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# Implications of Amending Franchise Agreements

## Final Report for ORR

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# Executive Summary

This report, by NERA Economic Consulting for the Office of Rail Regulation (ORR), examines the impact of possible changes to the passenger rail franchise agreement. Specifically, it looks at the impact on train operating companies' (TOCs) risk exposure, and hence their approach to bidding for future franchises, if the current "clause 18.1" provisions are either removed or amended. These provisions protect TOCs from the impact of changes in track access charges following regulatory reviews of the level and/or structure of access charges, but in practice they have also delayed the time at which TOCs are exposed to any changes in the structure of rail industry incentives. There are concerns that clause 18.1 could distort TOCs' decisions on the use of the network and reduce their ability to signal their true willingness to pay for network enhancements.

Independently of this, the development of the current franchise contract has included a significant review of risks and risk allocation, recognising weaknesses in the original model and partly in response to a situation where a number of franchises had to be renegotiated. Among other things, most of the services that TOCs provide are specified to quite a high level of detail by the Department for Transport (DfT). New franchise contracts also typically include a revenue risk-sharing mechanism (the "cap and collar") that reduces TOCs' exposure to revenue fluctuations once revenue is either two per cent below or above expected levels.

TOCs are still exposed to risk associated with changes in macroeconomic conditions or other key revenue drivers, especially during the first few years of the franchise (since cap and collar mechanisms typically do not operate during the first four years), and they also face the risk that their own costs will be higher than expected. At present, this appears to be sustainable even though most TOCs are thinly capitalised and operate at quite low margins (often around four per cent of revenue). The new franchise model and greater specification of services has arguably strengthened competition for franchises, since there are fewer ways for TOCs to differentiate their bids except through improvements in operational efficiency and performance.

In contrast with the recent "derisking" of franchise contracts, the complete removal of clause 18.1 protection would lead to a large increase in TOCs' risk exposure. Bidders would need to quantify the risk that there might be "another Hatfield", leading to further significant increases in access charges. Any further change in the way that fixed track access charges are calculated for individual TOCs (even if the total for the industry as a whole remains unchanged) could also lead to cost changes that are very much larger than TOCs' expected profits. If asked to bear such risks, TOCs would require operating margins that could accommodate them – these margins would be likely to be very much larger than those currently sought.

We also considered whether this risk could be mitigated either by incorporating changes in access charges into the cap and collar mechanism or by relaxing the regulation of TOCs' fares. Each of these approaches has significant problems, which in our view would greatly outweigh the benefits that any change to clause 18.1 might deliver.

One further option would be to change the basis on which protection is provided to TOCs. Rather than continuing effectively to pay the "old" charges, there could be a fixed adjustment

to franchise payments, designed to compensate TOCs for the expected financial impact of any change in charges or other incentives, but not taking account of any subsequent changes they may make in response to the new incentives. Provided TOCs are content that the adjustment can be calculated in a way that will provide them with the required protection, this approach would not lead to a significant increase in TOCs' risk exposure.

While it may not increase their risk exposure, it is uncertain whether implementing this approach would have a significant impact on the actual decisions taken by TOCs. Any response to changes in the incentive framework is most likely to involve a change in the way that TOCs' existing services are provided, rather than any increase or decrease in the number of services that they operate. If the DfT were to adopt a permissive approach when considering proposed changes to core services, then it is possible that some TOCs might consider adjusting certain aspects of their services (such as changing or modifying the rolling stock they use, or minor changes to their timetables) in response to any changes in the level or structure of access charges. But it is not clear how many such adjustments would be likely to occur in practice

# 1. Introduction

This report, by NERA Economic Consulting for the Office of Rail Regulation (ORR), examines the impact of possible changes to the passenger rail franchise agreement. Specifically, it looks at the impact on train operating companies' (TOCs') risk exposure, and hence their approach to bidding for future franchises, if the current "clause 18.1" provisions are either removed or amended.

Clause 18.1 was introduced to protect TOCs from the impact of changes in track access charges following regulatory reviews of the level and/or structure of access charges. By reducing TOCs' exposure to the risk of unexpected and significant changes in the level and structure of access charges (and, indirectly, Network Rail's cost performance), this should increase the value of franchises to the government.

One disadvantage of clause 18.1, however, is that if ORR changes the structure of track access charges, for example to make charges more cost-reflective or to introduce new or stronger incentives, TOCs may not face these new price signals for the remaining life of their franchises. This is significant in the light of the work that ORR is currently undertaking to review the structure of access charges. There are concerns that clause 18.1 could distort TOCs' decisions on the use of the network and reduce their ability to signal their true willingness to pay for network enhancements.

NERA was therefore commissioned by ORR to examine the likely impact on TOCs' risk exposure, and hence their approach to franchise bidding, of a number of possible options for removing or amending clause 18.1 protection. Our overall approach to this task has been based on the following main steps

- an illustration of the other risks that TOCs face at present. We have calculated the impact on the profits of three hypothetical TOCs of a range of macroeconomic, cost and performance risks. This analysis is presented in Section 3;
- a consideration of possible options for removing or amending clause 18.1 protection, and a qualitative assessment of the extent to which each option would expose TOCs to additional risks associated with possible changes in track access charges. This is set out in Section 4;
- where appropriate, a quantification of these additional risks, so that they can be considered in the context of TOCs' exposure to other types of risk. The results are presented in Section 5; and
- a consideration of how any resulting increase in TOCs' risk exposure would be likely to affect the behaviour of franchise bidders. This is contained in Section 6.

Before this, Section 2 sets out some relevant background on franchise contracts and access charge reviews. Our overall conclusions are then summarised in Section 7.

# 2. Current Contractual and Regulatory Framework

## 2.1. Franchise Contracts

Passenger franchise contracts are awarded to TOCs, by the Department for Transport (DfT), through a competitive tendering process. There is a range of franchise durations, but they typically last for up to seven years. Automatic extensions are often available if the TOC meets certain performance targets. DfT's invitations to tender include "Service Level Commitments" (SLCs) that define the services that the successful bidder must provide. The SLCs are specified to a relatively high degree of detail and, even where permitted by DfT to propose changes, TOCs are generally at risk in relation to the deliverability of any different or additional services. TOCs' service quality is closely monitored with reference to a Service Quality Management System.

This approach has several important implications for our study:

- it places strong competitive pressure on those elements of the service (operating costs and performance, marketing, operating margin, etc) that TOCs can control; and
- it restricts the successful bidder's room for manoeuvre once it has won the contract. This applies to any potential "new" services, as well as changes to the services included in the original franchise specification, since DfT's approval is required for any change in the services provided by a TOC.

Bidders for franchise contracts are generally free to include in their bids additional services beyond those required by DfT, but these additional services can often only be included in bid "options" and not the Base Case upon which the winning bidder is selected. Where DfT permits additional services to be offered in Base Case bids, bidders might well gain a competitive advantage from doing so, to the extent that such services contribute net revenues that can reduce the subsidy required (or increase the premium that the TOC can pay to DfT). We understand that, if accepted, such additional services are then typically included in a revised SLC, which defines the services that the TOC is contractually required to provide.

The recent changes to franchise contracts have been designed specifically to reduce the risks that TOCs faced, but were not well placed to manage, in the original franchise contract. This followed a period during which a number of franchises faced financial problems and renegotiated the terms of their franchise contracts, in some cases operating for extended periods under "cost plus" contracts. This outcome was perhaps not surprising, as TOCs tend to be thinly-capitalised companies with few assets and relatively little ability to bear substantial downside risk. Especially for the first round of franchisees, which bid for their franchise contracts before there was any meaningful experience of how the restructured railway would work, it was quite likely that some of their revenue or cost projections might prove unsustainable. In practice they were assisted by the favourable economic conditions and unexpectedly buoyant demand for rail services that prevailed in the late 1990s, but the difficulties following the Hatfield derailment in 2000 pushed a number of TOCs beyond the tolerances of their original franchise bids.

One important aspect of the subsequent reduction in TOCs' risk exposure has been the introduction of specific revenue risk-sharing mechanisms in franchise contracts. Though the

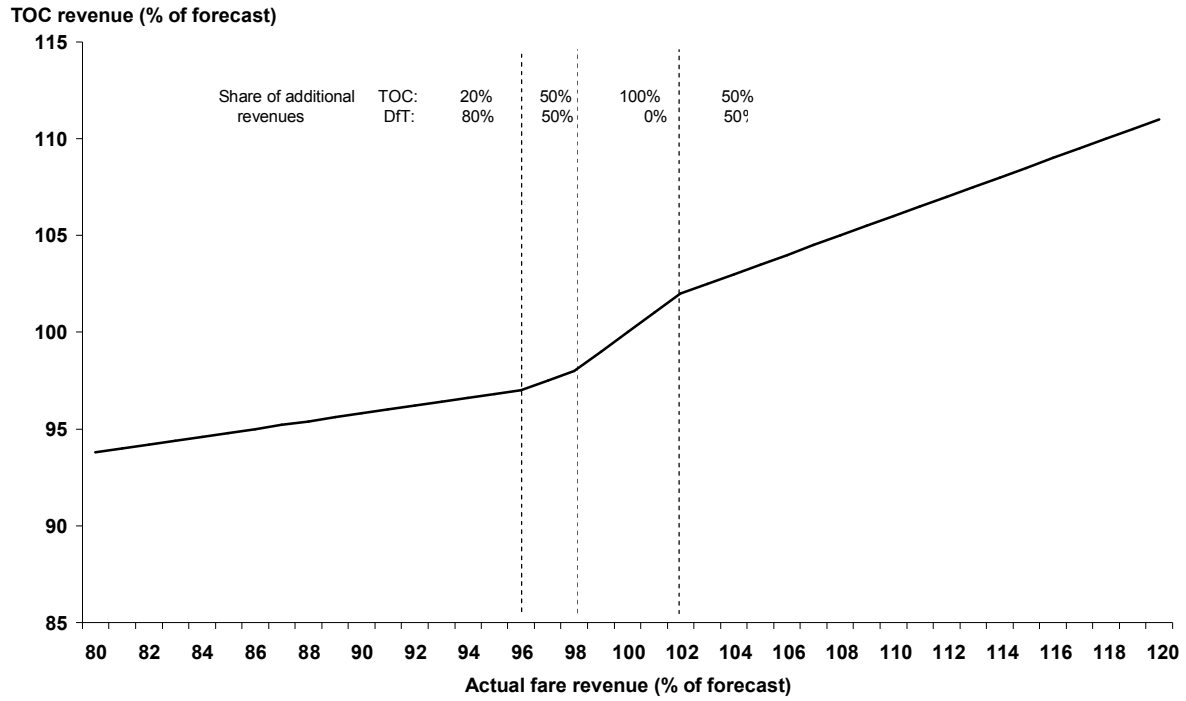
design of such mechanisms can be proposed by bidders, a standard model appears to have emerged, commonly referred to as a "cap and collar" mechanism. The main features of a typical cap and collar are that:

- 50 per cent of any fares revenues in excess of 102 per cent of the TOC's original forecast are shared with DfT;
- DfT makes a contribution equivalent to 50 per cent of any revenue shortfall below 98 per cent of the TOC's original forecast;
- but for any shortfall below 96 per cent, DfT's contribution increases to 80 per cent.

