Oxera

Agenda

Advancing economics in business

Affordability and fairness in water charging

The affordability of water, and more generally the way water services are paid for, has risen up the political agenda as water bills have increased over the last few years. Anna Walker was asked by the government to look at the long-term issues that underlie these concerns, and has recently published her interim report. In this article she outlines some of the more important issues and emerging conclusions arising from her review

In August 2008 I was asked to review how the charging for domestic water and sewerage services in England and Wales should develop. Much has been written about the overall costs of the industry and how these might change (mostly going up) in the future as a result of many different factors—including, critically, expected climate change. Much effort has already gone into making sure that these cost increases are kept down as far as possible, using many different policies. Most recently, Professor Martin Cave has reported his findings on getting better innovation and more competition into the industry, and how this could benefit consumers.[1] Ofwat, in its day-to-day regulatory activity, also puts pressure on the industry's costs.

So although lots of effort was being put into controlling the size of the total bill, very little was being done to address how that total bill should be divided up between domestic customers. This was, for me, a very surprising omission.

In addition, the implications of changes in the availability of the crucial raw material—water—as a result of climate change, population changes and consumer behaviour, did not seem to be linked to those points where the real impact would occur—at the tap, and in the wallet—of the customer.

For most of us water is still cheap and relatively easily affordable. But this is not true for all, and although concerns over the affordability of energy bills tend to dominate, the current structural changes in how water is charged for (which delivers above-average price increases for some of those who can least afford it), combined with the overall increases in costs that are likely to occur, mean that this issue should be addressed now in the water sector, in order to avoid the need for more drastic action in the future.

It became clear early on that joining up these issues to create a coherent approach is what is needed if we are going to achieve an outcome that is simultaneously fair, creates the right incentives for customers and suppliers to act in the long-term interests of society, and deals effectively with the changes coming as a result of climate change.

Fairness (and the rateable value myth)

The special status of water and sewerage services was clearly apparent from the public workshops I conducted as part of this review, and the responses to the call for evidence. (It is also currently reflected in the legal basis on which the service is supplied.) One important and interesting result is an apparent conflict in how people view 'fairness' in the recovery of the costs of the service.

Two criteria stand out:

- the fairest way of recovering costs is by reference to how much use customers make of the service;
- charges should be affordable to all—nobody should be excluded from essential supplies of water and sewerage services because they cannot afford to pay.

Reconciling these two criteria is not always possible, and it became clear that trying to devise a charging structure that would meet them simultaneously was not going to work. So I concluded that some kind of split approach is necessary: to create a system that meets the general principle that cost should be recovered by reference to usage; and to intervene outside the general charging structure to deal with any particular affordability issues in a highly targeted way.

In addition, even if the affordability issue were to be tackled in the general charging structure, it turns out that there is not one available. The current system—based on rateable value (RV)—does not actually deliver a targeted benefit to those who might be expected to face particular affordability problems.

Because RVs are now so out of date, any link that did exist between the income or wealth of the occupants and the RV of the property has largely disappeared—customers face bills that are fairly randomly distributed in size by reference to something that was last updated more than 36 years ago, and bears little relationship to either their ability to pay, or their use of the service. Hardly fair in general, and not providing the right help to the less well-off either. Council tax bands do not fare much better.

The failings of the RV system also lead to another conclusion: even if a decision were made that volumetric- (ie, usage-) based charging is not worth doing, the current system does not provide any real solution to affordability; as costs rise, the affordability issue will have to be tackled anyway because RV charging does not effectively target those who need help.

So one of the main conclusions is that although the current mixed system of RV and metered charging is not, quite, broken, it is heading that way. Something needs to be done to bring the charging structure for water into the 21st century.

Is metering the answer?

The linking of usage to bills was seen by most of those responding to the call for evidence as forming the core of any fairer system for charging. After all, this is what is generally expected in most commercial transactions: the more you consume of something, the higher the bill you have to pay. Superficially, therefore, to get a fair outcome, charging by reference to the amount used is the answer.

