The incentive regulation of Britain's rail infrastructure

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Office of Rail Regulation

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Second economic conference of the
Autorité de régulation des activités ferroviaires (ARAF):
Incentive regulation in network industries
Paris, 26 May 2014

I would like to thank ARAF for inviting me to speak at their second economic conference. Incentive regulation in network industries is an interesting topic and I am delighted to present the incentive framework that is in place for rail in Great Britain.

Britain's Office of Rail Regulation (ORR)

I will start by saying a few words about ORR and what we do. The ORR was set up in 1994 on the privatisation of British Rail. In 2004 ORR became the combined economic and safety regulator for Britain's railways.

- More than half of ORR's activity is in safety regulation. We are the safety regulator for all parts of the industry – the national railway, the Underground and metros, trams and light railways, and heritage lines.
- We are the economic regulator for the national infrastructure – regulating outputs, access to the network and access charges for Network Rail and High Speed 1.
- We are the competition and consumer authority for the industry as a whole.

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Chart 1: Functions of the Office of Rail Regulation

As the economic regulator, our main task is to regulate the infrastructure managers' stewardship of the rail network and ensure non-discriminatory access to the network. We are responsible for determining access charges and outputs which reflect the Governments' specification and funds available.[2] Like other utility regulators we conduct periodic reviews every five years to set the revenue framework for the infrastructure manager and the outputs that it has to deliver.

We concluded our 2013 Periodic Review for Network Rail last year, and it came into force in April 2014. We have just concluded our 2014 Periodic Review for High Speed 1, with revised charges coming into force from 2015. Most of what I say in the rest of this talk refers to our regulation of Network Rail, but many aspects of the regime also apply to HS1.

[2] Two separate Periodic Reviews and price controls are undertaken for England and Wales; and for Scotland. Separate statements of outputs and funds available are made by the governments in London and Edinburgh.

Once we have set what the infrastructure manager must deliver, we monitor delivery of those outputs and can take enforcement action if delivery is at risk or falls short of what was expected. While we have wide enforcement powers to back this up, incentive regulation is at the heart of our regulatory approach.

The incentive framework

As you know, the mainline railway sector in Britain is vertically separated. Within this structure, there has always been a risk that different players would face different and potentially contradictory incentives which might pull them in different directions with wasteful consequences. The main aim of the incentive framework in Britain is to ensure that the incentives facing the different parts of the sector are coherent and aligned in the interests of the railway's customers and funders, so that they encourage efficient behaviour and better performance from the infrastructure manager and train operators.

