Joanna Whittington Beesley lecture
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The evolution of Network Rail and the consequences for regulation

Good evening everyone. I first started attending these lectures in the late nineties as an economist at the ORR, which then stood for the Office of the Rail Regulator. I met Michael Beesley at these lectures and in due course through my work where I was introduced by Chris Bolt, my boss and the chief economist of the ORR at the time.

Michael Beesley read, commented and advised on many of our documents. The most memorable and mortifying of these meetings was when he looked at some of the drafting I had prepared (and which was by this stage already published) and asked me what I meant by the phrase "truly avoidable costs". If nothing else, this has left me with a lifelong fear of adverbs.

Nevertheless, the 1990s were an excellent, if somewhat traumatic, time to become involved in the railway industry. They marked the beginning of a widely unpredicted step-change in passenger demand for rail services. Passenger journeys increasing in absolute terms from 735 million in 1994/95 to 1.7 billion last year, an increase of 135% in 22 years[1].

Rail travel's market share increased from 5 per cent of passenger kilometres travelled in 1994 to 10 percent of passenger kilometres travelled in 2015.[2] It was also the time of the radical restructuring into many parts and subsequent privatisation of British Rail.

There are many different ways to structure the rail industry and in spite of some of the seeming successes of the industry, debate on the best option has not lessened over time. In particular, debate over the separation of the track/train operator interface is as hotly contested today as it was then. Nonetheless, the industry structure we have remains broadly that put in place in the 1990s.

So the aim of my talk tonight is to look:

- Part 1: First at the role, ownership and structure of Network Rail, ORR's principal regulatee, in the context of the rail industry today;

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[1] ORR data portal, Passenger journeys by year (Table 12.5) https://dataportal.orr.gov.uk/displayreport/report/html/02136399-b0c5-4d91-a85e-c01f8a48e07e

[2] Department for Transport statistical data set, Table TSGB0101 Passenger Transport by mode from 1952]https://www.gov.uk/government/statistical-data-sets/tsgb01-modal-comparisons#history

- Part 2: Second, to explore some of the changes in the incentives that this has created and to consider what this means for the work of ourselves as the regulator. I do this in the context of the current five-year funding settlement (or in regulatory jargon Control Period 5) which has been a challenge, with some commentators citing evidence of regulatory targets missed from the outset and increasing costs for enhancing the network.
- Part 3: Third, to establish how as a regulator we can take advantage of the current structural changes being implemented within Network Rail, in the context of a company which is a regulated publically owned monopoly;
- Part 4: And finally, going on to consider further developments in regulation which might better support the policy outcomes that we collectively want to see from the railway with a publicly-owned Network Rail at its centre.

My intention is that some of those further developments might also be of interest in the context of the broader debate taking place currently around the public or private ownership of utilities; for example:

- Does incentive regulation developed in the context of the private sector work in the public sector?
- What lessons could be learnt from the extension of the independent regulatory model in recent years, to public services such as health and education.
- And perhaps more provocatively, why have an independent regulator overseeing a publically owned company at all?

In preparing this talk, I have relied heavily on conversations with colleagues and friends over many years. I want to thank all of them. It goes without saying that the mistakes, inconsistencies and views are mine. And for the avoidance of doubt, I am not speaking on behalf of the board of ORR whose policies remain those set out in our published statements; although I am not aware of any substantive differences in what I will say.

Before diving into a conversation about structure, ownership and incentives, I think it is worth being clear about what we want from the railway in the first place. In the mid-nineties this was a more contentious question after decades of “managed decline” from Whitehall, followed by controversial reform which sought to introduce competition to the railway, encouraging private investment and aiming to further reduce government funding.

It is the case that all political parties now look to support an increase in passenger numbers and freight volumes, recognising that this is best done through ensuring a safe railway, where train performance is enhanced - or at least exceeds - a minimum, costs are controlled and investment to accommodate growth and which offers value for money is facilitated.

It goes without saying that, in spite of this common starting point, there is nevertheless no consensus over the best way to achieve this and if anything views are currently more polarised than ever.

[Part 1]

So, let's look first at the role, ownership and structure of the railway which we have today.
At its centre is Network Rail; a publicly-owned company created from the assets of its privatised predecessor Railtrack plc in 2002.

