal imperative - that charges will resume. It must also be noted that the European Water Framework Directive requires EU states to charge and the EU's Environment Commission believe that Ireland's decision to suspend water charges is contra to European law and have warned the government that fines for breach of the Water Framework Directive could be substantial[17]. Perhaps most significantly Ireland continues to have an ageing water infrastructure. New water and waste treatment plants, leak repairs and metering require capital investment. Addressing a question in parliament, the minister for Housing, Local Government and Heritage stated that 'The national development plan commits to almost €6 billion in capital investment to be undertaken in the period from 2021 to 2030,'[18].While Irish Water chases decades of under-investment, alongside a growing population and rising housing demand, the abolition of water charges means that Irish Water is now entirely dependent on government funding to finance such projects. Coupled with the continued delay in the introduction of excess water charges, and the fact that funding of Irish Water may have to be reduced in the event of an economic crisis (Brennan, 2019), the financial future of Irish Water looks questionable. For example, in May 2020, the Economic and Social Research Institute (ESRI) stated that the Irish economy was facing its largest recession in history due to the Covid19 pandemic[19]. One year later, in May 2021 the OECD called for Ireland to accelerate its investment in water infrastructure and re-consider introducing household water charges (OECD, 2021) – which may be the only future

[17]https://www.oireachtas.ie/en/debates/debate/joint_committee_on_future_funding_of_domestic_water_services/2017-02-15/3/

[18]Saincheisteanna Tráthúla - Topical Issue Debate – Dáil Éireann (33rd Dáil) – Wednesday, 17 Jan 2024 – Houses of the Oireachtas

[19] https://www.esri.ie/news/irish-economy-faces-largest-recession-in-history-as-lockdown-takes-its-toll

option. As of early 2024, an agreement between the two main government parties to impose excess use water charges has not been implemented - six years after it was agreed. The delay has been attributed to changes in government and to the Covid19 pandemic. However, an opposition party spokesman has suggested that Irish Water and the government wish to avoid the resurfacing of a political conflict that they have to date worked so hard to extract themselves from (McGee, 2021).

Discussion

Economisation provides a form of epistemological dualism which allows us to merge the individual and the collective in examining the economic -the latter being the delivery of a sustainable water supply to Irish consumers. Formalism provides the individual lens while substantivism provides the societal lens, together allowing us to explore how individual behaviours impact and are impacted by societal shifts and political interference.

A formalist viewpoint

A formalist perspective of the economic considers individual behaviours in the story of Irish Water. Çalıskan & Callon (2009) noted that a formalist meaning is based on the neo-classical view that individuals make rational decisions to maximise their utility, with the minimum of input. This utility is not necessarily monetary, it can be shaped by altruism, religion, ethics, even power. In fact, the role played by culture is critical as culture explains why certain utilities are valued more than others within a particular community (Firth, 1967). This formalist viewpoint is useful in the Irish Water story- some local authorities in rural areas levied domestic water charges as early as 1983 but it was not until the late 1990s that attempts were made to introduce nationwide water charges. The charges, seen as a burden on individual households were met with significant public protest, mainly in Dublin, and with a general election on the horizon the government's response was to legislate for a cessation of water charges. The water protest, through individual efforts created a cultural movement which changed government policy. This has related resonance in the water financialization literature (Ahlers andMerme, 2016; Allen and Pryke, 2013; Loftus andMarch, 2016; Merme, Ahlers, andGupta, 2014; Schmidt and Matthews, 2018) in that it illustrates how water as a commodity is reflected in domestic spaces and specifically how, through the financialization of water 'actors, logics and financial instruments (p. 319)', have entered the home and shaped behaviour, practices and thought (Loftus, March and Nash, 2016).