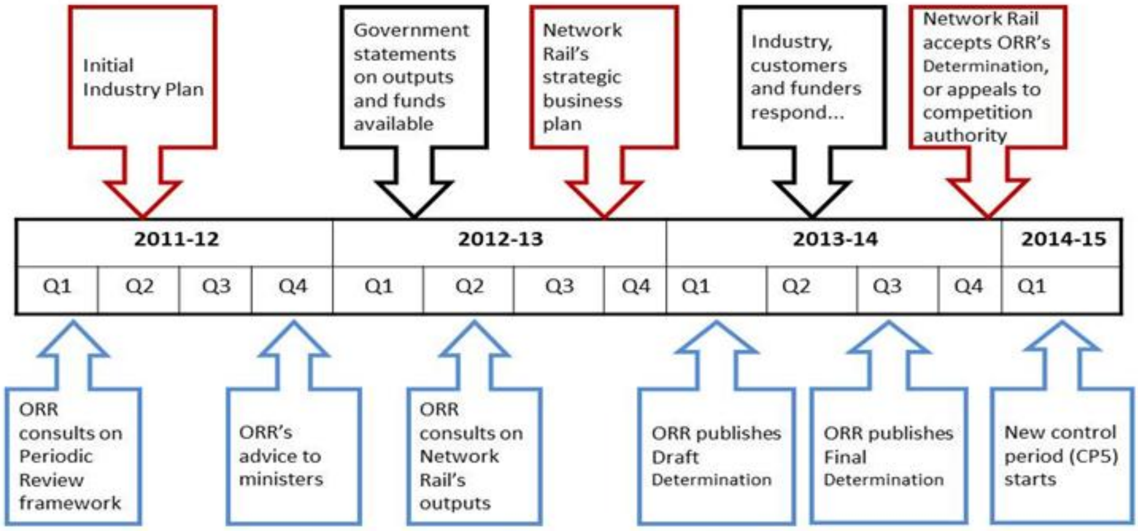
The periodic review process

The periodic review is the process through which, every five years, we determine the outputs that the infrastructure manager must deliver, the efficient cost of delivering those outputs and the income the company will receive from train operators and other funders for using the network. It also establishes the wider regulatory framework including the incentives that will act on the infrastructure manager, train operators and others in the industry to deliver and outperform the output and efficiency targets that have been set.

As economic regulator, one of our principal tasks is to determine what the infrastructure manager must achieve within the five years covered by each periodic review – known as the Control Period (because it is based on, but not limited to, a price control for access and other charges). We have just completed the process for the five years from 1 April 2014 to 31 March 2019 for Network Rail.[3]

[3] A short guide to the 2013 Periodic Review, along with the full documentation, can be found on the PR13 pages of ORR's website, www.orr.gov.uk

Chart 2: The process for the 2013 Periodic Review of Network Rail



Source: Office of Rail Regulation

As can be seen from Chart 2, it is a highly consultative and iterative process involving the industry proposing what it thinks the railway needs, government deciding on priorities and the funding it wants to make available, and the regulator running the process and making the final determination of funding and outputs. It takes around two and a half years to complete.

The process is initiated by the ORR but the first step is an industry-led one, in which the businesses set out commercial proposals and options for the development of the network. This is known as the Initial Industry Plan.

Using this plan, ORR's advice and its own analysis, government (that is, the transport ministries for the UK and Scotland) then sets out the desired outputs - High Level Output Specifications. For example, for the last periodic review, these included 92.5% reliability target (trains on time), significant enhancements to the network - capacity for 20% more passenger journeys, and extra capacity and tighter punctuality standards for freight services, and the funding available to do so.

Once the Governments have decided what they want and how much money is available, the industry led by Network Rail produces a plan setting out how it intends to deliver the required outputs.

ORR reviews this plan and determines if the High Level Output Specifications of the Governments are affordable given the public funds available and taking into account industry revenues and costs. This means that ORR works out how much money the infrastructure manager needs to deliver the outputs and how efficient it needs to be. Because Network Rail is a monopoly we look very critically at whether its plan is efficient.

Once we have done this, we formally set out the outputs and funding requirements, as well as a challenging efficiency target bearing in mind our duty not to make it unduly difficult for NR to finance its activities. For this periodic review, ORR has set a 19.5% efficiency improvement target to NR (compared to the 13% the company assumed). Network Rail has a right of appeal to the independent Competition and Markets Authority, but this is not to be used lightly as it is a double-edged sword, reopening all aspects of our determination, including those which work in the company's favour.

We make our determination, using a building block approach, summarised in Chart 3, in which we carefully analyse the costs, outputs and timescales Network Rail proposed, drawing on a wide variety of evidence and comparative data, as well as the views of its customers, to establish challenging output and efficiency targets for the business to deliver over the five-year control period.

We aim to give Network Rail a challenging outcome to replicate the challenges the business would face to perform and deliver efficiently under competition. We do this by assessing robustly the level of costs the company could achieve in each of the building blocks if it were a fully efficient business, and how fast Network Rail could be expected to converge on the efficiency frontier, while giving them a high degree of flexibility to determine how in practice they choose to deliver and organise themselves to deliver the determination. We want to avoid detailed second-guessing in areas where the company should have the expertise to make the best judgements.

