

Affordability of Scottish water and sewerage charges

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Introduction

In 1996 the Scottish water industry underwent its most radical restructuring in over a century. Prior to this date the delivery of water and sewerage services to the general public had been a function of local government, most recently carried out by the water departments of the twelve regional and islands councils. From April of that year responsibility for these services transferred to three public water authorities (PWAs), whose board members and senior officials were appointed directly by the Secretary of State for Scotland.

The new arrangements were designed, amongst other things, to facilitate the delivery of one of the largest programmes of capital investment in the history of the industry. This was necessary to make up for decades of under-investment, and thereby raise the quality of Scottish services to meet stringent European standards. Increased investment finance was to be obtained by the PWAs in one of three ways¹; first, through increased borrowing from the Government, second, through public-private joint venture partnerships; third, and most significantly for the purposes of this paper, through increased charges and enhanced revenue streams. In the first four years of their existence the PWAs explored all these avenues, however it was the last that proved most fruitful financially, and most controversial politically, as domestic consumers faced annual price rises of between 16% and 59%.

Government concern over the ability of low income households to deal with such rapidly rising prices led to the publication of a consultation paper *'Affordability of Water and Sewerage Charges'* (Scottish Executive 2000) in November 2000. This document invited views on Scottish Executive proposals to fund a transitional scheme of financial support to protect lower income households from the impact of these increases. More significantly, however, it highlighted the importance of the issue to the Government in terms of its wider social inclusion agenda.

This paper is a contribution to the present policy debate over the question of the 'affordability' of water and sewerage services in Scotland. It calibrates the post-1996 incidence of domestic water and sewerage charges, setting

the analysis within the context of the debate over the balance between the needs of investment and the ability of customers to meet rapidly rising prices. Following the introduction section 2 traces the development of charges post 1996 for domestic consumers in Scotland and compares this with experience in England and Wales. Section 3 presents an analysis of the incidence of charges and section 4 considers policy options. Section 5 concludes.

Domestic water charges in Scotland: post 1996

On the eve of the 1996 reorganisation, Scottish domestic consumers enjoyed the lowest average water and sewerage charges in Britain. The average (unmeasured) Scottish household bill for both services was only £107 in 1995/6, whereas the corresponding figure for domestic consumers in England and Wales was £208².

In Scotland, as in England and Wales, however, years of under-investment had left the industry's physical assets in a poor state of repair. Scottish Office estimates published in 1992 (The Scottish Office 1992) suggested that capital expenditure of £5 billion was required over 15 years to ensure compliance with European Directives on Drinking Water Quality (80/778/EEC) and Urban Waste Water Treatment (91/271/EEC). Almost a decade later estimated backlog investment alone amounted to £2.5 billion³.

As discussed in the introduction, there were three means by which the new PWAs were permitted to raise additional finance to fund this large programme of capital investment. First, through higher 'external financing limits' (EFLs) granted by the Government, enabling PWAs to increase their level of borrowing. Second, through joint venture partnerships in which PWAs would enter into PFI⁴ - type contracts with private sector companies. Typically these schemes involved the construction of large sewage treatment and disposal plants in locations as far apart as Inverness (North of Scotland Water Authority), Edinburgh (East of Scotland Water Authority) and Ayrshire (West of Scotland Water Authority). Third, through higher charges and enhanced revenue streams.

This latter means, although potentially the most lucrative, was complicated by other factors which arose as a result of industrial restructuring in 1996. The adoption of a policy of tariff harmonisation across water authority areas, for example, implied that consumers in areas previously enjoying particularly low charges would, in future cross subsidise those in high charge areas. Although economically inefficient this arrangement was defended, politically, on the grounds of regional equity. A further complication centred around the billing arrangements. Superficially, the restructuring had not altered domestic charging and billing operations. Domestic households continued to be charged on the basis of their house's council tax valuation band. Furthermore the new unitary authorities continued to

collect water charges along with general council tax revenues. However, for the first time a sewerage charge was identified as a separate item on customer demands, whereas previously only a water charge was displayed as the costs relating to sewerage were met out of general council tax revenues.

The appearance of this combined water and sewerage charge led to a presentational problem, in that the impression was given that an extremely large one-off increase in water-related charges had occurred. To counter this the Government introduced a transitional domestic sewerage relief grant (TR). This was designed to last for three years and to reduce directly the amounts paid by domestic households for sewerage services. Table 1 below reports the level of grant by authority over the period.