Çalıskan andCallon (2009, p. 372) explains how the economization lens necessitates a study of 'economic X', where X is a 'behaviour, a way of reasoning, forms of activity, institutions or arrangements'. The Irish Water story dates from the early 1980s when a rational institutional arrangement for the management of domestic water using water charges was eliminated as a result of political pressure - in other words - the 'economic' succumbed to the political. Following a global recession and a financial bailout, in 2015 the Irish government attempted again to levy domestic water charges, through Irish Water, the installation of water meters and the incentivising of water conservation. Similar protests ensued under the Right2Water campaign. After just over one year, in the wake of a general election in which water charges became a major political issue, charges were effectively abolished again. Using Çalıskan and Callon's (2009) lens, the 'economic' again succumbed to the political. This period is discussed below when exploring the substantivist viewpoint, but focusing in this instance on the individualist perspective, the population of Dublin, as a community, exhibited intense opposition to water charges. This was fuelled in part by their socio-economic circumstances and more acute sensitivity to austerity - but it was also informed by power. This community came to understand its own power in the late 1990s and built on this power during waste protests a short time later (Quinn and Feeney, 2020). It strengthened more in this instance where even the development and installation of calculative mechanisms in the form of water meters and bills could not overcome it. Leading water protestors have stated their intention to mobilise again in the face of future attempts to reinstate water charges. This illustrates, from a formalist perspective, how individual action, informed by ethics, power and altruism can lead to societal changes through a process of economization (Çalıskan andCallon, 2009, p. 373).

A substantivist viewpoint

The substantivist perspective of the 'economic' has its origins in political economy theory and places society and the institutions stemming from society at its centre (Çalıskan and Callon, 2009). This perspective allows us to understand the mechanisms through which society meets its needs. Water became political in the 1990s when public protest led to the abolishing of water charges. In forming Irish Water, the government established the calculative mechanism necessary to impose and manage domestic water charges (Jollands and Quinn, 2017). Prior to this, the government did not have the ability to measure water usage or produce a bill. With the formation of Irish Water, the Irish government tried (unsuccessfully) to gain societal acceptance of the cost of water - an attempt to transform the political into the economic. In the wake of a recession and European bailout the government had to view water as an economic

good requiring funding. Irish Water became what Çalıskan and Callon (2009) refer to as an 'economized entity' (p. 391). The substantivist viewpoint suggests that individuals need appropriately designed institutions through which to engage in economic activities. The process of economization is often constituted around the creation of such institutions (Çalıskan and Callon, 2009, p. 392). This is evident in the creation of Irish Water which brought meaning, rational and technical arrangements to the circulation of goods, in this case water (*ibid*, p. 375). However, as outlined earlier, after less than one year, water charges were effectively suspended as a result of electoral pressure and public protest.

Thus, while many countries have proactively engaged in water management reform to address the growing challenges of water scarcity – such as infrastructure investment and improved environmental degradation (Lewis and Russell, 2011) - Ireland has, in postponing domestic water charges as a result of political pressure, delayed the necessary investment in water infrastructure. Both the 'formalist' and 'substantivist' discussions above, illustrate how the 'economic' has once again became 'political' providing a clear illustration of the interplay between the social, ecological, economic, environmental and political dimensions of sustainable development as discussed in the literature (Hong and Hardy, 2022; Jasrotia *et al*., 2023; O'Conner, 2006; Weisser, 2017). It is important to note that the institution, Irish Water, remains. As of 2023, the Irish government continues to pay it for usage through subvention, water meters still exist and are being monitored, bills are issued in the form of excess usage billing; thus, the calculative space underpinning this 'economy' still exists, i.e., household water usage is being measured through metering, but the calculative process and associated institutional arrangements have changed (Çalıskan and Callon, 2009). Any bills issued to householders however are not to the extent required to sustain the ageing water infrastructure.

Economy revealed and unrevealed

The story of Irish Water describes how the political became economic in the creation of an economic institution (Irish Water) and the establishment of systems of metering and billing. However, societal resistance turned the economic apparently political again. We say 'apparently' as the 'economy' around water in Ireland remains (hence the continued existence of the calculative space in the form of metering) but it has become hidden within government subvention. Çalıskan and Callon (2009) describe 'economy' as the outcome of the economization process, whether through a created economy or through the revealing of a pre-existing economy through some action. What is created or revealed are clear and visible

institutional arrangements and calculative devices through which goods are valued and paid for, whether that is a privatised waste market (Quinn andFeeney, 2020), assaying (Gregson *et al.*, 2013) or in the case of Irish Water, metering and bills. The Irish Water story demonstrates how the economy around water was indeed 'revealed' in the creation of these institutional arrangements and devices, but to an extent has been hidden (or unrevealed) in the cessation of water charges. The use of the terms 'reveal' and 'unreveal' is very deliberate here, because the water economy as illustrated through an economization lens still exists, but the economic cost continues to be borne by the government as opposed to domestic users. Costs (of operating and to the Irish government) can be seen in Irish Water's financial reports, but it is significantly less visible to domestic water users than a household bill, effectively hiding the 'economy' within government subvention. Thus, the management of water – in terms of conservation and usage – currently rests with the government, not individual households. However, the problem is not going away, the economic imperative to invest in and pay for water remains, but within a political 'hot potato', bringing about a quasi-political/quasi-economic landscape. As outlined above, the Irish government can and must reinstate water charges. Legislation has eliminated it for the moment, but future governments must revisit it - the OECD have called for it, the European Union (another political force) will insist on it, and an ageing water infrastructure cannot remain under-funded indefinitely.