The overall impact of our framework and incentives over the last two control periods has been to reduce the day-to-day costs of Britain's rail industry by 40% over the last decade, and a further 19.5% in the next five years; which closes the gap with the most efficient in Europe and as Charts 4 and 5 show, frees up funding to invest in a bigger, better and safer network. The chart in the annex summarises some other highlights of ORR's 2013 Periodic Review.

Chart 3: ORR's building block approach for establishing revenue requirements and charges

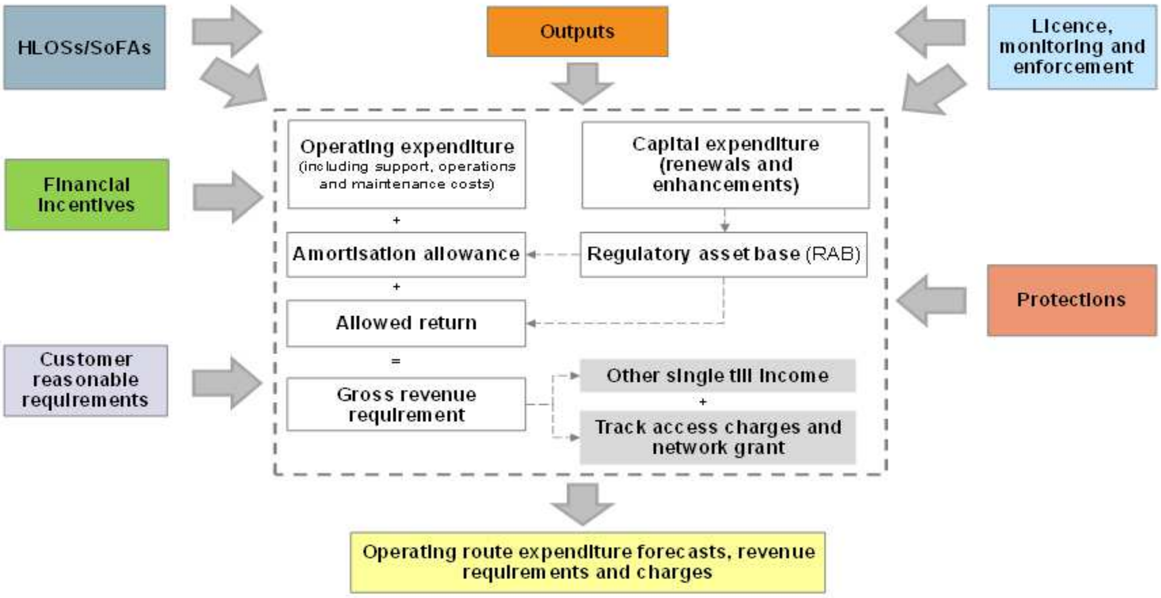
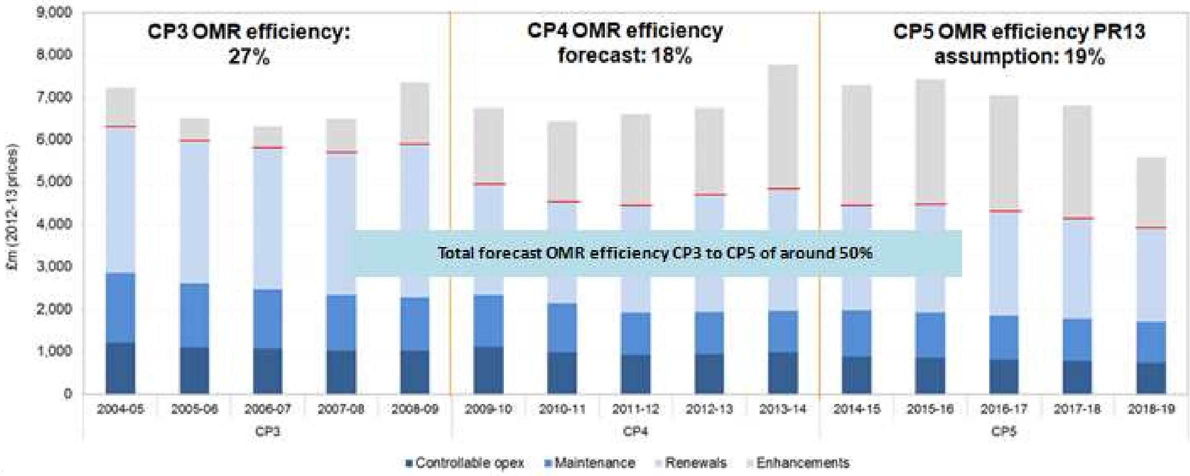
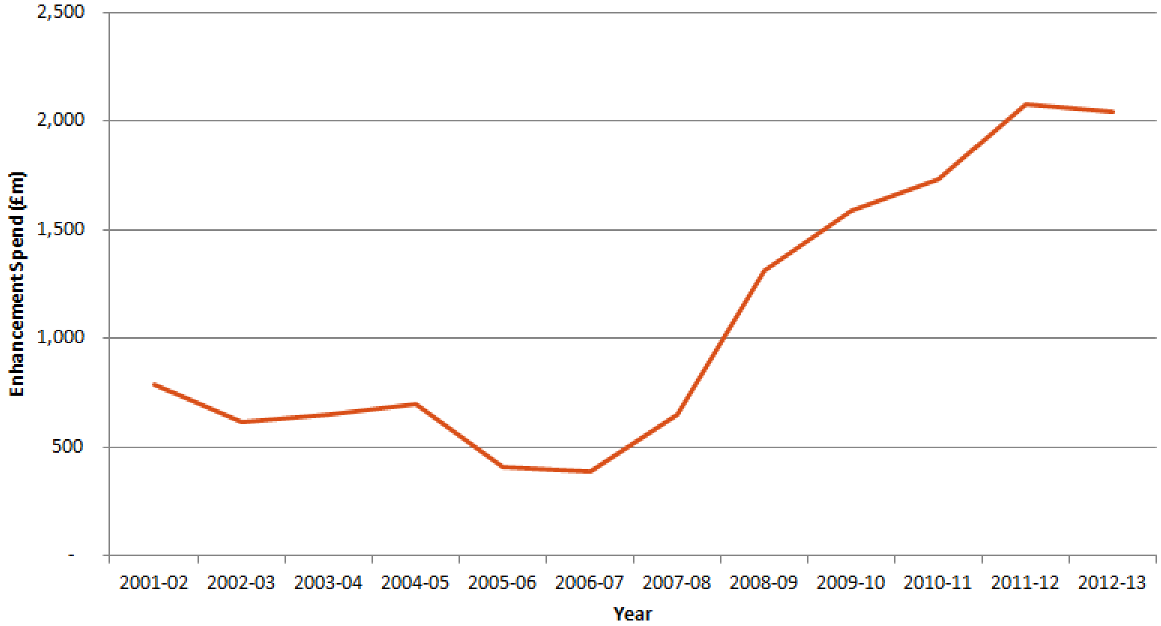


