

The Riskiness of Network Rail Relative to Other Regulated Industries

A report prepared for the Office of Rail Regulation

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1. Introduction

This paper considers the riskiness of Network Rail relative to regulated companies in the airports, electricity, gas and water sectors. Its purpose is two-fold:

- to assist ORR as it estimates Network Rail's risk-adjusted cost of capital; and
- to investigate whether rating agencies should be seeing Network Rail as a more or less risky borrower than other regulated businesses.

Our contribution is deliberately a high-level and qualitative one. A full examination of risks in different sectors would require detailed modelling of possible costs and revenues over a period of many years. In this paper we aim only to identify the main factors that might cause these distributions to vary from industry to industry without going as far as to quantify the differences.

The intention is that ORR will be able to use this survey when dealing with arguments from Network Rail that it is more risky than other regulated companies and/or arguments from government that the company faces lower risk. The paper goes on to show that Network Rail's risk profile is influenced by a number of distinct variables, some of which point in the direction of higher risk and others the opposite way. By looking at uncertainty in a holistic fashion we hope that we will highlight any selectivity in the arguments that ORR has received to date and provide a more balanced analysis of riskiness.

The paper is structured into five main parts, as follows:

- section 2 lays out an analytical framework for the examination of risk, highlighting in particular how the perceptions that lenders and providers of equity have of risk are likely to be different;
- section 3 reviews the existing literature and evidence on the riskiness of different regulated sectors;
- section 4 shows how the composition of a company's allowed revenues has a major impact on investors' exposure to risk;
- section 5 takes an in-depth look at differences in cost and demand risk in different sectors; and
- section 6 concludes with an assessment of relative risk and the implications for decisions that ORR will need to take in its PR2008 conclusions.

2. Analytical Framework

2.1 Definition of risk

Before beginning the substantive analysis it is important to establish exactly what ‘risk’ means. At its simplest level risk can be defined as the uncertainty that surrounds the different cashflows that ORR is modelling as part of its periodic review. By the end of this year ORR must arrive at point estimates for each of the components in Network Rail’s costs and revenues; there is risk wherever there is a non-zero variance in the probability distributions that sit behind these point estimates.

2.2 Financial risk

Strictly speaking our focus throughout this paper is on the riskiness of the cashflow that is available to service interest costs and/or pay dividends after the deduction of operating expenses, depreciation and the payment of tax. This stream of income – which we label ‘profits’ or ‘return’ in subsequent sections of the paper – by definition combines the impact of different types of risk, allowing for upside and downside shocks to be offset against each other in any given period.

Focusing attention on out-turn profits means that we need to consider the covariance between different types of risk as well as the nature of individual risks in isolation. In a regulated industry, we have to pay particular attention to any efforts by a regulator to match variations in costs with variations in income. It is not sufficient to identify that a company faces significant uncertainty around a particular item of cost; if a regulator provides for revenues to move up and down as this uncertainty crystallises it may be that investors are shielded completely from the risk in question (and, by implication, that customers carry that risk in full).

2.3 Differences in the perceptions of lenders and shareholders

In carrying out the analysis that follows we have to recognise that lenders and shareholders price risk differently.

For providers of debt finance all conceivable threats to the payment of interest and principal are taken into account when deciding the rate at which a company can borrow. Lenders and rating agencies will want to analyse any shock that can disrupt the stream of cashflows of a business and potentially jeopardise the ability of the firm to meet its interest payments. In the case of a regulated utility, key factors to consider are likely to include cost risk, demand risk, interest rate risk, refinancing risk, regulatory risk and political risk.

Equityholders are different. In setting Network Rail’s risk-adjusted cost of capital ORR is making use of the Capital Asset Pricing Model (CAPM) to explain how the cost of equity is determined. CAPM divides risk into two categories: non-systematic risks, which a shareholder can diversify away within a balanced portfolio of stocks, and systematic risks, which cannot. It follows that any assessment of the riskiness of a regulated company must consider the extent to which the above-mentioned risks are systematic in nature in order to give an accurate picture of a firm’s beta and its cost of equity.

One important consequence this has is that it is perfectly possible to envisage a situation in which lenders and rating agencies perceive a company to be more risky than equityholders (and vice versa). If, for example, a company’s cashflows appear to be exposed to sizeable annual variations but only a small subset of the risk in question is systematic in nature, theory tells us that lenders and rating agencies are likely to be more demanding of a company than shareholders. This means that the debt and the equity perspectives have to be considered separately. It would be inappropriate to conclude that a particular company has a higher cost of equity than its peers because rating agencies demand stronger financial

ratios for any given credit rating; rather, it is necessary to establish how far exposure to systematic risk is correlated to exposure to risk in general.

2.4 Time horizons

Investors in regulated companies provide capital for firms to invest in very long-lived assets. It follows that both lenders and shareholders will be interested in risk over the life of the investments they are financing, albeit placing more weight on events that can occur in the short term than on risks in the very distant future.

In a regulated industry the existence of five-year reviews of price limits typically causes investors to focus their attention on the period up to the next or next but one periodic review. Beyond this point, it is difficult to predict what a firm's cashflows will look like except for the knowledge that the regulator has statutory duties to bring about an overall alignment of costs and revenue at each periodic review. In the intervening period, investors will be able to analyse much more accurately the scope for potential out-/under-performance against the last periodic review settlement and will make educated assumptions about the rules that a regulator will put in place for the next five-year period.

In recognition of these time horizons we focus in this paper risks to returns during a period of between 5 and 10 years. Our task is complicated by differences in the timing of the regulatory cycle – in the year commencing 1 April 2008, for example, the gas distribution businesses and the two largest regulated airports will find themselves in year 1 of a five-year review period while Network Rail will be at the other end of the cycle in year 5 of CP3. To ensure that we are making like-for-like comparisons we attempt wherever possible to compare the features of the most recently announced periodic review determinations with ORR's emerging framework for CP4. This means that we are comparing regulatory rules – and risks – for slightly different time periods:

- electricity DNOs and water and sewerage: 2005/06 to 2009/10;
- electricity and gas transmission: 2007/08 to 2011/12;
- airports and gas distribution: 2008/09 to 2012/13; and
- Network Rail: 2009/10 to 2013/14.

The assumptions we have made about ORR's rules for CP4 are set out in appendix 1 to this paper.

3. Literature Review

This paper is not the first attempt to analyse the relative riskiness of different regulated companies. During the last 18 months a number of other organisations have carried out their own assessments of risk and arrived at fairly similar conclusions about the features of the regulated airport, energy and water sectors. The main points to note are summarised below.

3.1 Recent regulatory determinations

Last year's gas distribution review saw Ofgem deliberately position the cost of equity for the gas distribution networks (GDNs) with reference to the determinations made in the 2006 electricity and gas transmission review and the Competition Commission's (CC's) summer 2007 inquiry into price controls at Heathrow and Gatwick airports.

The majority of Ofgem's work in the GDN review was focused on comparisons between the risk profiles of gas distribution and transmission businesses. The regulator found that the GDNs have higher annual expenditures relative to RAB, higher cost risk in their capex programmes and face higher powered incentives. On the basis of this analysis, Ofgem concluded that:

... the GDPCR price control proposals represent at least as much risk to GDNs' returns as the TPCR settlement does for TOs. Specifically, there is a statistically significant differential between the volatility of returns for GDNs and TOs, over the range of activities to be undertaken in the following price control.