Concluding comments

This paper explores why a country with significant under-investment in water infrastructure has not successfully imposed domestic water charges. Using an economization lens it illustrates the difficulties experienced by the government, over a prolonged period, in attempting to reconfigure responsibility for water supply and associated funding. The study juxtaposes two contrasting perspectives of the economy (and management) of water supply in Ireland. Each perspective prioritises different agents in the analysis. First, a formalist viewpoint examined individual behaviours, describing how the water protest community's strengthening power over two decades caused the 'economic' to repeatedly succumb to the political. The substantivist viewpoint described how the bundling of water management into a corporate unit intensified water's role as a political object. This corporate unit, Irish Water, emerged as the economized entity providing an institutional thread between the two perspectives. We see a similar interplay in Bartolotti's (2019) examination of private waste management where 'good

for the environment (p. 182)' discourse was examined side by side with the financial mechanisms used to enact growing private waste charges.

The paper contributes to a body of literature which seeks to understand what water is (Boelens, 2014; Chen *et al.*, 2013; Krause and Strang, 2016; Linton, 2012). When viewed through an economization lens as in this paper, water can be characterised as a product (Bakker, 2005, 2016), i.e. an economic good, potentially subject to pricing mechanisms and market transactions. If thought of in the context of marketization- cost recovery, profit margins and value for money come into play. However, the commodification of water in this way raises issues in terms of access and affordability and we see this in the story of Irish water where those more acutely sensitive to austerity resisted paying for it. Viewing water as a service (Ahmed *et al.*, 2018) emphasises the importance of water infrastructure and water efficiency and highlights the need for sustainable practices to ensure long-term availability. The necessity for Irish water to invest in its ailing infrastructure intensifies the need to impose domestic water charges and ensures that the quasi-political/quasi-economic landscape Irish water currently operates in cannot remain indefinitely. There is no doubt that water is a fundamental human right, essential for life. Ensuring sustainable access to clean water protects health, supports ecosystems, and promotes social equity (Sultana &Loftus, 2013). The findings here illustrate how sustainability is as much about economics and politics as it is about ecological balance and natural resources. Ultimately the Irish case illustrates the degree to which water is highly political (Bakker, 2012; Loftus *et al*, 2018; Schiffler, 2015; Yates *et al.*, 2017). The interlinking of power and politics is evident in the political identity subscribed to by the water protest movement and how this political identity repeatedly shaped public discourse and ultimately influenced and continues to influence government policy.

A key contribution of this research is the revealing, over a thirty-year period, of an economy around domestic water supply in Ireland, similar to Gregson *et al.*'s (2013) revealing of an economy around industrial recycling in the early 2000s. What is novel here is the use of the economization lens to highlight the subsequent hiding of the domestic water economy in a quasi-political/quasi-economic realm. In this story of Irish efforts on water management, water blurs economic, political and sustainability boundaries. The critical importance of sustainability to water resource management (Harmancioglu, Barbaros and Cetinkaya, 2013; Lewis and Russell, 2011) is also hidden in this quasi-political/quasi-economic realm. The paper

thus contributes to calls for a more multidimensional view of sustainability challenges, emphasising social and political spheres.

Documentary analysis offers valuable insights in terms of context and historical perspectives and helps us to understand complex issues, but it is not without its limitations. It relies on documentation that is created independent of the research agenda and as a result might provide insufficient detail to answer specific research questions (Bohnsack, 2014). In addition, the available documents might be aligned with media discourse or corporate policies and procedures (Yin, 2015). These are less disadvantages, but more potential flaws to be borne in mind, necessitating a rigorous adherence to research standards. Documentary analysis as used here provides a foundational overview which can guide subsequent empirical studies. This study suggests a need for further broad research on the interactions between community engagement, water usage behaviour, sustainability reporting frameworks, water management and water accountability. The research agenda exploring sustainable water supply would also benefit from a focus on climate change impacts, technological innovations, and policy analysis. Interdisciplinary approaches integrating environmental science, engineering, and social sciences can offer holistic insights and effective, sustainable solutions.

