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**Infrastructure Asset Ownership****Discussion Paper Prepared for the DfT and ORR****21 December 2010****1. Introduction**

This short discussion paper considers different options for the ownership of railway assets. It builds on work that is being carried out on structural reforms to consider whether the companies operating, maintaining, renewing and/or enhancing railway assets should also own those assets or whether ownership can be vested in a completely separate organisation.

The paper is structured into three main parts:

- section 2 outlines the possible ownership arrangements accompanying each of the structural reforms being considered by L.E.K.;
- section 3 examines the pros and cons of each ownership option; and
- section 4 answers specific questions that the Value for Money Study team have asked.

In addition, a separate annex to this paper looks at ways in which the financing of historical investment can be separated from the financing of ongoing infrastructure work. Although not directly concerned with ownership per se, the annex highlights that some of the benefits that might be thought to come from separate ownership can also be achieved by other means.

**2. Ownership Options**

The work that L.E.K. is undertaking is considering four types of industry structure:

- base case – no major structural changes;
- horizontal separation – some or all of Network Rail's regional units to be sold to new owners;
- vertical alignment – some of Network Rail's functions to be carried out by joint ventures between Network Rail and the dominant train operator in each region; and
- vertical integration – competitively tendered regional concessions for train operation and infrastructure management.

The four candidate options are concerned primarily with who it is that maintains, renews and enhances infrastructure assets. But behind these models there are also options to consider in relation to the ownership of built assets. These are as follows:

- assets belong to the companies tasked with maintaining and renewing the assets;
- Network Rail ownership of all infrastructure assets; and
- public ownership of all infrastructure assets.

Each option is described in more detail below.

**2.1 No separation of ownership and investment**

The status quo puts the ownership of railway infrastructure with the company responsible for maintaining the infrastructure's functionality and serviceability. Continuing with this model would mean that the asset owner is respectively Network Rail, the new regional infrastructure

companies, the Network Rail/train operator joint ventures and the concession holders in each of the four models currently being considered by L.E.K..

In the base case and horizontal separation models, this designation of asset ownership is fairly straight-forward. Under the vertical alignment and vertical separation models the situation is made more complicated by the time-limited nature of the joint ventures and concessions that would be carrying out infrastructure work. In both of these cases there would need to be a well-defined transfer process through which ownership could pass on to successor companies at a known price at the end of the joint venture's or concession's life, perhaps similar to the way in which ownership of assets built in DBFT projects passes from the contractor to the contracting authority.

## **2.2 Network Rail ownership of infrastructure assets**

A more radical option would see Network Rail – or possibly a successor private-sector company – retain ownership of infrastructure assets even after structural reforms see responsibility for maintaining, renewing and building those assets passed to third parties. Formally, this would require Network Rail to contract out the work that is carried out on its network via medium- or long-term contracts.

This options sits most obviously with the vertical alignment and vertical integration models. But it could also apply in the base case if Network Rail as currently constituted were to out-source all maintenance, renewal and enhancement work or as an alternative to horizontal separation via a sale of assets if Network Rail were to reinvent itself as a pure system operator and concession out the management of its infrastructure through regional contracts.

## **2.3 Public ownership**

The third option is an extension of the previous option in which a public-sector body – possibly a public trust or even the state directly – is the owner of infrastructure assets and contracts with other companies to manage those assets. These other companies would be Network Rail, new regional infrastructure companies, the Network Rail/train operator joint ventures, and the concession holders respectively.

For this to be a viable option Network Rail would need to be persuaded or compelled first to sell the assets it currently owns. The new public-sector owner would then take on the concessionaire role that we set out under the previous option.

## **3. Evaluation**

Our assessment of the models that we have just identified is set out below in two parts. We start by considering the coordination issues that will arise if the company that carries out infrastructure work is not the legal owner of the network it is building on. We then consider whether the separation of ownership from maintenance, renewal and enhancement brings with it benefits that more than offset the transaction costs that inevitably come from separation.

### **3.1 Coordination costs**

Contracts that provide for third parties to carry out work on behalf of the legal owner of property or assets are commonplace in many different sectors of the economy. There is also some experience of such arrangements already in the railway – e.g. fully repairing leases at depots. A defining feature of such contracts is the detailed specification of the rights and obligations of the parties, including but not limited to:

- the schedule of works that the contractor is to undertake on the owner's behalf;
- the standards to which such works are to be carried out, including the warranties that the contractor provides as to the subsequent performance of the built assets;
- the terms on which the contractor gains access to the owner's property;
- payment terms;
- the sanctions that either party can apply if the other fails to keep to the terms of the agreement; and
- the process to be followed if the contractor ultimately fails to meet its obligations, either as a result of insolvency or other reasons.