Table 1: Transitional domestic sewerage relief grant (£million)

<i>Water Authority</i>	<i>1996/7</i>	<i>1997/8</i>	<i>1998/9</i>
North	22.4	14.9	7.4
East	27.3	18.2	9.0
West	40.0	26.6	13.2
Total	89.7	59.7	29.6

Source: Departments of the Secretary of State for Scotland and the Forestry Commission (1997) *The Government's Expenditure Plans 1997-98 to 1999-2000*, Cm 3614, Publ: HMSO, Edinburgh. Departments of the Secretary of State for Scotland and the Forestry Commission (1998) *The Government's Expenditure Plans 1998-99*, Cm 3914, Publ: HMSO, Edinburgh.

Table 2: Percentage (%) increase in net domestic water and sewerage charges (band d)

<i>Water Authority Area</i>	<i>Annual change in prices</i>				<i>Period 1996/97-2000/2001</i>
	<i>1996/1997-1997-98</i>	<i>1997/1998-1998-1999</i>	<i>1998/1999-1999-2000</i>	<i>1999/2000-2000/2001</i>	<i>Nominal change in prices %</i>
	<i>%</i>	<i>%</i>	<i>%</i>	<i>%</i>	
North					
Tayside	39.58	39.35	29.06	46.42	267.58
Grampian	32.23	32.95	23.00	42.83	208.85
Highland	32.23	32.95	23.00	42.83	208.85
Western Isles	16.40	21.57	23.00	42.83	148.61
Orkney	16.40	21.57	23.00	42.83	148.61
Shetland	16.40	21.57	23.00	42.83	148.61
East					
Borders	28.58	28.05	18.29	22.04	137.70
Forth Valley	53.89	59.34	34.38	31.21	332.38
Fife	42.36	44.15	20.97	27.89	217.48
Edinburgh & Lothians	28.58	28.05	18.29	22.04	137.70
North Lanarkshire & East Dunbartonshire	28.73	31.16	19.71	22.04	146.74
Kinross	36.55	31.84	20.97	27.89	178.53
West					
Dumfries & Galloway	28.73	31.16	21.74	18.03	142.61
Strathclyde	28.73	31.16	21.74	18.03	142.61

Source: Water Industry Commissioner, Scottish Water and Sewerage Customers Council and The Scottish Office

Table 3: Net domestic water and sewerage charges (£) (band d)

Water Authority Area	1996/1997	1997/1998	1998/1999	1999/2000*	2000-2001*
	£	£	£	£	£
North					
Tayside	81.50	113.76	158.52	204.60	299.58
Grampian	97.00	128.26	170.52	209.75	299.58
Highland	97.00	128.26	170.52	209.75	299.58
Western Isles	120.50	140.26	170.52	209.75	299.58
Orkney	120.50	140.26	170.52	209.75	299.58
Shetland	120.50	140.26	170.52	209.75	299.58
East					
Borders	95.50	122.79	157.23	186.00	227.00
Forth Valley	52.50	80.79	128.73	173.00	227.00
Fife	71.50	101.79	146.73	177.50	227.00
Edinburgh & Lothians	95.50	122.79	157.23	186.00	227.00
North Lanarkshire & East Dunbartonshire					
Kinross	92.00	118.43	155.33	186.00	227.00
	81.50	111.29	146.73	177.50	227.00
West					
Dumfries & Galloway	92.00	118.43	155.33	189.10	223.20
Strathclyde	92.00	118.43	155.33	189.10	223.20

Source: Water Industry Commissioner, Scottish Water and Sewerage Customers Council, The Scottish Office.

Notes: * Charges for 1999-2000 and 2000-2001 include gross charges for sewerage. The domestic sewerage relief grant ended in 1999.

During the first two years the grant was distributed according to the standard Council Tax band weighting scheme. Thus households residing in Band H properties received twice as much relief as those in Band D properties, and three times as much as Band A households. In January 1998, however, the Scottish Water and Sewerage Customers Council refused to approve the draft 1998/99 charges schemes presented to it by the water authorities. As the customers' regulatory 'watchdog' it was particularly concerned about the impact of the proposed charge rises on low income and other vulnerable households. As required by law the proposals were sent to the Secretary of State for Scotland for final adjudication, and he ruled that the schemes would stand subject to some minor amendments. Amongst these was the requirement for the transitional domestic sewerage relief grant to be given as a flat rate payment to all households regardless of their property's Council Tax band. Hence proportionately more relief was given to households in Bands A to C⁵. This was, however, the final year of the transitional domestic sewerage relief grant. Despite lobbying by the industry it was phased out in 1999.