References

Ahmed, J.U., Tinne, W.S., Al-Amin, M. and Rahanaz, M. (2018), "Social innovation and SONO filter for drinking water", *Society and Business Review*, Vol. 13 No. 1, pp. 15-26.

Ahlers, R. and Merme, V., (2016), "Financialization, water governance, and uneven development", *Wiley Interdisciplinary Reviews: Water*, *3*(6), pp.766-774.

Allen, J. and Pryke, M., (2013), "Financialising household water: Thames Water, MEIF, and 'ring-fenced' politics", *Cambridge Journal of Regions, Economy and Society*, *6*(3), pp.419-439.

Arensberg, C. M. & Pearson, H. (1957), *Trade and market in the early empires: Economies in history and theory*. Glencoe, IL: The Free Press.

Bakker, K, (2016). 'The Business of Water', in Ken Conca, and Erika Weinthal (eds), *The Oxford Handbook of Water Politics and Policy*, Oxford Handbooks (2018); online edn, Oxford Academic, 2 June 2016), https://doi.org/10.1093/oxfordhb/9780199335084.013.16, accessed 10th April. 2024.

Bakker, K., (2005), "Neoliberalizing nature? Market environmentalism in water supply in England and Wales", *Annals of the association of American Geographers*, *95*(3), pp.542-565.

Belshaw, C. S. (1965), *Traditional exchange and modern markets*. Englewood Cliffs, NJ: Prentice-Hall.

Bohnsack, R.. (2014), Documentary method. *The SAGE handbook of qualitative data analysis*, pp.217-233.

Boelens, R., (2014), "Cultural politics and the hydrosocial cycle: Water, power and identity in the Andean highlands", *Geoforum*, *57*, pp.234-247.

Barnett, C., Clarke, N., Cloke, P. and Malpass, A. (2008), "The elusive subjects of neo-liberalism", *Cultural Studies,* Vol. 22 No. 5, pp. 623-653

Bortolotti, A. (2019), "Assemblages of private waste management and recycling: The case of the Anderlecht marketplace in Brussels", *Society and Business Review*, Vol. 14 No. 2, pp. 174-185

Bowen, G.A. (2009), "Document analysis as a qualitative research method", *Qualitative Research Journal,* Vol. 9, No. 2, pp.27-40.

Brennan, M. (2019). *In Deep Water: How people, politics and protests sank Irish Water,* Mercier Press, Cork.

Bresnihan, P. (2016), "The bio-financialization of Irish Water: New advances in the neoliberalization of vital services", *Utilities Policy* Vol. 40, pp. 115-124.

Bretzer, Y.N., Persson, B. and Randrup, T.B. (2016), "Is public procurement efficiency conditioned by market types? A critical test in park and road sectors in Sweden", *International Journal of Public Sector Management*, Vol *29* No. 5, pp.488-501.

Bunclark, L.A. and Scott, G.J. (2021), "Benchmarking corporate water reporting in emerging economies: the case of Peru", *Sustainability Accounting, Management and Policy Journal*, Vol. 13 No. 1, pp. 114-151.

Cabrera, E., Pardo, M. A., Cabrera, E. Jr, and Arregui, F. L. (2013), "Tap Water Costs and Service Sustainability, a Close Relationship", *Water Resources Management,* Vol. 27 No. 1, pp. 239-253.

Çaliskan, K. and Callon. M. (2009), "Economization, part 1: shifting attention from the economy towards processes of economization", *Economy and Society,* Vol. 38 No. 3, pp. 369-398.

Çaliskan, K. and Callon. M. (2010), "Economization, part 2: a research programme for the study of markets", *Economy and Society,* Vol. 39 No.1, pp. 1-32.

