



Europe Economics



Financial Policy Issues at PR18: Advice to the ORR

Final report

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Europe Economics
Chancery House
53-64 Chancery Lane
London WC2A 1QU

Tel: (+44) (0) 20 7831 4717
Fax: (+44) (0) 20 7831 4515

www.europe-economics.com

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1 Advice on Financial Policy Issues

1.1 Introduction

This is Europe Economics' report to ORR on advice regarding financial policy issues in relation to the consultation on the financial framework for PR18.

Each section covers one of the following topics:

- Asset disposals.
- 'Cross-border' enhancements.
- Rebate policy.

1.2 Asset Disposals

Situation to date

The ORR adopts a single till / building block approach to the financial regulation of Network Rail. ORR's current policy on Network Rail asset disposals is as follows:

- To treat sale proceeds (net of sale costs, such as bringing property to market) as single till income, with Network Rail "incentivised to outperform ORR's forecast as it retains the benefit of additional income".¹
- Disposals are not deducted from the RAB, and neither is an adjustment made to the other single till income (OSTI) forecasts in the following control period.
- Sale proceeds to date, therefore, have been treated as additional 'windfall' income for Network Rail with no corresponding deductions elsewhere.

The rationale behind this approach is that sale proceeds are dwarfed by the size of the RAB and overall revenue requirement at each control period — these were approximately £93 billion and £55 billion respectively for the current control period (CP5).²

Background to the issue

As a result of the Hendy Review (November 2015) on re-planning Network Rail's Investment Programme, Network Rail is planning asset disposals which should amount to approximately £1.8 billion. ORR's understanding is that Network Rail will allocate these funds to ongoing enhancement projects.

The Hendy Review was commissioned in the context of overspending on Network Rail enhancement projects and the need for re-budgeting and additional financing. The asset disposals were recommended as a key means of addressing the funding shortfall and options include:

¹ ORR Financial Framework Consultation Paper 2017

² The RAB and revenue requirement amounts are the sum of amounts for Great Britain, England and Wales, and Scotland. See PR13 Final Determination Chapter 14 'Revenue Requirement'.

- the sale of property assets (including retail units in managed stations and the commercial estate);
- spare capacity on the telecoms network; and
- non-core rail assets such as depots.³

Given the value and nature of these disposals ORR is considering its policy on asset disposals, both those that are made in the normal course of business, and those arising from the Hendy Review. The specific questions this report addresses are:

- What are the policies of other economic regulators on the treatment of asset disposal proceeds?
- Should asset disposals be deducted from the RAB?
- If ORR decides to deduct the value of the disposal from the RAB, how should we value it, e.g. at the value of the cash received?
- Are there likely to be any effects of the way we value/treat a disposal on the disposal proceeds?

1.2.1 Policies of other regulators

We have reviewed the treatment of asset disposals by a number of UK regulators, namely Ofwat, WICS, Ofgem, the CAA and Ofcom. Of these, only the CAA and ORR adopt a single till approach, whereby the costs and revenues from the regulated and unregulated businesses are treated together and where projected revenues from the unregulated business are used to reduce the revenue requirement to be funded through the regulated business. For the other regulators, costs and revenues are allocated separately to the regulated and non-regulated businesses, although in some cases (e.g. with Ofwat) there is some sharing of profits and risks between regulated and unregulated parts of the business.

Ofgem

The RAV (regulatory asset value) methodology deducts operational asset disposals from the RAV (where disposals are allowed).⁴

- Deductions are valued at the net cash proceeds of sale (or market value in the case of intra-group transfers). Adjustments are made for the costs of disposing of the assets, for example demolition costs.⁵
- For the RIIO-T1 period Ofgem did not include a forecast for asset disposals – Ofgem will deduct the proceeds of any disposals as part of the RIIO-T2 review (on an NPV neutral basis).
- For some companies, Ofgem’s approval is required before they can dispose of assets (i.e. core assets critical to the operation of the network).

³ The Hendy Review noted the uncertainties involved here: “Network Rail will work with DfT to assess the overall value for money of asset sales. More detailed plans are being developed for each asset disposal. There is some uncertainty over the timing of each transaction. There is also further work to do on the accounting treatment and its impact on the Government’s accounts.” Hendy Review (2015) <http://www.networkrailmediacentre.co.uk/resources/hendy-report-on-replanning-network-rail-s-investment-programme-november-2015>

⁴ Ofgem (2012), RIIO-T1: Final Proposals for National Grid Electricity Transmission and National Grid Gas.

⁵ Ofgem (2016), RIIO-GD1 Annual Report 2014-15

Ofwat

Asset disposals are deducted from the RCV.⁶

- Disposals of assets are written off using gross replacement cost and accumulated depreciation.
- Redundant assets are valued at their recoverable amount.

Although Ofwat adopts a dual till approach, it has considered mechanisms for profit and risk sharing arrangements between regulated and unregulated services, in a kind of hybrid dual/single till approach for cases where unregulated services use assets acquired for the purpose of providing regulated services, the costs of which have been recovered through regulated revenues.

An example is given where unregulated activities make use of protected land⁷ that is owned by the regulated business. In the case of such land disposals, which includes the disposal of any interest in or right over that land, companies are required to get the best possible price for any protected land. Half of the proceeds are returned to customers by removing half of the net proceeds from the RCV, so that customers share in the commercial benefit of the disposals.

This sharing mechanism can also be used if land is used for unregulated activities to the extent that an interest or right over the land is created. "In this case, the value of any rental received as a result of the unregulated activity making use of land is taken into account when determining the amount that should be shared with customers."⁸

Water Industry Commission for Scotland

Asset disposals are deducted from the RCV as these are no longer benefitting customers.⁹

- Deductions are made at the net book value (i.e. the value of the asset less depreciation).

CAA

Proceeds from asset disposals are deducted from the RAB.¹⁰ We have not been able to find details of how asset disposals are valued (for example, there are no details in Heathrow Airport's regulatory accounting guidelines).

Ofcom

Ofcom has introduced a new "asset disposal" approach which states that BT should be able to dispose of its assets by removing them from the network and selling them on the secondary market, thus recovering some costs. However, this policy (and the resultant debate with BT¹¹) is much more concerned with the extent to which BT could recover the costs of assets currently

⁶ Ofwat Regulatory Accounting Guidelines 1.04

⁷ Protected land is land which was owned by or transferred to the company at privatisation, or which has been held by the company since privatisation for the purposes of providing regulated activities.

⁸ Ofwat, The treatment of regulated and unregulated business in setting price controls for monopoly water and sewerage services in England and Wales – a discussion paper.

⁹ Water Industry Commission for Scotland, "Our work in regulating the Scottish water industry: The calculation of prices".

¹⁰ CAA (2013), Economic regulation at Heathrow from April 2014: final proposals

¹¹ For example, BT claim such asset disposal is impossible in the case of duct (which is not separable) and impractical in the case of fibre, where individual fibres within a cable cannot be separated nor can they be removed.

deployed as volumes fall through disposing of assets – and the difficulties in doing so – than with whether / how the assets would be deducted from the RAB.¹² The premise of the approach, however, is that asset disposals would be deducted from the RAB.¹³

1.2.2 Should asset disposals be deducted from the RAB?

The key role of the RAB in price setting is to reflect the value of the physical assets used to provide a service to customers. Under a building-block approach, customers typically fund capital expenditure that has been added to the RAB through a depreciation charge (to pay back the capital cost) and a return allowance (to pay back the costs of raising finance), both of which are included in the revenue requirement.¹⁴ In the case of Network Rail there are no shareholders and all capital expenditure is debt funded; therefore only interest costs on the debt are recovered through the allowed return.

As Network Rail is regulated under a single till approach, at each price review a forecast level of OSTI for each year is deducted from the gross revenue requirement to calculate the net revenue requirement to be recovered through a mixture of infrastructure access charges on operators and network grants (which are in lieu of some fixed track access charges and are paid by DfT and Transport Scotland).

If assets included in the RAB are no longer used to provide services to customers, then customers should be compensated in some way, either through:

- no longer having to fund the assets via the depreciation and return allowance on the RAB (i.e. removing the asset from the RAB); or
- via a reduction in revenue requirement (i.e. by including some sale proceeds as OSTI and netting these off the revenue requirement).¹⁵

Comparisons between revenue reduction or removal from the RAB

Revenue reduction (whether on an *ex ante* basis at price reviews based on anticipated disposals, or on an *ex post* basis based on actual disposals) could lead to large fluctuations in charges over coming years given the scale of anticipated Hendy disposals (which equate to roughly three percent of the total revenue requirement for Great Britain, England and Wales, and Scotland for CP5).¹⁶

¹² BT's response to Ofcom's consultation document: "Business Connectivity Market Review: Leased lines charge controls and dark fibre pricing"

¹³ Ofcom (2015) Business Connectivity Market Review – Annexes: Leased lines charge controls and dark fibre pricing", Annex 6

¹⁴ There is no depreciation charge in the building blocks for Network Rail. An 'amortisation allowance' is added to the RAB and recovered through the revenue requirement to represent the expenditure necessary to maintain the existing network. Enhancement expenditure is assumed not to depreciate as enhancement assets have a very long asset life (e.g. railway bridges). See PR13 Final Determination.