Ofgem went on to add:

However, the differential represents only a small portion of total risk taken, and is only statistically significant when using annual data, whereas price controls are set over five years. The analysis demonstrates that the GDNs are taking at least as much equity risk as the TOs, but it is not possible to convert that directly to an impact on the cost of equity.

In its final determination Ofgem concluded that its cost of equity calculation should recognise only that the GDNs were 'no less risky' than the transmission networks. It therefore allowed the GDNs a cost of equity of 7.25% (alongside a gearing assumption of 0.625) versus a cost of equity in the transmission review of 7.0% (for gearing of 0.6).¹

While Ofgem did not carry out any detailed analysis of the risk profile of airports, it is apparent in the way that Ofgem presented its conclusions that it was conscious of comparisons to the findings of the CC in a report on airport regulation published two months previously. The CC's cost of equity for Heathrow airport was 7.33% (based on gearing of 0.6) and Ofgem recognises in its determination that the GDNs face lower business risk than a regulated airport. This meant that the CC's cost of equity allowance to all intents and purposes acted as a ceiling on Ofgem's calculation.

Ofgem's approach was entirely consistent with the position taken by the CC in its work. Although the CC did not consider the riskiness of energy networks specifically, it did comment on the riskiness of airports relative to other regulated industries in general. In its final inquiry report the CC remarks that it is 'logical' that Heathrow and Gatwick airports should have higher betas (and, hence, a higher cost of equity) than utility businesses.

¹ Once allowance is made for the effect that increased gearing has on beta, the difference between these two determinations is negligible.

3.2 Water UK Investor Survey

Confirmation of the picture emerging from last year's regulatory determinations can be found in a recent survey of investors by Water UK (the trade association for water and sewerage companies). At the start of 2008 Water UK interviewed around 40 representatives of the investor community and asked them to rank different types of company in order of risk. The results were as follows:

- electricity/gas transmission emerged as the sector in which risks were perceived to be lowest, with respondents citing the essential/strategic nature of the transmission infrastructure and revenue cap regulation as factors which limit risk;
- gas distribution, electricity distribution and water and sewerage were seen as more risky than transmission for a variety of reasons, most notably a sense of greater volatility in costs and revenues. However, no clear pattern emerged to suggest that investors see any one of these three sectors as more risky or less risky than the others; and
- respondents did, however, rank airports as more risky than traditional utility companies, generally highlighting airports exposure to demand risk in support of this position.

Although this work has qualitative value only, it does support the hierarchy (if not the specific figures within that hierarchy) that emerged from the work of Ofgem and the CC last year.

3.3 Rating agency guidance

A final source of evidence on the relative riskiness of regulated industries is the credit rating agencies. When rating debt issued by regulated companies each of the three main rating agencies has produced guidance explaining how they assess risk and where they see differences between the sectors. Although this body of guidance represents the opinions of just three organisations, the opinions are ones that lenders place considerable weight on and, as such, the views expressed are worth taking seriously.

A report² published by Moody's in November 2007 seems to capture quite accurately the perceptions that we have encountered in our contacts with the rating agencies during the last two years. Moody's starts by identifying the sectors in which it perceives risk to be lowest:

Among regulated networks, water, electricity distribution, electricity and gas transmission [are] seen as the lowest-risk sectors

The report goes on to state that Moody's applies broadly the same credit metrics when rating debt issued by companies in these regulated industries.

The GDNs are not included in the above list:

For the independent gas distribution companies created in 2005, Moody's has indicated that it applies slightly tighter credit metrics, as a result of an assessment of a modestly higher business risk, at least in the early stage of the sector's evolution.

In this sector the key concern has been the risks in the short term that arise from the separation of the GDNs from National Grid three years ago, particularly as a result of the building of new IT systems from scratch. Our sense is that the distinction that rating agencies make between the GDNs and the other regulated energy companies will disappear once the newly established companies are able to demonstrate a proven track record to investors.

² Moody's Investor Services (2007), UK Regulated Industries: Q&A on Lending Against the RAB.

The two regulated sectors in which permanently higher risk is said to exist are telecoms and aviation. In the case of airports, Moody's states:

Airport services [are] seen as moderately higher risk than water and electricity ... For the airport sector, specifically BAA, we broadly apply a "one-notch discount" in our financial ratio guidelines compared with water and electricity (this means that, for the same leverage and coverage parameters, BAA would typically be rated one notch lower than a generic water or electricity company). BAA is more exposed to potential demand shocks, with less regulatory protection in relation to interim reviews.

In practice this means that ratios which would be considered consistent with a Baa1/BBB+ rating in the water and energy sectors merit only a A3/A- rating for airports.

3.4 Conclusions

The evidence summarised above, despite its subjective rather than objective nature, produces a fairly consistent picture of risk in different regulated industries. In summary:

- airports are perceived to be materially more risky than any of the other regulated companies;
- there is not a great deal to distinguish the other regulated networks, although it may be that gas/electricity transmission is seen by investors as slightly lower risk than the electricity distribution, gas distribution and water and sewerage sectors.

None of these pieces of work provide any insights into the rail industry's risk profile. The task in the remainder of the paper is to assess where in the spectrum Network Rail might naturally sit.

4. Composition of Allowed Revenues

4.1 Principles

Section 2 explained that the focus in any analysis of risk must be on the volatility in the cashflow that is available for distribution to lenders and shareholders. In practice this means examining the extent to which unexpected events might impact upon the profits that a company makes, causing either a loss or additional return depending on whether the event in question has unfavourable or favourable implications for the business.

In section 5 of this paper we examine what sorts of risks each of regulated sectors present to investors. Before conducting this analysis, it is important first to consider the extent to which companies see different volatility in profit even if they face broadly similar ‘component’ risk. That is to say that we need first to understand the extent to which a common x% variation in costs or demand is likely to affect profit in different industries.

The reason for doing so can be explained with the aid of figure 4.1. The illustration depicts the composition of revenues for two regulated companies with identical costs but profit lines of different sizes. It then supposes that both are subject to a cost shock that causes opex to increase by roughly one quarter. In £m the shock has exactly the same impact on profits in both companies. However, it can be seen that the company on the left-hand side sees its profit fall by a much bigger percentage than the firm on the right-hand side.