Network Rail is responsible for the operation, maintenance, renewal and enhancement of the mainline railway including the track, stations, signalling and structures including bridges, tunnels and viaducts and overhead wires.

The company has over 38,000 employees.[3] It operates across Great Britain. It has a regulatory asset base of £61.8bn. At the end of the last control period in 2014, its asset base was £52.7bn; so it has increased by over £9bn in three years.[4] By reference to any of the other utilities, the company is massive.

In spite of not operating trains, Network Rail remains extremely vertically integrated and carries out a broad range of functions, which means that it is impossible to underplay the role it has within the railway system. Many of you will already be familiar with this but it is responsible for four main areas.

- The operation of the network delivering the day to day movement of trains safely around the network through the operation of signalling and control systems: this is key to the performance of the service received by passengers and freight customers. Network Rail is typically responsible for 50-60% of the delay experienced by passengers although for some operators this increases to over 70%.[5]
- The planning and delivery of routine maintenance, which it does with its own staff to keep the network running.
- The renewal of the network through the replacement of the existing infrastructure.
- And the enhancement of the network, where the network is upgraded to deliver more than it does at present.

These latter functions of renewal and enhancement are carried out primarily through contracting with the supply chain – on occasion entering into alliances - but regardless, meaning that a critical function for Network Rail is its ability to manage and plan current and future rail infrastructure effectively.

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[3] Network Rail Annual Report and Accounts 2017, page 11
[4] Both figures in 16/17 prices. ORR, Annual efficiency and finance assessment (AEFA) of Network Rail 2014-15, Figure 2.6 and AEFA 16-17 Figure 1.11 http://orr.gov.uk/__data/assets/pdf_file/0019/25750/annual-efficiency-and-finance-assessment-2016-17.pdf
[5] Office of Rail and Road, Network Rail Monitor 2016/17, June 2017, p 35
http://orr.gov.uk/__data/assets/pdf_file/0015/25206/network-rail-monitor-2016-17-q3-4.pdf

Nestled within these broad definitions of activity are a number of other specific functions which have a significant impact on the operation of the railway system, and the way in which the rest of the industry engages with it:

- Network Rail is responsible for the planning and timetabling of railway services.
- For negotiating and agreeing track access.
- And for supporting funding bodies such as the Department for Transport and Transport Scotland as they specify the train services they want to be delivered through a franchise agreement with individual train operators.

These are all functions which you could include within the umbrella term of system operator but in addition Network Rail is also responsible for setting group standards and so facilitating the introduction of new technology. I think it is possible to argue that, through its behaviour, Network Rail can dictate the pace of innovation on the railway system as a whole.

In addition it has a large property portfolio which it is responsible for managing and developing together with ownership of the stations and the management of the major stations. Network Rail has an annual income of £6.6 billion[6] and expenditure last year of £11.2 billion.[7] The difference between income and expenditure is a result of a programme of enhancements funded through increased debt. This has risen from £32.3 to £44.8bn over the control period so far i.e. since April 2014.[8]

At the point of original privatisation in 1996, a traditional regulatory model was in place. The revenue the original Railtrack was allowed to recover from train operators was determined using a fairly standard utility model. It was the sum of operating and maintenance expenditure plus an allowance for depreciation and a return on the capital previously invested in the business, which we commonly refer to as the regulatory asset base, less the income from other activities in particular property.

This model has been broadly adopted for all of the periodic reviews since privatisation. Following legislation enacted in 2005, elements of this process were formalised and government was required to specify at the beginning of each review process both the funds available to the railway industry and the high level outputs that the rail infrastructure was required to deliver. In regulatory jargon these are universally referred to as the Statement of Funds Available (SoFA) and High Level Output Statement (HLOS).

Initially, Railtrack's revenue was recovered directly from train operators (the users of the network) - through a combination of a fixed charge and what is known as a variable usage charge together with incentive schemes on performance and the availability of the network.