¹⁵ For example this could be done at the next price review using a claw-back mechanism to account for the asset sale proceeds.

¹⁶ Depending on how the asset disposals are allocated across the nations, their proportion of revenue requirement could be much more significant. E.g. the revenue requirement for Scotland was only £2.9 billion for CP5.

Revenue reductions also remove Network Rail's ability to use asset disposals to raise capital, since cash proceeds simply lead to equivalent cash reduction from charge revenue in the same time period. Network Rail would then only be able to raise capital through disposals by going beyond Hendy's recommendations in the next price control period so that it outperformed the new forecast.

Under certain assumptions (e.g. WACC = true Network Rail cost of capital, and sales proceeds = the amount taken off the RAB), the choice between the two options would be NPV-neutral. However, they would have very different implications for the time profile of cashflows — as said the revenue reduction would lead to a large one-off offsetting reduction in charge revenue, whereas removal from the RAB would lead to a smaller but ongoing reduction in charge revenue. The RAB option would therefore allow Network Rail to use disposals to raise capital, while making sure that consumers benefit from the disposal over the longer-term.

In the case of Network Rail, as customers do not fund capital expenditure through a depreciation charge, they would be compensated through a reduction in the return allowance (interest costs), and we assume that the amortisation allowance in the next control period would not include any allowance for the assets which have been removed.

In some cases under the single till approach, regulated companies are allowed to retain increases in OSTI to incentivise them to provide non-regulated services. For example, Heathrow Airport is able to keep revenue from single till income (e.g. retail) if it is above forecasts to incentivise it to manage its non-regulated business well. However, in the following control period the single till forecast may be adjusted upwards to take into account the increased revenue streams from the non-regulated activities (and the overall revenue requirement would reduce accordingly).

The current policy regarding Network Rail's asset disposals allows it to retain the proceeds from asset disposals with no off-setting compensation via the RAB or revenue requirement. Such proceeds are thus treated as a windfall income or 'reward'. However, there are a number of reasons why this may not be appropriate, both with regard to current asset disposals and those arising from the Hendy Review:

- If the assets are not deducted from the RAB (or via a reduction in revenue requirement), customers continue to pay an interest charge on assets which are no longer providing a service.
- This policy could create perverse incentives for Network Rail to sell and then buy assets unnecessarily, thus inflating the RAB and earning excess interest costs.
- The above points are particularly important in the context of simulating a 'legitimate' RAB-based approach to regulating Network Rail, particularly in the event that a full WACC approach is adopted, whereby Network Rail would earn a full return representing both interest costs and a return on equity based on the value of the RAB. It is therefore important to ensure the RAB is the correct size.
- In the case of disposals arising from the Hendy Review, the above points are intensified by the value of the proposed disposals — £1.8 billion being a much larger sum than any previous disposals.

- Further, any 'reward' that Network Rail may have earned on past disposals i.e. as an incentive to manage its property portfolios well, is less appropriate in this context as the sales have been externally mandated as part of a re-financing exercise.

Finally, by way of precedent, ORR's policy in relation to renewals and enhancement underspend deducts any savings from a reduction in work volumes from the RAB if considered to be inefficient, to reflect the fact that the RAB has not been built up by additional assets.¹⁷ A similar concept is involved with disposing of assets that are in the RAB and thus a similar policy would be consistent.

1.2.3 If ORR decides to deduct the value of the disposal from the RAB, how should we value it, e.g. at the value of the cash received?

There are a number of options for valuing the proceeds of asset disposals for deducting from the RAB, namely:

- cash sale price,
- an independent valuation of the market price,
- the residual book value of the asset, and
- the present value of future income generated by the asset.

In all cases we assume that only net sale proceeds would be considered, i.e. costs of demolition or of bringing property to market would be taken off the value of the asset to be deducted from the RAB.¹⁸

Cash sale price

Valuing the asset at the net cash sale price is one that is adopted by some other regulators. Under standard market conditions, the sale price should reflect the economic value of the asset. Any sale 'premium' over and above what Network Rail paid for the asset, or over the residual book value, would also be deducted from the RAB, i.e. passed fully onto customers. However, there are reasons why the cash sale price may be discounted:

- As the RAB (and thus future return stream) would be reduced by the value of the sale, if the allowed WACC (or in this case the cost of debt) is too generous, then Network Rail would have an incentive to keep the RAB as large as possible and earn excess return over and above what they would get from investing the money elsewhere and/or repaying their debt. At the extreme, Network Rail would have no incentive to sell the assets at all. As it is, being instructed by the government to sell the assets, Network Rail could settle for a discounted sales price.

¹⁷ See PR13 Final Determination: "Given the information asymmetry between Network Rail and us, it is for Network Rail to show that a reduction in work volumes is efficient and does not inappropriately affect the serviceability and sustainability of the network in the short, medium or long-term. *Where Network Rail cannot show that a reduction in volumes is efficient, any cost savings related to the deviation from the current agreed asset policies will be deemed inefficient and the related cost savings will be deducted from the RAB without Network Rail retaining 25% of the benefit.*"

¹⁸ This may mean there is no incentive on Network Rail to control the costs of demolition / bringing property to market. It's not obvious whether this is likely to be a particular problem, or whether anything can be done about this, unless a pre-specified amount is assumed for such costs based on what ORR thinks is efficient, independent of what is actually spent.

- If the allowed WACC is too low, Network Rail would face an incentive to realise the value of its assets by selling them, rather than leaving them in the RAB earning a too low return. This means it would have a strong incentive to sell off whatever assets it can — and potentially to sell them too cheaply given that the low return would depress the value of the asset to NR all the while it remains in the RAB.
- In the context of the Hendy Review, mandated asset sales may not be done efficiently if they are seen to detract from the normal course of business, for example putting effort into finding the highest bidder.
- The circumstances of the sale could also affect the price in the case of the Hendy Review —due to DfT pressure assets may have to be disposed of at a time when the price is unfavourable, and the release of a large volume of assets onto the market at once may depress the sales price (particularly if Network Rail is a significant player relative to total market size, which may depend on whether the market for the assets is regional or global). However, to the extent that Network Rail is required to submit to government pressure then it may not be appropriate to penalise it for lower sales prices in this case, particularly as the government is also the *de facto* owner.
- The absence of shareholders also means that Network Rail has less incentive to maximise profits by obtaining the highest sale price possible.

One option to overcome the potential for an inefficient sales process and information asymmetries between Network Rail and ORR would be to require transparency around the sales processes, for example minutes of board meetings and details of sale agreements. The burden of proof could be on Network Rail to demonstrate that it had achieved the highest sale price given the circumstances, and to give explanations for where discounted prices were accepted. The purpose of this would largely be to withstand challenge by ORR or other parties, rather than for regular monitoring by ORR which would be unnecessarily burdensome.

One way of flagging whether the sales process requires investigation would be to develop a benchmark against which to assess the sale price, such as an independent market price. We discuss this below.

We note however that given that the aim of disposing of assets in relation to the Hendy Review is to raise money to fill a funding shortfall, there will be some incentive on Network Rail to raise as much cash as possible, particularly if it has a limit on any additional borrowing from government above that agreed through the Hendy Review process; or if the government has stipulated a certain amount of cash to be raised through the asset sales.

An independent valuation of the market price

Asset disposals could also be valued at an independent market price if it was felt that the cash sales price did not reflect standard market conditions (i.e. for the reasons outlined above). For example, Ofgem uses the concept of a market price to value asset transfers within a group. The use of an 'impartial' price is attractive but not without issues:

- There may not be a straightforward method to assess the market price. One option could be to benchmark the price against similar transactions undertaken in the past. However, suitable benchmarks may not be readily available. In the context of the Hendy Review in particular, we

understand that the disposals will consist of some unique assets, and that some assets will be sold in a bundled format, which will make it difficult to assess a market price using a benchmarked approach.

- Independent expert valuation would be another possibility. This however may in reality revert to using historic / similar transactions as a benchmark.
- Further, many of the disposals in the context of the Hendy Review relate to property, including retail units in managed stations and the commercial estate. We understand that the DfT considers it more appropriate to dispose of these assets on a long-term lease basis rather than an outright sale, which may further complicate the assessment of an objective market price.