Chart 4: Network Rail operating, maintenance and renewals costs; and enhancement spending, 2004-05 to 2018-19: improved efficiency frees up funding for network growth and improvement



Source: Office of Rail Regulation

Chart 5: Network Rail capital spending on network capacity growth and improvement ('enhancement'), 2001-02 to 2012-13. £ million, nominal prices. Enhancement spending will be sustained at this higher level for the five years of CP5, to 2018-19.



Source: Office of Rail Regulation

The framework of incentives

We are constantly encouraging the industry to work together to improve productivity, reduce costs and deliver better value to customers. We are doing this by strengthening and developing incentives to align better the interests of Network Rail and its customers, the train operators, and to make Network Rail more commercially responsive to the needs of its customers.

Our system contains a **mixture of incentives**, including contractual, financial, reputational and procedural incentives. These are reviewed every five years as part of the periodic review and are described in our determination document. It's worth noting that the contractual and some of the financial incentives I am going to describe are put in place through changes that we make to the framework agreements between Network Rail and all of the train operators as part of the Periodic Review. That is one of the reasons that we all (Network Rail, train operators and ORR) see those framework agreements as a key piece of the regulatory landscape.

Contractual incentives

Firstly, the main contractual incentives are the possessions regime, and the performance regime,[4] which operate as a liquidated damages regime.

The **possessions regime** is the part of the framework through which compensation is paid to operators when they are unable to use parts of the network, due to planned restrictions of use, such as those needed to carry out engineering/construction works

In planning its engineering work Network Rail is incentivised to take into account the financial impact on operators caused by engineering related disruption, and to develop efficient engineering access plans so that it does not incur additional costs beyond the efficient level for which it is funded. It can also keep costs to a minimum by advising operators of forthcoming disruption as far in advance as possible, and receives a discount for doing so.

Train operators incur costs and losses when disruptive engineering possessions are taken on the railway. The track access contracts (framework agreements) set out the arrangements by which Network Rail compensates train operators for those costs and losses. It is accepted that a certain level of engineering related disruption is inevitable on an operational railway. Network Rail is funded to pay compensation up to an efficient level agreed by ORR, through the payment of an Access Charge Supplement.

The **performance regime** is the part of the framework through which the infrastructure manager and train operators either pay compensation for poor performance or receive incentive payments for good performance.

Britain's rail industry operates a performance incentive scheme which encourages both Network Rail and train operators to improve their performance, by reducing average minutes of lateness and cancellations. Details of the regime are incorporated into track access contracts. This performance regime sets out a framework by which compensation is paid by either party if train or network performance fails to meet set benchmarks, which are set in line with regulated output targets.

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[4] The possessions regime and the performance regime are contractualised in Schedules 4 and 8, respectively, or operators' track access agreements with Network Rail.

Financial incentives

We have introduced several financial incentives. We start from the principle that if Network Rail's income is set at a level which is equal to its costs and since it does not face competition, it has limited incentives to improve its productivity and control its costs. We have therefore developed incentives to align better the interests of Network Rail and its customers and to make it more commercially responsive to their needs, and to those of final consumers.

The financial incentives that exist include route-based efficiency benefit sharing; and a volume incentive.

Firstly, the **route level efficiency** benefit-sharing mechanism. This route level incentive encourages Network Rail and the operators to work together and allows train operators to share in the efficiency gains and or losses of the infrastructure manager on an annual basis.

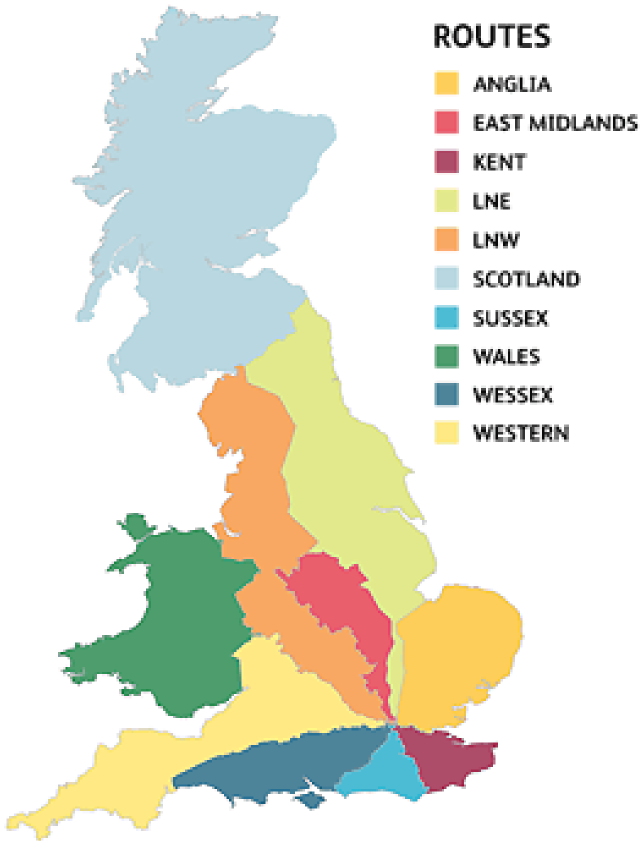
This efficiency benefit sharing scheme is aimed at encouraging further savings to be made in the day-to-day running costs of the railway. It applies at the Network Rail route level. Network Rail is increasingly devolving responsibilities to Scotland and the nine operating routes in England and Wales (shown in Chart 6, and this mechanism builds on this.