Discharging and enforcing such obligations inevitably creates transaction costs. Among other things: agreeing and drafting a schedule of works takes time and effort; the existence of quality standards means constant monitoring and assessment; and demonstrating compliance more generally with the terms of an agreement entails dialogue and reporting. Experience also shows that even the best contracts are incomplete contracts; as circumstances change or new information becomes available it will be necessary for the parties to interpret or adjust their obligations to the situations they find themselves in. This may not always be straight-forward and may result in undesirable rigidity creeping in to the parties' behaviours.

Generally the parties to such contracts are able to manage such difficulties. Quantifying exactly how big these costs might be and ascertaining whether this would be the case in a large-scale railway concession<sup>1</sup> is not within the scope of this paper. However, we think we can learn quite a lot from the observed behaviours of other networks. We note, in particular, that among the 50 or so regulated networks in the UK, only three companies (Welsh Water, Northern Gas Networks and Electricity North West) have historically out-sourced all their maintenance and renewal work in bundled long-term contracts. All three of these companies have recently reverted back to a more integrated structure in which outside firms are used only as conventional contractors or as strategic partners for specific business activities. As an example, Electricity North West, the owner of electricity distribution network in Manchester and the north west of England, in July this year bought out its contractor (United Utilities Electricity Services) having split ownership and ongoing work only as recently as 2008. Its stated reasons were as follows:<sup>2</sup>

The purchase of UUES, which is contracted to operate and maintain the network on behalf of Electricity North West, enables the Company to establish one group which owns, operates, manages and maintains its network. This will enable Electricity North West to address the challenges of Ofgem's latest price control and provides an efficient business structure to deliver investment in the north west's electricity network ...

This acquisition presents a great opportunity for Electricity North West and the north west of England. Incorporating our operations and maintenance contract into one business will reduce costs, improve efficiency and secure continued delivery of all services to customers in the region.

The clear implication is that other network companies do not consider separation of asset ownership and asset management conducive to efficiency. Rather, they have found an integrated structure better suited to the challenges they face.

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<sup>1</sup> We do not in this paper consider small-scale contractual arrangements like fully repairing station leases, which may have different economics to whole-business out-sourcing arrangements.

<sup>2</sup> Electricity North West press release, June 2010.

Arguably the best illustration of the costs that a separation of asset ownership and ongoing infrastructure work can create is the London Underground PPP. Despite justified criticisms of the contracts' detailed and complex designs, the agreements between LU and Metronet and between LU and Tube Lines are probably the best examples of the sorts of contract that one would need to put in place between asset owner and infrastructure contractor if there were to be a separation of asset ownership and infrastructure works in the mainline railway. Over an eight-year period, we observed that this model failed insofar as:

- time-limited contracts did not adequately incentivise the infracos to minimise whole-life cost, but instead encouraged the infracos to focus on cost minimisation within the contract period;
- ambiguities in the schedules of work led to delays in work or repeated legal claims by the infracos against LU;
- rigidities in standards and access arrangements prevented the infracos from adopting new technologies and caused costs to be much higher than necessary;
- LU found it very hard to maintain its distance from the day-to-day management of infrastructure work, increasing over time the resources that it devoted to contractual monitoring and compliance, requesting every growing quantities of information from the infracos and rarely being satisfied with the documents that it received;
- the infracos were required to expend considerable effort demonstrating contractual compliance to LU. Tube Lines estimated that compliance-related activities cost it up to £10m per annum against a contract value of around £500m per annum;
- in the case of Metronet, LU could do little but stand by and watch when it became apparent that the infracos' inefficiency was threatening their solvency. This led ultimately to a significant financial burden being placed on LU when Metronet was eventually placed into administration;
- in the case of Tube Lines, the renegotiation of contractual terms at the first 7.5-year periodic review caused considerable tension as it became apparent that the parties' aspirations were not well aligned; and, ultimately
- the combination of the issues we have identified caused an irretrievable breakdown in trust between the parties to the contracts, leading both sides to conclude that early termination was in their best interests.

Others in the DfT and ORR will no doubt be able to add to this list. A helpful report from the PPP Arbiter has also recently been posted on his website.

In our view, as an adviser that saw at first-hand the relationships between LU and its infracos from 2005 until TfL's acquisition of Tube Lines earlier this year, it is not overstating matters to say that the separation of ownership from ongoing infrastructure work served to defeat the original purpose of bringing private-sector expertise into the maintenance, renewal and upgrading of the underground. This is particularly apparent in the case of Tube Lines, where an able and efficient infraco was deliberately killed off by LU's desire as asset owner to exert more and more control over the work being carried out on its network.