The rates at which domestic water and sewerage charges have risen in the various regions of Scotland since 1996 are set out in Table 2. This shows, quite clearly, that despite the existence of TR consumers have experienced double

digit price rises every year since reorganisation. In areas such as Forth Valley the impact of charge harmonisation has compounded the effect.

Nevertheless, it is often argued that although the price rises have been substantial in relative terms, the picture is less bleak when one examines the absolute level of prices for water and sewerage services in Scotland as compared to England and Wales. Table 3 below reports the absolute level of prices for Band D properties across the three water authority areas. (The majority of households reside in Band A, B and C dwellings, which are charged a proportion of the Band D amount.) Table 4 compares actual average unmeasured charges north and south of the border.

At present then, average prices for domestic water and sewerage services in Scotland range from £169 to £237 with a mean of £189⁶. For England and Wales the mean household bill is a good deal higher at £219. However the latest periodic review of prices south of the border has confirmed a one off price reduction of 12.3% on average for the year 2000/01 and steady prices thereafter. Consequently projections of the average English and Welsh bill for 2004/5 suggest a level of £219. In contrast, following advice from the Water Industry Commissioner for Scotland, the Scottish Executive approved the following price rises.

Table 4: Average annual domestic household water and sewerage bills 2000-01 (for water and sewerage providers)

	£		£
Anglian	251	North of Scotland	237
Dwr Cymru	266	East of Scotland	184
North West	222	West of Scotland	169
Northumbrian	198		
Severn Trent	198		
South West	314		
Southern	239		
Thames	187		
Wessex	231		
Yorkshire	209		
England and Wales		Scotland	
Industry Average	219	Industry Average	189

Source: Scottish Parliament, Written Reply, Official Report, Wednesday 7th June 2000, S1W-6859.

As in England and Wales there will continue to be considerable regional variation in prices in the short term. It has recently been announced, however, that the three PWAs will be merged to form one body, Scottish Water, and charges harmonised across the country. Despite this, over the next two years the gap between Scottish and English and Welsh charges will close. In a growing number of areas domestic consumers resident in Scotland will be paying more for their water than those resident in many areas of England and Wales.

Table 5: Average rise in Scottish water authority charges 2000-01 and 2001-02

Water Authority	2000-01	2001-02
North	35%	12%
East	15%	12%
West	15%	12%

Source: Letter from Sarah Boyack MSP, Minister for Transport and the Environment (Scottish Executive) to Mr Alan Sutherland, Water Industry Commissioner for Scotland, 24 January 2000.

In terms of water authority revenue these very large increases in domestic charges have had a rather more modest, but nonetheless significant, impact. Overall revenue from water and sewerage charges to the water

authorities is estimated to have risen over the last five years by just over 29% in real terms (Table 6). The reason for this apparent discrepancy lies in the way in which non-domestic charges have changed. In many cases large industrial customers, for example, have been able to secure price reductions through negotiation with water authorities, in some instances by threatening to go 'off-network'⁷ or to transfer their business to another supplier. These changes have dampened the rise in revenue as cross subsidies between non-domestic and domestic consumers have gradually unwound and charges have become more cost reflective.

Incidence of water charges

As we noted earlier, although the rise in domestic water and sewerage charges has been relatively large in recent years, absolute charges might be perceived as remaining fairly modest. In his recent evidence to the Transport and the Environment Committee of the Scottish Parliament, the chairman of the North of Scotland Water Authority made this point in the following way,

"I want to take this opportunity to remind everyone that households in our area [NOSWA] pay 65p a day for water. If we place value on people getting an unlimited supply of good, wholesome water delivered to their home, which is important for their health, and on removing the waste before returning the water to the environment, we will see that 65p a day is a sum worth paying."

[Colin Rennie, Scottish Parliament Transport and the Environment Committee Official Report 12 December 2000, col 1367]

Clearly this is true for someone for whom this level of charges does not represent a very large proportion of their income. However, at the same meeting, a representative of the Scottish Consumers Council argued that this would present a problem for those on relatively low incomes,

"For those people who are least well off and not necessarily on benefit, the steep rise in prices is a strain. I heard someone mention a cost of 64p [sic] a day, which works out as £17 or £18 a month. There are at least 200,000 people in Scotland who would consider that to be a major problem. Although water does not seem to be an expensive commodity, that is cost equivalent to about 80 per cent of the average electricity bill."