Figure 2.1 summarises the relationship between a TOC's fares revenue and the revenue it actually receives under such a cap and collar mechanism. The parameters described above result in some sharing of upside potential between TOCs and DfT, but also a substantial degree of protection from downside risks. This is important because, as explained in Section 3, fare revenues are still subject to a significant degree of risk (especially macroeconomic risk) that is outside of TOCs' control.

One important limitation is that cap and collar mechanisms typically only apply from the fifth year of a franchise. Thus TOCs face greater risk during the first four years, though some protection may still be provided through *force majeur* provisions.

**Figure 2.1**
**Impact of Cap and Collar Mechanism on TOC Revenues**




The "de-risking" of franchise contracts occurred as part of a series of changes that also saw a major change in the way that service requirements are specified. For the first round of franchises, bidders were given relative freedom to specify the services that they would provide, subject to a relatively loosely defined set of minimum requirements (particularly

where the operation of services had the potential to be a viable commercial proposition, rather than a social service requiring local or national government subsidy).

For a brief period in the late 1990s, and in recognition of the capacity constraints that were affecting services, bidders were offered even more freedom and encouraged to come forward with ideas for service enhancements underpinned by major investment programmes, in return for which they would be granted long term (eg up to 20 year) franchises.

Following the significant cost increases experienced by the industry in the early 2000s, however, an alternative approach was implemented that saw the SRA (and now DfT) specify in SLCs, to a high level of detail, the precise services that TOCs were to provide. In some cases, these franchise specifications were based on the results of Route Utilisation Strategies which aimed to ensure that the best use was made of the existing infrastructure capacity. In theory, the SLCs are stated in output terms, but in practice the requirements may be so tight as to have only one passenger timetable solution. As noted above, any additional services that are offered at the time that franchise bids are submitted may be included in a revised SLC for the franchise; however, they often cannot be included in Base Case bids, upon which franchises are won or lost. More generally, we expect the scope for TOCs to offer services over and above the SLC to be significantly constrained by, among other things:

- the fact that the SLC is typically set at a very high level;
- the fact that significant capacity constraints restrict TOCs' ability to provide additional services at many locations;[1] and
- in many cases where capacity is available, there may be insufficient demand to cover the costs that would be incurred by providing additional rail services.[2]

Other aspects of the de-risking of franchise contracts have included a return to relatively short term contracts (typically seven years with potential performance-based extensions) and improvements in the method of cost indexation (for example, using the average earnings index).

Generally, these changes to franchise contracts have been well received by the industry and understood by bidders. Whereas, under the original franchise contracts, bidders typically included a margin of 5 to 6 per cent on passenger revenues, margins of 3.5 to 4.5 per cent are more common in recent bids.

## 2.2. Clause 18.1 and Access Charge Reviews

Throughout the period since rail industry restructuring in the mid-1990s, franchise contracts have included provision for a franchise review (instigated by either OPRAF/SRA or the TOC) to compensate for the financial effect on the operator of a regulatory review of access charges. This protection is one element that has continued to feature in franchise contracts, notwithstanding the changes in policy and the fundamental review of risk allocation that have

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1 In practice, moreover, DfT is likely to be cautious about any proposed additional services that might have an adverse impact on the performance of existing services.

2 A further constraint may apply if proposed new services would abstract revenue from another TOC's existing services, as ORR is unlikely to approve access rights for new services that are primarily abstractive.

taken place in recent years. The relevant provisions were set out in clause 18.1 of the original franchise contracts, and are still generally referred to as "clause 18.1" even though the structure of franchise contracts has changed.

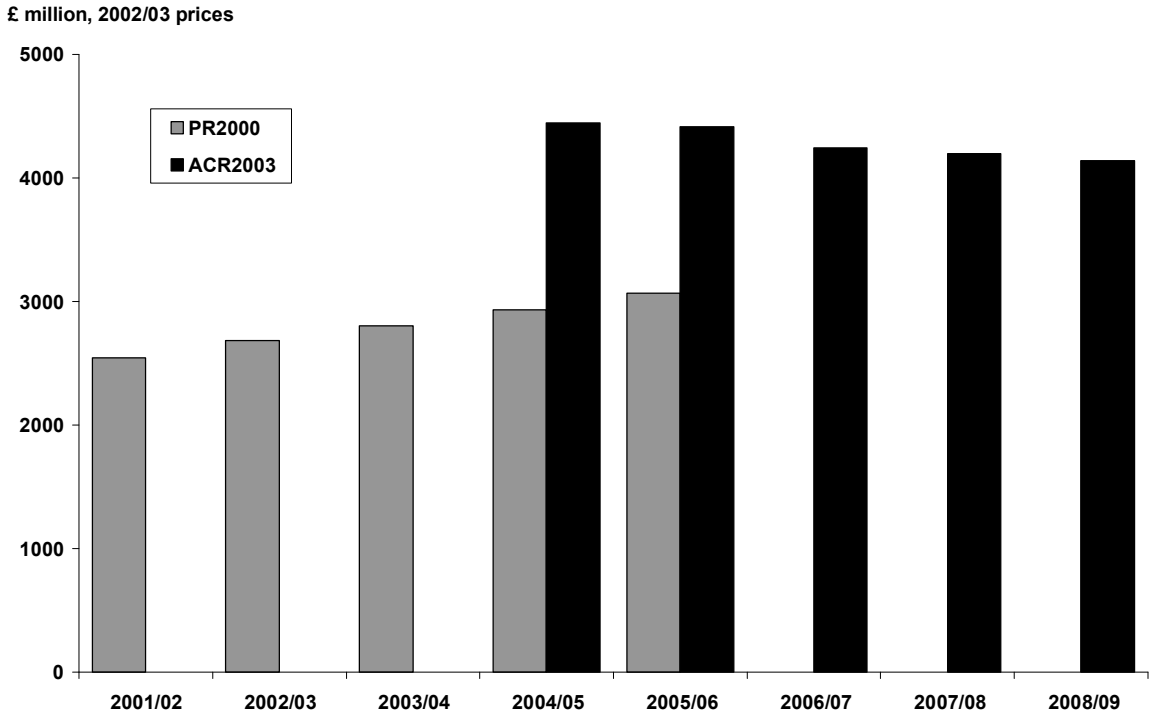
Clause 18.1 was designed to protect TOCs from the financial effects of changes in access charges that result from regulatory reviews. It also ensured that, if access charges go down, TOCs do not enjoy windfall gains but rather the benefit accrues to OPRAF/SRA/DfT in the form of lower subsidies (or higher premiums). In practice, clause 18.1 was implemented by ensuring that TOCs effectively continue to pay according to the access charging framework that applied at the time the franchise contract was signed, even if some or all of the access charges (both fixed and variable) had been reset following a regulatory review. Importantly, it has applied in cases where the structure of charges has changed (for example, to adjust the balance between fixed and variable charges) or where particular features of the charging framework (such as performance regimes) have been revised, as well as following five-yearly reviews of Railtrack and Network Rail's access charges.

Equivalent protection is now provided in the latest version of the franchise contract through provisions for the adjustment of franchise payments, based on a recalculation of the relevant franchise financial model. While this means that any new or additional services that a TOC runs (over and above the SLC, and subject to DfT approval) will now pay the prevailing level of access charges, even if these have changed since the franchise contract was signed, TOCs are still insulated from the impact of changes in access charges for services within the SLC (ie the vast majority, if not all, of them).[3]

In relation to five yearly reviews of the level of access charges, at least, it might have been originally expected that, although clause 18.1 was protecting TOCs from the risk of an increase in access charges, access charges were in fact more likely to decrease rather than increase. This was indeed the case in the review completed in 2000 ("PR2000") and also the pre-franchising review completed in 1995. But the review completed in 2003 ("ACR2003") saw substantial increases the overall level of access charges. Figure 2.2 compares the annual revenue requirements (ie total costs, including return, after deducting property income, freight access charges, etc) that resulted from the two reviews. For 2004/05, for example, the estimated revenue requirement increased by more than 50 per cent between PR2000 and ACR2003.

[3] In theory, TOCs could also respond to changed incentives by varying some aspects of their existing services, such as the type of rolling stock used. However, such changes would need to be approved by DfT, which would probably look to capture (through adjustments to franchise payments) a high proportion of any benefit that might otherwise accrue to the TOC. Thus, even if TOCs now face the "correct" price signals, their incentives to respond to them are likely to be low, at least for services within the SLC.

**Figure 2.2**
**Railtrack / Network Rail Annual Revenue Requirement**




Not only did the 2003 review lead to increased access charges, but it is also significant that this review was undertaken "early", in the sense that it was carried out (in response to the cost increases following Hatfield) before the next regular five-yearly review was scheduled. Thus a TOC signing a franchise contract in early-to-mid 2000 (ie before Hatfield) might have expected access charges to remain in line with the PR2000 conclusions until March 2006.

In addition to five-yearly reviews (or similar interim reviews) of the overall level of Network Rail's access charges, ORR has carried out a number of reviews of the structure of charges. The review completed in 2000, for example, saw a shift in the balance between fixed and variable charges. And it also saw the introduction of new elements of the charging framework, including a charge related to the degree of capacity utilisation for individual routes or sections. Such changes, even if they have no impact on the overall level of access charges across the network as a whole, could lead to significant increases or decreases in the access charges paid by individual TOCs.

Clause 18.1 also covers other elements of the track access charging framework, notably possessions regimes (Schedule 4 of track access contracts) and performance regimes (Schedule 8 of track access contracts) as well as conventional track access charges. While, in theory, both of these regimes are designed to compensate TOCs for the impact of delays or disruption caused by other parties, this might not occur (and therefore changes in the regimes could affect the finances of individual TOCs):

- if changes to the parameters lead to a divergence between compensation payments and actual revenue losses. This might occur because of errors in the recalibration of certain parameters, or because of a deliberate decision to change the relationship between revenue impacts and compensation payments (which occurred, for example, when the

"societal rate" was first increased and then removed altogether from Schedule 8 regimes); or

- because of incentives that may lead to a divergence between compensation payments and actual revenue losses. Network Rail benefits from discounts on Schedule 4 payments, for example, if it gives TOCs sufficient advance notice of planned possessions. An increase in these incentives, or an improvement in Network Rail's record of providing advance notice, could leave TOCs out of pocket (unless these incentives are based solely on the estimated revenue benefits from providing early notice of possessions).

Clause 18.1 might therefore offset the impact of changes in Schedule 4 and 8 parameters that are designed either to provide more accurate compensation than previously or to introduce specific incentives that ORR believes are likely to be beneficial.