Furthermore, going beyond the superficial level, not all of what gets delivered through the water bill has a neat relationship to the quantity consumed. Indeed, a not insignificant part of the bill pays for things that are not really consumed in the normal way, and are not necessarily consumed directly by those paying the bills.

So, for example, keeping a chalk stream running through a dry spell by fixing the leaks in the Victorian water mains does not necessarily benefit those paying the bills (who may be some way from the stream); nor does paying for it automatically link to water consumption—the leaks happen whether consumers use a little or a lot of water.

In the hidden corners of the bill we also have customers paying for highway drainage, even if they hardly ever go anywhere. So the current structure of charges, including for those paying under a metered arrangement, is not perfect—indeed, no practical system is perfect. What is required is a system that is the best of those that are available.

So the peculiarities of the services delivered under the 'water bill' notwithstanding, the link to the volume of water consumed is important. My preliminary conclusion is, therefore, that (all other things being equal), metered consumption is the way forward: it is seen to be fair, it creates incentives not to waste water, it gives customers an indication of how valuable water is, and it gives customers some control over bills.

But in one crucial dimension, all other things are not equal: metering itself costs money, and has to be paid for by consumers. So if metering is introduced it will, in the first instance, raise the costs and raise the price of water services. Our calculations are that this increase will average in the region of £20–£30 per customer per year, partly depending on how metering is carried out.

Set against that, there are cost savings and other benefits. The evidence is that when customers pay by volume, consumption and wastage reduce by around 10% per annum. Other cost savings arise as well, from more efficient identification and fixing of leaks (which currently account for around 3.3 billion litres of water per day),[2] to other secondary benefits such as a reduction in carbon costs (including through lower usage of hot water).

But, looked at strictly from the perspective of the costs currently incurred by the water suppliers, there are not likely to be enough savings now to pay for the additional costs of metering. As a result, bills will, on average, almost certainly rise. So a critical question is whether it is worthwhile incurring these additional costs?

Where water is scarce (and there are indications from the Environment Agency that scarcity is quite widespread) or will become scarce, and where the supply infrastructure is working at full capacity, the introduction of metering lowers consumption and leakage, so the need for additional investment in new supplies and capacity is reduced. So the longer-term savings are greater. But more importantly, if water is becoming scarcer, using less of it means there is more water for the environment. Hence, the main benefits of metering may come through improved environments. If the better environment is sufficiently valuable then metering is worthwhile and the benefits outweigh the costs.

In addition, there is some value in actually getting to a position in which the charges for water and sewerage services can have a structure that is generally considered to be fair. Again, if this characteristic of the charging structure is valuable, metering becomes (even more) worthwhile. Getting to the bottom of the magnitude of the value of these benefits is critical to developing the right policy on metering, and I would like to hear from anyone who can shed light on this.

Opting in

In addition, in doing this work it became clear that the way metering is becoming more prevalent is not necessarily very efficient. Current government policy already gives customers the right to have a meter, and this process has been the main driver of the increase in metering over the last decade or so. The ability to opt in also makes the general way the current system operates more reflective of usage as metering spreads, and is an implicit recognition that volumetric charging is desirable and produces a fairer outcome. However, the process itself has some negative consequences for the transition to metering.

As those who would benefit from metering switch to get lower bills, it automatically follows that those who remain unmetered see their bills rise by more than would otherwise be the case: this effect can be quite dramatic—Ofwat's Draft Determination for South West Water shows an increase in the average unmeasured supply of 24%—up to £889 per annum. In comparison, the average measured bill would fall by 3%, to £386.[3] This increase in the unmetered bills means that more households would now benefit from being metered, and the process repeats. So, over time, the majority of customers switch voluntarily because it is in their own interests to do so, even if metering raises bills overall.