Figure 4.1

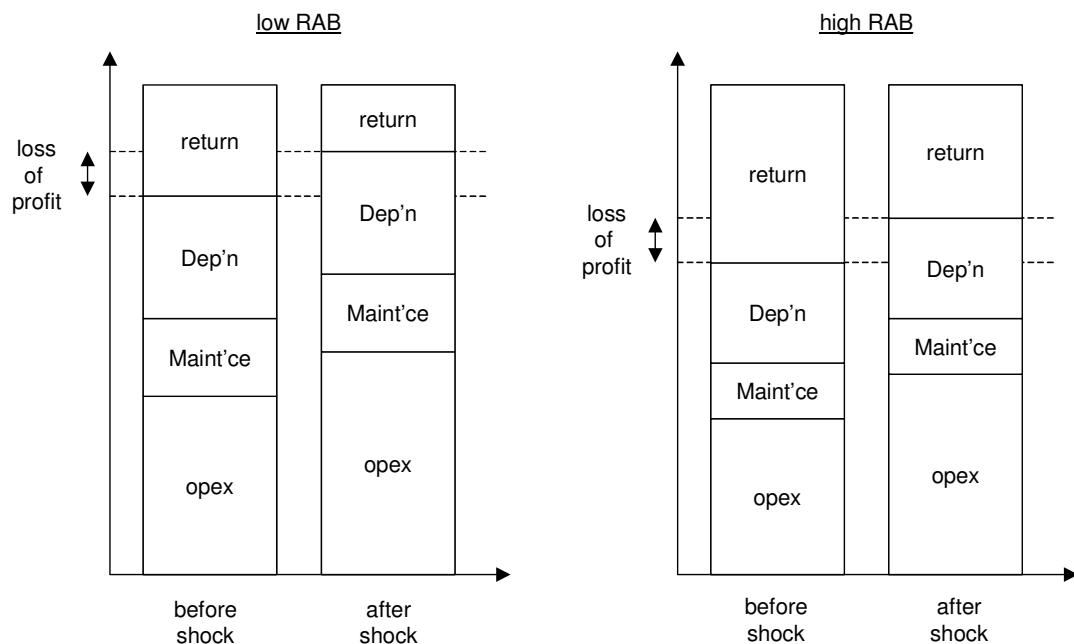
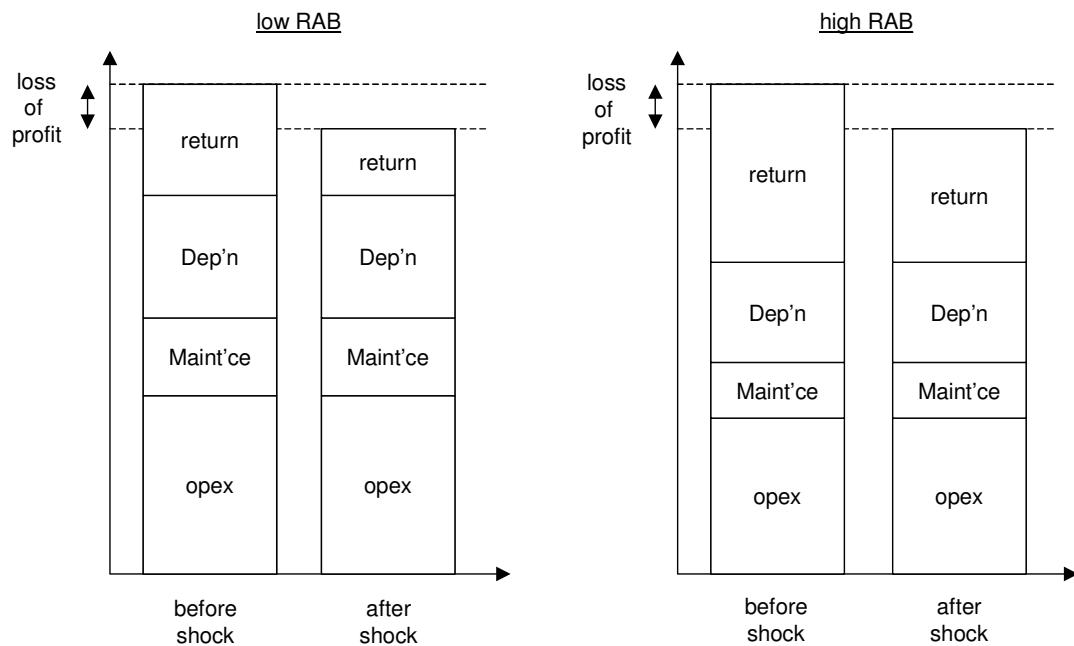


Figure 4.2 depicts the companies' positions in relation to demand risk. On both the left- and the right-hand sides of the diagram the companies experience the same % reduction in demand and revenues (depicted by the gap between the dotted lines). However, the company on the left-hand side sees a much bigger impact on its out-turn rate of return than the company on the right-hand side. This means that the firm on the left is likelier to have much more difficulty serving its debts and will have to cut its distribution to shareholders much more sharply than the firm on the right.

Figure 4.2

In summary, what figures 4.1 and 4.2 show is that a company's profits become much less sensitive to cost and demand risks as profit itself grows. In regulated industries, there are two reasons why companies with identical opex and capex might earn different levels of profit: either the regulator has allowed a different rate of return; or the companies have regulatory asset bases (RABs) of different sizes. To allow for the first of these possibilities in the analysis that follows would be circular and we do not consider it further. The second possibility, however, is one that potentially has a significant contribution to make in any analysis of the riskiness of different sectors.

4.2 Precedent

This is by no means the first paper to highlight the link between risk, the scale of annual profits and the composition of allowed revenues. In the last decade there have been at least four periodic reviews in which the size of a company's profit line relative to its costs has attracted attention:

- ORR's 2000 periodic review of Railtrack;
- ORR's 2003 review of Network Rail;
- the CAA's 2005 periodic review of NATS; and
- Postcomm's 2006 review of Royal Mail.

In three of these four reviews the focus was on Railtrack's/NATS'/Royal Mail's relatively small RABs and the fact that, all other things being equal, the businesses in question would have what seemed like a thin layer of profit in comparison to ongoing levels of opex and capex. Such a composition of allowed revenues – often referred to, not strictly accurately, as 'high operational gearing' – was agreed by ORR, the CAA and Postcomm to result in investors bearing relatively high levels of risk and to merit the award of a rate of return that was higher than the returns being offered by regulators in other sectors.

In its 2003 review ORR conducted very similar analysis to that carried out in 2000 but found that Network Rail's operational gearing had declined to the point where it was not obviously different to that of companies from the energy and water sectors. This was because in the

three years since ORR's 2000 determination Network Rail's RAB had almost trebled. Although cost risk was seen as having increased in that period, the sensitivity of out-turn profits to cost shocks was significantly lower, meaning that ORR felt comfortable cutting Network Rail's allowed return to a level that was comparable to the returns earned by other regulated utilities.

4.3 Network Rail compared to other regulated companies

In the run up to ORR's CP4 determination it is important for ORR to revisit this analysis and assess whether the picture has changed again during the last 4-5 years. A high-level overview is set out below.

During its 2003 review ORR focused its analysis on the scale of a company's annual expenditure relative to its RAB in order to assess the extent to which operational gearing had an influence on investors' exposure to risk. By focusing on this ratio ORR was able to avoid any circularity that might otherwise come from looking at expenditure to profit levels, whose value would heavily influenced by the rate of return set by a regulator (and, hence, by regulators' perceptions of risk).

