

Agenda

Advancing economics in business

The dash for debt: when should regulators respond?

The recent joint paper by Ofwat and Ofgem contributes to the important debate on network utilities' capital structures. There is a concern that current levels of gearing across the sectors are inappropriate or unsustainable. However, this concern needs 'unpacking' to identify what is at its heart, and this in turn has important implications for the policies that could be introduced to halt, or reverse, the 'dash for debt'

In their recent discussion paper concerning the financing of network utilities,¹ Ofwat (regulator of the England and Wales water industry) and Ofgem (GB energy regulator) discuss a range of topical issues, from the 'financeability debate'² to the appropriate relationship, and ring-fence, between a subsidiary regulated utility and its parent. One of the key issues raised is the appropriate capital structure of regulated utilities and whether the increasing trend by GB network utilities to use debt finance is a concern and, if so, what an appropriate policy response would be. As such, the paper contributes to the growing literature on this subject, which includes the Oxera paper on the capital structure of water companies, prepared for Ofwat, and the government's paper on the drivers and public policy consequences of increased gearing.³

This article examines why this set of issues has become central to the current UK regulatory debate and suggests what might—and, significantly, what might not—be an effective and appropriate regulatory response to the problem.

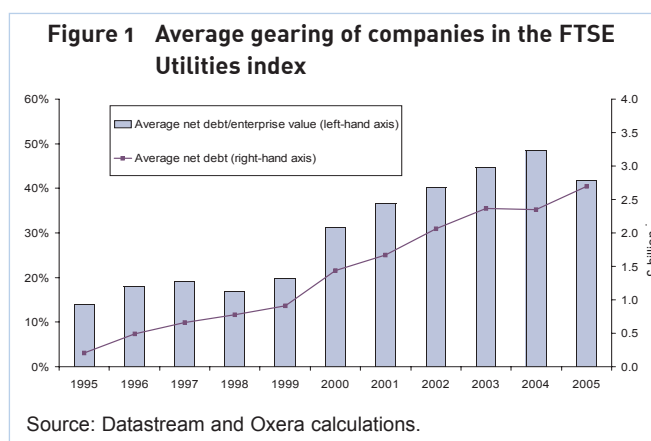
What is the issue?

As has been widely discussed, the gearing and debt levels of network utilities have been rising consistently since the 1990s. Figure 1 illustrates both the absolute debt level and gearing (measured as net debt: enterprise value) for the FTSE Utilities index between 1995 and 2005. It shows a steady increase in both variables, with a particularly striking rise in both since 1999. Interestingly, under this measure, gearing appears to have fallen in 2005. However, given the increase in actual debt levels during 2005, this is explained by the (faster) rise in market value over the course of the year. This general trend of higher gearing in the utilities is reflected particularly in the water and electricity distribution sectors. The Ofwat/Ofgem paper states that

most electricity distribution licensees have gearing, this time measured as net debt:regulatory asset value (RAV), in the region of 50–70%, and that in the water sector average gearing levels are around 60%.

As well as this general trend, there have been several high-profile, specific instances of network utilities adopting very high gearing levels. Network Rail and Glas Cymru have both removed any (conventional) equity from their capital structures. In the water industry, a number of companies, including Anglian Water, Mid Kent Water and South East Water, have adopted a 'thin equity' capital structure, with gearing levels in excess of 75%.

Finally, it should be noted that, within the UK, this phenomenon is not restricted to the network utilities. A recent Bank of England paper showed that the aggregate capital gearing of UK companies, using the same measure as in Figure 1, increased from around 17% in 1998 to approximately 40% in 2002, before falling back to around 30% subsequently.⁴ The authors developed a model to examine optimal gearing levels, as



a result of which they conclude that this increase in gearing was above a sustainable level, in the sense that it was not matched by an increase in the optimal level of gearing over the same period.

What is the concern?

Traditionally, regulators have considered that, like other aspects of the day-to-day management of a company, the choice of capital structure is not an issue for regulatory concern. After all, the seminal paper on corporate finance theory by Modigliani and Miller suggests that—albeit under some quite restrictive assumptions—the capital structure adopted by a company should have no impact on its cost of capital.⁵ Why, therefore, are commentators, regulators, companies and even government now becoming so concerned with this issue? In answering this question, it is helpful to distinguish between the private costs and benefits of different capital structures and the social costs and benefits.