This is not to say that separation of network ownership from ongoing maintenance, renewal and enhancement would necessarily be doomed to fail in the mainline railway. The experience of the

London Underground PPP contains a number of very useful lessons which policymakers can build on, not least that:

- the asset owner should ideally enter into such a contract willingly and gladly;
- a contract of more than 30 years in duration might well have aligned better the interests of the asset owner and the infrastructure contractor;
- putting time and effort into the initial contract specification can help to avert subsequent disagreement and dispute;
- responsibility for setting engineering standards should not lie with the asset owner;
- the contractor should hold sufficient risk-bearing capital to make insolvency and administration a very remote possibility; and
- the monitoring of the performance of the contractor sits better with an independent economic regulator than the asset owner (and should certainly not be split between the two as was the case with LU and the PPP Arbiter).

There are also clear lessons from the railway's limited experience of third-party enhancement of Network Rail's assets, notably that:

- the use of asset protection agreements, or other mechanisms which require the asset owner's consent before work is carried out, should be used sparingly or avoided altogether; and
- undue risk aversion on the part of the asset owner more generally needs to be eliminated upfront so as to prevent cost and duration of schemes from escalating.

If acted upon, all of the above things can serve to make the asset owner a less important, perhaps even dormant actor during the life of the infrastructure management contract. This is essentially the position that the asset owner finds itself in in the HS1 concession. In the mainline railway, this type of structure could be expected to minimise transaction costs but without compromising the quality of the work carried out, since independent economic regulation can serve to ensure that the contractor is meeting its obligations to customers and funders in a timely and efficient manner.

How far one would want to go down this route and minimise coordination costs for their own sake depends, however, on the benefits one is seeking to obtain to a separation of asset ownership from ongoing infrastructure work in the first place. It is to this that we now turn.

## **3.2 Benefits**

### **3.2.1 General**

#### *Contestability*

Arguably the main benefit that comes from separation is the opportunity to introduce competition for contracts and thereby move away from monopoly provision of infrastructure. In theory, making maintenance, renewal and enhancement work contestable ought to drive costs down and spread best working practices from inside and outside the railway across the network. In particular, it should not be possible for an inefficient asset management company to remain in the railway; rather, one would expect that over time the companies holding asset management contracts would be the most able and most efficient suppliers in the industry.

The benefits that contestability brings does depend, however, on the frequency with which contracts are let and relet.

In an extreme scenario, say, if a concession were to have a 99-year duration, the benefits of competition would essentially be limited to the initial award of the contract, when multiple infrastructure firms would compete to show that they were the most appropriate manager of future works. Thereafter, the concession would to all intents and purposes look and behave like a monopolist, leaving the industry to rely on regulation and periodic review mechanisms to capture further improvements in efficiency and performance.

The benefits of contestability then grow as the life of a concession is made shorter, say, to 30 years or to 15 years or even to a short-term contracts of five years or less in duration. Indeed, with very short contract periods, one can envisage that the industry might wish to dispense completely with regulator-led periodic reviews and instead use market mechanisms to ensure that each new bundle of infrastructure works is delivered efficiently.

The difficulty with doing this is that shorter contracts bring many of the coordination and transaction costs that we identified in section 3.1. Rather than being a near dormant company, the asset owner would have to manage its contractor quite actively, constantly checking the quality of its work and perhaps going as far as to define engineering, procurement and other policies. This could be seen as entrenching monopoly practices in the industry (a subject which we expect L.E.K. to be examining in some detail when they look in their work at the possible role for concessions). But at the very least it will give rise to the sorts of tensions that were apparent in the London Underground PPP.

This highlights that there is a trade-off between maximising the benefits of repeated competition and minimising the scope for the asset owner/contracting authority to interfere in the running of the railway and in doing so create cost and waste. It is not at all clear to us how best to resolve this trade-off, although the experiences we highlighted in section 3.1 indicate that it is perfectly possible to conceive of situations in which the costs of even 30-year contracts overwhelm the benefits and make concession arrangements sub-optimal.

#### *Optimisation of financing costs*

A more justifiable case for separating asset ownership from ongoing works would emerge if it could be shown that separating the financing of the existing network and its RAB from risky capital investment would produce financing efficiencies. This is a topic that has caused a great deal of interest across the infrastructure sectors in recent years, not least due to the efforts of Professor Dieter Helm of Oxford University in arguing vociferously for a shake-up of the way in which regulated companies finance themselves.

While there exist ways of allocating the risks around enhancement work to third-party investment companies, to date no one has come up with a structure that permits the (low) risks of asset ownership to be isolated from the (high) risks of ongoing maintenance and renewal. This is mainly because risks around maintenance and renewal expenditure ultimately fall on to the asset owner in the event that they become too great for its contractor to bear. In this regard, it is instructive for the DfT and ORR to remember what happened to the securitisation plan that Network Rail developed prior to its acquisition of Railtrack in 2002, as set out in the box below.