Metering is, therefore, already becoming more prevalent, and by 2015 some areas will be close to being universally metered. But this way of achieving near-universal metering may not be very efficient, and if this is where we are going to go anyway, serious consideration needs to be given to getting there in the most cost-efficient way possible.

Actually, installing the meters is likely to be cheaper if it can be done systematically, area by area, rather than by installing meters individually in many different places, in response to requests. In addition, the transition to near-universal metering can take a (very) long time. But perhaps most importantly, for a reasonably smooth and fair transition to the new system, all of those who could benefit need to opt in once the non-metered bills have risen sufficiently to make the change worthwhile. If this does not happen, then significantly unfair outcomes can occur under the transition.

Low(er) users who do not switch to a metered supply will see their bills rise as a result of others switching. Some of these low users are going to be those who have difficulty affording their water bills. So for some users, the opt-in switching system exacerbates the affordability problems, not because of the switch to metering, but because they do not switch. As a result, if opt-in metering is to be allowed to continue then some safeguards will be needed to ensure that low users with affordability problems get a metered supply, where this will help.

If metering is the fairest way to charge, and if the opt-in right is to continue, there is a real question as to whether it would be more sensible, and in the long run cheaper, to have a more systematic approach. Something like a timed and systematic move to universal metering area by area, starting in those areas where the benefits are greatest—where water is scarce or where significant additional infrastructure is required to meet project demand under unmetered billing—and particularly where total benefits exceed costs. But, and it is a significant but, if this more direct approach is to be adopted then matching policies to tackle affordability are also needed.

Affordability

Nationally, average bills have recently been rising by more than inflation, and overlaid on this trend are significant regional variations and a redistribution of costs as a result of the opt-in metering approach. So in some regions, and for some customers, bills have been rising substantially. Ofwat's current Draft Determination reverses this trend, on average, over the next few years, with a reduction of 4% by 2014/15, albeit, again, with regional variations. And in the medium term, total costs are expected to rise as a result of climate change and measures to secure environmental improvements.

These changes have brought the affordability of water bills to the fore, and it is unlikely that future changes will reverse this with a sustained significant downward trend on bills. This raises some fundamental issues about how society should respond—in particular, in relation to volumetric charging:

- who should get water (and the associated services) at a lower price than the norm for their area?
- if the price is lower, how much lower should it be?
- who should pay for that benefit?

Who benefits?

In relation to the 'who should benefit' question, the general answer is contained in the benefits system: at least in respect of water and sewerage services. These services, along with shelter, heating and food, form the base of essential services, and these needs are, at

least in theory, picked up in the benefits system. The problem is that it is unclear that the benefits system adequately reflects the regional variation in prices, or, for metered customers, the unavoidable variation in non-discretionary water usage as a result of medical or other circumstances.

The second issue is already addressed by the WaterSure tariffs that companies in England are obliged to offer, and which are voluntarily offered in Wales. For those who qualify, these tariffs cap volumetric bills at the level of the average bill in the area. However, the regional variation in bills does not seem to be addressed at the level of national benefits; nor, indeed, is this aspect covered in the WaterSure tariffs.

In case the benefits system is not adequately picking up the regional variation in prices, we have explored the option of a variable element in the benefits system to address this. Another option is to address this issue within the industry (reflecting the approach in the WaterSure tariff), which could achieve approximately the same result. This would involve capping (or normalising by a proportionate adjustment) the water bills of benefit recipients to the level that is actually taken into account in the setting of those benefit levels.

Using this latter approach does, however, raise the issue of who actually pays for this adjustment: is it the other water customers in the same area (which is what happens now under the WaterSure tariffs), or, given that the benefit brings the water bill down to a notional national average, should the costs be spread nationally as well? In the former approach, non-benefit recipients in high-cost areas would see their bills rise quite significantly, while bills in low-cost areas would not change much at all (and, indeed, might go down). In the latter approach, however, the bills for all customers not receiving the benefit would rise. At present, recognising that this intervention is designed to address a possible mismatch between the national benefits system and the regional variation in prices, I am minded to recommend an approach that spreads the costs of this intervention across the country, subject to the caveat that this does not involve an unduly complex administrative system to underpin it.