Finally, and importantly, we note that even if there is no change likely to either the overall level of charges or the balance between fixed and variable charges, TOCs could still face significant risk (in the absence of clause 18.1) if there are possible changes to the way that fixed track access charges are calculated for individual franchisees. While the impact of such changes over the network as a whole may be revenue-neutral, the effect on individual TOCs' access charges could be very significant indeed. This is important, as even if TOCs could be persuaded that "another Hatfield" is unlikely to occur and therefore access charges are more likely to fall than to rise in future, individual TOCs might still perceive a significant risk of a large increase in their own access charges if ORR continues to refine the allocation of fixed charges (for example, to move further towards route-based charges).[4]

[4] ORR's October 2005 conclusions on the Structure of Costs and Charges Review, for example, refers to ongoing work to examine a possible more cost-reflective approach to determining fixed charges.

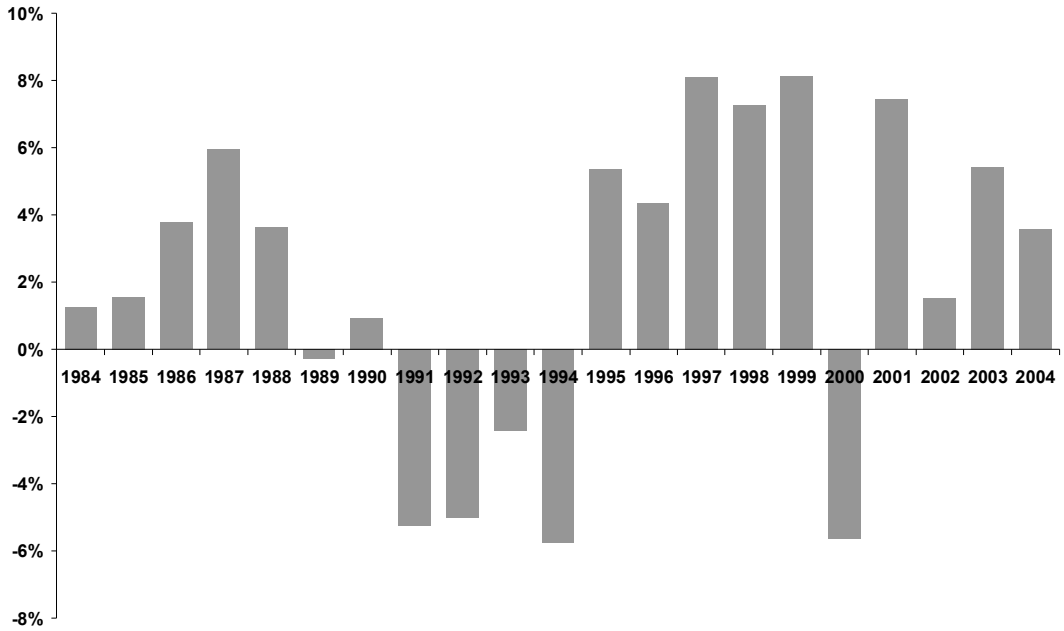
# 3. TOCs' Exposure to Other Risks

## 3.1. Types of Risk

Despite the process described in Section 2.1 to reduce the risk faced by franchisees and the continued application of clause 18.1, TOCs still face a number of significant risks. One of the most serious is macroeconomic risk, because of the well-known sensitivity of passenger rail demand to economic booms and recessions. In addition, TOC revenues may be at risk if there is a deterioration in operational performance, significant industrial action or other exceptional events.

To illustrate the variability that has been observed in practice, Figure 3.1 to Figure 3.3 show the annual changes in total fares revenues for InterCity, London & South East and Regional services over the last 20 years.[5]

**Figure 3.1**
**Annual Change in Real Fares Revenues: InterCity**




[5] These data are derived from Transport Statistics Great Britain, National Rail Trends and HM Treasury statistics. In some cases, the data are for financial years rather than calendar years (eg "2004" refers to the growth rate between 2003/04 and 2004/05), there have been some service reclassifications between sectors, and different price deflators have been used (as TSGB switched from RPI to the GDP deflator for its constant price series). For each individual year, however, the annual growth rates shown are calculated for year-on-year growth with consistent data sources and definitions.

**Figure 3.2**
**Annual Change in Real Fares Revenues: London & South East**

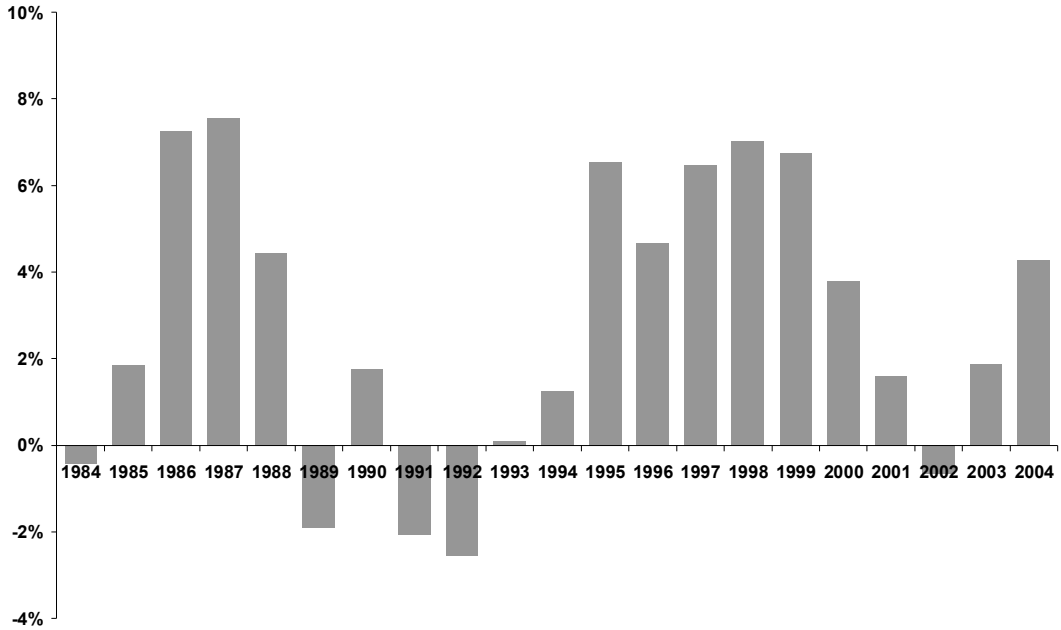
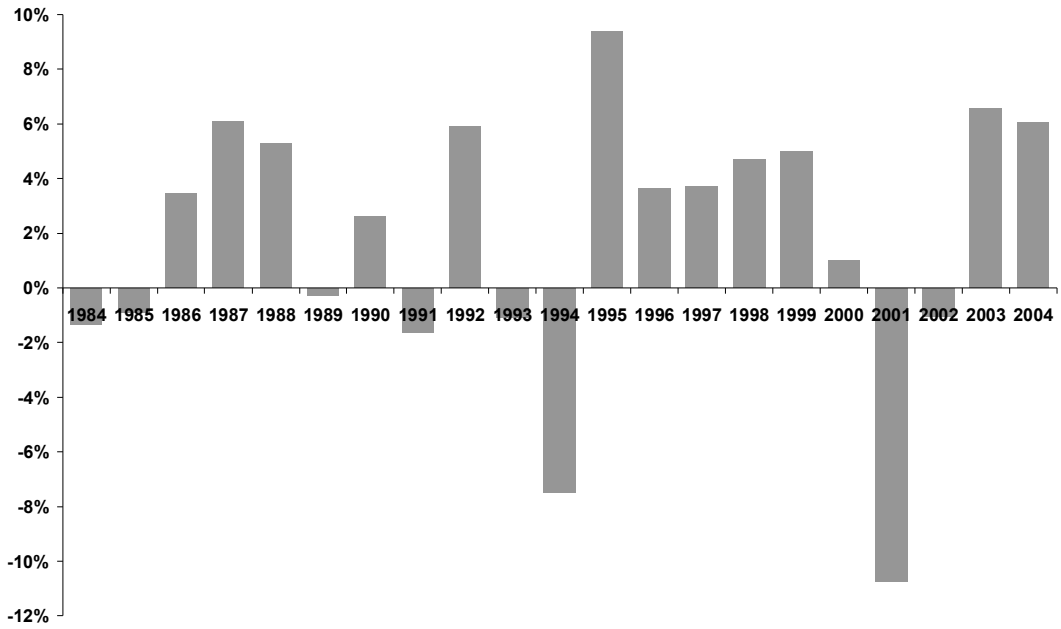



**Figure 3.3**
**Annual Change in Real Fares Revenues: Regional**




The period shown in the above charts includes one economic recession, in the early 1990s, and two periods of economic boom, the late 1980s and the late 1990s. Figure 3.1 clearly shows the strong impact of these economic cycles on InterCity revenues, with a sustained period of significantly negative revenue growth (often 5 to 6 per cent a year) in the recession contrasting with sustained strong positive revenue growth (over 4 per cent a year, and up to 8 per cent a year in the late 1990s) in the boom periods.

London & South East services were also strongly affected by variations in economic growth, though not to quite the same extent as InterCity services. As well as general, economy-wide trends, these services are specifically affected by central London employment. Regional services appear to be less affected by economic changes than the other sectors, and probably more likely to be affected by changes in service patterns, etc.

The charts also cover the period of the Hatfield derailment and the subsequent disruption and deterioration in performance. The most immediate impact was on the revenue of InterCity services, though even in this exceptional case the net impact was similar to a single year of an economic recession. London & South East services were less affected, which probably reflects both the geographic spread of the disruption and also the reliance of these TOCs on (non-discretionary) travel to work and season ticket revenues.

Some TOCs may also face revenue risk from competing services. These might include long distance coach services (for InterCity TOCs) or improved bus or light rail services (for London & South East and Regional TOCs). In the absence of significant changes in transport policy, these risks are probably relatively small from the point of view of a TOC bidding for a seven year franchise. In some cases, TOCs may face potential competition from other train operators – either because of overlaps between franchises or because of new, open access operators. The former is likely to be relatively predictable (with unexpected developments probably unlikely because of DfT's role in specifying services), while the latter is possible though likely to be restricted to isolated cases.

All of these sources of revenue risk may be mitigated, moreover, by cap and collar or similar risk-sharing mechanisms now commonly included in franchise contracts. But as noted in Section 2.1, these mechanisms often apply only after the first four years of a franchise.

In addition, and without any corresponding risk-sharing arrangement, TOCs face the risk that their own costs will be higher than expected. While they are protected from increases in access charges by clause 18.1, and rolling stock leases are typically agreed on a long term basis, TOCs' profits could be affected by unexpected changes in their own costs. The use of the Average Earnings Index in franchise contracts now offers a degree of protection from economy-wide wage inflation, but TOCs could find that they are unable to realise efficiency gains that they assumed would be achievable when bidding, or they may be subject to localised or sector-specific pressure on wage costs.