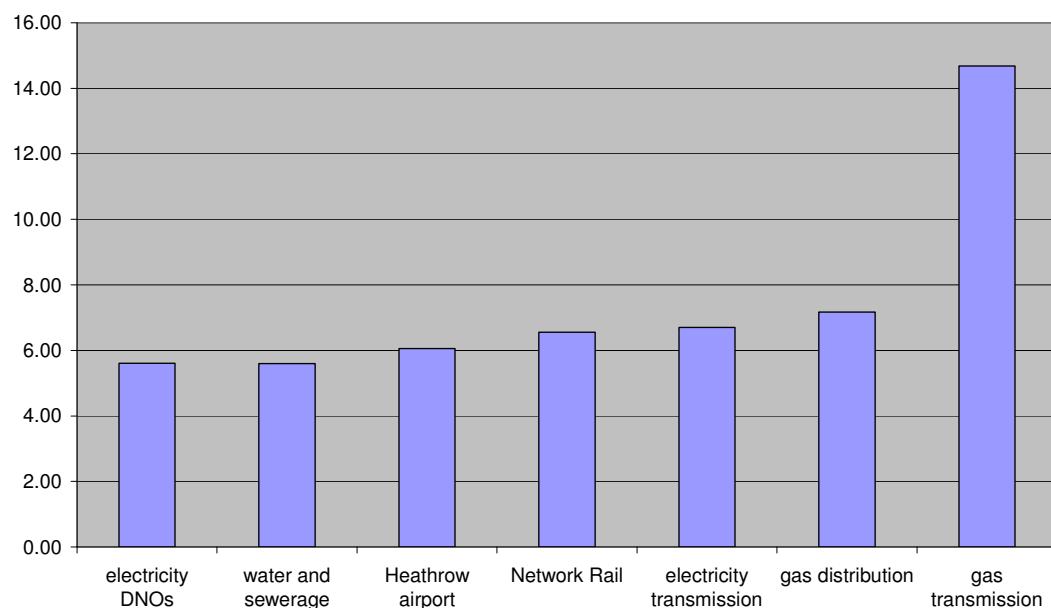
The comparison is valid to the extent that the RAB acts as the engine for future profits. All regulators now use a broadly similar 'building block' approach to calculate a company's allowed revenue in which income is provided in part to cover current expenditure and in part to ensure that investors recover the costs of past investment.³ The higher a company's RAB relative to expenditure, the more the composition of allowed revenues will be skewed towards the latter component and away from the former, increasing the buffer that companies have against future cost and demand risk.

We focus on broadly the same ratio in the analysis that follows. The only departure from ORR's 2003 methodology lies in the treatment of enhancement expenditure: in 2003 ORR looked at OM&R expenditure to RAB in order to gauge riskiness; in this paper we consider total annual expenditure including enhancement spend. The reason for this switch is simply that the scale of Network Rail's enhancement programme is to increase substantially in CP4. If we were to ignore enhancement expenditure completely, we would be overlooking one of the major sources of potential cost overrun/savings and consequent loss/addition of profit.

To ensure that the analysis is not distorted by atypical years, we measure the average ratio during the current five-year control period (or the forthcoming five-year control period in the case of Network Rail). This creates a slight danger of overlooking trend increases or reductions in expenditure to RAB which are known to investors and which therefore impact on perceptions of future risk. With the exception of rail (discussed further below) and airports, we do believe this has a material impact on the analysis insofar as the ratio appears to be relatively stable in each of the industries examined.

Figure 4.3 plots a comparison of RAB to expenditure across different regulated sectors.

³ The word 'investment' needs to be defined quite widely to include additions to the RAB relating to the promises of future income (e.g. the RAB addition associated with the March 2004 Network Rail financial settlement).

Figure 4.3

The chart shows that most of the regulated industries now exhibit a similar, but by no means identical relationship between the size of annual expenditures and the size of the RAB. The one clear outlier is National Grid's gas transmission business, whose RAB stands at well in excess of 10 times ongoing opex and ongoing capex. All other things being equal, this makes gas transmission the industry in which profits are least sensitive to cost and demand risk.

Among the other six industries, the composition of allowed revenues for the electricity DNOs and water and sewerage companies is essentially the same. National Grid's electricity transmission business has a proportionately higher RAB than the DNOs, and the GDNs have proportionately higher RABs still despite the announcement of a significant step up in investment in Ofgem's recently concluded periodic review. Heathrow airport slots in between the electricity DNOs and electricity transmission.

Network Rail appears in the middle of the chart. In fact, this is a simplification of the position that investors find themselves in at the start of CP4. By showing the average RAB-to-expenditure ratio over the five years of CP4 the chart hides a quite fundamental shift in the composition of the company's allowed revenues, as follows:

- 2009/10 – RAB-to-expenditure ratio of 5.11
- 2010/11 – 5.39
- 2011/12 – 6.82
- 2012/13 – 7.60
- 2013/14 – 8.30

This trend increase in RAB-to-expenditure is explained in part by the scale of Network Rail's CP4 enhancement programme and in part by ORR's expectation that Network Rail will make significant improvements in efficiency by 2014. With the RAB increasing throughout CP4 but expenditure falling due to efficiency gains, a gradually increasing proportion of the company's allowed revenues will be attributable to the provision of a return on the RAB. All other things being equal, this will mean that investors can start to worry less about the potential for cost risk to impact on profits.

Relative to other regulated industries, Network Rail will go from having a RAB-to-expenditure ratio in line with the electricity DNOs and the water and sewerage companies to having lower operational gearing than all other sectors except gas transmission. This is likely to alter quite fundamentally the perceptions that investors have of risk. It will also be a remarkable turnaround from the position at the start of CP2, when Network Rail was singled out for having the highest operational gearing of all the conventional infrastructure industries.

For CP4 as a whole, the chart shows that a given percentage expenditure shock hitting all regulated companies will affect Network Rail's profits more than the electricity DNOs, water and sewerage companies, Heathrow airport and electricity transmission, but less than gas distribution and gas transmission. Prior to making any judgments about the relative likelihood of such a shock occurring, this implies that Network Rail is less risky than the former group of companies but more risky than the latter.

5. Analysis of Business Risks

Having established how much investors in Network Rail should worry about business risk in general compared to investors in other sectors, we turn in this section to consider whether there is any evidence that the company's exposure to unforeseen shocks is greater than elsewhere. We do this in four steps, considering separately:

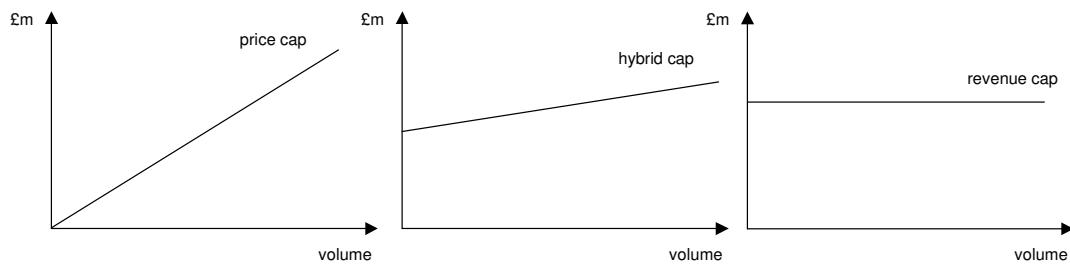
- demand risk;
- cost risk;
- service quality risk; and
- regulatory/political risk.

5.1 Demand risk

An investor's exposure to volume risk – systematic and non-systematic – depends in part on the underlying, year-to-year variability in the demand for the product they sell and in part on the way that the regulatory regime allocates demand risk between customers and company. The second of these drivers is arguably the more important in that the design of a company's price control can shield a company entirely from the effects of rising and falling demand if a regulator so chooses, irrespective of the underlying market conditions.

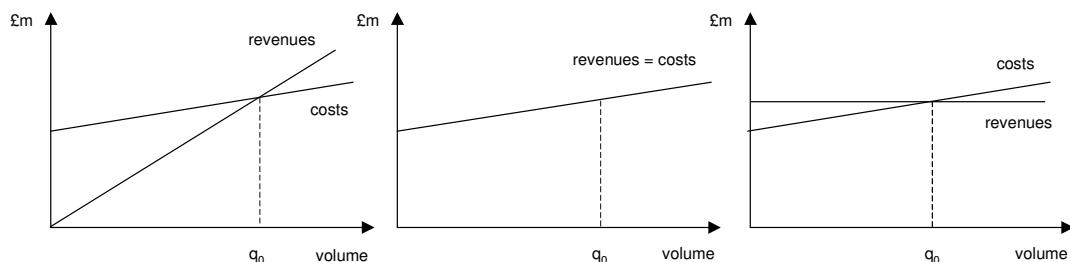
Figure 5.1 illustrates the three basic price control designs that a regulator might adopt. On the left-hand side is a pure price cap in which a regulator sets a maximum price per unit of volume. On the right-hand side is a pure revenue cap in which a regulator controls the total amount of revenue that a firm collects from its customers. And in the middle is a hybrid structure in which a company has an entitlement to a fixed amount of starting revenue and a further per unit allowance.