We expect operators to work closely with Network Rail and if Network Rail's costs are lower than we assumed the operators will share the savings but if they are higher, then operators will pay part of the increase.

Secondly, there is a **volume incentive** which is paid to Network Rail for accommodating additional traffic

The volume incentive is a payment to Network Rail which encourages it to be more responsive to unexpected demand for use of network capacity over and above an agreed level.

Chart 6: Devolution and comparators: Network Rail's route structure



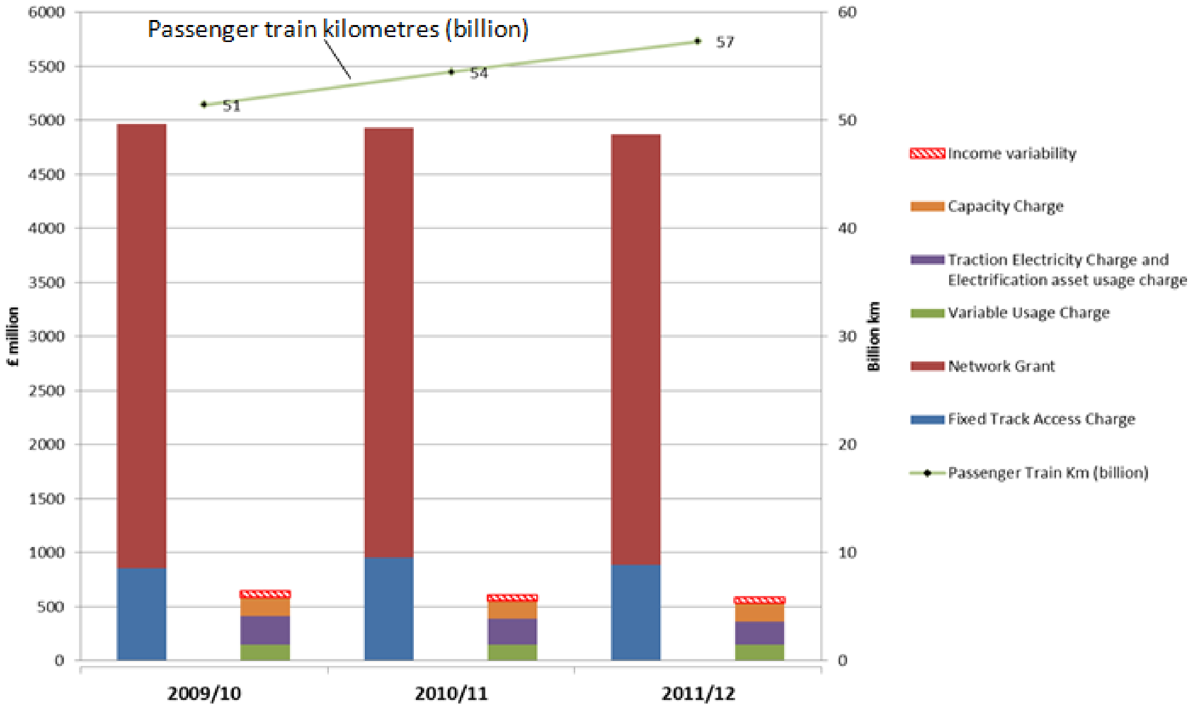
Source: Network Rail

The volume incentive is important because it acts as a counterbalance to the service reliability and punctuality targets which Network Rail faces which might lead it to limit provision of network capacity to improve its chance of meeting them.