## 3.2. Modelling TOCs' Exposure to Other Risks

In order to illustrate the broad scale of other risks that TOCs currently face, we have constructed financial projections for three hypothetical TOCs (one InterCity, one London & South East and one Regional franchise), and then estimated the impact of specific revenue or cost changes on their overall profitability.

Section 3.2.1 sets out the "base case" projections for each of the hypothetical TOCs,[6] then Section 3.2.2 describes the way that we have varied these projections to illustrate the

[6] Here, "base case" simply refers to each bidder's central forecast, rather than the specific Base Case used in the context of franchise bids.

approximate impact on TOCs' profits of different types of risk. While our initial assumptions are informed by publicly available data for several TOCs within each category, these examples are not intended to represent any individual TOC. Neither is it important, for the current study, to have accurate assumptions that relate to one or more individual TOCs. Rather, our assumptions are intended simply to ensure that the relative importance of different revenue and cost categories is broadly consistent with that observed in practice for each type of TOC. If this requirement is satisfied, then we can be confident that our illustrations of the risks faced by different types of TOC are broadly realistic.

### 3.2.1. Base case projections

Table 3.1 to Table 3.3 below summarise the base case projections for each of the hypothetical TOCs. The costs and revenues in the opening year are broadly consistent with publicly available data for several TOCs in each category. However,

- the split (of costs and revenues) between "core" and "non-core" services is relatively arbitrary and almost certainly overstates (perhaps very significantly) the likely importance of non-core services in practice. We have assumed that non-core services account for just under 5 per cent of InterCity receipts, just over 2 per cent of London & South East receipts, and just under 2 per cent of Regional receipts;
- we have made relatively arbitrary assumptions about the operating profit that bidders will include in their bids, and then calculated DfT subsidies as a balancing item. For the InterCity and London & South East TOC, the implied margin is approximately 5 per cent. The implied margin for the Regional TOC is larger, simply because the absolute level of profits is small.

For subsequent years, the projections are based on the following main assumptions:

- traffic growth is 3 per cent a year for the InterCity and London & South East TOCs, and 2 per cent a year for the Regional TOC;
- fares increase by 1.5 per cent a year in real terms;
- all costs except fixed track access charges rise in line with traffic growth plus an assumed rate of real unit cost growth - this is 0.75 per cent a year for variable track access charges, 1 per cent a year for TOCs' own costs and zero for other costs;[7]
- fixed track access charges rise by 3 per cent a year in real terms
- bidders are seeking an increase in operating profit of £1 million a year.

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[7] This link between traffic growth and cost growth has only been used to generate the base case projections. It does not feature, for example, in the further model runs described below to illustrate either TOCs' current risk exposure or the impact of reducing or removing clause 18.1 protection.

These assumptions are simply intended to ensure that the projections are broadly representative of the mix of revenues and costs for different types of TOC, rather than necessarily providing an accurate picture of the situation facing any individual TOC. We have not taken account, moreover, of any possible measures that might be adopted by the TOC, when bidding, to achieve a certain time profile of subsidies (or premium payments).

## Table 3.1
## Base Case Projections: InterCity TOC

| £000, real | Year 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Revenues** | | | | | | | | | | | |
| Fares revenue - core services | 400,000 | 418,180 | 437,186 | 457,056 | 477,830 | 499,547 | 522,251 | 545,988 | 570,803 | 596,746 | 623,868 |
| Fares revenue - non core services | 20,000 | 20,909 | 21,859 | 22,853 | 23,891 | 24,977 | 26,113 | 27,299 | 28,540 | 29,837 | 31,193 |
| DfT subsidy | 43,500 | 40,995 | 38,181 | 35,040 | 31,551 | 27,694 | 23,446 | 18,783 | 13,682 | 8,115 | 2,056 |
| Cap & collar | - | - | - | - | - | - | - | - | - | - | - |
| **Total revenues** | **463,500** | **480,084** | **497,227** | **514,949** | **533,272** | **552,218** | **571,810** | **592,070** | **613,025** | **634,698** | **657,118** |
| **Costs** | | | | | | | | | | | |
| **Core service** | | | | | | | | | | | |
| Track access - fixed | 135,000 | 139,050 | 143,222 | 147,518 | 151,944 | 156,502 | 161,197 | 166,033 | 171,014 | 176,144 | 181,429 |
| Track access - variable | 14,000 | 14,528 | 15,076 | 15,645 | 16,235 | 16,848 | 17,483 | 18,143 | 18,827 | 19,537 | 20,275 |
| Other access & lease charges | 10,000 | 10,300 | 10,609 | 10,927 | 11,255 | 11,593 | 11,941 | 12,299 | 12,668 | 13,048 | 13,439 |
| Rolling stock | 70,000 | 72,100 | 74,263 | 76,491 | 78,786 | 81,149 | 83,584 | 86,091 | 88,674 | 91,334 | 94,074 |
| Own costs | 200,000 | 208,060 | 216,445 | 225,168 | 234,242 | 243,682 | 253,502 | 263,718 | 274,346 | 285,402 | 296,904 |
| **Non core service** | | | | | | | | | | | |
| Track access - variable | 1,000 | 1,038 | 1,077 | 1,117 | 1,160 | 1,203 | 1,249 | 1,296 | 1,345 | 1,396 | 1,448 |
| Rolling stock | 3,500 | 3,605 | 3,713 | 3,825 | 3,939 | 4,057 | 4,179 | 4,305 | 4,434 | 4,567 | 4,704 |
| Own costs | 10,000 | 10,403 | 10,822 | 11,258 | 11,712 | 12,184 | 12,675 | 13,186 | 13,717 | 14,270 | 14,845 |
| **Total operating costs** | **443,500** | **459,084** | **475,227** | **491,949** | **509,272** | **527,218** | **545,810** | **565,070** | **585,025** | **605,698** | **627,118** |
| **Operating profit** | **20,000** | **21,000** | **22,000** | **23,000** | **24,000** | **25,000** | **26,000** | **27,000** | **28,000** | **29,000** | **30,000** |

## Table 3.2
## Base Case Projections: London & South East TOC

| £000, real | Year 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Revenues** | | | | | | | | | | | |
| Fares revenue - core services | 450,000 | 470,453 | 491,835 | 514,188 | 537,558 | 561,990 | 587,533 | 614,236 | 642,153 | 671,339 | 701,851 |
| Fares revenue - non core services | 10,000 | 10,455 | 10,930 | 11,426 | 11,946 | 12,489 | 13,056 | 13,650 | 14,270 | 14,919 | 15,597 |
| DfT subsidy | 137,000 | 136,931 | 136,614 | 136,033 | 135,166 | 133,996 | 132,501 | 130,659 | 128,445 | 125,836 | 122,805 |
| Cap & collar | - | - | - | - | - | - | - | - | - | - | - |
| **Total revenues** | **597,000** | **617,838** | **639,379** | **661,647** | **684,671** | **708,475** | **733,090** | **758,544** | **784,868** | **812,094** | **840,253** |
| **Costs** | | | | | | | | | | | |
| **Core service** | | | | | | | | | | | |
| Track access - fixed | 200,000 | 206,000 | 212,180 | 218,545 | 225,102 | 231,855 | 238,810 | 245,975 | 253,354 | 260,955 | 268,783 |
| Track access - variable | 19,500 | 20,236 | 20,999 | 21,791 | 22,613 | 23,466 | 24,352 | 25,270 | 26,224 | 27,213 | 28,240 |
| Other access & lease charges | 10,000 | 10,300 | 10,609 | 10,927 | 11,255 | 11,593 | 11,941 | 12,299 | 12,668 | 13,048 | 13,439 |
| Rolling stock | 95,000 | 97,850 | 100,786 | 103,809 | 106,923 | 110,131 | 113,435 | 116,838 | 120,343 | 123,953 | 127,672 |
| Own costs | 240,000 | 249,672 | 259,734 | 270,201 | 281,090 | 292,418 | 304,203 | 316,462 | 329,215 | 342,483 | 356,285 |
| **Non core service** | | | | | | | | | | | |
| Track access - variable | 500 | 519 | 538 | 559 | 580 | 602 | 624 | 648 | 672 | 698 | 724 |
| Rolling stock | 2,000 | 2,060 | 2,122 | 2,185 | 2,251 | 2,319 | 2,388 | 2,460 | 2,534 | 2,610 | 2,688 |
| Own costs | 5,000 | 5,202 | 5,411 | 5,629 | 5,856 | 6,092 | 6,338 | 6,593 | 6,859 | 7,135 | 7,423 |
| **Total operating costs** | **572,000** | **591,838** | **612,379** | **633,647** | **655,671** | **678,475** | **702,090** | **726,544** | **751,868** | **778,094** | **805,253** |
| **Operating profit** | **25,000** | **26,000** | **27,000** | **28,000** | **29,000** | **30,000** | **31,000** | **32,000** | **33,000** | **34,000** | **35,000** |

## Table 3.3
## Base Case Projections: Regional TOC

| £000, real | Year 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Revenues** | | | | | | | | | | | |
| Fares revenue - core services | 110,000 | 113,883 | 117,903 | 122,065 | 126,374 | 130,835 | 135,453 | 140,235 | 145,185 | 150,310 | 155,616 |
| Fares revenue - non core services | 2,000 | 2,071 | 2,144 | 2,219 | 2,298 | 2,379 | 2,463 | 2,550 | 2,640 | 2,733 | 2,829 |
| DfT subsidy | 228,650 | 235,079 | 241,639 | 248,333 | 255,164 | 262,136 | 269,252 | 276,514 | 283,927 | 291,492 | 299,215 |
| Cap & collar | - | - | - | - | - | - | - | - | - | - | - |
| **Total revenues** | **340,650** | **351,032** | **361,685** | **372,617** | **383,836** | **395,350** | **407,168** | **419,299** | **431,751** | **444,536** | **457,661** |
| **Costs** | | | | | | | | | | | |
| **Core service** | | | | | | | | | | | |
| Track access - fixed | 110,000 | 113,300 | 116,699 | 120,200 | 123,806 | 127,520 | 131,346 | 135,286 | 139,345 | 143,525 | 147,831 |
| Track access - variable | 10,000 | 10,277 | 10,561 | 10,853 | 11,153 | 11,461 | 11,778 | 12,104 | 12,438 | 12,782 | 13,136 |
| Other access & lease charges | 9,000 | 9,180 | 9,364 | 9,551 | 9,742 | 9,937 | 10,135 | 10,338 | 10,545 | 10,756 | 10,971 |
| Rolling stock | 45,000 | 45,900 | 46,818 | 47,754 | 48,709 | 49,684 | 50,677 | 51,691 | 52,725 | 53,779 | 54,855 |
| Own costs | 155,000 | 159,681 | 164,503 | 169,471 | 174,589 | 179,862 | 185,294 | 190,890 | 196,655 | 202,594 | 208,712 |
| **Non core service** | | | | | | | | | | | |
| Track access - variable | 1,000 | 1,028 | 1,056 | 1,085 | 1,115 | 1,146 | 1,178 | 1,210 | 1,244 | 1,278 | 1,314 |
| Rolling stock | 250 | 255 | 260 | 265 | 271 | 276 | 282 | 287 | 293 | 299 | 305 |
| Own costs | 400 | 412 | 425 | 437 | 451 | 464 | 478 | 493 | 507 | 523 | 539 |
| **Total operating costs** | **330,650** | **340,032** | **349,685** | **359,617** | **369,836** | **380,350** | **391,168** | **402,299** | **413,751** | **425,536** | **437,661** |
| **Operating profit** | **10,000** | **11,000** | **12,000** | **13,000** | **14,000** | **15,000** | **16,000** | **17,000** | **18,000** | **19,000** | **20,000** |