Is this enough?

This approach sets the limit of major interventions by the industry to correcting the failings of the benefits system and recognising the complexities of non-discretionary water usage. Beyond that, there would be no major intervention by the industry, although there would still be an obligation on suppliers to make it as easy as possible for customers to pay their bills and to cooperate in debt controls, debt repayments, and so on. There might also be an obligation to help low-income customers with water efficiency measures, so that their long-term bills are reduced. But other large-scale intervention to redistribute bills would not be a responsibility of the water suppliers.

However, this conclusion is relatively tentative at this stage. Water and sewerage are two of the real essentials for modern life, and they both have the economic characteristic that the marginal costs of supplying customers are low compared with the average costs. So, should the affordability issues be tackled by some (much more serious) progressive charging structure for those with (very) low household incomes? The outcome would have to be that other households would see an increase in their bills to pay for this, and democratic controls would need to be in place to oversee this more radical approach.

In addition, as there is no good proxy for household income other than the existing benefits system, such an approach would tend to exacerbate the benefits trap. So such an approach could not be entered into lightly. It would, however, help address the needs of those customers with affordability issues resident in low-cost areas—something that just dealing with the mismatch between the benefits system and regional price variation and household non-discretionary usage patterns would not do.

Bringing it together

There are other important issues that also need to be resolved to create a coherent approach. These include making sure that the right incentives are in place, and that the hardware is available, to increase the efficiency of water usage, particularly for those for whom affordability is an issue.

The very high levels of bad debt in the industry do not benefit society either, so these need to be tackled. There are also issues surrounding the question of whether or not some of the costs associated with environmental improvements and the delivery of other ‘public goods’ which benefit the wider community or the country as a whole should be funded other than through the bills of those who happen to live in the area in which the costs are incurred. And at the core of the industry there also lies an accountability problem: decisions are taken in Brussels (European Union), London (national government) and Birmingham (Ofwat) which can have quite significant, and variable, effects on individual customers’ bills. At a minimum, those paying need an explanation, but even better would be a mechanism which gave customers a real say in those decisions.

However, a more fundamental question really needs to be answered as well. Significant changes have taken

place in the water industry, and more are in the offing, which have significant implications for fairness and affordability. The current approach is not, yet, broken, but it is getting close. So will we pick up and deal with these issues now, even if some of them are painful? Or will we wait until these problems overwhelm us? I hope it is the former.

The interim report of the Walker review[4] contains a much fuller discussion of these (and other) issues, and exposes the analysis so far.

It is clear, however, that some of these raise quite profound concerns regarding the right relationship between customers and taxpayers over who should pay for the interventions that are necessary to ensure that all citizens of the UK have access to affordable water and sewerage supplies, while maintaining incentives to ensure good husbandry of what looks like becoming an increasingly scarce resource. All comments on the analysis so far are more than welcome, and I look forward to reading them.

Anna Walker

---

[1] Cave, M. (2009), 'Independent Review of Competition and Innovation in Water Markets: Final Report', April. See also Cave, M. (2009), 'What Does the Cave Review Mean for the Water Industry?', *Agenda*, May. Available at www.oxera.com.
[2] Ofwat (2008), 'Service and Delivery—Performance of the Water Companies in England and Wales 2007–08 Report: Supporting Information', October 22nd, p. 44.
[3] Ofwat (2009), 'Future Water and Sewerage Charges 2010–2015: Draft Determinations', July, p. 21.
[4] Defra (2009), 'Review of Household Charging and Metering for Water and Sewerage Services', June 29th. Available at http://www.defra.gov.uk/environment/water/industry/water-charging-review/interim-report.htm.