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[6]ORR, UK Rail Industry Financial Information 2015-16, p 10
http://orr.gov.uk/__data/assets/pdf_file/0020/24149/uk-rail-industry-financial-information-2015-16.pdf

[7] AEFA 16-17 , Figure 1.3,

[8] AEFA 13-14 Figure 2.22 and AEFA 16-17 Figure 1.9

An important change was made in 2002 to this overall model; when charges to train operators were allowed to cover only a proportion of what was by then Network Rail's costs, and governments started to fund the company directly in the form of a Network Grant.
Last year, charges to train operators represented 22 percent of Network Rail's revenue requirement with 65 percent made up by Network Grant and the remainder being made up from other sources in particular property. [9]

A recurring theme since privatisation has been around the relationship between train operators and the infrastructure provider. From the very beginning, train operators argued that Railtrack was not sufficiently focussed on them, and that their relationship was not akin to the relationship they had with any other supplier.

The introduction of the Network Grant arguably further diminished the relationship with Network Rail increasingly viewing the government as its customer rather than the train operators.

In practice, charging is only part of this debate. The issue more frequently raised is the difference in pace required by train operators in order to be successful when operating in a franchising framework of 7 to 15 years, compared with Network Rail and its much longer-term horizons. There are many ways to skin this cat and I will come back to it when we start to discuss the ongoing transformation of Network Rail.

The final stage in the transition from public to private back to public ownership was officially consulted on in September and confirmed in December 2013 when the Office for National Statistics took the decision to reclassify Network Rail as a public sector body so that going forward Network Rail's debt would be included in the Public Sector Borrowing Requirement. This in effect ended an ambiguity which had existed since 2002 - the point at which Network Rail was created and its status heavily debated. [10] The National Audit Office was clear that the Government's relationship with Network Rail was similar to that of a shareholder and that by implication it was a public company i.e. a nationalised industry. The ONS however, with the appointment of a board in place, was content to consider it a company in private ownership.

Regardless of the merits of these arguments, this contributed to a situation which persisted for many years where the incentives on Network Rail were not consistently understood or acknowledged across the industry, nor more broadly, government. In turn, you can argue that the regulatory framework required to protect the interests of consumers and funders did not evolve quickly enough either.

So I hope that it is clear from this description of Network Rail, and its position in the railway industry as whole, that the success of Network Rail is a necessity for the success of the industry as whole; or put another way: the industry cannot successfully meet the policy outcomes we probably all want unless Network Rail also delivers.

[9] AEFA 16-17, Figure 1.1
[10] Terry Gourvish, "Britain's Railways, 1997-2005" Page 182

[Part 2]

So that's a brief reminder of Network Rail's set up and how it came about. What incentives has this created and what does this mean for the work of ORR as the regulator?

In recent years, the picture for Network Rail has been mixed. Not, as some commentators would imply, a disaster but certainly mixed. On safety, the UK has become and continues to be one of the safest railways in Europe – a significant achievement. On asset management, in the first three years of the current five year funding period starting in 2014, Network Rail achieved a significant reduction in service-affecting asset failures across the network.

Notwithstanding this, train performance has declined since 2013 and has been particularly poor in some areas. At the end of the last financial year, the public performance measure for England and Wales was at 87.4% - well below the regulated target of 92.3% and Network Rail's own target of 89.9%.[11]

And while Network Rail has certainly delivered some projects to time and budget – such as the Borders Railway or the new concourse and square at King's Cross – others such as the Great Western Electrification Programme have suffered from high-profile delays and cost increases.

Efficiency generally continues to decline, with Network Rail delivering less for a higher cost. At the end of 16/17, Network Rail was around 4.4% less efficient in terms of its operating, maintenance and renewal spend than it was at the beginning of Control Period 5 three years previously.[12]

So what more can we as the regulator do or what should we do differently to underpin a successful Network Rail, recognising that there is now complete clarity about its public sector status? To answer this question I think it is helpful to understand (in a simplified way) what role economic regulation has and has not played in the world of privately owned monopolies.

The function of economic regulation as we understand it today through Ofwat, Ofgem etc was established at the time of privatisation of the utilities in the late 1980s. Regulation took a narrow view on the motivation of the monopolies and a clear view about the pressures which shareholders (and more broadly capital markets) would exert on the monopoly, specifically that:

- Firms aim to maximise profit, and;
- Shareholders aim to maximise their return on investment (through dividends or share price).