### A Reminder: Financing Network Rail

As part of its case for acquiring Railtrack, Network Rail originally proposed to put in place new financing arrangements in which a completely new company – “finco” – would raise debt finance for the licensed OM&R business – “opco” – in exchange for a contractual entitlement to take and use as much of the income from regulated track access charges as it needed before this income was made available to opco. The company explained that the reordering of the payment waterfall to put the claims of lenders ahead of the needs of the OM&R business was intended to bring about a significant reduction in financing costs and would benefit the railway by hundreds of millions of pounds per year.

Despite and government and regulatory support, Network Rail never implemented its plans. The advice it was given by credit rating agencies, backed by Network Rail’s own legal analysis, was that the contract between finco and opco would not survive in the event that opco became insolvent because the administrator of opco would not be required to honour the contract and there could be no guarantee that opco’s obligations to finco would be transferred to a successor company. This meant that finco’s first call over revenues was an illusion: the probability that lenders to finco would suffer a loss on their loans would still be inextricably linked to the OM&R business’s cost control and the likelihood of another post-Hatfield escalation of maintenance and renewal costs.

Network Rail decided there was little benefit in carrying on with its proposals if there was no reduction in financing costs compared to a conventional financing structure. It also persuaded the government that it could not be expected to raise finance in a conventional way, paving the way for the development of the FIM and the financing arrangements that we observe today.

If one replaces ‘finco’ and ‘opco’ in the above case study with ‘asset owner’ and ‘contractor’ respectively, it can be seen straight away that separation of ownership from ongoing work offers no real financing benefit. In particular, the rating agencies’ assessment of the risks around the asset owner’s debts will still be closely linked to the risks affecting opco and its likely solvency.

That is not say that there aren’t structures which separate the risk and cost financing of the existing RAB from the risk and cost of financing new work. First Economics will be publishing a paper in the next few weeks which envisages that a regulated company’s debts could be transferred to a completely new class of company which we call ‘RABcos’ to be serviced and paid by customers separately from the monies that they pay to regulated networks for future opex and capex. If these RABcos were to have a watertight guarantee that their interest and principal would be paid by customers – possibly through a FIM type mechanism – one could simultaneously deliver a very low cost of financing historical investment at the same time as putting genuine at-risk capital behind new works. The annex to this note outlines this structure in greater detail.

In the context of this paper, a key thing to note about this structure is that RABcos need not own infrastructure assets; indeed, it is much better that they do not so as to clearly separate in lenders’ minds the risk that customers will not pay for historical investment from the risk that companies might make a loss on new expenditures. This shows that the delivery of financing efficiencies is not dependent on a separation of asset ownership and infrastructure works. Financing considerations cannot therefore be a justification for separation.



### 3.2.2 Public ownership

#### *Running the railway network in the 'public interest'*

A second reason for separating asset ownership from ongoing maintenance, renewal and enhancement is the opportunity that policymakers would have to show that the railway network is run not purely for profit but in the interests of passengers, taxpayers and society as a whole. The argument would be that not handing ownership to private-sector, equity-owned companies, but leaving it instead with Network Rail or a successor public-sector body, enables the government to demonstrate that it is using private-sector expertise appropriately and proportionately whilst putting in checks and balances that safeguard the essential social service that the network provides.

This could be a largely presentational thing. If the asset owner is the near dormant company that we have depicted at several points in the preceding discussion, its ability to create social benefit will be very limited. Indeed, in the extreme case of a 99-year concession, arguably the only real benefit that comes from Network Rail or public ownership might be the existence and knowledge of a well-defined termination and transfer process which can kick in if the performance of the concession holder proves unsatisfactory.

If the asset owner intervenes more actively or attempts overtly to impose a social focus on its contractor we are back to the coordination issues and transaction costs that we identified previously. Putting the asset owner into public ownership might pose an especially acute risk of interference if politicians or civil servants come to see ownership as giving them a mandate to involve themselves in decisions which should really be matters for the infrastructure contractor. It is noticeable that government policy more generally – e.g. in education and health – is to put greater distance between public services and Whitehall for this very reason and it would be strange if for some reason the railway was treated as a special case and subjected to much greater central control.

At the very least, therefore, one would want for the asset owner to sit at arms length from the government. A good model might be the relationship the government has with the banks that it now owns after the bailouts of 2008 and 2009. But even this might not prevent meddling – especially if the perception that the government owns the railway puts politicians under pressure to act whenever allegations of poor performance on the part of its contractor emerge. This again suggests there is a trade-off between putting a public interest focus into the railway network's ownership arrangements and minimising conflict/coordination costs.