Callon, M. (1998), "An essay on framing and overflowing: economic externalities revisited by sociology", Callon, M. (Ed.), *The Laws of the Markets*. (pp. 244-269), Blackwell Publishers, Oxford.
Callon, M. (2007), "An essay on the growing contribution of economic markets to the proliferation of the social. *Theory, Culture and Society,* Vol. 24 No. 7-8, pp. 139-163.
Callon, M. (2016), "Revisiting marketization: from interface-markets to market-agencements", *Consumption Markets & Culture*, 19 No. 1, pp.17-37.
Callon, M. (2017), "Markets, Marketization and Innovation". In, Bathelt, H., Cohendet, P., Henn, S. and Simon, L. (eds) The Elger Companion to Innovation and Knowledge Creation. Cheltenham: Edward Elger Publishing Limited.
Cashman, A. (2011), "Our Water Supply is being Managed like a Rumshop' Water Governance in Barbados", *Social and Environmental Accountability Journal,* Vol. 31 No. 2, pp. 155-165.
Chen, C., MacLeod, J. and Neimanis, A. eds., (2013), *Thinking with water*. McGill-Queen's Press-MQUP.
Clough, P. (2009), "The new empiricism: Affect and sociological method", *European Journal of Social Theory, Vol.* 12 No. 1, pp. 43-61.
Collier, S. J., Elliott, R. and Lehtonen, TK. (2021), "Climate Change and Insurance", *Economy and Society,* Vol. 50 No. 2, pp. 158-182.
Cook, S. (1968). The obsolete anti market mentality: A critique of the substantive approach to economic anthropology. In E. E. LeClair & H. K. Schneider (Eds.), *Economic anthropology: Readings in theory and analysis* (pp. 168 87). New York: Top of Form
Cosgrove, W.J. and Loucks, D.P. (2015), "Water management: Current and future challenges and research directions", *Water Resources Research, Vol.* 51 No. 6, pp. 4823-4839.
Dáil Éireann. (2016). 32nd Dáil General Election 26 February 2016 Election Results. Retrieved from https://data.oireachtas.ie/ie/oireachtas/electoralProcess/electionResults/dail/2016/2016-04-28_32nd-dail-general-election-results_en.pdf: accessed 1 September 2021.
Dáil Éireann. (2022). Dail Eireann Debate on Water Services, 26th July 2022. Retrieved from https://www.oireachtas.ie/en/debates/question/2022-07-26/850/: accessed on 14 April 2023.
Department of Enterprise Trade and Employment, (2010). The National Recovery Plan 2010-2014. Retrieved from https://www.gov.ie/en/publication/b9ef4-the-national-recovery-plan-2011-2014/ (accessed 9 October , 2023).
Egan, M. (2015), "Driving water management change where economic incentive is limited", *Journal of Business Ethics,* Vol. 132 No. 1, pp. 73-90.
Egan, M. and Agyemang, G. (2019), "Progress towards sustainable urban water management in Ghana", *Sustainability Accounting, Management and Policy Journal,* Vol. 10 No. 2, pp. 235-259.
Epstein, T. S. (1968), *Capitalism, primitive and modern: Some aspects of Tolai economic growth*. East Lansing, MI: Michigan State University Press.
Expert Commission. (2016). Report on the Funding of Domestic Public Water Services in Ireland. Retrieved from https://www.gov.ie/en/publication/eea47-report-of-the-expert-commission-on-the-funding-of-domestic-public-water-service/ (accessed 8 April 2024).
Feng, N.C., Ling, Q., Neely, D.G. and Roberts, A. A. (2014), "Using archival data sources to conduct nonprofit accounting research", *Journal of Public Budgeting, Accounting & Financial Management,* Vol. 26 No. 3, pp. 458-493.
Fianna Fáil. 2016. Confidence and Supply Arrangement. Retrieved from https://www.fiannafail.ie/confidence-and-supply-arrangement/: accessed 3 January 2017.
Firth, R. W. 1967. *Themes in economic anthropology*, Tavistock, London.

Gauthier, J. (2017), "Sustainable business strategies: typologies and future directions", *Society and Business Review*, Vol. 12 No. 1, pp. 77-9

Gao, Y., (2021), *Rethinking the formalism-substantivism debate in social science: a perspective from recent developments in economic methodology*. Modern China, *47*(1), pp.3-25.

Gregson, N., Watkins, H. and Calestani, M. (2013), "Political markets: recycling, economization and marketization", *Economy and Society,* Vol. 42 No. 1, pp. 1-25.

Hansen, M.B. and Lindholst, A.C. (2016), Marketization revisited. *International Journal of Public Sector Management*, Vol. 29 No. 5, pp.398-408.

Harmancioglu, N.B., Barbaros, F. and Cetinkaya, C.P. (2013), "Sustainability issues in water management", *Water Resources Management,* Vol. 27, pp.1867-1891.

Harper, W.R., 2019. Privatisation in the water sector. In *Privatisation in the UK* (pp. 215-225). Routledge.