[11] Monitor 16/17, page 24
[12] AEFA 16/17, page 6

It followed that the role of economic regulators was to ensure that the monopoly did not achieve its profit maximising aim through exploiting its customers (i.e. what economists refer to as supernormal profits). Regulators achieved their role through the introduction of price controls: setting what charges could be levied by the utility on their customers.

Over time, this evolved to specifying outputs and other incentives designed to modify the behaviour of the monopolist utility. To carry out this role, it was obviously necessary for the regulator to be independent of the monopoly. As in other sectors such as energy and telecoms, an important part of the policy in rail was promotion of competition in the passenger and freight markets, with different operating companies requiring access to the network. So regulation of equality of access was, and indeed remains, an important element of the regulatory role.

Given the regulator's pivotal role in determining the profitability of the monopoly, shareholders also sought clarity over the future actions of the regulator – with expectations of a higher return where there was less clarity. Over time, regulators developed processes for decision making which sought to improve clarity and certainty while at the same time protecting the interest of customers. Independence from shareholders and government in regulators' decision making was an important element of this.

It was also clear what the regulators' role was not. It was not the role of the regulator to manage the monopoly; the monopoly decided how to run its business, ideally outperforming the regulators' assumptions on costs for a given set of outputs. If the monopoly failed so that costs were higher than expected or outputs were not delivered, management suffered directly through their pay.

Shareholders (who often included all employees) also suffered through lower dividends or a falling share price. Existing shareholders were incentivised to ensure pressure on management for change or for new management. The on-going threat of a takeover provided an alternative mechanism through which management were incentivised. It was management and shareholders - not customers – who paid for inefficiency and failure.

The starting point for economic regulators is therefore understanding the motivation of the monopoly and its shareholders. In a world where the government owns a monopoly, it is clear that a single incentive of profit maximisation no longer exists. In the current environment, it also seems that financial reward will only be allowed to drive a small element of behaviour. Some argue that the monopolist will now act in the interests of its customers possibly even removing the need for a regulator. Instead the picture is more complex with two broad incentives at play:

- The reputation of the monopoly and the people who work for it and
- The deferral of difficult decisions and, more generally, an aversion to risk (first referred to by Hicks in the 1930s as the 'Pursuit of the Quiet Life').

People like to work in successful industries and organisations. The success of the industry reflects on them directly and indirectly, giving them – as individuals and corporately - opportunities in the future. In railways, like the NHS, there is an almost altruistic dimension to this. Pressing against this positive reputational incentive (which is harder to measure and reward than the profit incentive it replaces) is a tendency to defer difficult decisions and avoid risk. Examples include:

- A slower pace of change and tendency to be risk averse, which may, for example, be apparent in the slow deployment of new technology.
- A failure to understand the incremental cost and revenue effects of a change.
- And a tendency to be driven by internal processes rather than the impact on customers.

The motivation of the state as shareholder is also different when compared to the private sector model. With return on investment to the extent that it is thought about being a more diverse concept encompassing economy-wide type metrics. The shareholder is now political and itself a monopoly. Accountabilities and time horizons reflect this. The role of the shareholder to exert pressure on or to replace the management remains, but the shareholder's incentives are more shaped by political cycles rather than longer-term asset value or interest of the future consumer.

With the monopolist pursuing the quiet life and only one shareholder, the types of management inefficiencies (that can exist in any business) begin to emerge with multiple layers of management, information asymmetry and a tendency to focus on the perceived interests of the shareholder. Over time the shareholder can end up becoming more involved in the running of the company as it seeks to manage its reputation. This in turn can lead to lack of clarity over the purpose of the monopolist's Board.

We know that the success of the rail industry depends on the success of Network Rail and that in recent years its performance has been mixed. We know that economic regulation needs to start with an understanding of the motivations of the monopoly and that those motivations differ depending on the ownership. Some of the theoretical weaknesses that I have identified could be seen in Network Rail.

At the point of commencing a renewal project, we have seen that the scope of the project increases, usually at the request of a train operator, but with little or no understanding of the incremental cost and revenue impact and certainly no sense of whether looking across the business as a whole this marginal increase in cost should be incurred.
We have seen the introduction of new technology such to enable the surveying of track or changes to working practices such as the introduction of Business Critical Rules to better manage risk taking many years.