[Graeme Millar, Scottish Parliament Transport and the Environment Committee Official Report 12 December 2000, col 1389]

Table 6: Revenue from water and sewerage charges (£ million) in cash and real terms (1999-2000 prices)

Water Authority	1996/ 1997	1997/ 1998	1998/ 1999	1999/ 2000	2000/ 2001*
North					
Cash	120.2	128.0	137.8	154.0	206.0
Real	130.5	135.1	141.3	154.0	202.4
East					
Cash	161.5	173.2	194.0	207.7	232.5
Real	175.3	182.8	199.0	207.7	227.4
West					
Cash	243.1	247.4	265.7	278.7	314.0
Real	263.9	261.1	272.5	278.7	307.1
Total					
Cash	524.8	548.6	597.5	640.4	752.5
Real	569.7	579.1	612.8	640.4	735.9

Source: Scottish Parliament Written Reply, Monday 20th November 2000 (S1W-8423).

Note: * Estimate

This argument, which has only recently gained prominence in Scotland, exercised consumer, producer and regulatory bodies in England and Wales over a decade ago. Following privatisation of the English and Welsh water authorities in 1989 very large domestic price rises in the early 1990s led to widespread non-payment of charges by vulnerable households⁸, and the subsequent disconnection of properties by private water companies. As a consequence local health authorities began to report outbreaks of diseases such as dysentery in areas where several households were denied access to these basic services. The English and Welsh economic regulator - Ofwat - responded to this problem by asking companies to draw up codes of practice for supplying the elderly and disabled customers, whilst devising ways to assist households in financial difficulties to spread the costs of their bills. Thereafter the total number of household disconnections fell sharply from a high of 21,282 in 1991/2 to 1,129 in 1998/9⁹. Recent legislation¹⁰ now forbids the disconnection of domestic customers in England and Wales for non-payment of bills.

In the early stages of its existence Ofwat sought to inform this area of its regulatory policy by calibrating water and sewerage charges against the budgets of domestic households. To this end it commissioned research (Pearson, Rajah and Smith (1993), Rajah and Smith (1993)) which found that under the then widespread property based (rateable value) system of charging for water and sewerage in England and Wales, the proportion of household income accounted for by water and sewerage charges ranged from 0.4% for households in the highest income decile to 3% for households in the lowest. Later research investigating the distributional effect of a change in charging systems (DETR 1998) confirmed this general pattern.

Table 7: Scottish water and sewerage charges by household income 1997/8 (equivalised income)

Scotland (1997/8)		
Gross weekly household income	Mean weekly household water and sewerage charge (£)	Mean % gross weekly household income on water and sewerage (%)
Less than £100	1.94	3.06
£100 but less than £200	1.47	0.94
£200 but less than £300	1.62	0.67
£300 but less than £400	1.83	0.53
£400 but less than £500	2.00	0.45
£500 but less than £600	2.17	0.40
£600 but less than £700	2.14	0.33
£700 but less than £800	2.28	0.30
£800 but less than £900	2.48	0.29
£900 but less than £1,000	2.52	0.27
£1,000 or more	3.00	0.20

Source: Family Resources Survey 1997-98. Sawkins and Dickie (2000)

In Scotland similar work was carried out by Sawkins et al (1998) for the Scottish Water and Sewerage Customers Council, followed by a consultation paper in August 1998 (SWSCC 1998). These both highlighted an additional Scottish problem, that although disconnection for non payment of charges was not permitted under Scottish legislation, no specific reliefs for water charges were available to households either through the tax or social security systems¹¹. In addition Scottish consumers were offered fewer payment options for their water services than was typically the case in England and Wales. Under the agency arrangements for collecting charges those in difficulty over payments dealt with their unitary authority rather than their water authority in the first instance. Consequently the vigour with which unpaid or underpaid charges were pursued differed between areas.

The most recent research (Sawkins and Dickie 2000) using data relating to 1997/8 confirms that low income households in Scotland spend a much higher percentage of their gross weekly household income on water and sewerage charges than their high income counterparts (Table 7). Unsurprisingly, given the council tax based charging system, the results also confirm that low income households in high value houses pay proportionately more for their water services (Table 8).