Figure 5.1



Investors' exposure to demand risk depends on which of these structures a regulator opts for and how closely the chosen structure matches the structure of costs. In all seven of the sectors that we are considering in this paper the majority of a firm's costs are fixed irrespective of volumes. Figure 5.2 shows that the adoption of a price cap will generally transfer the highest amount of demand risk to a company, while the inclusion of an appropriate fixed allowance in price limits transfers demand risk to the customer.

Figure 5.2



The structure of allowed revenues across the different sectors is as set out in table 5.1.

Table 5.1

Sector	Price control design
Airports	pure price cap, in which the amount of income an airport is allowed to collect is proportional to the number of passengers using the airport
Electricity DNOs	a 50:50 hybrid revenue/price cap, with number of units distributed as the output measure in the price cap component
Electricity transmission	ostensibly a revenue cap, but with an entitlement to additional income when the companies connect additional customers to the network
Gas distribution	pure revenue cap (from 1 April 2008)
Gas transmission	pure revenue cap
Network Rail	a hybrid revenue/price cap, in which the fixed and variable components of revenue are explicitly calibrated to match the mix of fixed and variable costs
Water and sewerage	pure price cap, in which the amount of income collected by a company is proportional to the number of properties (for unmetered households) and the volume of water delivered (for metered customers)

In our judgment, the six sectors may be grouped as follows:

- zero or near zero demand risk – electricity transmission, gas distribution, gas transmission, Network Rail;
- low to moderate demand risk – water and sewerage, electricity distribution; and
- significant demand risk – airports.

Investors in the four sectors in the first group benefit from a match or a near match between the structure of costs and revenues. Irrespective of the sensitivity of demand to different external drivers, lenders and shareholders know that the company will be making a stable profit through the business cycle and can be expected to factor this low risk into the return that they require in exchange for providing capital to the sector.

Investors in water and sewerage and electricity distribution businesses cannot say that they face zero or near zero risk. However, the knowledge that 50% of electricity DNOs' revenues are fixed irrespective of volumes and that a significant proportion of water and sewerage companies' customers are billed on a per property basis (rather than using a meter) serves to limit risk. Given that both sectors also see moderate, but not enormous, variations in volumes from one year to the next, investors' exposure to demand risk is best characterised as low to moderate.

Investors in regulated airports are in a materially different position. Recent experience shows that the volume of passengers using an airport is heavily influenced by both the business cycle and one-off events like terrorist activity. With income linked directly to volumes, every passenger that is deterred from using the airport has an impact upon the company's bottom line. For these reasons, the differential between airport and electricity DNO/water and sewerage demand risk is likely to be much greater than the differential between electricity DNO/water and sewerage and electricity transmission/gas distribution/gas transmission/Network Rail demand risk.

5.2 Cost risk

Assessing an investor's exposure to cost risk is not as straight-forward as assessing an investor's exposure to demand risk. This is for two reasons:

- whilst it is possible to observe clear differences in the way that regulators in different sectors allocate demand risk, the rules for allocating cost risk tend to be more similar. In particular, all seven of the sectors examined in this report have a periodic review cycle in which expenditure allowances are reset every five years;
- this means that the cost risk borne by investors depends at least as much on the underlying cost variability in a sector as on the regulatory rules. However, the likelihood of costs moving up and down unexpectedly is something that is inherently difficult to observe (at least in any robust, quantitative way).

In order to obtain as accurate a picture as possible of cost risk in different industries we consider 'cost' in three separate components: opex, capital maintenance/renewals and enhancements. We ask two distinct questions:

- how far is it possible to identify differences between sectors as regards the underlying variability in costs; and
- to what extent do regulator's interventions result in more or less cost risk being transferred to customers?

5.2.1 Operating expenditure

Opex in regulated industries typically comprises the on-the-ground costs of operating physical assets and the HQ support costs that are incurred in sustaining businesses with thousands of employees and millions of pounds in revenue. At a very high level, a degree of similarity in the cost base would tend to suggest that there is unlikely to be major differences in the scope for cost variations within a five-year period.

In order to establish just how similar companies in the seven sectors are we would ideally wish to examine the main cost drivers in each sector. This would mean looking at:

- an allocation of costs between raw inputs (i.e. labour, pensions, materials, utility costs, etc.);
- an allocation of costs between defined tasks (i.e. HQ support, reactive work, etc.); and
- an allocation of costs between in-house and specialist third-party contractors.

It has not been possible to carry out a very detailed analysis of the cost base within the time constraints for producing this paper. We would, however, make the following high-level observations:

- based on our previous work in the different sectors, we are not aware of any significant differences in the balance between staff and non-staff costs;
- likewise, we have not observed major differences in outsourcing policies;⁴
- there are, however, a number of noticeable differences in the mix of industry-specific inputs;
- companies in three sectors – water and sewerage, airports and rail – exhibit a higher energy intensity and therefore spend proportionally more on utility bills than companies

⁴ The one exception to this is where companies have out-sourced the entire operation of their networks to third parties (e.g. Glas Cymru). In these cases regulators have taken the view that risk is merely transferred between regulated company and contractor and that outsourcing of this type neither increases nor decreases the underlying business risk.

- in the other sectors. Given the volatility of energy prices in recent years, this might be expected to increase the variability in opex;
- water industry opex includes the costs of water ‘generation’, distinguishing the sector from the other industries. Uncertainty about supply is a risk that very directly translates into variability in annual expenditures; and
 - Network Rail’s opex includes a significant component made up of signalmen’s wages. The activity level risk in this part of the business is likely to be quite low – Network Rail can predict with reasonable certainty how many people will be needed and what they will be doing. As a result, the risk around signalmen costs is limited mainly to wage inflation risk. This is a benefit which we do not see other companies enjoying.

This qualitative assessment of opex tends to suggest that airport and water and sewerage opex is likely to exhibit above average risk. Network Rail benefits from a degree of certainty around signalmen costs but is exposed to more energy price risk than companies in some other regulated sectors. To the extent that these two factors offset each other, we would be inclined to put Network Rail in a lower risk group along with the electricity DNOs, GDNs and the energy transmission networks.

In order to reach any conclusion about the risk borne by investors it is necessary to consider how regulators allocate opex risk between customers and company. In addition to the five-year reset of expenditure allowances, there exists today a range of measures which affect investors’ exposure to cost variations, as shown in table 5.2.

Table 5.2

Sector	Regulatory rules affecting risk allocation
Airports	75:25 sharing of changes in security costs
Electricity DNOs	Pass-through arrangements for pension costs, business rates, costs associated with the Road Traffic Management Act 2004
Electricity transmission	Pass-through arrangements for pension contributions and business rates
Gas distribution	Pass-through arrangements for pension contributions
Gas transmission	Pass-through arrangements for pension contributions and business rates
Network Rail	Pass-through arrangements for traction electricity purchase costs
Water and sewerage	Five-year rolling incentive mechanism for efficiency savings Pass-through arrangements for increases in construction prices, bad debt, costs associated with the Road Traffic Management Act 2004

Drawing conclusions from table 5.2 is not easy. All of the sectors have at least one item of expenditure in which variations in cost may be passed on to customers. It is not clear to us that any one regulator has allowed for materially higher amounts of cost risk to be shared with customers than any other regulator. For this reason, we see the role of the regulator as having a neutral impact on relative riskiness.