Residual book value

The residual book value of an asset in the RAB is based on the asset value less depreciation, and represents the value of the remaining life of the asset. The type of depreciation used would affect the value of the disposed asset. Briefly, there are three concepts of depreciation:

- Economic depreciation: reflects the fall in economic value of an asset over time, based on a reduction in expected future earnings from the asset between now and the end of its lifetime.
- Accounting depreciation: reflects the fall in book value of an asset for accounting purposes.
- Regulatory depreciation: depreciation of the asset for regulatory purposes i.e. for the purpose of calculating price limits.

Ideally, accounting and regulatory depreciation should reflect economic depreciation. In practice however, economic depreciation can be difficult to calculate as it depends on the projected usage of the asset over its lifetime, and can be circular if used for setting prices (as the future earnings of an asset depend on the prices set). Therefore, the simpler concept of linear depreciation is often used in regulatory contexts, whereby depreciation in each period is calculated as the residual asset value divided by the number of years of remaining asset life. Asset life may be based on physical asset life, or may simply be an assumption for regulatory purposes.

The impact of this is that valuing an asset at its residual book value in the RAB may not capture the efficient market price that could be obtained at its sale, particularly if the actual profile of depreciation is non-linear (i.e. is front-or back-loaded)¹⁹, or if the asset has potential uses not foreseen by the regulator. In the context of the regulation of Network Rail this is further complicated by the fact that:

- Operational assets are not depreciated in the standard way, and instead the building blocks include an amortisation allowance to fund the replacement and renewal of these assets — this is added to the RAB each control period. The amortisation assumptions are based on the long-run (over 35 years in CP5) efficient average cost of renewals, and are not directly linked to the RAB balance.
- Enhancement assets are not depreciated in the RAB, as they are considered to have very long lives (e.g. railway lines).²⁰

¹⁹ Although in some cases depreciation used for regulatory purposes can be profiled non-linearly.

²⁰ See PR18 Consultation on the Financial Framework, chapter 4.

The use of the residual book value may encourage the sale of assets when the economic value is greater than the book value (as Network Rail would then be able to keep the additional cash over and above what would be deducted from the RAB), for example because:

- The market prices for assets are high. This would potentially be a good incentive, since the assets would transfer to the more valuable use.
- Because of differences between regulatory and economic depreciation. This would potentially be a bad incentive, since sales would be driven by the shortcomings of regulatory depreciation rules.

It is worth noting that the residual book value reflects the values that have been built into price control calculations (e.g. of depreciation and return), and so could be seen as reflective of what customers are entitled to when an asset is sold.

Present Value of future earnings from the asset

Given the difficulties in assessing a valid market price, a possible option for a benchmark against which to sense-check the cash sales price obtained could be a proxy residual value based on the net present value of the future streams of rental income from the properties (assuming that the assets in question are property assets, likely to be sold on a long-term lease basis). This would provide a value for the assets based on the remainder of their useful lives — an approximation of economic value in fact.

The issues with this approach include the potentially subjective nature of the assessment of the projected usage and rental income. There is also the question of what discount rate should be used — should it be a commercial rate (to reflect the potential value of the asset to the buyer) or Network Rail's allowed cost of capital? Nevertheless, it could provide an estimate of the value of the assets which ought to be at least recovered through the disposal process. This could provide a price threshold below which ORR could interrogate the sales process.

1.2.4 Are there likely to be any effects of the way we value/treat a disposal on the disposal proceeds?

The above section has addressed the potential impacts of different forms of valuing disposals. In summary:

- Valuing disposals at the net cash sale price could result in discounted proceeds given potential incentives to maintain a RAB that is as large as possible, or general poor management leading to inefficient sale proceeds.
- The conditions of sale could also result in discounted prices, for example if the sale needed to be made when the price is unfavourable (due to DfT pressure to divest the assets).
- On the other hand, an incentive to raise as much cash as possible from the disposals (in the context of the Hendy Review and Network Rail's borrowing limits) could mitigate some of the above risks. Further, the potential 'fire-sale' nature of the divestment could be considered a risk beyond Network Rail's control if it is required to submit to government mandate.

- Given the unique nature of some of the assets, the grouping of assets for sale and the preference to divest property assets by way of long-term lease rather than outright sale make assessing an 'objective' independent market price difficult.
- Using the residual book value could be difficult given the treatment of depreciation in the context of Network Rail regulation. This valuation approach may incentivise Network Rail to obtain as high a sales price as possible as any premium over and above the residual book value would be retained and not deducted from the RAB. This would be a good incentive if the economic value is greater than the residual book value because market prices are high; it would not be the case if the difference was driven by regulatory accounting differences.
- An alternative option could be to consider a form of residual value by estimating the present value of future streams of (rental) income from the assets, and to use this as a benchmark against which to sense-check the sales price obtained.
- This benchmark could be used as a threshold, below which ORR could investigate the sales processes in more detail. To this end, some transparency requirements could be in place on Network Rail to demonstrate that all efforts were made to achieve an efficient sale price (e.g. board meeting minutes, sale processes etc).

Mechanisms for adjusting the RAB

For completeness, we suggest some possibilities for the regulatory mechanism for making the RAB adjustments, and their impacts on incentives.

- *Ex ante* adjustment at the price review based on forecasts. The first mechanism would take place at the next price review, whereby the asset disposal proceeds would be forecast and taken off the RAB *ex ante* in the financial modelling. At the following price review the RAB could be adjusted in line with what the actual disposal proceeds have been. This would allow Network Rail to keep the benefits (i.e. additional return) of asset disposals greater than the forecasts (whether from finding more assets to sell or from achieving a higher sales value) for the current control period until the RAB is reset. This would give a regulatory incentive for Network Rail to maximise sales values, although this incentive would be strongest earlier in the control period i.e. at the maximum time before the RAB was reset.
- *Ex post* adjustment based on actual sales proceeds. This would involve taking the actual sales proceeds off the RAB year by year (through an adjustment term in the price control formula), or achieving the equivalent effect through a clawback mechanism applied at the next review. This would avoid the need to make forecasts, but would not provide the same regulatory incentives on Network Rail to maximise the sales price.

1.2.5 Conclusions

In our view, the current approach to asset disposals, whereby Network Rail keeps the net proceeds as single till income, should be replaced with an approach that deducts the value of the asset from the RAB. This is because:

- Customers paid for the assets in the first place and should be compensated for the fact that the assets are no longer providing them with a service.

- The current policy could create perverse incentives for Network Rail to sell and then buy assets unnecessarily, thus inflating the RAB and earning excess interest costs.
- Further, any 'reward' that Network Rail may have earned on past disposals i.e. as an incentive to manage its property portfolios well, is less appropriate in the context of the Hendy Review context as the sales have been externally mandated as part of a re-financing exercise.
- Deducting the value of the asset from the RAB would be preferable to the alternative of reducing the revenue requirement:
 - The latter may result in large fluctuations in charges given the size of the disposal amount.
 - Revenue reductions also remove Network Rail's ability to use asset disposals to raise capital, since cash proceeds simply lead to equivalent cash reduction from charge revenue in the same time period.
 - The RAB option would allow Network Rail to use disposals to raise capital, while making sure that consumers benefit from the disposal over the longer-term.

In our view, the assets should be valued at the cash sales value rather than residual book value or an independent market valuation because:

- This is the economic value of the asset.
- Customers paid for the asset, and so whatever its true value when sold should be what is taken off the RAB.²¹
- Obtaining an objective independent market valuation particularly in the case of the Hendy Review assets would be difficult given the unique nature of the assets and the likely way in which they would be disposed (i.e. in the form of long-term leases).
- The residual book value does not reflect the economic value and is complicated by the approach to asset depreciation taken by ORR.

As discussed, the cash sales approach appears to give little incentive on Network Rail to maximise the sales price. However, particularly in the case of the Hendy Review this may be overcome by the fact that the motive for the disposals is to raise cash given Network Rail's limited funding options, and even though there is no present-value benefit from selling assets if the sales value is taken off the RAB, there is still a cashflow benefit — Network Rail would get the cash in a lump sum now, while the offsetting reduction in cash from customers would be spread out to perpetuity.

ORR could also seek to ensure the sales value was being maximised by:

- Regulatory incentives stemming from the way in which the sales are deducted from the RAB.
- Requiring or checking that the sales process involves selling assets to the highest bidder through a competitive process through transparency requirements.
- Checking sales values against a bottom-up calculation of the present value of future revenues.