#### *Proceeds from the award of contracts*

One argument that we have heard made in favour of the public sector retaining ownership of the railway is the apparent benefit to taxpayers that comes from collecting concession fees every n years. This is sometimes compared to the benefit of an outright sale of assets, where sale proceeds contribute a one-off sum to the public coffers and where the total amount raised may not be very different from, say, the proceeds of a 30-year concession. (We understand that this argument has been applied recently to the HS1 concession.)

Such an argument needs to be treated with some caution. For a start, the railway network as a whole is currently subsidised by the government. For so long as this continues, concession proceeds cannot be thought of only as the amount that private individuals are willing to pay for exclusive and valuable contractual rights. Rather, a concession fee is at least in part an upfront monetisation of future subsidies that the government is willing to pay to support capital works.

The finance that concession holders would be raising to pay their concession fees might therefore be thought of as a private-sector loan, which the government is committed to paying off in installments over time.

More substantively, the apparent similarity in the value of 30-year concession and an outright sale is a function of discounting. If profits accruing to the infrastructure manager are identical except insofar as payments to the concession holder terminate after 30 years, the difference in sale proceeds relates only to the valuation that the private-sector places on profits after 31 years. Payments this far in the future are worth only a relatively small amount in present value terms, which is why the proceeds from a concession and an outright sale are quite similar. The corollary is that one might expect the government also to discount quite heavily monies that it will receive in the distant future and not allow timing issues to distort its assessment of how to structure the industry to achieve the lowest possible cost for the user and the taxpayer.

### **3.3 Conclusion**

The arguments that we have just presented constitute a fairly negative assessment of the idea that the railway might separate infrastructure ownership from ongoing infrastructure work. We would argue that the failure of the London Underground PPP provides a very clear warning that the relationship between asset owner and infrastructure can become quite fraught to the point where the actions of the owner detract from the efficiency and performance of its specialist contractor. (The HS1 concession may show that these difficulties were a one-off, but we would caution that it is far too early to make any considered evaluation of the pros and cons of the HS1 model.)

We understand that L.E.K. is looking more generally at the benefits of contestability in its separate work. The analysis in this paper shows that there are important trade-offs to be made in relation to contract length: i.e. long contracts with a dormant asset owner minimise the risk of conflict, but short contracts bring contestability benefits. Our own view – based mainly on the underground experience – is that it would be surprising if L.E.K. is able confidently to identify sufficient benefits from short contracts to offset the risk of coordination failure and resulting transaction costs.

If, therefore, the government considers for political reasons that public ownership of railway assets is an essential part of future reforms, we would recommend that it devises a structure which minimises the scope for the asset owner to involve itself in the affairs of the company or companies maintaining, renewing and enhancing the network. This might mean that:

- the owner company is held at arm's length from Ministers;
- the asset owner is deliberately a virtual company with no employees of its own;
- there is a contract of at least 30 years and perhaps as long as 99 years between the asset owner and the infrastructure manager; and
- the industry's legislation continues to provide for safety, efficiency, performance, social and environmental obligations to be secured via a robust and effective regulatory process bearing down on the infrastructure manager rather than through the actions of the asset owner.

Set up in this way, the government would be in a position to secure the symbolic benefits of public/social ownership without most of the attendant costs and risks.

## **4. Detailed Design Issues**

### **4.1 Remuneration**

In the absence of any change in law, ORR's jurisdiction over remuneration for infrastructure works extends only to the setting of the access charges payable by train operators to the asset owner. In the event that there is a separation of asset ownership and ongoing infrastructure work, payments from the asset owner to its contractor would need to be determined separately by the parties.

This of itself need not cause a huge amount of difficulty. The contract could, for example, specify upfront that payments from the asset owner to the contractor will always fit back-to-back with the payments that the asset owner receives from its customers. Alternatively, and perhaps more realistically, the contract could hypothecate formulaically revenue that the asset owner needs to finance its debts and the revenue that it is to be released to the contractor for the performance of its work. If there is to be a change of law, one can even imagine the ORR reaching into the contract and changing payment amounts just as it currently reaches into track access agreements and change access charges every five years.

What matters most in all these scenarios is that careful thought is given to whether it is the asset owner or the infrastructure contractor that finances capital works and the difference between infrastructure costs and revenues within each control period. Our own preference is set out in the annex to this note where we outline a structure in which new work is initially financed by the contractor during the construction phase and then refinanced by the asset owner upon completion. This might entail specifying in the contract that the contractor finances any shortfall in cashflow for periods of five years at a time before the asset owner takes out any accumulated debt via a refinancing. Such an arrangement should not be difficult to define in contractual language.