Harvey, B. and Schaefer, A. (2001), "Managing relationships with environmental stakeholders: a study of UK water and electricity utilities", *Journal of Business Ethics,* Vol. 30 No. 3, pp. 243-260.

Hawkins, G. (2011), "Packaging water: plastic bottles as market and public devices", *Economy and Society,* Vol. 40 No. 4, *pp.* 534-552.

Hong, M. and Hardy, I. (2022), "Sustainability and the Australian international higher education industry: towards a multidimensional model", *Sustainability Accounting, Management and Policy Journal, Vol* 13 No 5, pp.1060-1081.

Jasrotia, S.S., Darda, P. and Pandey, S. (2023), "Changing values of millennials and centennials towards responsible consumption and sustainable society", *Society and Business Review,* Vol. 18 No. 2, pp. 244-263

Jollands, S., and Quinn, M. (2017), "Politicising the sustaining of water supply in Ireland – the role of accounting concepts", *Accounting, Auditing & Accountability Journal,* Vol. 30 No. 1, pp. 164-190.

Krause, F. and Strang, V., (2016), "Thinking relationships through water", *Society & Natural Resources*, *29*(6), pp.633-638.

Kurland, N. B., and Zell, D. (2010), "Water and Business: A Taxonomy and Review of the Research", *Organization & Environment,* Vol. 23 No. 3, pp. 316-353.

LeClair, E. E., Schneider, H. K., & Herskovits, M. J. (1968), *Economic anthropology: Readings in theory and analysis*. New York: Holt.

Lennox, J., Proctor, W. and Russell, S. (2011), "Structuring stakeholder participation in New Zealand's water resource governance", *Ecological Economics,* Vol. 70 No. 7, pp. 1381-1394.

Lewis, L. and Russell, S. (2011), "Permeating Boundaries: Accountability at the Nexus of Water and Climate Change", *Social and Environmental Accounting Journal*, Vol. 31, No. 2, pp. 117-123.

Loftus, A. and March, H., (2016), "Financializing desalination: Rethinking the returns of big infrastructure", *International Journal of Urban and Regional Research*, *40*(1), pp.46-61.
Loftus, A., March, H. and Nash, F., (2016), "Water Infrastructure and the Making of Financial Subjects in the South East of England", *Water Alternatives,* Vol 9, No. 2, p. 319-335.

Loftus, A., March, H. and Purcell, T.F., (2019), The political economy of water infrastructure: An introduction to financialization. WIREs Water, [online] 6(1), p.e1326. https://doi.org/10.1002/wat2.1326.

Lieberherr, E., Klinke, A. and Finger, M. (2012), "Towards legitimate water governance? The partially privatized Berlin waterworks", *Public Management Review,* Vol. 14 No. 7, pp. 923-946.

Lindholst, A.C., Hansen, M.B. and Petersen, O.H. (2016), "Marketization trajectories in the Danish road and park sectors: A story of incremental institutional change", *International Journal of Public Sector Management*, Vol. 29 No. 5, pp.457-473.

Linton, J., (2013), "The human right to what?: Water, rights, humans, and the relation of things". In Sultana, F. and Loftus, A., 2013. *The right to water: Politics, governance and social struggles*. Routledge.

Malinowski, B. (1922), *Argonauts of the western Pacific*. London: Routledge.

McCormack, Reilly, C., Riegel, J. R., Raleigh, D., Crawford, C. and Keogh, E. (2014). 150,000 rebel over hates water charges. *Irish Independent.* November 1st. Retrieved from https://www.independent.ie/irish-news/water/nations-reaction/150000-rebel-over-hated-water-charges-30710563.html (accessed 14 June 2021).

McDonald-Kerr, L. (2017), "Water, water, everywhere: Using silent accounting to examine accountability for a desalination project", *Sustainability Accounting, Management and Policy Journal*, Vol. 8 No. 1, pp. 43-76.

McGee, H. (2021). FF-FG agreement on water charges yet to be applied. *Irish Times.* June 11th. Retrieved from https://www.irishtimes.com/news/politics/ff-fg-agreement-on-water-charges-yet-to-be-applied-1.4590088 (accessed 14 June 2021).

Merme, V., Ahlers, R. and Gupta, J., (2014), "Private equity, public affair: Hydropower financing in the Mekong Basin", *Global Environmental Change*, *24*, pp.20-29.