As a consequence, our findings as regards opex risk follow directly from the conclusions that we drew about the underlying variability of costs in the different sectors. We believe that investors in Network Rail are less exposed to opex risk than investors in regulated airports and water and sewerage companies, but face similar risks to investors in electricity DNOs, GDNs and energy transmission networks. However, we do not consider the differences to be very large and we would not expect shareholders, lenders and rating agencies to have materially different perceptions of the sectors.

5.2.2 Capital maintenance/renewals expenditure

Whereas opex in the different sectors – at least at a high level – involves undertaking broadly comparable activities, the process of maintaining physical infrastructure in a steady state tends⁵ to see companies carrying out very different types of work. An airport operator refurbishing a pier, a water business re-laying a water mains and a railway company replacing its signalling equipment, to give just three examples, are likely to be dealing with projects of different sizes, requiring different types of labour/materials and entailing different operational risks.

In order to ascertain which companies are undertaking the most and least risky work we would need to examine in some detail the nature of the activities being undertaken and the variance in the likely cost outcomes over the course of a five-year period. This is beyond the scope of this paper. We can, however, make the following high-level observations:

- although projects look different in different sectors, there is a common pattern of skilled labour carrying out maintenance/construction work on physical assets. This suggests to us that exposure to macroeconomic risk – especially as regards conditions in the construction and commodity markets – is likely to be similar;
- if there are differences between sectors, they are likely to be found among the project-specific, non-systematic components of risk and should not therefore affect the cost of equity under CAPM assumptions;
- to a considerable extent these are risks that should also be diversifiable within a company. When businesses carry out small-scale repeated work of a similar type there will be some projects that go well and some projects that go badly. The portfolio effect ought to limit the extent of differences between sectors;
- this logic holds only to the extent that risk is symmetric in nature. If there are factors that skew the distribution of potential cost outcomes, and if this skewness is more pronounced in certain of the regulated sectors, there would be a legitimate argument that the risk profiles are different;
- a number of factors might be said to lead to skewness in cost outcomes in the seven sectors we are considering, notably: safety requirements; potential for planning delays; the threat of enforcement action and financial penalties when projects fail; and the threat from catastrophic failure of key assets. However, it is not obvious that exposure to such risks differs across sectors;
- Network Rail has previously argued that risks are different in the railway because a significant proportion of its work requires it to shut the network. We think that this has some validity. If Network Rail is unable to reopen the railway after a possession, the disruption to the network can be severe with Network Rail paying significant amounts of compensation to train operators for lost revenue. There is not an obvious counterpart to this risk in other sectors.

The report published by ORR on 28 February 2008 provides a useful illustration of this last point. In its investigation into the disruption over the New Year period, ORR highlights how having to close the railway forces Network Rail to complete capital work within strict deadlines. If these deadlines cannot be met Network Rail must either reschedule work to later dates or pay for overrunning. In either case the outcome is likely to be an over-spend on the work being carried out.

Although in the case of the New Year disruption ORR found that Network Rail's failure to complete its work on time was a result of poor planning, the experience nevertheless serves

⁵ In the rail industry a distinction is made between capital maintenance and renewals; in some other sectors both types of activity are bundled together under the heading 'capex'. In order to avoid introducing a categorisation that does not exist in all of the seven sectors we are considering, the discussion in this section should be taken to refer to both types of work.

to highlight a risk that will be of concern to lenders and rating agencies. In other sectors, there is normally a certain amount of redundancy in a network so that supplies can take an alternative route to the customer in the event that an asset being maintained or replaced is out of service for longer than expected. This is not the case in the rail industry. The vast majority of Network Rail's assets are critical to the operation of the railway so that even very short overruns have an impact on costs which is of several magnitudes greater than the consequences faced by companies in other industries.

The conclusion that we draw from this is that there is very little to distinguish the sectors but that Network Rail may well be more exposed than other companies to downside risk. We note that this is consistent with the findings that NERA reached in a December 2004 report to ORR and Network Rail.⁶

As with the analysis of opex it is important to examine the regulatory treatment of over- and under-spending before making any judgments about investors' exposure to risk. The key determinant of the allocation of risk between company and customers is the rules that a regulator uses to adjust the RAB from one review period to the next. There are two related questions:

- how quickly does the benefit of an under-spend pass through to customers; and
- are customers asked to contribute to an over-spend?

Table 5.3 sets out the rules in the different sectors.

Table 5.3

Sector	Regulatory rules affecting risk allocation
Airports	Under- and efficient over-spending reflected in the roll forward of the RAB at each periodic review ⁷
Electricity DNOs	Companies take a fixed percentage (between 29% and 40% for different companies) of any under- and over-spend regardless of cause
Electricity transmission	Companies take 25% of any under- and over-spend subject to a test that over-spending is not the result of gross inefficiency
Gas distribution	Companies take a fixed percentage (between 33% and 36% across different companies) of any under- and over-spend subject to a test that over-spending is not the result of gross inefficiency
Gas transmission	Companies take 25% of any under- and over-spend subject to a test that over-spending is not the result of gross inefficiency
Network Rail	Capital maintenance: under- and over-spending borne by Network Rail alone Renewals: Under-spend and efficient over-spend to be reflected in the RAB after five years
Water and sewerage	Under-/over-spending driven by lower/higher than expected construction price inflation reflected in an ex post adjustment to the RAB. Other under-spend reflected in RAB after five years. Other over-spending unlikely to be eligible for inclusion in RAB except where spend is linked to delivery of additional outputs

Note: a five-year rolling adjustment to the RAB means that the company takes approximately 30% of the difference between actual and assumed expenditure, with the remaining 70% passing to the customer.

⁶ NERA (2004), Enhancement framework in regulated utilities.

The table shows that regulators have adopted slightly different rules in different sectors. When comparing industries, risk is lower to the extent that a regulator is willing to allow over-spending to be added to the RAB and/or where companies' share of under- and over-spending is low. This suggests the following groupings:

- efficiency test for over-spending, higher-powered incentives – Network Rail;
- efficiency test for over-spending, higher-powered incentives, but with pass through of construction price risk – water and sewerage;
- efficiency test for over-spending, lower-powered incentives – airports;
- no substantive efficiency test for over-spending, higher-powered incentives – electricity DNOs, gas distribution; and
- no substantive efficiency test for over-spending, lower-powered incentives – electricity transmission, gas transmission.

Riskiness increases as one works down the above groupings, with groups 2, 3 and 4 having different features but – in our view – presenting roughly similar levels of risk. This means that the framework that ORR is currently minded to put in place for CP4 incorporates a higher-than-average transfer of risk to investors.

Combined with the observations that we made about the underlying riskiness of the maintenance/renewal programme itself, our conclusion is that investors in Network Rail have a higher exposure to risk than investors in other sectors.