Importantly, any back-to-back arrangement ought to be capable of preserving the status and quality that the RAB has in the eyes of lenders as a mechanism for financing new investment. Boiled down to basics, the RAB is really only an ORR-designed I.O.U. from customers and funders to the asset owner and so as long as lenders believe that the regulator will enforce the payment of that I.O.U. they will have to qualms in giving finance to the industry to bridge differences between annual costs and annual revenues, irrespective of how any shortfall is allocated between asset owner and contractor. This means that the government does not have to worry that separate ownership will bring about an increase in taxpayer contributions to the cost of new capital works. Rather, the preservation of independent regulation and continued consistency and transparency around the calculation of the RAB will almost certainly be sufficient to persuade lenders to finance temporary gaps between railway costs and revenues.

### **4.2 Regulation**

The set up that we are advocating, as well as any alternative arrangement in which ORR as regulator, rather than the asset owner, is the organisation that is responsible for the monitoring of performance and enforcement of the contractor, may however require changes to the Railways Act. This is because the Act as currently written focuses some aspects of regulation on the 'asset operator' (defined as the person having the management of a railway asset) and some aspects, notably sections 17 to 22, on the 'facility owner'. This may create confusion about where exactly responsibility for asset stewardship lies under separate ownership, giving yet more reason to worry about the sorts of transaction and coordination costs identified earlier.

A better structure might be one in which the focus of regulation sits squarely on the 'asset manager' so that the owner of a railway asset is unregulated but any person managing infrastructure work is licensed and subject to the full force of ORR's powers. Among other things, this would mean that ORR would:

- impose and enforce licence conditions on the infrastructure contractor requiring the delivery of agreed outputs and good performance;
- hold the contractor to account for the performance of obligations under access agreements; and
- determine outputs and funding for each five-year period via the process set out in Schedule 4A of the Railways Act.

The test of such an arrangement would be that an outsider should not notice any change in ORR's role compared to its role today. If this is not the case – as would appear to be the position under current legislation – there is a cost to separation of ownership which needs to be factored into the evaluation of possible reforms.

## Annex: RABco

In the main body of the paper we mentioned that we have been undertaking work in other regulated sectors to identify how it might be possible to lower the cost of financing infrastructure investment. Our focus has been on the ~150 basis points risk premium that companies (and by implication customers) currently pay to lenders on tens of billions of pounds issued by regulated network companies.

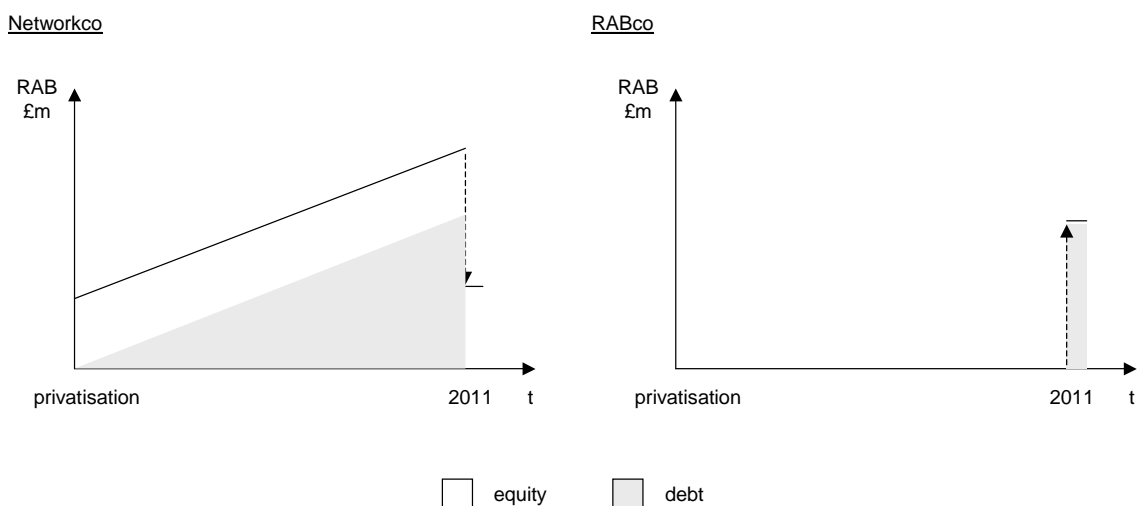
### *The RABco model*

The proposition that we have developed is illustrated graphically in figure A1. It envisages two classes of licensed company starting in 2011:

- a completely new company (which we are going to call “RABco”) which takes on ownership of the portion of the existing RAB which is currently financed by debt and whose sole purpose is to manage, service and repay that debt through the collection of charges from customers; and
- the network business (which we label “Networkco” from this point onwards), with the portion of the existing RAB which is currently financed by equity and all legal and financial responsibilities for the ongoing operation, maintenance and renewal of the network.