Finally, we continue to hear anecdotes from customers and local authorities looking to develop the rail network in their region, that Network Rail has been a difficult company to do business with, for example, requiring complicated processes to be followed even for small scale projects. An example in the recent Hansford Review commissioned by Network Rail described how a potential investor found in their words that it received "inconsistent advice, rising costs and changing dates"[13]

It was a combination of these bottom-up type concerns together with the much higher profile problems associated in particular with the electrification programme, but more generally enhancements, that led to a plethora of reviews in 2015.

The Bowe report followed by the NAO report and Public Accounts Committee looked back at the causes of these problems with a particular focus on the Great Western electrification. Sir Peter Hendy's review focused on the immediate problems associated with escalating cost of enhancements in order that Network Rail was able to remain within the borrowing limits agreed with the UK government at the point of reclassification.

And the Shaw report looked forward at changes to the structure and financing of Network Rail which would attempt to rectify these problems in future. Finally to complete the set, the government carried out a review on the regulator and the role of economic regulation in a reclassified world.

[13] The Hansford Review, 'Unlocking rail investment – building confidence, reducing costs', 2017, p 22 https://thehansfordreview.co.uk/

[Part 3]

By now it was clear to all of us, that comprehensive change was required. Network Rail - a publically owned company with a geographical reach covering all of Great Britain - and in spite of not operating train services in many ways very vertically integrated, is a difficult company to run, and I respect and recognize the challenges which that brings. And I would also argue it is a difficult company to regulate.

In recent years Network Rail had started to devolve its business from the centre into its key operating units – the routes. But under the management and leadership of Mark Carne and Peter Hendy this process has accelerated rapidly with the creation and implementation of a transformation plan that, while still within the context of a single company with a single licence, is now made up of 8 geographical routes.

Each route is responsible for operating, maintaining, renewing and enhancing its part of the network. To carry out their role, routes remain dependent on a number of centrally organised teams within Network Rail that provide access to:

- Physical kit (yellow plant in the vernacular of the railway)
- Nationally negotiated contracts for centrally procured materials
- Project management for large projects.

The argument for these central teams is mainly focused on the economies of scale; for example, as a country we only need one high output track renewal machine. This is separate from the argument which led to the creation of two other national bodies within Network Rail - the system operator and the technical authority. The main argument for these is based on co-ordination and consistency of approach in order to optimize the use of the network as a whole.

The system operator is responsible for working with all Network Rail routes, funders (such as the Department for Transport, Transport Scotland and local authorities who also fund work on the network), and train companies to help ensure services run as part of a joined-up network.
The technical authority provides the routes with a common framework in which to operate, including setting technical and safety related standards and providing expertise in specialist areas.

This new structure provides real opportunities to improve the way Network Rail meets the needs of its customers and funders, but to do this to full effect will also require our regulatory approach to change.

The routes are essentially businesses with individual turnovers of between several million to more than a billion, comparable in scale to a large water company. Practically this now means that the relationship between train operators and the route can be stronger and more responsive. Not just because the businesses are a more sensible scale when engaging with train operators but also because it has been reinforced by further changes.

Network Rail has introduced a shared balanced scorecard to be agreed annually between train operators and Network Rail, arguably providing a mechanism not just for continuous dialogue between track and train but also the scope to align performance incentives.
Network Rail has also introduced route supervisory boards, independently chaired and with the route managing director, train operators and customers' representatives as members. These boards are in their infancy but have the potential to fulfill some functions performed by the customer challenge panels we see in the airport and water sectors. As a regulator we need to give further thought to whether these panels could be used in some way to reinforce the incentives created by our monitoring framework of each of the routes.

In addition to welcoming the routes' potential to strengthen the line of sight between Network Rail and train operators and ultimately passengers and freight customers, they also enable us as regulator to make comparisons between different management teams carrying out comparable activities.

Eight routes do not provide a huge number of comparators and there are important differences in the routes between the geographies they cover, the type of network they operate (for example electrified or not), the legacy and timing of previous investment, and more subtly the challenge implicit in each routes performance targets. But I believe this is a positive step forward.