5.2.3 Enhancement expenditure

The difficulties that are encountered when comparing the nature of renewals expenditure across different sectors are even more pronounced when looking at major enhancement projects. Rather than exhibit just sector-specific risk, the building of a brand new terminal building, a brand new sewerage treatment works or a remodelled section of track are likely to involve a range of risks that are unique to the specific project in question. To compare risks properly we would need to examine the quantified risk assessments for particular projects taking note of the variance in the distribution of forecast costs and the underlying sources of the risks identified.

In one sense, however, the project-specific nature of enhancement risk makes the analysis easier. According to CAPM, shareholders should not require compensation for risks that are specific to an individual project; rather, such risks can be diversified away within a balanced portfolio of equity holdings. ORR should not therefore pay any attention to the additional risk of enhancements over renewals when calculating Network Rail's beta/cost of equity. Instead it should take account only of the differences in capex risk highlighted above.

This leaves only the impact of project risk on debt providers to be considered. Lenders and rating agencies take the potential for overruns in costs and timetable extremely seriously and will want to examine how quickly a poorly performing project or portfolio of projects will start to jeopardise a borrower's ability to meet its interest payments. All other things being equal, companies with large amounts of major project risk – primarily the airport and rail sectors – will attract lower ratings and face a higher cost of debt compared to companies with small or zero risk of this sort.

This is not something that has gone unrecognised by regulators. In their methodologies for calculating price controls a number of regulators take steps to offset the effects of project risk with higher allowed revenues. The basic point of principle was summed up by CC last summer when it stated that 'idiosyncratic risk is more appropriately allowed for in the estimation of cash flows for the individual projects'. The two sectoral regulators that deal

most often with risky enhancement projects have explicit policies for dealing with project-specific risk in line with the principle established by the CC:

- in the airports sector, the CAA has been very clear that project risk is to be dealt with through the provision of contingencies in capex allowances rather than any sort of premium rate of return. In its latest price control decisions for Heathrow and Gatwick it provided for a uniform 25% contingency across all enhancement work and explicitly state that this avoids any need for an uplift to the cost of capital; and
- in rail, ORR since 2000 has had a framework that compensates Network Rail for enhancement risk via the inclusion of P80 cost estimates in the RAB together with the allowance of contingencies for unforeseeable risk. Again, the explicit stated objective has been that these measures should compensate Network Rail in full for additional enhancement-related risk without requiring any adjustment to the normal risk-adjusted cost of capital.

A further extension of ORR's basic approach has been seen in discussions about the Thameslink project. In this case it is ORR's intention that there should be a bespoke risk allocation in which under-spending and over-spending passes more quickly to the customer than is usually the case – a measure that reduces risk to a level consistent with that assumed to exist in other capital work.

Since the purpose of all of these interventions is to bring risk on enhancement projects into line with risk elsewhere in the capital programme it must be that the analysis of enhancement risk follows exactly the conclusions we drew previously about renewal risk. That is to say that the additional risk around specific enhancement projects is 'neutralised' by other regulatory interventions and should not be a consideration in any assessment of relative risk.

5.2.4 Reopeners

The three previous sub-sections describe the normal allocation of risk between company and customers. One final area to examine is regulators' willingness (or otherwise) to overturn this allocation of risk in exceptional circumstances.

In all seven of the industries we are considering a regulator has the legal powers to propose a change to price limits at any time. In practice, investors perceive a reopening of a determination to be extremely unlikely unless a regulator formally allows for the possibility when setting the price control. Only two regulatory regimes have explicit interim review provisions:

- Ofwat has inserted into companies' licences a substantial effects clause which provides for an interim review when companies experience an increase in costs and/or reduction in revenue outside the control of management with an expected impact equivalent to more than 20% of annual turnover; and
- ORR is proposing to include in access agreements a provision which provides for ORR to conduct a full review of Network Rail's price control in situations where Network Rail is expected to lose its investment-grade credit rating. This will sit alongside an existing provision for interim review where there has been a material change in circumstances.

Both the water and rail industry mechanisms make a clear distinction between efficient and inefficient over-spending, with only the former capable of triggering any adjustment to allowed revenues. However, even within these constraints, early review has two clear benefits for the companies affected:

- first, by adjusting price controls in advance of the full five-year periodic review a regulator can help alleviate cashflow difficulties which might otherwise prevent a company from paying its debts as they fall due; and
- second, all other things being equal, a shorter regulatory lag reduces the amount of time that investors bear the consequences of under- and efficient over-spending.

Interim review can therefore have both timing and NPV implications. Lenders and rating agencies will take comfort from the timing dimension, while investors of all types benefit from lower risk associated with the opportunity to pass higher costs on to customers in advance of the scheduled reset of price limits.

By being transparent about their rules, we think that Ofwat and ORR give more comfort to investors about their willingness to conduct interim reviews than regulators in other sectors. For these reasons, we believe that the existence of explicit price control reopeners is likely to make the rail and water sectors less risky in the eyes of investors. As such, companies in the two sectors have an offset against the higher opex risk (water) and higher capex risk (rail) identified in the preceding sections.

5.3 Service quality risk

Service quality/output risk is not strictly separable from the preceding discussion of cost risk. In industries where companies are held responsible for the delivery of outputs to customers, downside risk can crystallise either in the form of a cost overrun (i.e. spending more than expected, but delivering expected service quality) or a failure to meet output requirements (i.e. not spending the money and not meeting service standards). It is partly for this reason that the statutory framework in most regulated industries allows a regulator to impose financial penalties on companies that choose simply not to carry out work.

With this important caveat in mind it is nevertheless instructive to examine the extent to which regulators have tied revenue to the delivery of a basic level of service quality. All other things being equal, a regulator that exposes a company to large automatic rewards/penalties makes cashflows more risky in the eyes of investor. By contrast, an industry in which there are relatively few automatic financial incentives will tend to be one in which investors perceive there to be more stable cashflows.

Table 5.4 sets out the position in our seven regulated industries.

Table 5.4

Sector	Service quality incentives
Airports	Financial incentive for BAA's performance against a basket of service quality measures (maximum rebate = 7% of annual revenue, maximum bonus = 2.25% of annual revenue)
Electricity DNOs	Guaranteed standards of performance scheme with rebates for customers experiencing poor service Financial incentives for customer minutes lost, storm compensation arrangements, telephone response times (penalties capped at – 2.875% of allowed revenue, rewards capped at +2% of allowed revenue) Financial incentives for losses (uncapped)
Electricity transmission	Financial incentives for losses (uncapped) Financial incentive for SF6 emissions (potential reward of 0.2% of allowed revenue)
Gas distribution	Guaranteed standards of performance scheme with rebates for customers experiencing poor service

	Financial incentives for shrinkage (uncapped) Environmental emissions incentive (capped)
Gas transmission	
Network Rail	Schedule 8 performance incentive (uncapped) Upside only volume incentive (capped at approx 1.5% of annual allowed revenue)
Water and sewerage	Guaranteed standards of performance scheme with rebates for customers experiencing poor service Overall performance assessment at each periodic review looking at a basket of more than a dozen service quality indicators (penalties capped at -1% of allowed revenue, rewards capped at +0.5% of allowed revenue)

The table shows that investors in regulated airports unquestionably face the highest levels of service quality risk. As a result of recommendations made by the CC in last year's price control inquiry, Heathrow and Gatwick airports can lose up to 7% of their revenue if out-turn service quality falls below prescribed standards – more than any other regulated business. Although the airports earn bonuses if service quality is better than standard the incentives are asymmetric in design with potential penalties far outweighing possible rewards.