²¹ Given the different potential implications for the amount that is taken off the RAB under the cash sales price approach versus the residual book value approach, a key question in deciding between the two is one of who should be exposed to any difference between economic value and the regulatory residual book value — i.e. should any upside/downside be taken by firms, or passed through to customers? Our view is that customers should get the upside risk (i.e. any cash sales premium over the cost of the asset or the residual sales benefit), and that regulatory measures should be in place to minimise the downside risk.

1.3 Cross-border Enhancements

As set out in the Consultation Document, this issue arises across the border between England and Scotland because of the separate funding arrangements for England and Wales (where funds are provided by the DfT) and Scotland (where funds are provided by Transport Scotland). It relates to possible mismatches between benefits and financing/funding costs arising from enhancement work. A variant of the issue could also arise in the context of cross-route boundary capital expenditure, which is likely to become more prominent as route-level devolution progresses.

Background to the issue

This issue is highlighted by the Carstairs Journey Time Improvement project. Carstairs is the principle junction on the West Coast Main Line (WCML) north of Carlisle, and is the point at which train services from England diverge between Glasgow and Edinburgh. It is a 'notoriously tight' railway junction through which high-speed, cross-border trains are required to slow significantly.

The remodelling of the junction would increase journey times and reliability for passenger trains, as well as enabling longer freight trains to use the WCML. Further, according to Network Rail, improving the linespeeds at Carstairs will improve the business case for further linespeed improvements in this area, as it will be possible to maintain higher linespeeds over longer distances than would otherwise be the case.

Whilst there is significant interest in the enhancement work, to date a funding arrangement has not been agreed between DfT and Transport Scotland due to a mismatch in the accrual of costs and benefits, as well as different emphases in the High Level Output Specifications (HLOS) of the two governments. As the junction is based in Scotland, Transport Scotland would be responsible for the funding under normal circumstances. However, according to initial modelling conducted by Network Rail the services most likely to benefit from the improvements are long-distance services operated by DfT-funded train operating companies (TOCs).

If a TOC benefits from an enhancement, the value of the benefit might be taken into account in the terms of its franchise i.e. may result in a higher payment from the TOC to the government (or a lower subsidy from the government in the case of a subsidised route).

This example highlights a funding problem with cross-border enhancement work which could result in sub-optimal enhancement decisions being taken. ORR is interested in whether this funding issue is something which can be addressed through a regulatory solution.

The questions this report addresses are:

- Points of principle that could be relevant to funding discussions when cross-border issues might arise.
- How this issue has been dealt with by other regulators — in particular how this issue has been dealt with in cross border rail charges in mainland Europe.
- Any mechanisms (at a high level) that ORR could consider to address cross border issues (including in relation to charging as well as financing) and the advantages and disadvantages of the mechanisms including practical implementation issues given the reclassification of Network Rail.

- The potential effects of 'cross-boundary' issues being relevant in the context of route level management and regulation in CP6.

1.3.1 Points of principle

We agree with ORR's statement in the Consultation Document that, in principle, the costs and benefits associated with enhancement projects should be aligned. In other words, the costs of a project should be borne by the beneficiaries.

An issue that arises from this is how to consider the benefits in order to apportion funding costs. Taking the Carstairs example, there are a number of different kinds of benefit:

- The **commercial benefit for operators**, some of which would pass to DfT / TS through increased franchise payments from TOCs or reductions in franchise subsidies:
 - Improved linespeeds and reductions in delays and bottlenecks would reduce the journey times for services running through the junction and improve reliability. The improved journey quality could be reflected in increased ticket prices and/or higher demand for the services,²² resulting in higher revenues.
 - The work could potentially enable additional services to run, which would also increase operator revenues through increased passenger numbers (although some revenue could be diverted from existing services e.g. to reduce overcrowding, and increased variable charges would also need to be taken into account).
 - Services not directly using the junction could also benefit, for example it is thought that Scotrail would benefit from reduced reactionary delays in the Glasgow and Edinburgh areas that stem from out-of-schedule long-distance traffic.
 - Benefits may also accrue indirectly to operators through reductions in Network Rail costs, for example through lower Schedule 8 costs if unplanned engineering work is reduced as a result of the enhancements.
- **Indirect / scale effect** benefits:
 - The business case for linespeed enhancement work in other areas may strengthen once the Carstairs work has been done, as the total journey time improvement along a route could be greater than the sum of the improvements around each bottleneck. This may complicate an assessment of who the beneficiaries are, for example if the extent to which one set of enhancements enables another set is not clear.
- **Societal / wider benefits** accruing to each nation.
 - Consumer surplus for passengers (both existing and new), insofar as their willingness to pay for the services was higher than ticket prices. This would require a consideration of which passengers use the services (i.e. from which nation) and where they are travelling to and from.
 - Potential reductions in road congestion in surrounding areas.

²² For example, one of the motivations of Virgin Trains for the Carstairs work was enhancing their competitive position vis a vis airlines.

- Related carbon savings (to the extent that one nation could 'claim' such savings).
- Economic benefits such as the regeneration of areas served by the trains, or increased economic activity enabled by the improved transport infrastructure. (This would only be additional to the first-round effects if there were spillover effects, otherwise the economic benefits would simply be an outworking of the direct impact on those travelling on the train.) This point is also relevant if there is a focus by the governments on equity between the nations.

The above points show that the way benefits are considered would have an impact on the funding apportionment. For example, if governments are largely concerned with their funding budgets, then commercial benefits to TOCs could be the most important factor against which to apportion costs implying that in this case, as DfT-funded TOCs are the main beneficiaries, DfT should be the main funder.²³ If however wider benefits to the nations are considered important, then Scottish passengers might benefit most from the project if they account for the largest passenger group travelling through the junction. In our view, all types of benefit should be considered, and ORR's role could be to prompt each government to make a careful consideration of *all* benefits before reaching a funding agreement.

We note that, in general across the rail network, the current funding arrangements and building block approach do not fully uphold the 'beneficiary pays' principle. Enhancement spending is added to the RAB and the interest costs and an amortisation allowance for maintenance and renewal are reimbursed via the revenue requirement, which is split between variable and fixed access charges for operators and the network grant for governments. Access charges are based on considerations of overall track usage rather than which operators benefit from which enhancement works. Whilst the access charges and network grants broadly align funding with benefits at the national level, they do not allow for route-based alignment (i.e. an operator in one route could fund, through the general revenue requirement, enhancement work on another route from which it would not directly benefit).

That said, we recognise that the existing approach for the majority of enhancement funding may be the most appropriate given the complexity of a more cost-reflective approach. In the case of cross-border enhancement work, in the few instances where there is a mismatch between costs and benefits, it is our view that the principle of 'beneficiary pays' should be upheld.

1.3.2 How other regulators have dealt with this issue

We have investigated other examples of cross-border investment in the rail and energy sectors.

Rail

Our research has revealed little evidence of regulatory intervention in cross-border rail investment in Europe. Whilst there are a number of examples of cross-border investment, funding decisions appear to be made at the government level, with Member States agreeing funding contributions

²³ That said, Transport Scotland-funded franchises may also benefit indirectly from the work through reduced reactionary delays.

based on negotiations and/or cost-benefit studies. There are a number of points to note which may be of relevance:

- There appears to be low (private) commercial interest in regional cross-border rail investment, due to comparatively low passenger numbers and a low market share in comparison to motorised transport (stemming from complex cross-border tariff systems) and therefore comparatively low fare revenues which are not sufficient to cover the costs of the investment. Regional cross-border connections therefore need to be subsidised by an external public source.²⁴
- Financing of new rail infrastructure investment is generally a matter of national budget finance and EU co-funding.²⁵ Exemptions are links with high passenger or freight volume, for example to connect large airports, ports or hubs, for which PPP (public-private partnerships) schemes are feasible. In many member countries, the rail track charges do not cover more than the current running cost and wear and tear (5-10% of total costs).²⁶
- Even with public funding, there are barriers to cross-border investment. The existence of externalities can impede Member States' willingness to fund cross-border investment, in which the benefits can accrue to stakeholders based in other Member States. For example, the European Commission concluded that cross-border projects and bottlenecks relevant to long distance European traffic are often not sufficiently supported by the Member States, both financially and politically, but that these were expected to generate the highest European added value. EU funding via the TEN-T projects²⁷ and EU-level coordinator roles are therefore deemed necessary to provide a stronger incentive for Member States to invest in them.²⁸
- Within an EU funding and coordinating role, the apportionment of the remaining funding between Member States is done on a case-by-case basis between the governments. For example, the remaining costs on Brenner Base Tunnel between Austria and Italy (after TEN-T funding) were split 50:50.²⁹
- In some cases there is evidence this is done in light of cost-benefit studies. The European Parliament notes that measuring benefits and impacts of cross-border infrastructure investments is not straightforward, in particular identifying and quantifying wider second-round impacts and obtaining suitable transport demand forecasts.³⁰ Other reports highlight the need for a comprehensive assessment of all benefits, including second-round impacts, such that funding can be properly aligned with benefits and Member States given the proper incentives.