Comparative competition is the backbone of how many regulators carry out controls and until now not one available to rail regulators. Instead we have had to rely more heroically on international benchmarking and benchmarking of individual activities. By the time of the next periodic review in five years' time, we will have 40 data points in addition to a completely new data set at below route-level from each of the maintenance delivery units, of which there are in the order of 35 across the network.

George Yarrow memorably and accurately referred to price controls as "the pork pie factory of economic life."[14] He said that "While there is a steady demand for the output, those who work or who have worked in the factory tend not themselves to be noticeably keen on the product: they know too well how it is made."

And as anyone who has worked in this pork pie factory will know, comparative data is an opportunity to ask better questions which in this case challenge individual routes, allowing the setting of a realistic and achievable frontier – no more. The achievability of the frontier is important - for reasons which I will discuss later when considering efficiency; targets which are unachievable do not have the same impact in the public sector as they do in the private sector – instead tending to generate a funding crisis requiring government intervention which can lead to further inefficiency.

[14] George Yarrow, 'Submission on the CMA's Summary of Provisional Findings Report and Notice of Possible Remedies', August 2015
http://www.rpieurope.org/News/Yarrow_Submission_CMA_Energy_Investigation_Aug_2015.pdf

The other reason to be realistic about the value of comparative data in carrying out a periodic review of Network Rail is that these routes still remain under the common ownership of one board owned by one shareholder.

As we all understand, for data to be valuable to us, there are differences in cost of providing rail infrastructure in different geographical areas, which must be controlled for, so that critically we are able to see the difference in the abilities of different management teams in carrying out the same task of operating, maintaining and renewing a rail network.

It is this sense of rivalry and competition between routes and their management teams which creates the value for regulators, as a proxy for what would happen in a competitive market.

For this to even begin to have some effect though, it must be the case that each route has control over its own destiny. As a minimum, it therefore requires:

- Certainty over its funding at a route level; and
- Certainty over the outputs it is required to deliver.

In effect each route needs its own funding settlement and its own bottom line.

They must also be allowed to do things differently. And here things can begin to get tricky when you are trying to reconcile the benefits of a devolved structure with a business which still has a significant centre and a number of national structures and contracts. This structure is still valid however, designed to realise both the economies of scale from being a national monopoly and to ensure common technical and safety standards; critically, retaining the benefits of a national network – passengers and freight travel across route boundaries as well as within route. And we all rightly have an expectation that we will be safe travelling on a train from London to Brighton as well as from Crewe to Shrewsbury.

In deciding on its current structure and the level of discretion afforded to each route, Network Rail has implicitly made a decision about these trade-offs which may or may not be optimal. Over time it may be appropriate for these boundaries between centre and routes to change, in particular as the capability for routes to deliver as organisations in their own right is proven.

For the time being however the important thing is for the routes to exploit fully the discretion they have been given and for the behaviours of those who engage with the routes to reinforce the new structure.

In particular, this includes the way the centre of Network Rail engages. Does it for example, give approval in advance to a route which chooses to contract with an external supplier rather than the Route Services Directorate? Or does it instead carry out a review of a routes' contracting strategy after the fact? It will also require the behaviour of others to change – us as regulator included and I will come on to that shortly.

I have talked about the value of routes to us as regulator, in using comparative data to determine the regulatory settlement which will apply. But the other reason as a regulator we are so supportive is because they allow us to create additional incentives to respond to the needs of their customers. And in a small way this could help to take the pressure off getting the regulatory settlement right in the first place – which back to George's initial comments about the problems with price controls which are well known and understood by those of us in the factory – will in some respects be wrong.

In this sense I am thinking in particular of setting output targets. As an industry and as a regulator we have struggled to forecast train performance and yet on time performance and reliability of trains is rightly one of the rail passenger's biggest concerns. The National Rail Passenger Survey every year consistently shows that punctuality and reliability of a train is the most important factor by far in determining that a passenger is satisfied with their journey.[15]

In the last periodic review in 2013, the government specified a national target in its high level output statement of requirements of 92.5%, but performance has steadily declined so that at the end of 16/17 national performance was at 87.7%.[16] I think it is reasonable to argue that in these circumstances the incentive effect of the output regime was at best diminished.