Investors in energy transmission networks almost would appear to face the least service quality risk. When formulating price controls Ofgem has allowed for relatively few penalty/reward schemes, meaning that the potential variability in annual income is small.

Between these two extremes our sense is that electricity DNOs have more upside/downside than the GDNs who in turn have more of their revenue tied to service quality than a water and sewerage company. Ofwat, in particular, attaches surprisingly little revenue to out-turn service quality when one considers how much value customers are likely to place on receiving a continuous and sustainable water supply.

Network Rail, with its symmetric but uncapped Schedule 8 performance regime, sits roughly in the middle of this spectrum. Railtrack's experience in the months immediately after the accident at Hatfield in 2000 is revealing in that it shows how Schedule 8 penalties can eat significantly into profits. At today's payment rates, a Hatfield-like event would knock approximately £200m or 4% off the company's annual income; even a less extreme scenario in which the company falls 1.5m delay minutes behind its regulatory target is worth £50m per annum or approximately 1% of CP4 annual allowed revenue.

Although an upside-only volume incentive offers a prospective cushion against this downside risk, our judgment is that Network Rail has higher-powered service incentives than gas transmission, electricity transmission and water and sewerage companies, but lower-powered service incentives compared to the regulated airports. Overall, we would position rail close to the electricity DNOs and GDNs in terms of riskiness.

5.4 Regulatory/political risk

Regulatory risk is arguably the most difficult type of risk for a regulator itself to analyse. Given that it is the regulators' own actions that come into focus, there is a natural tendency to say that investor concerns about adverse regulatory interventions are overblown and should not have a material impact on the distribution of expected returns.

As (broadly) impartial observers we would tend to agree with this contention. Investors would need to go back to the mid-1990s to find the last occasions when regulators so confounded expectations as to give credence to the charge that their presence in an industry creates

risk. In the last 10 years regulators collectively have gone to great lengths to exhibit transparency and consistency in their decision making – efforts that mean regulation is today seen generally as reducing rather than increasing the risk that investors take when they invest in infrastructure businesses.

In any event, we see no particular reason to distinguish the rail sector from the aviation, energy and water sectors insofar as the existence of regulatory risk is concerned. There is now such a uniformity in methodology and approach across regulators (helped, among other things by the introduction of regulatory boards and the presence of the same non-executives on some of these boards) that it is difficult to see how one regulator could be perceived as acting with a fundamentally different mindset than another.

There may, however, be differences in perceptions of political risk in the different sectors. In recent years the government has started to play a more active role in most regulated industries. However, it is only in the railway that the government has a direct contractual relationship with a regulated company. This has both pros and cons:

- on the upside, Network Rail's reliance on DfT support and its closeness to government in general (e.g. as a result of the HLOS/SOFA process) has appeared in recent times to make investors feel more confident about making finance available to the business in the future. The assumption is sometimes that the government would not allow Network Rail to fail financially, even if formally the capital provided by investors is at risk; and
- on the downside, the financial markets still remember the actions of government in the run up to Railtrack's collapse. Rightly or wrongly the then Secretary of State is perceived to have engineered Railtrack's entry into administration, with some investors stating at the time that they would demand compensation for the political risk they take when they put their money into the railway in the future.

Through its recent contact with the rating agencies ORR will have more up-to-date insights into the way that perceptions of political risk stand today. From our position, we would expect the collapse of Metronet last year to have led to a readjustment in investors' expectations – for all its political baggage and notwithstanding that the government was guaranteeing a significant portion of the company's debts, the government did not intervene to help or hinder Metronet when it encountered into financial difficulties. If investors do still pay more attention to political risk in the railway compared to other infrastructure industries, we would expect its impact to be small and gradually diminishing.

6. Conclusions

A summary of the preceding analysis is set out in table 6.1. The table compares the riskiness of Network Rail to other regulated industries using the following key:

- ↑↑ = investors in this sector bear significantly more risk than investors in Network Rail
- ↑ = investors in this sector bear marginally more risk than investors in Network Rail
- ↓ = investors in this sector bear marginally less risk than investors in Network Rail
- ↓↓ = investors in this sector bear significantly less risk than investors in Network Rail

Table 6.1

	Cost-to-RAB ratio	Demand risk	Opex risk	Capex risk	Service quality risk	Reopeners
Airports		↑↑	↑	↓	↑	↑
Electricity DNOs	↑	↑		↓		↑
Electricity transmission				↓	↓	↑
Gas distribution				↓		↑
Gas transmission	↓↓			↓	↓	↑
Water and sewerage	↑	↑	↑	↓	↓	

Because this is a qualitative, rather than quantitative, assessment of risk, the analysis set out in the table does not show conclusively that any one sector is more risky than another. However, we feel confident about putting forward the following summary:

- it is extremely unlikely that investors will perceive Network Rail to be as risky as a regulated airport business. Although Network Rail's capex programme may be seen as containing greater downside risks, a combination of significantly lower demand risk, lower opex risk, lower-powered service quality incentives and the presence of explicit price control reopeners more than offset this risk; and
- in comparison with any other regulated company, there are both reasons why Network Rail might be perceived as more risky and reasons why it could be seen as less risky. Overall, we feel that it would be difficult mount a convincing argument that Network Rail's risk profile is materially different from that of the other companies.

Having observed in section 3 of this paper how others have ranked the different sectors, our recommendations to ORR are as follows:

- when choosing a cost of equity for use in estimating Network Rail's cost of capital, ORR should treat the figures used by the CC in its determination for Heathrow as an absolute ceiling on the calculation. Since airports are almost certainly riskier stock market investments, ORR's chosen cost of equity should ideally sit a clear distance below the CC's estimate;
- regulated businesses (other than transmission) from the energy and water sectors are better comparators for a shareholder-owned Network Rail. It would not be unreasonable for ORR to use either actual share price data or Ofgem/Ofwat determinations as benchmarks for its own cost of capital conclusions; and

- in discussions with the credit rating agencies, ORR should encourage comparisons between the energy, rail and water sectors as a way of teasing out the inherent similarities between the risk profiles of the regulated networks in these industries. While ORR cannot force a particular view onto the agencies, it should push back on any perception that Network Rail is a more risky borrower using the kind of analysis set out in the table above.

Appendix

The analysis contained in the main body of the paper compares Network Rail's risk profile during CP4 against the position of other regulated companies under their most recently announced regulatory determination. The assumptions that we have made about the ORR regulatory framework were supplied by the ORR team during w/c 2 June 2008 and are summarised in the following table.

Table A1

Expenditure	Total spend 2009/10 to 2013/14: - opex £5.2 billion - maintenance £4.6 billion - renewal £10.5 billion - enhancement £7.5 billion - Schedule 4 and 8 costs £0.9 billion
RAB	£32.1 billion on 1 April 2009 rising to £41.6 billion by 31 March 2014
Enhancement framework	Cost projections to be based on P80 estimates, with contingencies allowed for unknown risks
Opex/maintenance incentives	No five-year rolling mechanism
Renewals/enhancement incentives	Five-year rolling mechanism for under-spends and efficiently incurred over-spends
Reopeners	Access agreements to contain the existing material change in circumstances clause along with a new provision that allows for an interim review if Network Rail is expected to lose its investment-grade credit rating
Structure of charges	Variable charges calibrated to align with latest estimates of short-run marginal cost
Schedule 8	Symmetric performance incentive regime, with payment rates equivalent on average to £32 per delay minute
Volume incentive	Upside only incentive with maximum possible reward (payable at the start of CP4) of £400m