Private costs and benefits

From a private perspective, a relaxed attitude to capital structure appears valid. Dropping the restrictive Modigliani–Miller assumptions, the trade-off theory of capital structure suggests that the optimal gearing of a company arises when the tax advantages from increasing debt levels are compensated for by the increase in the probability and costs of financial distress associated with rising debt levels. Thus if a company increases its gearing levels beyond this optimal point, capital markets will react, with both debt premia and equity betas increasing, raising the company's cost of capital. Given that RPI – X regulation incentivises companies to achieve efficiencies on all of their costs, including financing costs, any company that adopts a sub-optimally high level of gearing will soon revert back to a more appropriate level in order to reduce its cost of capital. Constraints on investment arising from the sub-optimally high level of gearing would also be removed.

Social costs and benefits

That said, as in all markets, it is reasonable to ask whether the market for the provision of finance to regulated utilities is characterised by any market failure. In this context, the most obvious market failure is that there is a wedge, or externality, between the private costs of a network utility adopting an aggressive gearing position and the social costs. (Issues relating to whether changing the capital structure of companies has an impact on the incentives faced by management are not considered in this article.)

Central to the efficient working of debt capital markets, where debt finance is correctly priced, is that, in the event of financial distress emerging, creditors may not be able to receive the principal and interest payments

which they are due. This makes an equity buffer (whereby the decision to make dividend payments is at management discretion) vital in reducing the risk faced by creditors. However, in the case of regulated utilities, it has been suggested that this mechanism may not work as effectively (see the section on evidence below). It is argued that regulators would not wish to see such default: in the short term, operating standards may fall below the required level, either as management focus is centred on dealing with the financial crisis, or because necessary expenditure is deferred; while in the longer term, there may be a concern that one company facing financial distress would restrict the ability of other companies to raise finance on the debt markets at reasonable cost in the future. Moreover, there would undoubtedly be political pressure on regulators to resolve the financial problems as soon as possible. It is therefore argued that regulators may step in to relieve the financial distress, especially (but not necessarily exclusively) if they are satisfied that it has been caused by an event beyond of the control of management.

Moreover, the pressure on regulators to behave in this way would be likely to increase in the event of systemic financial distress in the industry—ie, where the financial pressures faced by one company cause a 'chain reaction' throughout the sector, leading to multiple companies facing financial distress. The more highly geared companies there are in the first place, the greater the probability of such systemic failure.

In this view of the world, the optimal capital structure has less debt than implied by an evaluation of the private costs and benefits. Increasing the equity financing of a regulated company reduces the likelihood of financial distress (caused either by uncontrollable cost shocks or indeed poor management) and hence provides greater flexibility in regulatory decision making. With a sufficient equity buffer, the probability of financial distress is significantly reduced, and the gap between the private and social costs of debt, as described above, does not emerge.

What is the evidence?

The Ofwat/Ofgem paper discusses this idea and firmly opposes the notion that such a case would arise in their regulated sectors:

if a company ends up in financial distress either because of a relatively poor operating performance or because of its decisions on financial structure then the regulator would regard these as costs that should be borne by the providers of debt and equity finance rather than consumers; in the event of a cost shock causing several companies to end up in financial distress (systemic failure), the Special

Administration provisions should be expected to protect consumers from the effects of multi-company failure.

However, the paper also notes that, once the company is placed in Special Administration, some sort of 'bail-out' from regulators cannot be unequivocally ruled out.

There is some academic evidence to support the view that management deliberately increases gearing levels to reduce the flexibility of regulatory decision making. As discussed in the government paper on high gearing, Rao and Moyer (1994)⁶ suggest that US electricity firms reacted to an unfavourable regulatory climate by increasing their gearing levels, a finding that corroborated that of an earlier study by Dasgupta and Nanda (1993).⁷

Finally, although there have been no cases of financial distress that have led to serious concerns about consumer interests being threatened, it is not necessary to look far beyond these sectors to find some interesting case studies. Two cases in the UK regulatory environment are pertinent: Railtrack and NATS. These are analysed in the box below.

In summary, the evidence suggests that the possibility that there may be a gap between the private and social costs of financial distress cannot be ruled out.

What may (and may not) be the solution?