### 3.2.2. Illustrating TOCs' exposure to other risks

To illustrate the extent to which TOCs face other types of risk in their existing contracts, we have focused on three main sources of risk:

- macroeconomic risk – either a recession or a boom. As noted above, however, for an increasing number of TOCs this risk is shared with DfT through the operation of cap and collar or similar revenue risk-sharing mechanisms;
- cost risk – the risk that the TOC's own costs might be higher than it assumed when submitting its bid (either because of unexpected cost growth, or because the TOC is unable to realise efficiency gains that it assumed it would be able to when bidding); and
- performance risk – while TOCs should be protected from the impact of poor operational performance by Network Rail or other train operators, they still face risks associated with their own performance. This covers the direct revenue loss (which may be mitigated, to some extent, by cap and collar or similar mechanisms), plus compensation payments both to passengers and (via Schedule 4) to other TOCs whose own services suffer knock-on effects.

To illustrate the impact of macroeconomic risk, we have modelled:

- a "mild recession" scenario. This is assumed to start in year 1 of the franchise and leads to lower than expected revenue growth for the first four years – during this period, annual revenue growth is 3 per cent lower than expected for the InterCity TOC, 2 per cent lower for the London & South East TOC and 1 per cent lower for the Regional TOC. This is followed by a recovery, featuring four years of higher than expected growth (2.5 per cent, 1.5 per cent and 0.75 per cent higher per year respectively). From year 9 onwards, revenue growth continues as expected (though the level of revenue remains slightly lower than forecast); and
- a "strong recession" scenario, starting in year 5 of the franchise. For four years, revenue growth is 6 per cent, 4 per cent and 2 per cent lower per year for the InterCity, London & South East and Regional TOCs, followed by a partial recovery with annual revenue growth 4.5 per cent, 3 per cent and 1.5 per cent higher than expected.

We have also modelled corresponding "boom" scenarios, where revenue growth is higher than expected for four years, followed by a slowdown.

These scenarios are broadly consistent with the extent of cyclical variation shown in Figure 3.1 to Figure 3.3 above. These show revenue growth rates that remained significantly above or below average for periods of four years. While the "strong" recession and boom scenarios are consistent with this historical experience, the "mild" scenarios are included in recognition of the fact that the economy has followed a more stable growth path for the last 10 years. Nevertheless, franchise bidders may feel that their business plans need to be able withstand a fully fledged recession, rather than the more muted cycles experienced recently.

In each case, we assume that TOCs are subject to a "typical" cap and collar mechanism as described in Section 2.1 (and illustrated in Figure 2.1). But this does not apply during the first four years of the franchise. Our assumption that the "strong" recession does not start

until year 5 is therefore quite a conservative one.[8] A strong recession that started during the first four years of a franchise could have a very much stronger impact on the TOC's profits.

In addition, we have allowed for the impact of a boom or recession on wage inflation and other cost growth – in particular we have assumed that TOCs' own costs grow at an extra 1 per cent a year during a boom, but during a recession cost growth is 1 per cent a year *less* than expected.[9]

To illustrate the impact of cost risk alone, we have assumed that each TOC experiences unexpected growth of its own costs (throughout the franchise period) of either:

- 0.5 per cent a year ("mild cost growth"); or
- 1 per cent a year ("strong cost growth").

We have then modelled two cases to illustrate the potential impact of performance risk:

- a "poor performance" scenario, which is intended to represent sustained poor operational performance by a TOC for a period of several years. Specifically, this case shows the impact of the average lateness attributable to the TOC being 0.25 minutes higher than expected for the entire length of the franchise;[10] and
- a "performance shock" scenario, which shows the effect of a one minute increase (attributable to the TOC) in average lateness in year 3 of the franchise (ie before the cap and collar kicks in). This level of poor performance is roughly equivalent to that which was experienced by most TOCs (though excluding GNER) in the aftermath of Hatfield. While such a deterioration might occur temporarily in response to specific events, it would be surprising if such a level poor performance were sustained over an extended period of time, especially for disruption caused by TOCs (rather than Network Rail).[11]

Figure 3.4 shows the impact of these scenarios on the profits of the hypothetical InterCity TOC. Because we assume that the cap and collar mechanism applies by the time the strong recession and boom scenarios commence, their impact on profits is constrained (but still significant). The apparent asymmetry between profits under the boom and recession scenarios simply reflects the fact that, under the strong recession scenario, the TOC bears

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8 One reason for assuming that the "strong" recession starts later is that, if an early strong recession were likely, then this might be predicted at the time the TOC was putting its bid together. But there could be an unexpected shock that leads to an early strong recession, or a strong recession could start in year 3 or 4 of the franchise and therefore still reduce revenues in some years when the cap and collar does not apply. In such cases, TOCs might be able to invoke the *force majeur* provisions in franchise contracts.

9 In each case, we assume that these changes are fully reversed in the years immediately following the boom or recession.

10 As a possible point of reference, typical benchmarks in Schedule 8 performance regimes for average lateness attributable to TOCs are between 1 and 2 minutes for short distance services, 2 and 3 minutes for longer distance services, and up to 5 minutes or more for complex services (eg very long distances, or InterCity services that start or finish on local branch lines).

11 The main type of event that might cause such an outcome would be a catastrophic and extended rolling stock failure. Under such circumstances, however, TOCs might well be able to seek compensation from the rolling stock provider (especially the manufacturer, in the case of new stock). Otherwise, such disruption might be caused by factors within the TOCs' control (for example, if a TOC suffered a shortage of drivers or other key staff following an overambitious programme of redundancies and cost-cutting).

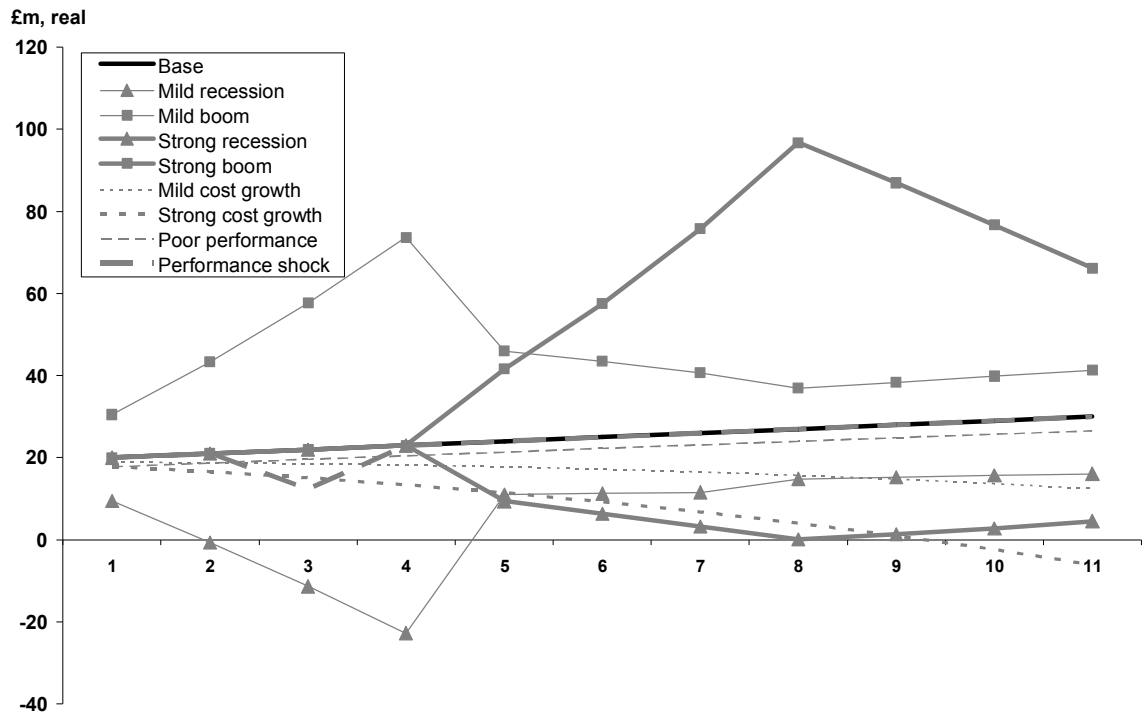
only 20 per cent of further revenue losses from the second year of the recession onwards. Even in this case (with the compensating impact of lower than expected cost growth, and without any other adverse events), the TOC's profits fall to zero in the fourth year of the recession.

Because it occurs before the cap and collar mechanism takes effect, the mild recession has an even stronger impact on the TOC's profits, pushing it into losses for the second, third and fourth years of the recession. Clearly, if our "strong" recession were to occur at a similar time (ie before the cap and collar takes effect), then the impact would be even larger.

Figure 3.4 also shows the impact that even quite modest cost growth can have on the TOC's profits. An additional increase of 1 per cent each year in the TOC's own costs (ie excluding track access charges, rolling stock lease charges and similar costs) is sufficient to eliminate the its profits by the end of the franchise period.

But the impact of performance risk is relatively small. Even the performance shock scenario only reduces profits by about £5 million in the year of the incident, and as noted above it may be unlikely, except in extreme cases, that delays attributable to a TOC would lead to such significant disruption for an extended period of time. Moreover, if the "shock" was assumed to occur later in the franchise period, the impact on the TOC's profits would be reduced by the operation of the cap and collar mechanism. And the impact of the more sustained (but less extreme) poor performance scenario is also small.