²⁴ Interreg (2010), Cross border public (rail) transport problems in North West Europe: Proposals for action on EU level on the basis of selected operating and project experiences.

²⁵ Public funding can take a number of forms, such as debt funding, contributions from EU funds, and concession-like schemes i.e. the joint finance of road and rail investments.

²⁶ European Parliament (2015), The Results and Efficiency of Railway Infrastructure Financing within the EU.

²⁷ TEN-T is the European Union's transport infrastructure policy to build and develop EU-wide transport links. TEN-T guidelines outline the network to be developed, define technical requirements and establish priority areas for action, and specify funding rules.

²⁸ European Parliament (2015), The Results and Efficiency of Railway Infrastructure Financing within the EU.

²⁹ TEN-T Priority Project No. 1 – the railway axis Berlin-Verona/Milan-Bologna-Naples-Messina-Palermo. See Pat Cox (2013) Annual Report of the Coordinator, Brussels, October 2013.

³⁰ European Parliament (2015), The Results and Efficiency of Railway Infrastructure Financing within the EU.

- Differences in national priorities regarding funding can further obstruct cross-border development even with external funding. As an example, the different country policies of rail funding represented high barriers to the implementation of the Channel Tunnel project and its access links to Paris, Brussels and London. The UK government followed the philosophy of full cost coverage of infrastructure investments by fares and access charges and would not provide any subsidy for the tunnel. This caused such major delays that the important access link to London was only realised about 13 years after the opening of the tunnel with a small subsidy from the UK government. France, however, was willing to grant subsidies for the tunnel and its access links from the beginning. Accordingly, access charges cover 90% of the infrastructure of the Eurotunnel compared to 60% of the UK access link and only 20% in France.³¹

Energy

The European Union Inter-Transmission System Operator Compensation (ITC) mechanism provides for compensation for the costs of hosting cross-border flows of electricity including providing cross-border access to the interconnected system.³² The ITC fund provides compensation for:

- the costs of losses incurred by national transmission systems as a result of hosting cross-border flows of electricity; and
- the costs of making infrastructure available to host cross-border flows of electricity.

The amount of losses incurred on a national transmission system are calculated by the European Network of Transmission System Operators for Electricity. The annual cross-border infrastructure compensation sum is apportioned amongst transmission system operators in proportion to transit and load factors.

The transmission system operators all contribute to the ITC fund, and as such this represents a cost sharing/recovery mechanism across the EU. Whilst not directly related to ORR's issue of cross-border funding, it nevertheless represents the principle that costs incurred by one party are recovered from other parties who benefit from the activity/service.

Ofgem: Cross-border cost allocation (CBCA) application

Ofgem decided on the application from Shannon LNG (based in Dublin) regarding the CBCA for a Project of Common Interest.³³ Shannon LNG's proposed project comprised the construction of a 26km pipeline from a proposed LNG terminal to the Irish national pipeline network. The beneficiaries of the project included the Republic of Ireland (RoI) and the United Kingdom, including Great Britain (GB) and Northern Ireland (NI).

The Agency for the Cooperation of Energy Regulators (ACER) has published a recommendation on CBCA that includes the ACER interpretation of when investment costs shall be allocated between relevant countries in respect of individual CBCA requests. This recommendation states:

- "Therefore the Agency recommends that, unless the NRAs agree otherwise, compensations are provided *only if at least one country hosting the project is deemed to have a negative net benefit.*

³¹ European Parliament (2015), The Results and Efficiency of Railway Infrastructure Financing within the EU.

³² <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2010:250:0005:0011:EN:PDF>

³³ <https://www.ofgem.gov.uk/publications-and-updates/cross-border-cost-allocation-application-submitted-shannon-lng-final-decision>

In such cases, the aim should be to compensate as much as possible the negative net benefit in the relevant countries.”

A cost benefit analysis was undertaken to determine the net benefit, including externalities, in each country. A “negative net benefit” is deemed to arise when the costs outweigh the benefits. None of the countries would have been exposed to a negative net benefit in this case.

In addition to ACER’s recommendation, Ofgem also applied the principle that consumers in the UK do not contribute financially to projects where the benefits do not justify such financial contribution. It determined that the potential benefits of the project to UK customers (both in likelihood and size) were insufficiently certain to warrant funding.

Ofgem therefore reached the decision that the cost allocation should be 100% to RoI and 0% to both GB and NI.

Again, this example reflects the principle of beneficiary pays. In this case Ofgem’s role was limited to adjudicating the funding split.

1.3.3 Mechanisms to address the cross-border issue

We consider two high-level mechanisms to address the issue of cross-border enhancement funding, based on the principle of beneficiary pays:

- Funding apportionment within the standard HLOS or Investment Framework funding approach, with the ORR acting as ‘mediator’ between governments.
- A funding and charging approach similar to the Investment Framework approach, with discrete charges levied on all beneficiaries.

Funding apportionment under current process with ORR as mediator

This mechanism would work within the current HLOS or Investment Framework funding approaches.

Under the HLOS approach, the DfT and Transport Scotland specify enhancements at the beginning of the control period and provide the funding through debt. The enhancements are added to Network Rail’s RAB, but as only interest costs are recovered via the revenue requirement the debt is never repaid. Under the Investment Framework, DfT and Transport Scotland (and other parties) can fund enhancement during a control period (again through debt), and the cost of both the enhancement and financing is recovered through a charge levied on the sponsoring government.

The mechanism would entail ORR acting as a ‘mediator’ between the two governments to establish an appropriate apportionment of funds for the cross-border enhancement work concerned. This mediator role could take a variety of forms, but essentially would ensure that all relevant benefits of the work are considered by the governments³⁴.

Societal benefits, described above, would be allocated to the governments of whichever nation stood to benefit. Commercial benefits to operators would also be allocated to the governments

³⁴ In the Carstairs example, it seems as if only commercial benefits have been considered, and even these at a very high level.

that controlled the franchises, on the assumption that these benefits would be recouped eventually by the government via the franchise arrangements.

Once a benefit apportionment had been agreed by the governments, this would be used to determine the funding to be contributed by each government either at the beginning of the control period via the HLOS process, or during the control period via the investment framework. In the latter scenario, the apportionment would also be applied to the charge levied on the sponsoring governments.

The advantages of this mechanism are:

- It retains the current approach for enhancement funding.
- The government funding would still be classified as debt (rather than expenditure), which may suit the governments' budgeting preferences.
- It allows enhancement work to be specified at the beginning of the control period as HLOS if desired, with the benefits of certainty and medium-term planning for Network Rail.
- It may be particularly useful if the enhancement work has little commercial benefit and is largely perceived to deliver societal benefits and thus ought to be funded by government.
- Ensuring that the governments undertake a benefits-apportioning exercise could improve the rigour of enhancement business cases. It could also act as a catalyst to investment decisions being taken and avoid sub-optimal outcomes resulting from a lack of agreement between governments.
- It allows ORR to let the governments agree on the funding split between themselves, after providing economic guidance on the facts of the case.

Potential disadvantages could be:

- If specified at the HLOS level, the time required for the apportioning exercise may cause timing problems; also the HLOS may be (as the name implies) too high level to enable a detailed assessment of costs and benefits at the beginning of the price review.
- This mechanism does not fully extend the principle of beneficiary pays to the financing of the debt or the amortisation charge. Efficient expenditure paid for out of the HLOS funds would be included in the RAB and the interest cost, as well as the amortisation allowance for all assets in the RAB, included in the revenue requirement. This is allocated between the operators' access charges and the governments' network grants on a size/usage basis rather than on the basis of who benefits from the enhancement work. (If the amortisation allowance and interest costs were fully apportioned between the governments via the network grant on the same basis as the debt, then the beneficiary pays principle would be upheld.)
- There remain further issues with all HLOS expenditure (e.g. a build-up of debt on Network Rail's balance sheet) which, although not unique to this issue, would remain under this mechanism.
- The mechanism still relies on governments reaching an agreement on the funding split.

Investment charges for all beneficiaries

This mechanism could be similar to the existing Investment Framework, whereby enhancements are debt funded and added to the RAB, but the cost of the enhancement and financing costs are recovered through a charge levied on the sponsor. In this case, the 'sponsors' would be identified

as the beneficiaries, e.g. society (whereby the governments would pay) or operators (provided there was a commercial case). In determining the charges to be levied on operators or governments, ORR would consider the benefits accruing to each. The question of who provides the upfront debt is arguably less material here as it would be fully repaid through the enhancement charge.