Putting this information into its wider context we report in Table 9 the absolute levels of income by population decile for Great Britain in 1998/9. We note two further more recent findings. First that 27% of children in Scotland in 1998/9 lived in households with incomes below half the

mean income for Great Britain¹². Second, that of the 26 million households in Great Britain, four million low income households spend more than 10% of their income on fuel to heat their homes¹³.

As noted earlier disconnection for non-payment is not legally permitted in Scotland. Consequently unitary authorities must go through the usual legal channels to recover unpaid charges. Although information on the number of households unable or unwilling to pay water and sewerage charges is not currently available, the provision for bad debts charged in the accounts of the water authorities indicates that the problem exists and is becoming more acute. For example, water authority provision for bad debts rose from £21.26 million in 1996/7 to £34.28 million in 1999/2000¹⁴.

In the light of this, and other evidence, regarding affordability the Scottish Executive announced in November 2000 temporary additional financial support for low-income households (Scottish Executive 2000). The details were outlined by the Environment Minister, Sam Galbraith, who promised £24 million in funding over three years to cap the amount paid in water charges by those on council tax benefit.

Policy options

At the heart of the current policy debate lies a genuine tension between the capital investment requirements of the Scottish industry and the issue of affordability for low income and other vulnerable households.

In terms of capital investment the reasons for the large backlog need not detain us here. We merely note the perennial problem of allocating public money to an industry in which chronic under-investment will not obviously jeopardise service provision in the short run. However reorganisation of the industry in 1996 proved to be a turning point, politically, in this regard.

Table 9: Income before housing costs for 1998/9 by population decile (Great Britain)

<i>Population Decile</i>	<i>Income before housing costs (£ per week)*</i>
Bottom 10%	113
10%-20%	153
20%-30%	184
30%-40%	215
40%-50%	251
50%-60%	291
60%-70%	339
70%-80%	399
80%-90%	487
90%-100%	714
Total Population	270

Source: Department of Social Security (2000), Table A2 derived from Family Resources Survey.

Note: Decile group medians (equivalised) in February 2000 prices. Including self-employed.

Table 8: Scottish water and sewerage charges by household income and council tax band 1997/8

(Equivalised income) (mean percentage of gross weekly household income spent on water and sewerage (Scotland)) 1997/8 by gross weekly household income and council tax band.)

<i>Scotland (1997/8)</i>								<i>Council Tax Band</i>	
<i>Gross Weekly Household Income</i>	<i>A</i>	<i>B</i>	<i>C</i>	<i>D</i>	<i>E</i>	<i>F</i>	<i>G</i>	<i>H</i>	
Less than £100	1.60	1.92	2.21	4.72	*	*	*	*	
£100 but less than £200	0.80	0.80	1.20	1.26	1.61	2.03	*	*	
£200 but less than £300	0.51	0.55	0.73	0.88	0.99	1.27	1.10	*	
£300 but less than £400	0.36	0.39	0.55	0.59	0.69	0.92	0.97	*	
£400 but less than £500	0.30	0.30	0.42	0.49	0.55	0.78	0.78	*	
£500 but less than £600	0.25	0.24	0.39	0.40	0.47	0.60	0.66	*	
£600 but less than £700	0.20	0.19	0.25	0.33	0.39	0.43	0.53	*	
£700 but less than £800	*	*	0.24	0.23	0.34	*	0.51	*	
£800 but less than £900	*	*	0.19	0.25	0.29	0.34	0.42	*	
£900 but less than £1,000	*	*	*	0.19	0.24	0.33	*	0.41	
£1,000 or more	*	*	*	0.16	0.17	0.25	0.26	*	

Source: Family Resources Survey 1997-98. Sawkins and Dickie (2000)

Note: * indicates missing or insufficient observations.

From the consumer's perspective reorganisation also signalled the start of a long uninterrupted period of above-inflation price rises mitigated only by transitional relief for domestic sewerage charges, and the current prospect of further temporary help for a small number of low income households. Although modest in financial terms, this latter scheme appears to signal the Scottish Executive's recognition of the difficulties faced by some domestic consumers in budgeting for rapidly rising charges.