**Figure 3.4**
**Other Risks: InterCity TOC**

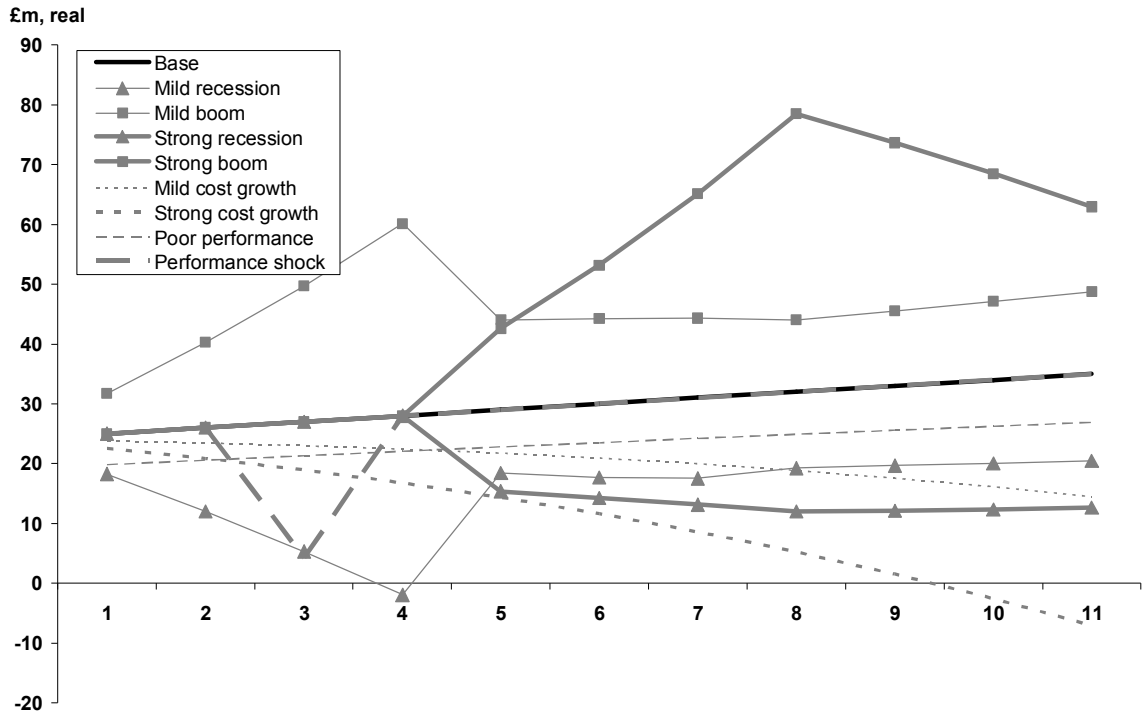



As shown in Figure 3.5, the estimated impact of the macroeconomic boom and recession scenarios on the profits of the London & South East TOC are somewhat less serious. This reflects our assumption (consistent with the evidence shown in Section 3.1) that, compared

with the InterCity TOC, economic cycles have a slightly weaker impact on fares revenues, and also the fact that fares revenues account for a lower proportion of the TOC's total revenues (since subsidies are higher) than for the InterCity TOC. Even so, the "mild" recession is sufficient (in the absence of the cap and collar mechanism) to push the TOC into a loss-making situation by year 4, and clearly a stronger recession occurring at the same time would have an even more serious impact.

In contrast the estimated impact of poor performance in Figure 3.5 is somewhat higher than for the InterCity TOC. To some extent at least, this reflects the fact that journey times are typically shorter for the London & South East TOC and therefore our illustrative scenarios (with the same absolute increase in average lateness) may actually represent a more extreme assumption for the London & South East TOC than for the InterCity TOC. Even in the year of temporary performance shock, however, the TOC remains profitable.

**Figure 3.5**
**Other Risks: London & South East TOC**



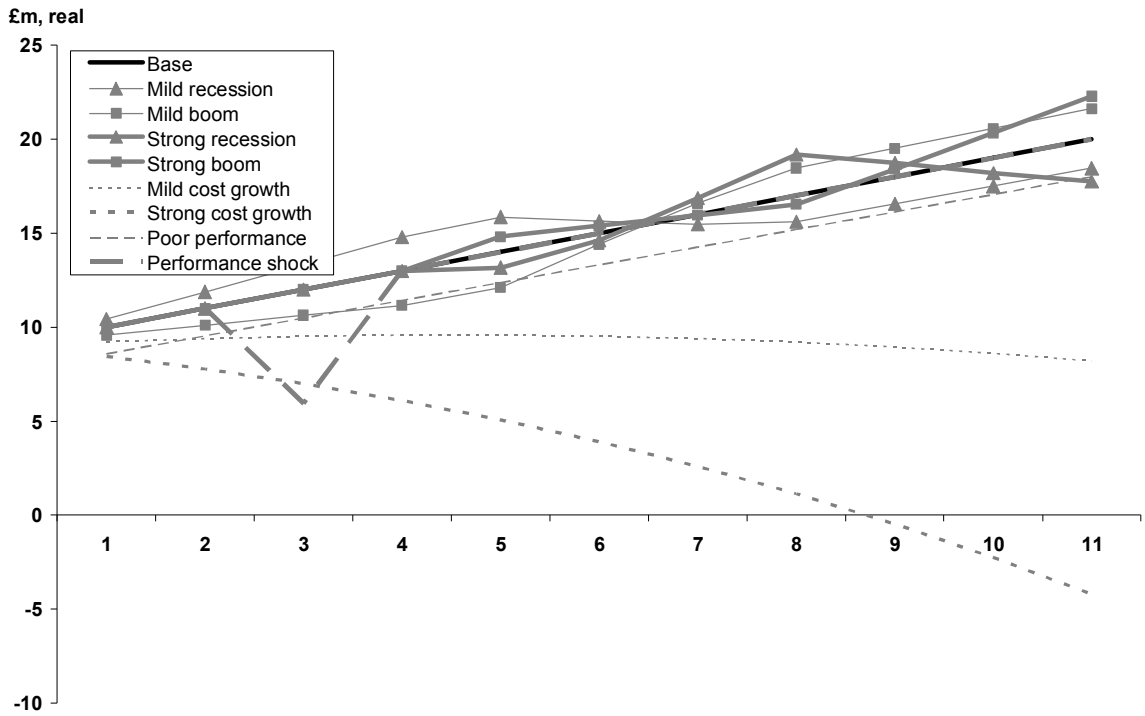

The situation for the Regional TOC, as shown in Figure 3.6, is somewhat different. Because fares revenues account for a relatively low proportion of the TOC's total revenues, and because we have assumed that the boom/recession scenarios have a more muted impact on these revenues, the impact of the boom/recession scenarios on the TOC's profits is quite small.[12] Indeed, since we also assume that cost growth is reduced in the recession scenarios, this effect initially outweighs the revenue loss and the TOC's profits are actually projected to

[12] A further significant factor is that we have assumed a higher profit margin for this TOC, in order to avoid a situation where the absolute level of expected profits was very low. Even if the initial profit level was £5 million, however, the TOC would remain profitable in the recession scenarios (albeit with mitigation from lower than expected cost growth and, for the strong recession, the cap and collar mechanism).

increase in the mild recession scenario and fall in the mild boom scenario. In the strong recession/boom scenarios, the impact of the cap and collar mechanism complicates the situation further, causing the profit projections in these cases to cross the "base case" line several times. And the poor performance scenarios also have a relatively minor impact on the TOC's projected profits.

Instead, Figure 3.6 suggests that, among the risks illustrated in this section, Regional TOCs may be more likely to be concerned about potential cost risk than revenue risk.

**Figure 3.6**
**Other Risks: Regional TOC**



# 4. Options for Amending Franchise Agreements

## 4.1. Background

One feature of the way that clause 18.1 protection has been applied to date is that, for the duration of their franchise contracts, it insulates TOCs from any changes in the incentive structure introduced by ORR – initially for all services and now for the services included in the SLC (still the vast majority). This has led to situations where ORR has amended the charging framework, for example to make certain variable costs more cost-reflective than previously or to place additional incentives on train operators, only to find that the majority of TOCs continue to face the "old" incentives, perhaps for a number of years.

Under the latest version of the franchise contract, there might appear to be more scope for TOCs to respond to changes in the incentive framework. In practice, we believe that any opportunities to change the number of services (either by introducing new services or by cutting existing non-SLC services that TOCs might provide) are likely to be strictly limited. Although the new charges might apply to any services that TOCs provide outside of the relevant SLC, the scope for such services is likely to be restricted by a combination of capacity constraints, regulatory restrictions on new services that might abstract revenue from existing services, and a lack of demand elsewhere. It is important to remember, moreover, that if TOCs were aware of profitable opportunities for additional services at the time they bid for their franchises, they may well have included such services in their bids (in which case they might have been included in the final SLC).

Any scope for TOCs to respond to revised incentives is therefore more likely to involve changes in the specification of existing services, such as timetabling changes, modifications to (or replacement of) rolling stock and similar adjustments. Such changes would only be likely if DfT were to adopt a permissive approach that both allowed TOCs to implement such changes and also enabled them to retain a high proportion (if not all) of the resulting benefits. Even in this case, however, it is not clear how many changes might be likely to occur in practice in response to any change in the level or structure of access charges.

In the following section, we describe a number of possible options for amending clause 18.1 to increase the likelihood that TOCs will be in a position to respond to any changes in the incentive structure introduced by ORR. The options include either:

- a complete removal of the protection afforded by clause 18.1; or
- a change in the way that TOCs are compensated for any change in access charges.

Where appropriate, we then illustrate the likely quantitative impact on TOCs' risk exposure in Section 5. We do not do this for all options, however, since not all of them will result in a significant increase in risk in a way that can easily be quantified.

## 4.2. Options

### 4.2.1. Option 1: Complete removal

#### 4.2.1.1. Rationale

The first option is the complete removal of clause 18.1 protection from future franchise contracts. TOCs will therefore bear all of the risk associated with any changes in track access charges. In the case where charges are reduced, however, they will also retain all of the benefit.

Clearly, the removal of clause 18.1 will ensure that any future changes that ORR makes to the incentive framework will take effect immediately. All TOCs will face the new price signals (or other incentives) as soon as they are implemented. In addition, because TOCs are much more directly affected by the level of track access charges, they might become more proactive in identifying possible ways for Network Rail to improve its efficiency.

#### 4.2.1.2. Impact on TOC risk exposure

This option exposes TOCs to all of the risk associated with regulatory reviews of track access charges. Although it could be argued that track access charges are more likely to fall in future than to rise, franchise bidders are likely to be especially concerned about two specific types of risk:

- the possibility of another Hatfield-type incident or some other event which leads to unexpected and significant increases in Network Rail's total costs;[13]
- the possibility that further changes in the method of calculating fixed track access charges could lead to substantial increases in the access charges paid by some individual TOCs (even if there is no increase in the overall level of charges).

As discussed in Section 5, these risks appear to be very large in comparison with those faced by TOCs under the current franchise contract.