As the charges would include both the costs of the enhancements and the financing, a mechanism would be needed to spread these costs over time. A RAB-based approach could be taken, whereby the governments and operators pay for the assets over their lifetime through an depreciation-type allowance and a return. The annual charge combining the depreciation and return could be included in the revenue requirement for operators (i.e. via the Fixed Track Access Charge – FTAC) and governments (i.e. via the network grant).

The advantages of this approach are:

- There would be a clear articulation of the beneficiaries of the enhancement work, including operators and governments.
- This would include a consideration of benefits to train operators. Although the FTAC would eventually be recouped from the DFT or Transport Scotland and may not represent a notable difference to the first option in practice, there would be the advantage of transparency over how benefits from the enhancement work accrue and how the money is spent.
- Although governments would provide the debt funding at the beginning of the work, it would be repaid over time via the charges and thus would not remain on Network Rail's balance sheet. (Although this is a wider benefit of all Investment Framework expenditure).

Potential disadvantages include:

- This mechanism could become complicated if a separate 'RAB' was in place to calculate the repayment and financing charges for every cross-border enhancement.
- We would also need to consider the maintenance and renewal of the sponsored expenditure. If the enhancements were included in the RAB and the amortisation charge levied across all operators via the revenue requirement, this would contradict the principle of beneficiary pays. However, calculating and apportioning a separate amortisation charge for each enhancement (especially over the life of each asset) could become complicated and burdensome.
- Charging the operators via the FTAC would translate into increased operational expenditure for the governments (as franchise funding is classified as opex whilst the network grant is classified as capex). This may not fit with their budgeting preferences and may result in funding issues which could delay enhancements. Similarly, government funding via the network grants would no longer be classified as government debt, which could also impact government budgeting.
- The charge on operators via the FTAC could cause financiability concerns for them if this was substantial, depending on the funding arrangements with the governments.
- Apportioning the charges to government and operators would not be straightforward (the same applies in part to the first option). The extent to which operators would be able to raise fares would need to be considered, as any restrictions (e.g. due to franchise agreements) may limit the commercial benefits.

- To the extent that cross-border funding issues became more prevalent, an increasing volume of enhancement work funded via this Investment Framework approach rather than via the HLOS could exacerbate the issues of government budgeting (in that funds invested through this mechanism would represent a switch from government debt to grant funding and access charges) and regulatory burden.

The main difference between the two mechanisms is the extent of ORR's involvement and the transparency of funding flows. The first mechanism relies on existing processes and entails a more simplistic funding mechanism. Depending on the exact implementation of this option, it may allow ORR to retain a fairly distant role in the cross-border funding decisions (e.g. by setting principles for the apportioning of funds with reference to the full range of benefits, whilst leaving the governments to agree on the actual funding split). The second mechanism could entail potentially complicated regulatory involvement both in terms of calculating the charges for each beneficiary, and in terms of managing the payments through the revenue requirement. It may also be resisted by governments as it has potentially significant budgeting implications. To the extent that operator benefits and costs are absorbed by the governments anyway, the first approach, whilst not as transparent as the second, may nevertheless be fit for purpose and simpler.

1.3.4 Implications for route-level cross-boundary issues

Similar cross-boundary issues relating to the apportionment of costs and benefits of enhancement work may arise in the context of route-level management and regulation. Cross-border issues would largely apply where routes have branches that extend across route boundaries (many routes are self-contained within their borders).

For example:

- Further devolution of funding between England and Wales could raise issues if enhancement work in one nation benefits operators (and/or passengers) in the other.
- Even within one nation (such that government funding is not an issue), the devolution of routes, with their own budgets and scorecards, may give rise to problems if enhancement work in one route resulted in significant disruption and delays in an adjacent route (e.g. through blockades, diversions, speed restrictions etc.), which could negatively impact on costs, scorecards and reputational incentives.³⁵

With respect to the first point, future cross-border funding issues between England and Wales could be addressed through the same mechanism as selected to deal with cross-border issues between England and Scotland. We would assume that some materiality consideration would be applied, so that only significant investments were covered by the mechanism.

The second point captures interactions that would occur at the company level within Network Rail. Presumably, enhancement work within one route would be specified in the HLOS or via the

³⁵ Scorecards are a way in which Network Rail routes agree priorities with train operators. The publication of scorecards report routes' relative performance in a range of areas, allowing government and devolved funders, operators and users to understand better the performance of routes and hold route managers to account.

Investment Framework, and it would be Network Rail's responsibility to deliver it. There would not be the same risk of sub-optimal investment present when funders disagree on the funding of enhancement work.

It would therefore be for Network Rail managers to manage the costs and disruption across routes and to facilitate some sort of compensation system in recognition of the disruption that engineering works in one route had on another (e.g. similar to how routes pay compensation to affected operators under Schedule 4 and 8). Affected routes would have an incentive to manage this process as effectively as possible to minimise disruption and impacts on their scorecards (for example, requiring advance planning notice and contributing to the planning of disruptions), and to ensure that the compensation they received reflected the disruption costs.³⁶

Route-level performance assessments could take into account impacts of adjacent enhancement work, for example through some sort of scorecard narrative. Care would need to be taken, however, to ensure that such disruption is not simply written off as being beyond that route's control. There may be a variety of ways that routes can manage overall disruption, for example by using compensation payments for disruption caused by an adjacent route to reduce the disruption caused by their own enhancement work (e.g. by adopting a more expensive but less disruptive possession plan).

ORR's role in this situation could be to provide principles clarifying their treatment of cross-boundary disruption issues in performance assessments, and leave Network Rail to manage the inter-route organisation of enhancement work.

1.4 Rebate Policy

Network Rail is classified as a 'not for dividend' company, limited by guarantee, and ORR's building block approach currently provides for a revenue requirement just sufficient to cover operating expenditure, renewals expenditure and interest costs on borrowing. Network Rail could have surplus funds if:

- Network Rail financially outperforms, e.g. achieves significant expenditure efficiencies.
- ORR adopts a cost of capital approach that includes a notional equity component.

ORR's current outperformance and rebates policies

In CP4 there was growing concern within ORR about the rebates Network Rail was paying to government:

- Network Rail could judge itself whether it had financially outperformed, i.e. whether it had funds in excess of those needed to deliver regulatory outputs, with no inputting assessment by ORR.
- ORR had not properly defined outperformance for the purpose of calculating rebates. Network Rail was calculating its own rebates and ORR had little control over this.

³⁶ Indeed, this may even place another layer of accountability on route-level engineering works.

- ORR thought it increasingly questionable that Network Rail had in fact financially outperformed its determination, and felt rather that it had not delivered on all its duties. ORR also had concerns about Network Rail's financial sustainability.
- The payment of rebates raised questions about the relationship between Network Rail and governments, particularly after reclassification and the limiting of Network Rail's borrowing to government debt i.e. questions about whether Network Rail was more accountable to governments or to its customers.³⁷

Therefore in CP5 ORR's new policies were:

Amounts arising from financial outperformance by Network Rail could only be used to:

- pay down debt,
- fund research and development projects (under the strategic R&D fund mentioned above, up to £50 million in CP5) or
- fund other investments that would reduce the future costs of or improve the outputs of the railway in a way that provided value for money i.e. the project has a positive net present value using Network Rail's cost of capital.

Rebate payments could be made, but:

- only in exceptional circumstances, with applications by Network Rail to ORR explaining whether:
 - surpluses are attributable to cost timing issues that might reverse;
 - and the availability of the surplus has been established under ORR's financial performance monitoring guidelines; and
- that any payment should:
 - be consistent with ORR's statutory duties, including under section 4 of the Railways Act 199334 ('the Act') with respect to funding (i.e. to consider the financial position of the governments); and
 - not create risks to the financial sustainability of Network Rail's business.

Potential changes to the cost of capital approach would provide Network Rail with significant regular surpluses, and thus ORR is seeking to update its current policy on the use of outperformance and rebate payments.

Alternative cost of capital approaches with a notional equity surplus

In its consultation paper for PR18, ORR considers a number of different cost of capital approaches. The current 'adjusted WACC approach' calculates what the return would be under the full WACC, then subtracts everything that is not needed to meet the cash cost of debt interest. The rationale for this approach at PR13 was that it reduced the 'up front' financing/funding required from governments at a time of constrained funding. It was also thought that this approach could strengthen efficiency incentives on Network Rail.

³⁷ This is one rationale for fixing the network grants and fixed access charges at the beginning of the control period, to maintain distance from the governments and and provide transparency.

Under the alternative approaches, an additional revenue reserve would be provided by subtracting less from the full return amount. Under the full WACC/rebate option, the entire difference between the full WACC and the cost of debt would be provided to Network Rail as an 'equity surplus' to absorb cost shocks, pay down debt, or rebate to DfT/Transport Scotland.