In the short to medium term, however, it appears that the upward pressure on domestic charges in general will not abate in any way. There are two main reasons for this. First, as noted earlier, the need to come within the terms of the various European environmental directives relating to water and waste water quality. This implies continuing commitment to the capital investment programme. Second the impact of the 1998 Competition Act which will, *inter alia*, prevent the water authorities - and the unified successor body, Scottish Water - from unreasonably denying access to infrastructure assets such as mains or sewers to rival suppliers. This may provide an effective legal framework for the development of common carriage in Scotland, and prohibit PWAs from excluding potential competitors unreasonably. Large industrial and commercial customers of the water authorities are, clearly, best placed to strike new charging deals with incumbent suppliers or their competitors. Either course of action would put downward pressure on non-domestic prices leading to a reduction in the non-domestic / domestic cross subsidy and further upward pressure on domestic charges.

At the December 2000 meetings of the Scottish Parliament's Transport and the Environment Committee¹⁵ various means by which the investment / affordability dilemma might be resolved were discussed. The suggestion that water authorities might be given a direct subsidy from general taxation was countered by the observation that this may fall foul of the same European competition rules that have caused difficulties for national governments seeking to support domestic car or shipbuilding industries. An increase in the authorities' borrowing limits from central government would raise difficulties relating to debt servicing and industry sustainability in the long run. In the view of the Minister and the authority chief executives exemption from domestic competition legislation - the Competition Act 1998 - although technically possible, would not ultimately benefit the water authorities or their customers. Finally, full scale privatisation was ruled out on political grounds.

The programme of transitional support will, undoubtedly provide relief for some vulnerable consumers, nevertheless it remains poorly targeted, modest in financial terms, and temporary. There are, however, a number of other issues that, we believe, deserve further attention in the investment / affordability debate.

Comparative competition

First, the economic regulator - i.e. the Water Industry Commissioner - in collaboration with the industry's owner - i.e. the Scottish Executive - should develop and exploit the tools of comparative competition such as benchmarking, to drive down industry costs. In England and Wales this technique was used effectively by Ofwat, particularly during the early years of its existence (Sawkins 2000). In Scotland the Water Industry Commissioner is well placed to extract and publish comparative information, drawing comparisons between the Scottish water authorities and their English and Welsh counterparts. In this way the public water authorities may be goaded into explaining and reducing material discrepancies between local and national - or even international - performance parameters.

One area highlighted, at an early stage, by comparative analysis of this sort was industry employment. In contrast to England and Wales where numbers have been falling steadily for two decades, in Scotland recent sharp reductions in employee numbers have merely returned employment levels to those of the early 1980s. Using population as a basis for comparison the pattern is even more striking. Examined in isolation comparisons of this sort may fail to give a fully rounded and reliable guide to performance within the industry¹⁶. They are useful, nevertheless, in drawing attention to areas worthy of further investigation by the industry's economic regulator.

Economic regulatory reform

The second area worthy of further attention is that of economic regulation. In contrast to England and Wales where the economic regulator, Ofwat, enjoys considerable operational autonomy in undertaking his statutory duties, the Water Industry Commissioner in Scotland is directed in his operations much more closely by government ministers. The benefits of closer political supervision include greater perceived public accountability, however the balance between political and economic priorities in the conduct of regulation is undoubtedly tipped more firmly in favour of the former north of the border¹⁷.

A comparative analysis of the way in which political lobbying and involvement has affected the work of the Scottish and English economic regulators is beyond the scope of this paper. We note, however, the problem of balancing long run economic objectives against short run political priorities - a problem which bedevilled the Scottish industry whilst under local government control. This is not to suggest that regulators ever operate in a political vacuum, but rather that the clarity and stability of objectives clearly outlined in statute may enable a regulatory body to undertake its duties more effectively.

In this regard we believe the English and Welsh economic regulator has exploited its greater operational independ-

ence very effectively. Ofwat has resisted the attempts of politicians, other government agencies, water companies and consumer lobby groups to 'capture' regulatory policymaking. In Scotland there is a heightened risk of regulatory capture by virtue of the industry's public sector status, its relatively small size and the complex network of relationships between those managing and regulating the PWAs. The resolution of this problems lies, we believe, in enhancing the operational independence of the Water Industry Commissioner's office through statute. Although politically unpalatable this route may eventually give the Commissioner the freedom and security necessary to challenge and test industry and political 'orthodoxy' north of the border regarding, for example, regional deaveraging of tariffs or the place of domestic metering in demand management.

Social security

The use of comparative competition and the implementation of economic regulatory reform are both means by which water authority incentive structures might be altered. Another area worthy of further investigation focuses on water authority customers, in particular those vulnerable households facing difficulties dealing with the large rises in the costs of water and sewerage services.