### 4.2.2. Option 2: Lump sum adjustment

#### 4.2.2.1. Rationale

A second option is to ensure that TOCs face any new charges or incentives as soon as they are introduced, but also to make a compensating adjustment to franchise payments with the aim of neutralising the financial impact of the change in access charges. There are several practical questions to be addressed, including:

- how the adjustment is calculated – for example, it could be based on the services set out in the TOC's original business plan, the services that are operating immediately before

[13] Other, less dramatic events that may nevertheless lead to an unexpected rise in access charges include a reduction in government funding to Network Rail, or a failure by Network Rail to meet ORR's efficiency targets (so that the level of access charges at the end of the control period is "too low" in relation to Network Rail's actual costs).

the review commences or immediately before the change is announced,[14] or some similar concept; and

- how the adjustment is implemented – for example, it could be an adjustment to the franchise payments made each reporting period, or it could be a separate annual or monthly payment.

None of these issues is likely to raise particularly serious problems, though there may be a trade-off to be made between the complexity of any proposed arrangement and whether there is any likelihood that TOCs could gain or lose slightly as a result. In practice, the most important principles are that the methodology is clear and pre-determined (so that there is no scope for arguments at a stage where TOCs can identify who would win or lose under the different possible approaches), and also that it ensures that TOCs bear the full cost of any service changes that they decide to introduce in response to the new charges.

#### 4.2.2.2. Impact on TOC risk exposure

In principle, it should be possible under this option to provide TOCs with a very high degree of protection from the financial effects of any change in access charges. As with possible opportunities for TOCs to run additional services, there may also be some upside (but no meaningful downside) if the change in access charges creates new opportunities that TOCs can exploit – though in practice we expect such cases to be rare.

In theory, some small risks might arise that, under some ways of implementing this option, TOCs could find themselves very slightly out of pocket. But we would expect any such risks to be very small. They might arise, for example:

- if the adjustment was based on the TOC's original business plan and it had introduced additional services (or changed its services in other ways) since then; or
- if the adjustment was based on the services that the TOC was running at the time of the review or announcement, and therefore did not cover other services that the TOC was already planning to introduce at an even later date.

We would expect this option to be implemented in a way that would minimise any such risks, subject to constraints of feasibility, certainty and avoiding excessive complexity. In any case, we would expect any risk to TOCs' profits to be very low indeed.

### 4.2.3. Option 3: Extended cap and collar

#### 4.2.3.1. Rationale

Another possible option is to remove clause 18.1 completely, as in Option 1, but to provide TOCs with some additional protection by bringing changes in access charges within the scope of the cap and collar mechanism. There are several different ways this could be implemented, for example:

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[14] Both of these raise further questions, such as exactly how the start of the review is defined, or whether consultation on a proposed change constitutes an "announcement".

- to leave the current mechanism almost unchanged, but simply to calculate the change in access charges arising from any regulatory review and include this in the cap and collar calculations as equivalent to either an additional increase in revenue (if access charges are reduced) or an additional decrease in revenues (if access charges rise); or
- to change the mechanism so that it now applies to "fares revenue minus access charges", which could be either positive or negative.

Each of these approaches has some advantages and disadvantages.[15] In each case, however, the aim is not to protect TOCs completely against the risk of access charge increases, but rather to moderate any adverse impact (and also to link the extent of this moderation to whether other events have left the TOC's profits above or below the levels originally expected).

#### 4.2.3.2. Impact on TOC risk exposure

As stated above, this option reduces rather than removes the risks associated with changes in track access charges. While they would be moderated, therefore, the risks highlighted in Section 4.2.1.2 (ie another major incident leading to cost increases, or a change in the method of calculating fixed track access charges for individual TOCs) would also concern bidders under this option. Section 5 provides some illustrative examples to demonstrate the scale of risk that might remain under this option.

### 4.2.4. Option 4: Adjustment to fares cap

#### 4.2.4.1. Rationale

The final option we consider is the possibility that the fares caps currently applied to TOCs could be relaxed, if necessary, to allow a TOC to recover any additional costs imposed by a regulatory review of access charges.

This provides an alternative way of compensating TOCs for any increase in access charges, with passengers rather than DfT bearing the cost. But it also means that, assuming this option is applied symmetrically, passengers (rather than DfT) will benefit in the event that access charges are reduced.

#### 4.2.4.2. Impact on TOC risk exposure

In practice, there are several major problems with this approach. It could still leave TOCs exposed to a considerable degree of risk, but there are other problems that would almost certainly prevent it from being implemented.

One key problem is that, to calculate the change in fares that would be required to compensate a TOC for a given change in access charges, it is necessary to know the fares

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[15] Under some versions of this approach (ie if the adjustment is based on actual access charges paid), then the impact might be to half (or even reduce by 80 per cent) the effective variable charges that the TOC faces. However, if a TOC's revenues are subject to the same adjustment (so that it receives only 50p or 20p from each additional £1), then this distortion might actually provide the "right" incentives for some decisions (though probably still the "wrong" incentives for others).

elasticity (ie the extent to which passenger demand will change in response to an increase or decrease in fares). While the Passenger Demand Forecasting Handbook (PDFH) has some general recommendations about fares elasticities, these could well produce inaccurate results as:

- they are often estimated nationally, and sometimes on the basis of quite old studies. While adjusting for traffic mix (recommended elasticities typically depend on factors such as journey purpose, ticket type, current fare, journey length, etc) may help to generate a more accurate estimate, there is still likely to be considerable room for error;
- in some cases, quite large changes in fares might be required. The elasticities estimated in previous studies are based on passengers' responses to much smaller changes, and therefore are unlikely to be suitable for estimating the impact of large fare increases or decreases.

Further problems are possible because some of the relevant elasticities could be quite close to -1.[16] An elasticity of -1 would mean that any fares changes would be exactly offset by a change in passenger numbers, leaving total revenues unchanged. In this case, there would be no change in fares that could compensate a TOC for an increase in access charges. And if the elasticity is close to -1, this would mean both that (a) very large fares changes might be required to compensate for any change in access charges, and (b) the calculation of the required fares increase would be very sensitive to quite small changes in the assumed elasticity.

Even if the elasticity could be estimated sufficiently accurately, this option could cause political and reputational problems for TOCs as some very large fares increases might be required. To compensate for a 25 per cent increase in the fixed track access charge, for example, fares revenues would need to increase by 7.7 per cent, 10.4 per cent and 24.2 per cent respectively for the InterCity, London & South East and Regional TOCs. Even if we make quite conservative assumptions about fares elasticities,[17] the increase in fares required to achieve this revenue growth (after taking account of the likely demand response to higher fares) would be 45 per cent, 18 per cent and 196 per cent respectively.

Finally, we note that this option would almost certainly require different fares adjustments for each individual TOC, with the result that quite arbitrary fares differentials between TOCs could emerge, thus causing difficulties where franchises overlap and perhaps undermining any notion of a national fares structure.

But the size of the increase in fares that might be required in some cases and the potential uncertainty about fares elasticities are probably the most important problems with this option. TOCs might well decide that this option would not be credible if it required large fares increases, and therefore conclude that they might in practice still face some (or even all) of the risk associated with access charge increases.

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[16] The PDFH recommends -1, for example, as the fares elasticity for many medium or long distance journeys to and from London.

[17] Specifically, these calculations are based on assumed elasticities of -0.8 for the InterCity and Regional TOCs, and -0.4 for the London & South East TOC.

# 5. Impact on TOCs' Risk Exposure

## 5.1. Introduction

In this section we provide illustrative estimates of TOCs' exposure to the risk of changes in access charges under existing franchise contracts, and how this would change under two of the options described in Section 4 – Option 1 and Option 3. We do not provide estimates for the two other options – this is because:

- Option 2 (lump sum adjustment) should ensure that TOCs are wholly or very nearly wholly compensated for the financial impact of changes in access charges. While there is a small chance that the precise way the adjustment is calculated will lead to a net gain or loss for some TOCs, we would expect any such amount to be very small;
- Option 4 (adjustment to fares cap) would be difficult to model, especially for the InterCity and Regional TOCs where forecasting errors due to inaccurate elasticity assumptions could be very large.[18] However, we do not believe this option is realistic in practice, mainly because of the very large fares changes that might be required.

For both the existing situation and the options examined, our approach is to consider the main potential risks that TOCs would be exposed to as a result of changes in access charges, and then to search for suitable indicators of the approximate scale of these risks. We also continue to assume that each TOC has a cap and collar mechanism that applies after the first four years and helps to mitigate the impact of revenues being higher or lower than expected

## 5.2. Estimated Impact on TOCs' Risks

### 5.2.1. Existing access charge risk

Under the current version of the franchise contract, if there is a regulatory review of access charges, TOCs may find themselves paying higher or lower access charges than they expected for services outside of the SLC (or "non core" services). In practice, we believe that such services are likely to account for a very small proportion (probably zero for some TOCs) of total services, reflecting the impact of capacity constraints, a lack of demand in other parts of the network and regulatory restrictions on new services that are "primarily abstractive".

In order to illustrate the potential scale of the possible risk that TOCs might face, however, we have deliberately adopted high assumptions about the proportion of non-core services that TOCs operate. The impact of any change in access charges will then depend on how TOCs respond to such changes. In order to illustrate the approximate scale of risk that TOCs might face (rather than necessarily describing how TOCs would respond in practice), we consider two cases:[19]

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[18] This reflects, among other things, the fact that the fares elasticities for these TOCs could be close to -1.

[19] It is also possible that TOCs might decide to introduce additional non-core services as a result of any change in access charges. But this represents an opportunity rather than a risk, as TOCs would only introduce such services if they were likely to generate additional profits. In practice, moreover, we expect such cases to be rare.

- first, even if the variable charges that apply to non-core services increase, one straightforward option for the TOC is simply to continue paying these higher charges. This defines a possible worst case for each TOC, because it should only adopt an alternative course of action if it believes this will lead to higher profits than if it simply carries on paying the increased variable charge;
- alternatively, some TOCs might decide to cut back their non-core services. This could be an appropriate course of action if the increase in track access charges has made some non-core services unprofitable. But cut-backs will only be sensible if TOCs can thereby avoid incurring all or most of the costs of the services. In some cases, especially in relation to rolling stock leases and perhaps some staff costs, this may not be possible (and therefore it may be better for the TOC simply to continue paying the higher charges).

To illustrate the first of these, Figure 5.1 to Figure 5.3 show the impact of a 100 per cent increase in variable track access charges for non-core services which the TOC simply absorbs. For the second response, we have calculated the impact of cutting all non-core services, on the assumption that all costs can be avoided in this way. To some extent, however, the results are driven by our specific (and relatively arbitrary) assumptions about the relative profitability of non-core services. But we believe they nevertheless provide a useful indicator of the possible scale of risk that TOCs could face if they expect to provide a reasonable number of non-core services.

For the InterCity and London & South East TOCs, the impact on profits of continuing to pay the increased access charges for non-core services is relatively small. Because this represents a possible worst case, it indicates that TOCs' exposure to additional risk is also likely to be small.[20] The "No non-core services" lines in Figure 5.1 and Figure 5.2 are therefore irrelevant, since the "+100% non-core TAC" lines define the maximum extent of TOCs' exposure (which is small).