It places a value on the additional use of network capacity and so encourages Network Rail to consider the trade-off when deciding whether to meet unexpected demand from its customers.

But the marginal payments Network Rail receives for running additional trains are very small – as can be seen in Chart 7. For the future we are looking at how these incentives can be strengthened.

Chart 7: What happens to Network Rail's income as volume increases? (Answer: almost nothing). Network Rail's income in respect of passenger trains, 2009-10 to 2011-12, at 2011-12 prices.



Source: Office of Rail Regulation

We are already seeking to strengthen the mechanism by adding a downside – Network Rail loses money if growth is below the baseline, and also by disaggregating the baseline to route level. This will give Network Rail more incentive to look for ways to increase passenger and freight travel by working more closely with train operators.

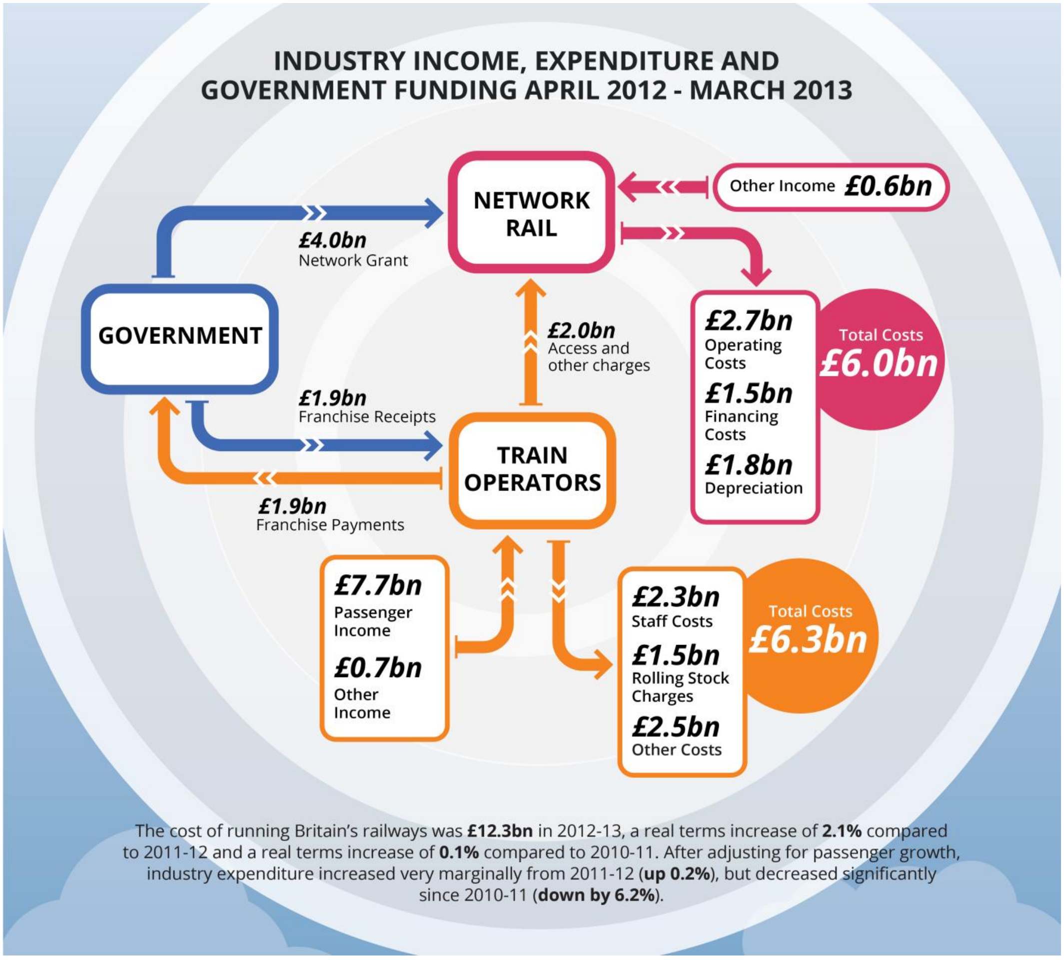
Reputational incentives and earned autonomy