Whereas Networkco would be a conventional shareholder-owned company, we do not see the availability of equity capital as being a necessary feature of RABco. It could be, for example, that RABco is a company limited by guarantee or possibly a mutual trust.

**Figure 4.1: Illustrative transfer of RAB from Networkco to RABco**



Before explaining how this structure might be used to reduce overall financing costs it is important to clarify two important points:

- first, we expect the transfer of a portion of the RAB from Networkco to RABco to be effected through a commercial transaction in which the value of the RAB that passes between the companies is valued at 100 pence in the pound. RABco would finance its acquisition by raising new debt and Networkco could use the proceeds of the sale to reduce its borrowings, effectively bringing about a complete refinancing of the transferred RAB amount; and

- second, the transfer of a portion of the RAB would be accompanied by the transfer by the regulator of a portion of Networkco's regulated revenues – specifically the depreciation and allowance for the cost of debt on the portion of the transferred RAB would be taken out of Networkco's price control and given to RABco.

Importantly, there should not be anything in the transfer that we have just described that adversely affects the interests of existing shareholders – the intention is that the benefit to Networkco from a write-off of its debts and the loss to Networkco from a transfer of part of its RAB and associated revenue requirement will exactly offset each other. In particular, it can be observed that providers of equity had only a secondary claim behind lenders on customer charges prior to the split and the split itself does nothing to disrupt this. The risk that shareholders bear, in terms of the potential for under- and out-performance to create variations in shareholder returns, and the reward for bearing that risk, in terms of the allowed cost of equity, both therefore remain unchanged in this new world.

This means that shareholders and customers should be indifferent to the debt write-down and associated changes that we are applying to Networkco. The challenge that we are setting ourselves is simply to make the cost of financing RABco lower than would be the case if that portion of the RAB remained with Networkco.

For this to be the case, we need to satisfy two tests as follows.

- Test 1: RABco must have an entirely separable entitlement to receive revenue from customers which is not affected in any way by Networkco's performance against its price cap.
- Test 2: RABco and its lenders must be given the maximum possible certainty that they will be able to recover from customers the return of and on the portion of the RAB that they inherit. The lower the risk around future income streams, the lower the premium over the risk-free rate they will demand in exchange for financing RABco during the period over which the RAB is to be repaid.

The first of these tests is not difficult to satisfy. In the case of, say, the electricity industry, one can envisage an arrangement in which suppliers collect RABco's income on RABco's behalf. A licence obligation might be put in place to support this arrangement specifying that a company may not supply customers unless it collects from them a charge payable to RABco. Set up in this way, RABco would not need to bill customers directly but could instead rely on the industry's existing billing arrangements. Similar principles apply in other sectors.

The second test requires a great deal more thought. If the challenge is to make payment to RABco's lenders as near to risk free as possible, there needs to be a long-term commitment from the regulator, government or both to impose on customers the cost of paying the interest and principal on RABco's debt. There are various ways in which this commitment could be given.

- since RABco is to be a licensed company, a regulator can insert into its licence an entitlement to collect an annual income which exactly matches its annual interest bill plus the gradual payback of the principal. The risks that lenders bear in this scenario relate mainly to the possibility that the regulator, presumably backed by the Competition Commission on appeal, chooses at some point in the future to modify the licence and/or that government changes the law and in doing so changes the system of regulation that applies to the sector. This can be made very remote by clear statements of policy from the

regulator stating how important it is that the licence condition remains intact until such time as the RAB is fully repaid;

- the government could enter into a legally binding contract with RABco which requires it to underwrite the payment of both interest and principal in the event that income from customers is disrupted and RABco cannot otherwise meet its obligations. This would take away all regulatory risk and expose RABco and its lenders only to sovereign credit risk and political risk; and
- the government could write RABco's entitlement to collect income from customers directly into primary legislation. If lenders see that they have a legal entitlement to collect a certain amount of income from customers over a fixed period of time, the only risk that they need concern themselves with is the risk that a future government will change the law without giving RABco appropriate compensation.

Our expectation is that the premium that lenders would demand in exchange for lending money to RABco would be successively lower under each of these three options. Based on experiences in other sectors, we think it is reasonable to expect the cost of debt to fall to no more than 50 basis points above the risk-free rate and possibly no more than 25 basis points. This offers the potential for very significant savings for customers against the starting point of a cost of debt which is 150 basis points or more above the risk-free rate. For example, if one were to refinance all of the water industry's £37 billion of debt in the way that we are suggesting, one could easily imagine that charges paid by customers could fall by £300m to £500m per annum – a very sizeable saving

It is worth stressing that this is not a completely free lunch. Policymakers would be tying their hands and limiting as far as possible their ability to alter future payments from customers to RABco. Although some might instinctively balk at a loss of discretion, we do not think this can ever be regarded as a bad thing. If we were to ask today's regulators whether they expect their successors to reflect the value of RABs in future price control decisions, we would expect to get an unqualified 'yes' in response. All that we are proposing here is that good intentions and warm words are backed by greater legal force so that lenders can dismiss the notion that their investment might be deliberately stranded at some point in the future.