Michael, M. (2006), *Technoscience and everyday life*, Open University Press, Maidenhead.

O'Connor, M. (2006), "The four spheres framework for sustainability", *Ecological Complexity,* Vol. 3 No. 4, pp. 285-292.

O'Conner, N. (2016). Party is forced to clarify its stance on water charges. *Irish Independent*. January 16th. Retrieved from https://www.independent.ie/irish-news/election-2016/party-is-forced-to-clarify-its-stance-on-water-charges-34369201.html (accessed 14 June 2021).

Ogden, S. G. and Anderson, F. (1999), "The role of accounting in organisational change: promoting performance improvements in the privatised UK water industry", *Critical Perspectives on Accounting,* Vol. 10 No. 1, pp. 91-124.

O'Halloran, M. (2017). Dáil votes to abolish current water charges regime. *Irish Times*. April 13th. Retrieved from https://www.irishtimes.com/news/politics/oireachtas/d%C3%A1il-votes-to-abolish-current-water-charges-regime-1.3047742 (accessed 14 June 2021).

Organisation for Economic Co-operation and Development. (2021). OECD Environmental Performance Reviews: Ireland 2021. Retrieved from https://www.oecd.org/environment/country-reviews/oecd-environmental-performance-reviews-ireland-2021-9ef10b4f-en.htm (accessed 14 June 2021).

Osborne, S.P., Radnor, Z. and Nasi, G. (2013). "A new theory for public service management? Toward a (public) service-dominant approach", *The American Review of Public Administration*, Vol. *43* No. 2, pp.135-158.

Pope, C. (2016). Water charges: an autopsy. *Irish Times*. June 25th. Retrieved from http://www.irishtimes.com/news/politics/irish-water-charges-an-autopsy-1.2698412 (accessed 2 September 2021).

Polanyi, K. (1944), *The Great Transformation,* New York: Farrar and Rinehart.

Quinn, M. and Feeney. O. (2020), "Domestic waste policy in Ireland – economization and the role of accounting", *Accounting, Auditing & Accountability Journal,* Vol. 33 No.8, pp. 2111-2138.

Quinn, M., Lynn, T., Jollands, S. and Nair, B. (2016), "Domestic Water Charges in Ireland - Issues and Challenges Conveyed through Social Media", *Water Resources Management,* Vol. 30 No. 10, pp. 3577-3591.

Renzetti, S. and Dupont, D., (2018), "Ownership and performance of water utilities". In *The business of water and sustainable development* (pp. 99-110). Routledge.

RTE. (2016). Irish Water says over 20% drop in bill payment. Retrieved from http://www.rte.ie/news/2016/0519/789505-irish-water/: accessed 1 September 2021.

Schmidt, J.J. and Matthews, N., (2018), "From state to system: Financialization and the water-energy-food-climate nexus", *Geoforum*, *91*, pp.151-159.

Schiffler, M., 2015. *Water, politics and money*. Springer International Publishing.

Schneider, H. K. (1974). *Economic man: The anthropology of economics*. New York: The Free Press.

Sobel, R. and Postel, N., (2016), Formal economy, substantive economy, and economism: a critical interpretation of Karl Polanyi's distinction. *Philosophy of the Social Sciences*, *46*(5), pp.473-497.

Sultana, F. and Loftus, A., (2013), *The right to water: Politics, governance and social struggles*. Routledge.

Sinn Fein (2015). Delivering a Fair Recover. Retrieved from chrome-extension://efaidnbmnnnibpcajpcglclefindmkaj/https://www.sinnfein.ie/files/2015/Pre-Budget_October2015.pdf (accessed 9th October, 2023).

UNESCO World Water Assessment Program, (2009), United Nations World Water Development Report. Retrieved from https://www.unesco.org/en/wwap/wwdr (accessed 4 October 2023).

Warner, M. (2002). Publics and Counterpublics. Zone Books, New York.

Weisser, C.R. (2017), "Defining sustainability in higher education: a rhetorical analysis", *International Journal of Sustainability in Higher Education*, Vol. 18 No. 7, pp. 1076-1089.

Yates, J.S., Harris, L.M. and Wilson, N.J., (2017), "Multiple ontologies of water: Politics, conflict and implications for governance", *Environment and Planning D: Society and Space*, *35*(5), pp.797-815.

Yin, R.K., (2015), *Qualitative research from start to finish*. Guilford publications.