At present there is no designated benefit covering water and sewerage services. Instead benefits intended to cover general household expenses - including water and sewerage charges - exist. In view of the extremely rapid rise in domestic charges in Scotland there is a case, we believe for a designated 'water benefit' to be available for qualifying households. A system in which households qualifying for housing or council tax benefits would also receive water benefit would be administratively feasible and financially modest in terms of the overall social security budget (Dickie and Sawkins 2000). The main obstacle to implementation at present is the fact that benefits are a reserved matter. This would not, however, prevent Scottish MPs or the Executive itself from putting the case for this form of support before the Westminster Parliament.

Other measures

Other customer-centred initiatives worthy of closer examination include measures to raise water charge collection rates and introduce selective domestic metering.

At present local authorities are responsible for domestic customer billing as part of the council tax collection system. In general, however, collection rates across Scotland are lower than those in England and Wales, and local authorities also vary in the vigour with which they pursue non-payers. This agency arrangement may become more difficult to sustain in the future as domestic charges continue to rise, and local authorities seek to dissociate themselves from the charge increases. The main adminis-

trative obstacle in the way of separate billing for water and sewerage charges is the construction and management of a complete and reliable customer database by the PWAs. The transitional costs would be considerable and separate billing may initially heighten rather than reduce problems of non-payment in some areas. Set against this, if the water authorities took control of this function they would be in a better position to offer a wider range of payment methods, relate more closely to their customers by offering payment advice, raise collection rates and thereby increase revenue.

In the medium term the use of selective domestic metering in conjunction with special tariffs may provide a more efficient and equitable means of delivering support to vulnerable households. The benefits of such as scheme would not only allow support to be targeted more effectively, but would also increase customer awareness of the true cost of water and the need for conservation. The current flat-rate charging system in which the marginal cost of water is zero stands in direct contradiction to the need to promote an environmentally sustainable industry. Instead industry officials continue to focus on supply side measures to the detriment of demand management initiatives¹⁸.

Conclusion

There is, we believe, no simple way to cut the Gordian knot of the investment / affordability debate in the Scottish water industry. Decades of under-investment, a complex web of cross subsidies and a long tradition of close political involvement and control have all hampered its ability to be proactive in relation to the recent demands of comparative and product market competition.

Over the next five years the pace of change will continue to be forced by the requirements of the European environmental quality directives and domestic competition law. There will undoubtedly be further domestic price rises well above the rate of inflation. In the midst of this, the industry, its regulators and the Government must not lose sight of the particular difficulties of vulnerable households in meeting this increased financial commitment.

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Endnotes

¹ European grants were also available to the authorities for particular projects.

² Table 5.6, Waterfacts '96.

³ Water Industry Commissioner for Scotland (1999), p5. The proposed capital investment programme for the next two years is £451.0 million for 2000-01 and £469.0 million for 2001-02 (Scottish Parliament Written Answer, Official Report Friday 10th March 2000, S1W-413.

⁴ Private Finance Initiative.

⁵ The grants for each of the three water authority areas were as follows: North £19.48, East £16.47, West £15.83.

⁶ Average domestic water and sewerage charges taking account of single person and other discounts.

⁷ By developing their own water resources on-site, or by treating their own waste products before discharging into rivers.

⁸ i.e those on low or fixed incomes, those in receipt of state benefits, large families, the disabled, and those who because of a particular medical condition require water of a particular quality in large quantities.

⁹ Ofwat figures.

¹⁰ Water Industry Act 1999.

¹¹ No specific element of Council Tax Benefit is designated as attaching to water and sewerage charges. Within Income Support there is an element to cover water and sewerage charges. Income support is a general relief.

¹² Income before housing costs. DSS (2000) p 43.

¹³ The Comptroller and Auditor General (2000), p1.

¹⁴ Scottish Parliament, Written Reply Monday 9th October 2000 S1W-9308.

¹⁵ Meetings 31 and 32, 12th and 19th December 2000.

¹⁶ In this case, for example, persistent capital under-investment may have led to a more labour intensive industrial configuration in Scotland. This analysis is partial, and may not be a reliable guide to industry efficiency etc.

¹⁷ For example, decisions over domestic prices in Scotland rest finally with Government ministers. In England and Wales these are determined by the economic regulator, Ofwat. An appeals procedure involving the Competition Commission underpins this arrangement.

¹⁸ Such as leakage control.