#### *Possible extensions*

The model that we have just outlined is best thought of as a starting point from which several possible extensions might flow.

The most obvious observation to make is that the transaction between Networkco and RABco need not be restricted to the portion of Networkco's RAB that is currently financed by debt. It is possible to conceive of situations in which a higher percentage of the RAB might move across so that Networkco equity can be replaced by RABco debt. It is also possible to envisage situations in which the value of the RAB that is sold by Networkco to RABco falls short of Networkco's debts leaving Networkco with some residual borrowing – notably in situations where the cost of refinancing particular tranches of Networkco's debt before maturity is very high. In both cases, company, regulator and/or government might wish to take account of the optimality of Networkco's capital structure and not leave customers in a position where Networkco is either under-capitalised or over-capitalised unnecessarily. A key attribute of the transaction we are proposing is that it can easily be scaled down, and in certain cases scaled up, as needed if an

individual company's circumstances demand it without adversely affecting the interests of any of the parties.

Another important extension comes from the possibility that Networkco and RABco might enter into repeat transactions. Most of the UK's regulated companies are still undertaking historically high levels of investment, which implies that RABs will continue to grow for some time. Decisions about how to finance this capital expenditure prior to investment taking place should continue to be a matter for companies and the risks associated with this spending should continue to lie with investors. However, that does not preclude a refinancing of the accumulated RAB from taking place once profits and losses have crystallised within Networkco. Amongst other things, this 'take-out' by RABco of completed investments would help risk capital in Networkco to be recycled for the next wave of investment.

A refinancing arrangement of this sort already applies to third-party railway enhancements. One possible model going forward is that Networkco sells to RABco any additional RAB that it has accrued at the end of each five-year regulatory period. The purpose of this sale would be identical to the original transaction that we described earlier – i.e. the objective would be to bring down the long-term cost of financing RAB additions once investment has been completed. For this to work, the regulator and/or government would need to adjust customers' obligations to RABco using the mechanism that it used to give RABco's lenders certainty at the time of the original Networkco-RABco transaction. They would also need to make a back-to-back adjustment to Networkco's new price control in recognition of the transfer that had taken place.

A final thought is that this transfer process could also be used by third-party 'projects businesses' in circumstances where a regulator is looking to make new investments contestable. It is common practice anyway in the PFI/PPP market to see contractors refinance themselves once construction work is completed and the risk of over-spending against budget has passed. The refinancing by RABco of third-party investments in the utility sector could be characterised as an ultra-efficient version of this process, potentially pushing post-construction financing costs to much lower levels than would otherwise be achievable.

We put forward each of these ideas as options rather than a core part of our proposal. Even if the transaction between Networkco and RABco was a genuine one-off, there should be more than enough benefit to customers to justify the effort and expense that all parties will have incurred when setting up the structure. Our further suggestions are not meant to detract from this benefit and we present them only as possible ideas to be used or discarded as necessary.

#### *Relevance to the railway*

Although not developed with the railway in mind, the structure that we have just outlined looks to us to be especially applicable to the situation that the sector would find itself in if responsibility for maintaining, renewing and enhancing the railway were to pass from Network Rail to new companies. Specifically, we would suggest that:

- Network Rail's existing debts could be left in a RABco type structure, where they would continue to benefit from the FIM;
- the successor companies would be endowed with only that portion of the Network Rail RAB that is not currently backed by debt, they would finance themselves on a normal commercial basis, and they would collect a commercial return on the RAB; and



- any RAB growth and associated debts that the new companies accumulate over a five-year period would transfer at the end of that period to RABco to be refinanced with the benefit of the FIM.

We would argue that this strikes the optimal trade-off between genuine risk transfer and minimisation of financing costs. In particular, Network Rail's successors would suffer none of the adverse impact that the FIM has had on incentives, yet the medium-to-long term cost of paying for RAB additions would be no higher than it is today. The only change relative to the status quo is that the company maintaining, renewing and enhancing the network would need to hold at-risk capital during construction work so as to cover cost overruns and performance penalties.

As stated in the main body of the paper, and for the avoidance of doubt, such a structure does not require a change in the ownership of the network (i.e. RABco is not the network owner). As such, this model is suitable for any of the four candidate industry structures that L.E.K. are currently assessing on the Value for Money Study Team's behalf.