Perhaps not surprisingly, identifying the underlying concern with higher gearing in the network utilities has

important implications for what can, or should, be done to remedy it.

Ideas that may not address the underlying problem

A general category of ideas, discussed in the Ofwat/Ofgem paper, relates to increasing regulatory transparency, credibility and commitment. It is argued that, by making reforms of this sort, equity investors might be more inclined to inject equity into the network utilities than they currently seem to be. These ideas would appear to have general merit. To the extent that lack of transparency and/or commitment leads to increases in the cost of capital faced by companies, this is largely a 'deadweight-loss'—ie, customer bills are higher than they would otherwise be, with no obvious offsetting benefits. However, it is not necessarily clear how the proposals alter the balance between the attractiveness of debt and equity financing for network utilities. Both debt and equity investors would prefer to provide capital in a regulatory regime that has more credibility and transparency than one which has less. Therefore, while desirable in their own right, it is not clear that such policies address the specific issue identified above.

This leads naturally to considering ideas that might make the sector more attractive to equity investors than is currently the case. In general terms, this would involve increasing the risk–reward balance in the regulated network sector, thereby making the sector more akin to one in which equity financing is more prevalent. In the pharmaceutical sector, for example, gearing levels are negligible. To achieve this, cash flows would need to become less predictable and more stable, but the

Case study: Railtrack

There are significant differences between the potential financial distress of 'typical' network utilities and that of Railtrack, not least due to the government's subsidy of the company and the fact that Special Administration followed directly from the government's decision to withhold subsidy. Nonetheless, while Railtrack's shareholders faced financial losses as a result of the decision to place the company into Special Administration, debt-holders did not suffer in the same way. Indeed, the government introduced a binding loan to fund interest and principal on Railtrack's debt during the period in Administration and in the associated statement, declared that:

the Government recognises that the long term disposition of creditors of Railtrack plc after Administration is of fundamental importance ... It is the Government's firm intention that financial creditors will be kept whole in all important respects.¹

Note: ¹ Department for Transport (2001), 'Position of Financial Creditors with regard to Railtrack plc'.

Case study: National Air Traffic Services

The NATS example reflects the potential impact of a substantial business risk materialising on a firm that is highly leveraged. The NATS public–private partnership was set up after the original price controls were set for the company. The premium paid above the regulatory asset base (RAB) assumed by the regulator (the Civil Aviation Authority, CAA), combined with the reliance of the winning bidders (a group of UK airlines) on using debt finance, implied a debt:RAB ratio of over 100%. This may not have posed a problem had the company performed well, but the impact of September 11th on the company's revenues meant that it was not able to maintain a financial position consistent with that required by the creditor agreements. This ultimately led to a series of contributions, including additional equity from BAA, measures by NATS itself to reduce costs substantially, and finally, steps taken by the CAA to both allow an increase in prices and transfer a share of the volume risk to customers.

rewards from outperformance would have to be increased. Solutions that might be consistent with this would include the 'trigger mechanisms' that the CAA has adopted to incentivise BAA in the delivery of Terminal 5, whereby the company faces strict penalties in the event that certain milestones in the delivery of the project are not met.⁸ Notably, such mechanisms are also prevalent in Private Finance Initiative construction deals, where (during construction phase, at least) gearing levels are correspondingly low. Linked to this, an interesting idea that could be pursued is the possibility of offering a menu of 'risk/reward' regulatory settlements, with companies able to choose between a higher cost of capital but with greater incentives for efficiency and penalties for underperformance, and a regime with a lower cost of capital but correspondingly reduced incentives/penalties. This could build on the precedent developed in US telecoms sector in the 1990s where companies were offered a menu of regulatory regimes.⁹

However, again, attention needs to focus on the underlying cause of the problem of increased gearing. The analysis above suggests that high gearing is only a problem to the extent that it reveals the gap between the private and social costs of financial distress. Policies that move companies, or give them the option of moving, towards one end of risk/reward spectrum would indeed be likely to increase the level of equity finance. However, they would also be likely to increase the probability of financial distress—ie, the consequences of a risk materialising would be that much greater. If the reduction in gearing were completely offset by the probability of financial distress, the underlying problem would remain unaddressed.

Alternative solutions

This suggests that attention could instead focus on ideas that explicitly tackle the externality between the private and social costs of financial distress. Two options that would appear to do this are outlined below.