For Control Period 6, we will continue to have train performance targets (it is too important to passengers not to) and we as regulator will continue to be able to take enforcement action where these targets are not met. But this time we will also be able to use a reputational incentive so that even when an individual route is significantly above or below its target, we will look to give it an additional ongoing incentive by reporting on its performance relative to the other geographical routes. This will also enable us to recognize the good things that happen as well as the poor.

We know from anecdote that this sense of competition between the routes already exists and is used by Route Managing Directors to motivate their teams. The challenge for us is to do this in a way which is recognized by those working in the railway as a fair basis for comparison taking account of their different starting points.

To recap:

- The success of our rail industry as a whole depends on the success of Network Rail and in recent years its performance has been mixed.
- Economic regulation needs to start with understanding the motivations of the monopoly and that those differ depending on the ownership structure.
- And now the new route based structure put in place creates opportunities to strengthen the reputational incentives on the publically owned Network Rail and its routes to meet the requirements sought by funders on behalf of passengers and freight customers.

[15] Transport Focus National Rail Passenger Survey 16/17 Graph p 54, http://d3cez36w5wymxj.cloudfront.net/wp-content/uploads/2017/07/25120605/National-Rail-Passenger-Survey-%E2%80%93-NRPS-%E2%80%93-Spring-2017-%E2%80%93-Main-report.pdf

[16] NR Monitor, 16/17 p 5

[Part 4]

Finally I want to talk about further changes which need to be made in rail to regulate effectively a publically owned monopoly and to answer the question implicitly posed by the Department for Transport's consultation in 2015 - why have a regulator overseeing Network Rail at all?

As a publically owned body, the management of Network Rail as I have explained earlier is not in my opinion motivated to maximise profit in the way that has traditionally shaped economic regulation. Instead it has incentives to maximise its reputation.

Such incentives do exist within a profit maximising firm and there is evidence to suggest, looking at the regulated networks in gas, electricity and water, that the importance of these reputational incentives has increased since privatisation. Although - I am not clear whether this is in response to a broadening governmental and regulatory agenda encompassing social and environmental objectives or in spite of it.

In any event, implicit within the profit maximising model is a powerful incentive to become efficient. This is not easily replicated in the reputation maximising model for a couple of reasons:

- First, efficiency is valued by taxpayers and funders but not directly by the customers of the railway, whose fares are disconnected from the efficiency of Network Rail through the franchising process. Efficiency in the way we define it is not an output which rail passengers value and has as a result been something which we care about but have not explicitly treated as an output of the regulatory settlement;
- Second, efficiency is very difficult to measure especially on an annual basis and when the capability of the network is being increased both through explicit enhancement programmes but more subtly through renewal. We do have agreed methods for calculating efficiency but they are complicated to calculate and explain and require judgement.

Now it is tempting to think that the effect of a fixed funding envelope, of the form introduced by the government, at the point at which it reclassified Network Rail's debt would create stronger incentives to be efficient. But what we saw instead was a significantly greater focus on managing cash and an increase in the volume of renewals deferred into future years.

Although in future control periods, this may change because the introduction of a fixed funding envelope within a control period created its own problems - not all of which could be addressed by the additional debt allowed as a buffer in the loan agreement between Network Rail and Government.

So it is clear to us that our approach as a regulator to monitoring efficiency must change. And that it must be front and centre of our approach not just to determining the terms of the next five year control (when it has always been pivotal) but also in future to the way we monitor and report on Network Rail's performance as one of its outputs.

We are therefore putting a strong focus on comparing the route based plans, addressing lessons learned from CP5 (such as Network Rail's ability to put a timely, fit for purpose renewals procurement in place) and focusing on new areas of risk, such as the need to step up renewals volumes efficiently.
There are other elements of the regulatory tool kit which now work less effectively in this world – the one I am most often asked about is the role of the fine. Broadly consistent with the legislation of other sectors, ORR is in fact able to levy a fine on licensees of up to ten per cent of turnover.

But what is the point if there are no shareholders to take the pain? Some commentators have gone further suggesting that it is actually counterproductive diverting resources needed for the network. I do still see the fine as having a role in our regulation of a public body not because of the financial pain it inflicts but because of the reputational incentive effect and indeed fines by the courts seem to be generally accepted as a useful part of the rail safety regime.