The questions that this report addresses are:

- Comments on the full WACC/rebate approach, including whether this approach helps facilitate third party funding/financing opportunities.
- How suitable are the current use of outperformance and rebate policies in relation to surpluses possibly arising in CP6?
- What are the practical issues with making rebate payments, e.g. should there be controls in place for making rebates? How does that affect incentives? An example of this issue is that if a rebate is made for year 1 but the funds are needed in year 2 then with hindsight the rebate should not have been made in year 1.
- Questions from some quarters about why, as a public sector body, Network Rail should not be funded with reference to annual spending limits.
- What are the issues involved with making rebate payments, such as:
 - incentive effects (in light of Network Rail's aim to 'behave like a private sector business');
 - the effect on the governments of rebate payments; and
 - financial sustainability, especially if Network Rail has little borrowing headroom and considering variations in financial performance from year to year.

1.4.1 Comments on the full WACC/rebate approach

As noted by ORR, under the current approach, if Network Rail performs in line with ORR expectations, it would have neither an excess nor shortfall of its revenue with respect to costs. ORR is of the view that this approach might undermine Network Rail's ability to adapt its plans to changes in its operating circumstances or deal with cost shocks (because it provides no surplus income). For example, in PR13 ORR included £2 billion of additional amortisation allowance in the calculation of Network Rail's revenue requirement to safeguard its financial sustainability.

The rationale for the alternative WACC approaches in providing an additional revenue reserve (calculated as an 'equity surplus') is to provide Network Rail with a reserve to deal with such cost shocks (or pay down debt, or rebate) as well as to mirror more closely the funding models for other regulated network businesses who raise both equity and debt from the private sector.

Whilst not a question directly posed by the Scoping Document, we have a few observations on the proposed alternative WACC approaches which are relevant to the overall discussion on rebates and outperformance. We focus on the full WACC/rebate approach as this would result in the largest additional reserve ('equity surplus').

- If the aim of regulation is to mimic competition / set prices at a competitive level, the rate of return that should be built into prices should be the opportunity cost of capital for the activity in question (i.e. the WACC), which is determined by the systematic risk associated with the activity and is independent of the ownership/financial arrangements of the firm that carries out

the activity. The return obtained from applying the full WACC approach represents the full economic price of the services that customers currently get, and this should therefore be the 'economically correct' approach.

- This raises the question about the purpose of the government funding and the rationale for not currently including a return allowance in the revenue requirement. It could be argued that the current adjusted WACC approach is securing prices below the contestable market price. If this is intentional (i.e. socially desirable as it allows greater levels of investment within government funding constraints), and the aim is to have a *systematically* below-contestable-price system targeted at a price X, then an idea could be to have a full WACC calculated on the basis of debt and equity exposed to Network Rail's actual systemic risk, but to have a RAB that is calculated on the basis that the average return secured over time is that associated, on average, with the price X. In other words, to have a robust WACC and adjust the RAB valuation accordingly to arrive at an acceptable price level.
- In order for efficiency incentives to remain under a full WACC approach, there should be some expectation on Network Rail of paying a rebate (to mimic the effects of private shareholders demanding a return, and ensure that Network Rail does not simply absorb part of the additional revenue in inefficient spending). The effectiveness of this expectation would depend on the government's role in holding Network Rail to account over its rebate payments.
- A full WACC approach would facilitate privatisation of Network Rail if the government wanted to go down this route (in fact, it would be an essential pre-requisite of privatisation).
- The full WACC approach would require possibly closer scrutiny to the size of the RAB as an inflated RAB would have an even greater impact than using the adjusted approach (considering for example the current policy of not deducting asset disposals from the RAB).
- Network Rail cannot raise funds on the market and is limited in the finance it can raise from government, and is therefore credit constrained. In this credit constrained situation, charging a less-than-full WACC does allow more investment to be funded within available funds, which may have the result of allowing investment levels closer to optimal levels. However, by allowing a full WACC, Network Rail would then be in a position to consider raising funds on the market (providing that government / regulatory restrictions on this are removed), and then it would no longer be credit constrained.

Does the full WACC approach encourage third-party funding?

One rationale for a full WACC approach may be to help [facilitate third party funding opportunities](#), which would entail the payment of full WACC return.

A return at the current adjusted WACC will be insufficient to attract private sector investors as it is less than the full opportunity cost of capital. A pre-requisite for getting private sector investors involved (whether through privatisation of Network Rail or simply having them fund discrete projects) is paying a commercial rate of return.

Third party investment is currently enabled through the Investment Framework, in which the depreciation and return is paid by the sponsor of the investment through a charge calculated by ORR. The full WACC approach may simplify this process and avoid the need to maintain a separate RAB for the calculation of Investment Framework charges.

1.4.2 Suitability of the current policies on the use of outperformance and rebates in CP6

We consider the policies in light of Network Rail having a surplus either from outperformance, or from an 'equity surplus' stemming from an alternative WACC approach.

How rebates should be conceived

Before commenting on the policies, we consider briefly how rebates should be conceived. There are two possibilities:

- The first is that rebates are a repayment of an 'excess' (i.e. *ex post* unnecessary) subsidy that would go to the government (the subsidy payer) even if the government were not the guarantor of Network Rail (i.e. its equity claimant).³⁸
- The second is that the rebates reflect the distribution of profits to the guarantor (i.e. the equity claimant) so that the rebate might be paid to a non-government guarantor / equity claimant if the government were not the guarantor.

In our view, rebates are to be considered under the second dimension, namely as the distribution of profits to the equity claimant. The government as the guarantor takes on some risk of Network Rail, and therefore the return under the full WACC approach should be repaid to the government. If a non-government party were the guarantor or investor in Network Rail, then they would be entitled to the rebate. Indeed, one of the rationales for the full WACC approach is to encourage third-party investment, in which case part of the return generated by the full WACC approach would go to them.

Our following discussion is largely based on this premise. However, if rebates were to be considered as the repayment of an excess subsidy to the government, then the incentives may be different than if they were the distribution of profits. There would be more powerful incentives to cut costs in order to distribute profits than to cut costs in order to repay a subsidy. That said, it may still be the case that Network Rail views the rebates (particularly under the full WACC approach) as repayments of a subsidy, in which case efficiency incentives may be undermined (particularly if the governments themselves behaved more like a subsidy-provider than an equity claimant).

In relation to financial outperformance under the adjusted WACC approach

The ability to retain financial outperformance is a key efficiency incentive. Even though Network Rail does not have shareholders and is arguably not incentivised by maximising profit as much as a private company, outperformance would still have budgetary benefits. To the extent that Network Rail's surpluses arise from genuine financial outperformance, they should be allowed to keep these. The current approach to outperformance allows Network Rail to use outperformance to repay debt, invest in R&D or fund other investments, as well as make rebates to governments in line with ORR's rebates policy.

³⁸ In a company limited by guarantee, the guarantor promises to provide a certain amount of money in the event of the company being wound up — this can be considered an equity buffer, and the guarantor thus an equity claimant.

There may be a risk that specifying how Network Rail is to spend its outperformance may reduce its incentives to outperform. The surplus generated by outperformance is analogous to the profit earned by a private sector company. The management then takes a decision on whether to retain the profit as a cash reserve, to re-invest it in the business, or to pay it out in dividends (equivalent to a government rebate in this context). Network Rail's Board should have the same discretion, while being answerable to the government who will want rebates (equivalent to a private sector company being answerable to its shareholders who want dividends).

One concern of ORR is whether Network Rail has indeed outperformed its expectations, and not underspent inefficiently. However:

- Mechanisms could be put in place to assess the validity of the outperformance, with no subsequent restriction on how it is used.³⁹ Such monitoring is already the case with the rebate policy, in that rebates can be made only if "the availability of the surplus has been established under ORR's financial performance monitoring guidelines".
- In addition, ORR has stated that lack of finances is not an accepted condition for failing to deliver on regulatory duties and ORR would still hold Network Rail to account for underperformance if its rebates created financial difficulties.

ORR has additional restrictions on rebates, namely additional precautions about ensuring the nature of the surplus and the impacts on financial stability. In our view, these conditions should be placed on all surpluses (i.e. to ascertain whether they have been efficiency incurred and are not just due to timing, and whether their use would cause financial stability concerns). If the surplus meets these criteria and it is due to genuine financial outperformance, then stipulations on how a surplus is spent may not be necessary.

A potential concern here is that, although such checks would have the advantage of being done independently by ORR, they may reduce Network Rail's responsibility for its own actions. For example, if rebates result in financial sustainability problems then Network Rail could avoid responsibility by virtue of ORR having signed off the payments.