First, if the social costs of debt financing are greater than the private costs, one way to remedy this might be by reducing the private benefits. The private benefits from debt financing, under the conventional trade-off theory of capital structure, derive from the tax benefits resulting from interest being tax-deductible. Regulatory policy has already reduced this benefit to a certain extent: both Ofwat and Ofgem (for the distribution network operators) claw back the tax savings generated from increased levels of gearing above regulatory assumptions at each periodic review, so that companies retain the tax benefits for a maximum of only five years. However, for operating and capital cost efficiencies, the prospect of retaining the benefits of outperformance for up to five years (at least,

this was the case before the introduction of rolling mechanisms) was considered sufficient to incentivise outperformance. It is difficult to see why the case would be any different for tax savings. Alternatively, to effectively reduce the benefits from gearing up, corporation tax payments could be treated on a pass-through basis. Indeed, this is the policy that Ofgem is adopting for NGET for the 'mini review' between April 2006 and March 2007. However, while this policy may reduce the incentives on companies to gear up, there might be concerns regarding the lack of incentive it would place on companies to manage their corporation tax liabilities efficiently.

A second solution that would not suffer from this problem would be to offer some kind of explicit bonus in the event that companies do actually issue new equity that leads to a reduction in gearing. Building on the idea that the 'textbook' solution to an externality is to introduce some kind of mechanism that reduces the gap between the private and social costs, such a policy would aim to do exactly the same. In the event that a company issued equity that reduced gearing levels, and hence the probability of exposing the difference between the private and social costs of financial distress, the company would be rewarded with a pre-defined bonus. Important design issues would need to be clarified before such a scheme was implemented, including establishing the appropriate size of such a reward; whether it would be reduced depending on the starting gearing level of the company; and whether it would change depending on how much the gearing of the company declined.

Conclusions

In general, concerns about the capital structure adopted by regulated utilities need to be motivated by a distinction between the private and social costs of financial distress, when financial distress increases with debt levels. If such an externality can be ruled out, aside from issues regarding the efficiency incentives that management of highly geared companies may face, there seems little reason for undue concern regarding the capital structure adopted by regulated firms.

However, if this externality cannot be ruled out, an appropriate policy response needs to reflect it. There are a number of policies that regulators could implement to increase the attractiveness of the regulated utilities to equity investors (or decrease the attractiveness of debt). However, if these simultaneously increase the probability of financial distress by the same margin, it is not clear that the problem will have been addressed. Solutions should instead focus on those policies that recognise the underlying market failure.

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- ¹ Ofwat and Ofgem (2006), 'Financing Networks: A Discussion Paper', February.
- ² To be discussed in a forthcoming *Agenda* article, building on recent work by Oxera on this topic for Water UK.
- ³ Oxera (2002), 'The Capital Structure of Water Companies', report prepared for Ofwat, October, available at www.oxera.com; and Department of Trade and Industry and HM Treasury (2004), 'The Drivers and Public Policy Consequences of Increased Gearing', October.
- ⁴ Brierley, P. and Bunn, P. (2005), 'The Determination of UK Corporate Capital Gearing', *Bank of England Quarterly Bulletin*, Autumn.
- ⁵ Modigliani, F. and Miller, M. (1958), 'The Cost of Capital, Corporation Finance and the Theory of Investment', *American Economic Review*, June.
- ⁶ Rao, R. and Moyer, R.C. (1994), 'Regulatory Climate and Electric Utility Capital Structure Decisions', *Financial Review*, **29**:1, February, pp. 97–124.
- ⁷ Dasgupta, S. and Nanda, V. (1993) 'Bargaining and Brinkmanship Capital Structure Choice by Regulated Firms', *International Journal of Industrial Organisation*, **11**, pp. 475–95.
- ⁸ CAA (2003), 'Economic Regulation of BAA London Airports (Heathrow, Gatwick and Stansted) 2003–2008: Final Decision', February.
- ⁹ As discussed in Sappington, D. (2000), 'Price Regulation and Incentives', in Cave, M., Majumdar, S. and Vogelsang, I. (eds) (2002), *Handbook of Telecommunications Economics*, Elsevier.

If you have any questions regarding the issues raised in this article, please contact the editor, Derek Holt: tel +44 (0) 1865 253 000 or email d_holt@oxera.com

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