But in this context we need to think further about whether the size of the fine matters. This has been made more complicated in recent years by the scale of fines levied in different sectors. Receipts from fines in the financial sector topped a massive £1.47billion in 2014[17]. There is a risk that the public sees the effectiveness of a regulator as correlated to the size of fine it chooses to levy.

So if the reputational incentives, which we have introduced through comparative competition and public reporting have failed and fining (and its near equivalent reparations), diverts resources from the activities to which we have already agreed, what sanctions are available to the regulator of a publically owned monopoly? And what can we learn from other economic regulators and other regulators of public services?

Formal investigations and the establishment of cross-industry improvement boards are already part of the tool kit and remain relevant going forward; but in addition we are consulting on other possibilities:

- The publication of some or all of our regulatory escalator which identifies issues of concern and following discussion with Network Rail the actions it intends to carry out to de-escalate the concern;
- A requirement for licensees to attend public hearings to explain what has happened, to seek public commitments to improvements and to provide evidence to enforce judgements on formal enforcement action;

[17] Financial Conduct Authority, Fines published during the calendar year ended December 2014, https://www.fca.org.uk/news/news-stories/2014-fines

- A formal notification to the Secretary of State as shareholder or the Secretary of State and Scottish Ministers as funders of Network Rail; and finally
- In some cases to notify Parliaments and the relevant select committees of our concerns.

We have not consulted on more interventionist ideas such as changes in management. I think this is clearly the responsibility of the shareholder and risks dragging the regulator inappropriately into the running of the company but I would note that in health and education there is scope for NHS Improvement and Ofsted to do so.

So to summarise. The success of the rail industry depends on the success of Network Rail and in recent years its performance has been mixed. Network Rail is restructuring in response to these challenges. The new route based structure that is being put in place creating more manageable business units with a clearer line of sight to the passenger and freight customer also creates opportunities for us as regulator to strengthen the reputational incentives on the publically owned Network Rail and in particular its routes to meet the requirements sought by funders.
To do this and to respond to the changes of full public ownership, regulation needs to change as well. We need to give increased weight to the monitoring and reporting of efficiency and we need to adapt the regulatory tool kit to this new environment in the way I have described. None of these changes diminishes the case for regulation to protect users of the monopoly from its power. But before ending, I think it is worth dwelling on the way in which public ownership may change the focus of regulators.

An independent regulator can be a vital safeguard of the interests of future users and funders because it can make judgements – independent of current users and funders – about the required sustainability of asset condition and can hold the monopolist to account for the predictable consequences of its decisions.

Network Rail and the governments of the day also share these interests but it is impossible to underestimate the huge amount of pressure they are under to meet the needs of current passengers and freight customers and in governments' case the existence of their own five year, sometimes shorter, (electoral) cycle.

In the rail sector, past failures to focus on whole-life asset condition have hindered asset sustainability, increasing costs and compromising train performance. It is essential not to lose sight of the benefits of the current five year planning and funding framework. While an even longer term planning horizon is needed for large projects, the five year cycle (based on governments' High Level Output Specification and Statement of Funds Available) helps insulate operations, maintenance and renewals expenditure from annual or in-year budget fluctuations. A stable planning and funding framework is an essential component of a predictable workbank that is necessary for an economic and efficient infrastructure industry.

It was in this context that we wrote to the Secretary of State in February of this year, well in advance of any decision by him about the funding available for the next control period, to set out clearly our view of the increased spend required on renewals. Advice which was then reflected in the subsequent high level output statement published in July.

So while I am convinced that as regulator we have an increasingly important role to play in protecting the interests of future users in the context of publicly owned monopolies, it also brings other issues to the fore - in particular the accountability of regulators to those funding this investment which should probably be the start of another Beesley lecture and not for this evening.

And so at this point I will wrap up, I hope I have:

- given a sense of what Network Rail is and how it is beginning to change into a devolved business
- Of how Network Rail is creating opportunities for stronger reputational incentives to be introduced built on comparison at route level
- but in response to its public status also requiring a significant change in approach by us with greater emphasis on the monitoring of efficiency and
- a clear view that regardless of public ownership there is an essential role for us as a regulator, independent of governments and the industry protecting, the interests of current and future users of this network.
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Thank you