In relation to an 'equity surplus'

In the context of a full WACC approach, the rationale for allowing Network Rail to make rebate payments is arguably stronger. As the proxy owner / investor in Network Rail, the government has the right to demand a return, providing the rebates do not jeopardise the financial sustainability of Network Rail (as in the private sector one would not expect a company to pay out dividends when the cash is needed internally within the company). Further, with no expectation of a rebate payment, Network Rail's incentives for efficiency may be undermined as the additional revenue could simply absorb inefficient spending.

Even being able to make rebates freely may not result in strong efficiency incentives for Network Rail if it viewed the rebates as the repayment of an excess subsidy rather than the distribution of profits (as mentioned above). This would be a particular issue under the full WACC approach in the current situation where the government is the sole provider of funds and there are no other

³⁹ The need to ensure that outperformance is not at the expense of service delivery is an issue faced by many regulators and is not unique to Network Rail's funding / ownership situation.

shareholders. However, this is more a feature of the full WACC approach and the role of government, rather than rebates policy. As we discuss later, the behaviour of the government as an equity claimant would contribute to the strength of the efficiency incentives.

The above logic is predicated on the assumption that the government “owns” Network Rail and is therefore entitled to rebates / dividends in the same way as a private sector shareholder. However, an alternative assumption could be that Network Rail should be considered more as a co-operative / mutual society where the passengers ultimately own it (this could support the view within ORR of keeping Network Rail at an arm’s length from the government and not allowing ‘political’ interests to overshadow those of passengers). In this alternative scenario, it would still be appropriate for prices to be set on the basis of the full WACC, as this reflects the true economic price of rail activities. With no regular rebate to governments this would lead to a build-up of cash reserves, which would give the firm a buffer to deal with cost shocks etc. Once a sufficient cash buffer has been built up, any further surplus could then be rebated to customers (i.e. passengers) and not to the government. (Ideally the rebate would be done in a lump-sum way so that marginal ticket prices still reflected true economic costs, although this might be hard to achieve in practice.) However, this “customer owned” assumption may not work in a sector which is heavily subsidised by government.⁴⁰

1.4.3 Practical issues with making rebate payments in terms of controls and incentives

It is clearly desirable to prevent Network Rail from paying out rebates when this threatens the financial sustainability of the company.

One way could be to have controls embedded in the outperformance assessment. For example, excess funds in one year could only be considered as ‘outperformance’ if this took into account all expenditure plans for the control period and there was evidence of sufficient funds to cover planned expenditure in subsequent years. However, this may not cover unexpected expenditure arising from cost shocks.

An alternative way could be through a requirement relating to financial sustainability that operates alongside the rebate policy and would indirectly constrain rebates. Network Rail already has a debt to RAB limit in its licence, but ORR could require Network Rail to hold certain cash reserves to help it deal with financial shocks, either as a gearing limit (i.e. a net debt ratio) or simply as a mandated cash reserve. Any rebate payments would need to be made whilst retaining this reserve/gearing limit.

⁴⁰ As a precedent here, Welsh Water is now a not-for-profit company that acts on behalf of its customers. It has recently announced a £32 million ‘rebate’ to customers in the form of financial support for those struggling to pay bills and innovative investment. See <http://www.dwrcymru.com/en/Media-Centre/News-Summary/2016/06/Unique-not-for-profit-model-brings-32-million-boost-for-Welsh-Waters-customers.aspx>

Network Rail could be required to maintain other financial ratios (in addition to gearing) at a level that ensures financial sustainability given concerns about potential rebate amounts.⁴¹

1.4.4 Why Network Rail should not be funded with reference to annual spending limits

ORR's financial framework consultation paper sets out its reasons why a five year control period and a building block approach are appropriate for Network Rail. These include:

- Certainty of funding over the medium term.
- It facilitates bottom-up business planning.
- It could facilitate private sector funding possibilities.
- Provides for RAB-based financial performance incentives.
- It encourages financial rigour.

We agree with the key benefit of providing certainty on financing and funding arrangement over an extended period. A risk of Network Rail being funded through annual spending limits is that competing demands on the public purse may crowd out necessary investment. Network Rail is arguably better placed to take investment decisions (which include long-term projects and the need to optimise different operating, maintenance and enhancement activities) than government, who may reduce the spending limit in a year to the detriment of longer term plans. (This may be one concern with allowing Network Rail to make rebates to government, as this would demand a closer relationship between the two which may exacerbate negative incentive effects.)

1.4.5 Issues involved with making rebate payments

We consider a number of issues involved with making rebate payments, in particular incentive effects (in light of Network Rail's aim to 'behave like a private sector business'), effects on governments, and financial stability (especially if Network Rail has little borrowing headroom and considering variations in financial performance from year to year).

Incentive effects

Network Rail maintains that it has the aim of behaving like a private sector business, part of which is attracting investors and using third-party capital as well as government funding. A private sector business with shareholders would have incentives to maximise profits and pay a return to the shareholders.

As discussed previously, the governments could represent a proxy shareholder and being able to pay rebates would incentivise Network Rail to make efficiency improvements. Not being able to make rebates could undermine Network Rail's efficiency incentives as it would not be free to spend the surplus as it saw fit. The more the government acts like a private sector shareholder (in expecting rebates), the more Network Rail management will have an incentive to outperform.

⁴¹ For example, retained cash flow to capex or debt, which takes into account dividends paid. If Network Rail's debt was not government debt, then another requirement could be that it maintains an investment grade credit rating which is a requirement for a number of utilities.

An issue arises, particularly in the context of a full WACC approach and a large regular surplus, with the possibility that the governments do not act like a private sector investor and that Network Rail is not held to account over the size of its rebates. Governments may be expecting a rebate, but may not be well placed to challenge the exact size of the rebate such that some of the additional revenue could be absorbed by inefficient spending. This reflects a principal-agent problem whereby, provided the surplus was above a certain level, managers would have no incentive to make further gains because the owner is unable to observe that not all possible efficiencies have been made. Whilst it could be argued that this principle-agent problem might be more likely with governments, it is a potential feature of all private sector companies. There should be mechanisms to hold Network Rail to account regarding the size of the surplus / rebate payments. This is linked to the idea that if rebates are perceived more as the repayment of a subsidy than the distribution of profits, the incentives to maximise the rebate amount and make corresponding efficiency improvements may be lower.

That said, there may be undesirable incentive effects between Network Rail and government resulting from too close a relationship, namely that if governments are able to exert pressure on Network Rail to make rebate payments then this may erode the independence of Network Rail and lead to rebates being timed to meet political pressure (e.g. governments being cash constrained or wanting to channel funds to another cause at election time, say.)⁴² However, this would depend on the extent to which Network Rail's Board has an incentive to submit to government requests over and above company rules.

Effects on governments

Rebate payments provide governments with cash which can ease budgetary restrictions. Even though the governments provide the funding in the first place, network grant funding and rebates are classified differently for budgeting purposes. If more rebates are paid as a result of large surpluses under a full WACC approach, then there could be a significant reclassification / transfer of funds from one element of government balance sheets to another. Restrictions on Network Rail's payments on rebates could lead to up front funding difficulties for governments if they are required to contribute to a much larger revenue requirement to cover the full WACC, but are not repaid through rebates.

We understand that rebate payments may come out of Network Rail's accumulated 'Financial Value Added'. If surplus revenue were not used for rebate, it would flow into the ring-fenced fund and could be used to fund pay-as-you-go enhancements (which do not enter the RAB and incur interest charges to customers).⁴³ If more enhancements are funded through the RAB as a result of rebates being paid than would otherwise be the case, then interest costs would increase and customers would pay more to meet the revenue requirement. However, there may be reasons to discourage too many pay as you go funded enhancements as these result in lumpy cost recovery and potentially sub-optimal levels of investment. In addition, pay as you go investment does not

⁴² This is one rationale given by ORR for setting access charges and network grants at the beginning of the control period, to retain distance between Network Rail and the governments.

⁴³ This was an issue in CP4.

share the costs of the assets equally between current and future customers since the costs are not recovered over the lifetime of the asset.

Financial sustainability

Rebates can cause financial sustainability problems if they are paid during a control period in one year, and the cash is needed in another year. This issue would apply to other uses of outperformance not just rebates.

On the one hand, as an independent company Network Rail should be responsible for managing its cash flows and expenditure plans over the control period and should suffer the consequences of erroneous rebates (e.g. penalties from ORR for not fulfilling its duties). However, this could be considered a particular issue for Network Rail given its limits on government borrowing and the risk that rebate misjudgement could place it in financial difficulty.

As discussed previously, this could be addressed by having controls on the payment of rebates such as prior assessment of the nature of the surplus or cash reserve requirements to cover the event of financial shocks.