So far, we have talked about the contractual and financial incentives facing Network Rail. But there are others. One of our regulatory levers is Network Rail's network licence which we oversee and can enforce if necessary, including the use of sanctions in some cases. This gives rise to reputational incentives, both for the business and for its executive directors.

When we make decisions as part of the periodic review, we also decide what outputs Network Rail should deliver over the next five years. Once we have set these outputs, if Network Rail fails to deliver them, we can investigate whether it has breached its network licence and, if so, what should be done to put that breach right. Depending on the seriousness of the breach, we can also impose a financial penalty.

Because Network Rail receives a large public grant, currently around £4 billion a year or around two-thirds of the company's costs (see Chart 8), imposing a financial penalty is, in itself, of limited value. Indeed because the UK statistical authority has ruled that Network Rail is not independent of government, it is being reclassified as a public sector business from September this year, potentially further reducing the value of this incentive. However, it does affect two other types of incentives which we think are quite powerful.

Chart 8: British railway industry funding, expenditure and government funding, 2012-13



Firstly, both we and Network Rail attach enormous importance to the funding settlement and the regulatory outputs that go with it. It is, after all, fundamental to the long term commercial and financial sustainability of their business and is effectively the regulatory contract setting out what they are required to deliver for the money they are given or allowed to charge. Any failure to achieve those outputs is therefore highly visible and impacts on the reputation of both the company and its senior employees. Associated with this, there is also an impact on the level of remuneration for senior executives awarded by Network Rail's remuneration committee under their management incentive plan. The structure this plan, which has to be approved by the regulator, requires non-delivery of regulated outputs and sanctions imposed by the regulator to be taken into account by the company in both annual and long-term remuneration decisions.

Secondly, where ORR sees greater risks of non-delivery, we monitor the business much more closely. This is not to micro-manage Network Rail's decisions, but to seek assurance from the business that it understands the risks it faces and has coherent plans for managing them so that funders and fare-payers get the services and outputs they paid for.

A current example of this is punctuality, which along with customer satisfaction is at close to record high levels in Britain, but falls short of what Network Rail was funded to deliver. This has led us to monitor closely the factors driving punctuality – such as asset condition, maintenance and renewals; and to ask Network Rail for a detailed plan showing how they will recover punctuality over the next 24 months. Correspondingly, we will monitor and scrutinise in less detail where the company is on track to deliver the outputs it promised: earned autonomy in return for greater assurance and an improved record of dependable delivery. This is in itself a powerful incentive.

Network Rail therefore tries very hard to meet these regulatory requirements.

Summary

So, to summarise, our general approach to the periodic review is firmly rooted in incentive regulation within a RPI-X format. This involves setting clear outputs for the regulated company and including financial rewards not just for meeting, but for exceeding these outputs and outperforming our assessment of the efficient level of spending.

Importantly, we do not decide how Network Rail should meet the periodic review requirements – that is their job, applying their expertise and commercial judgement. Our role as regulator focuses not on specifying the detail of how Network Rail should deliver, but on output-based incentive regulation, with the company incentivised effectively to deliver and outperform output and efficiency targets, which are stretching and achievable, and meet the interests of funders and customers.

RICHARD PRICE

Office of Rail Regulation – Great Britain

May 2014

Annex

Highlights of ORR's 2013 Periodic Review of Network Rail