For the Regional TOC, we assumed that its non-core services were only marginally profitable. Even though the assumed increase in track access charges has a relatively small impact on its profits, it might now be better off by cutting the services altogether. But this would only be a sensible policy if it could save all of the costs associated with those services, and did not have continuing obligations such as rolling stock leases. Whichever strategy it follows, however, the additional risk associated with this option is still relatively small.

[20] For the InterCity TOC, however, Figure 5.1 also suggests that, if the TOC could escape all of the costs of the non-core services then this might actually increase its profits from year 5 onwards. This is not because the non-core services are assumed to be unprofitable, but rather the operation of the cap and collar mechanism might allow the revenue loss from service cuts to be shared between the TOC and DfT, whereas the TOC is the sole beneficiary of the assumed (though perhaps unrealistic in practice) cost savings.

**Figure 5.1**
**Impact of Non-Core Service Changes: InterCity TOC**

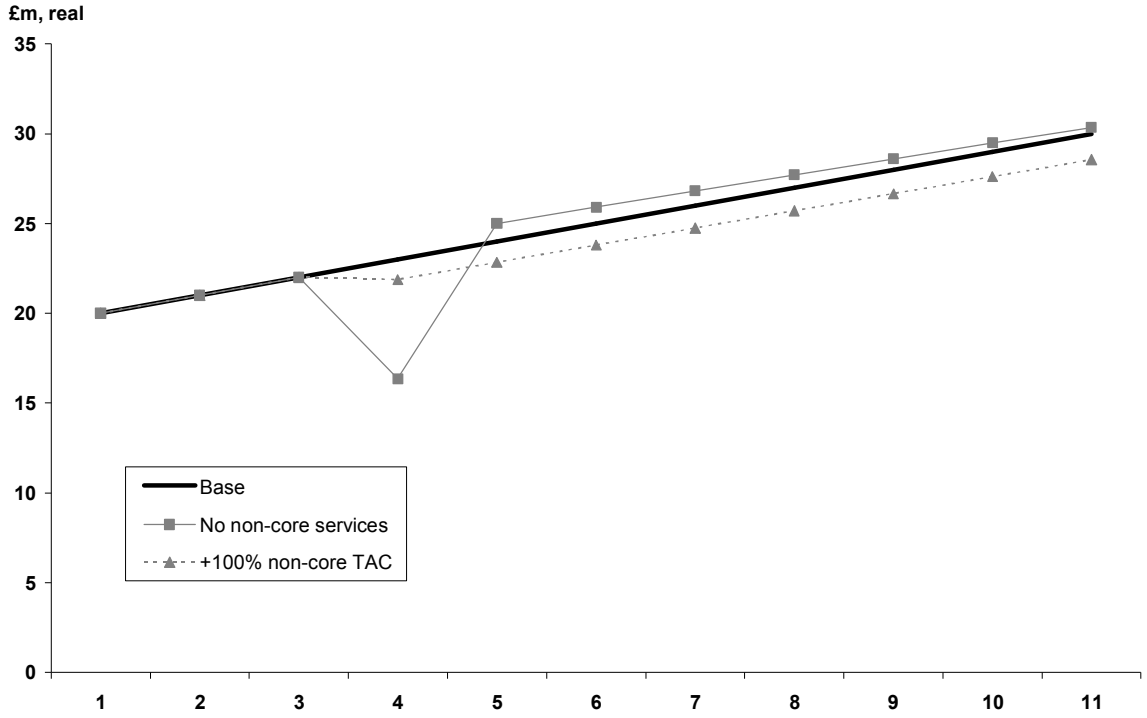



**Figure 5.2**
**Impact of Non-Core Service Changes: London & South East TOC**

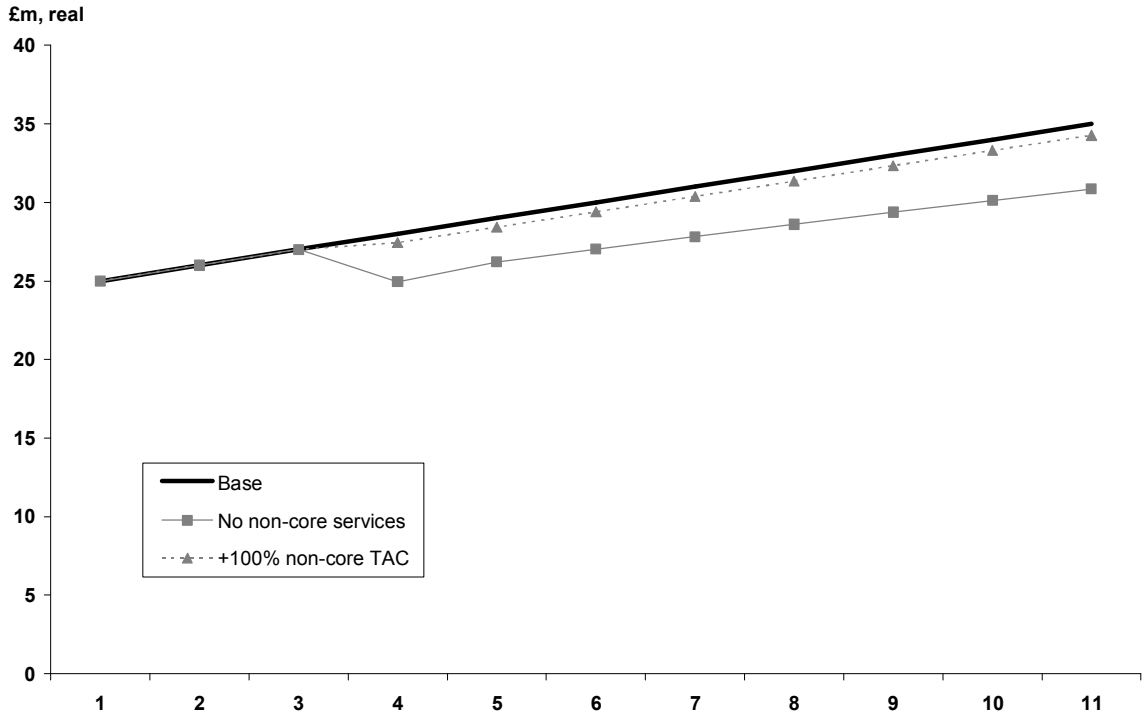
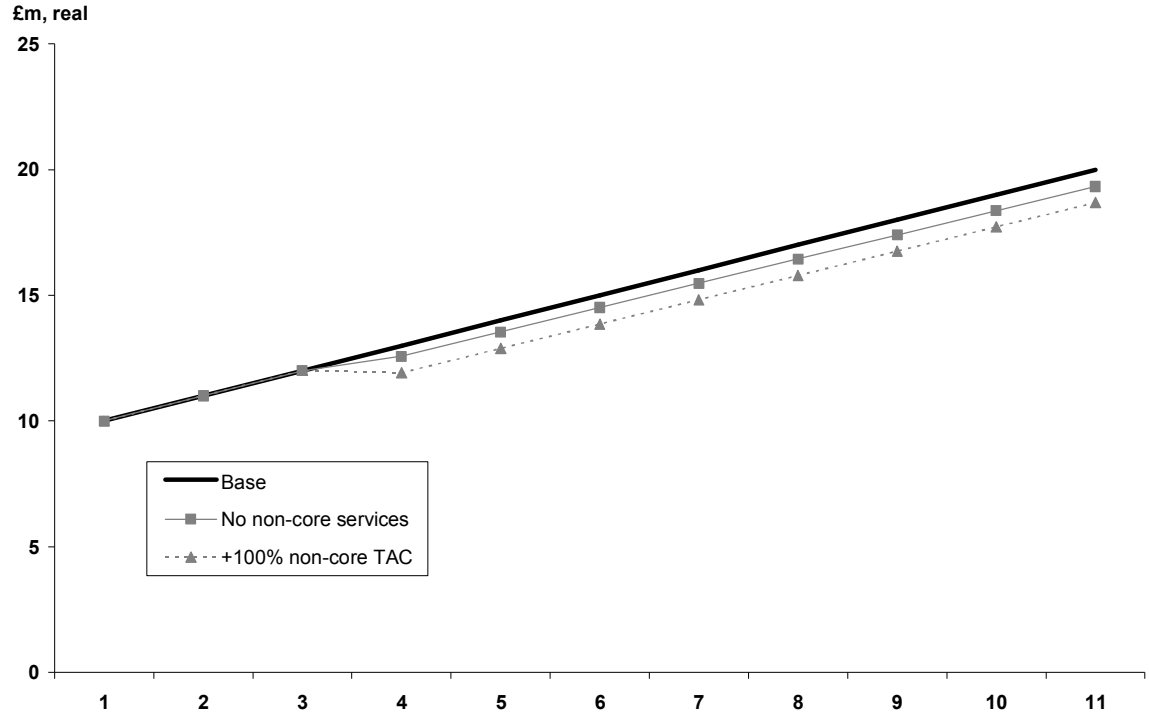


**Figure 5.3**
**Impact of Non-Core Service Changes: Regional TOC**




The situation could be somewhat different if DfT's approach were to change so that a significantly higher proportion of services were outside of the SLC, and especially if this led to a decision that some of each TOC's fixed track access charge should be attributed to non-core services. But in the absence of any such change, we suspect we are likely to have overstated the likely proportion of non-core services and therefore TOC's existing exposure to the risk of access charge changes. And even with this overstatement, Figure 5.1 to Figure 5.3 show that the risk that TOCs face at present is very small.

### 5.2.2. Option 1: Complete removal

While there are a number of changes that could occur following a regulatory review of access charges, it is a change in fixed track access charges that franchise bidders are likely to view as the largest risk if they no longer have any protection through Clause 18.1. As noted in Section 4.2.1.2, even if there is no change to the overall level of fixed charges, any further change in the way that fixed charges are calculated could lead to quite significant changes in the access charges applying to individual TOCs. Bidders might also be worried about the risk of further cost shocks (similar to that which occurred following the Hatfield derailment).

To illustrate the importance of this risk, Figure 5.4 to Figure 5.6 show the impact on the profits of our hypothetical TOCs of increases of 25, 50 or 100 per cent, and reductions of 25 or 50 per cent, in each TOC's fixed track access charge. An increase of 50 per cent, for example, is comparable with the change in access charges introduced as a result of the 2003 access charge review (see Section 2.2)

As expected, these changes have a very significant impact indeed on the profitability of all three hypothetical TOCs. An increase of 25 per cent is sufficient to eliminate the annual

profits and send each of the TOCs into a significant loss-making position. An increase of 50 per cent would lead to annual losses for each TOC of between £50 million and £100 million.

This scale of risk is clearly very much greater than the TOCs' existing risk exposure, as described in Section 3, which showed that TOCs could continue making positive (but smaller) profits in many downside scenarios, especially after the cap and collar mechanism comes into operation.

**Figure 5.4**
**Impact of Changes in Fixed Track Access Charges: InterCity TOC**

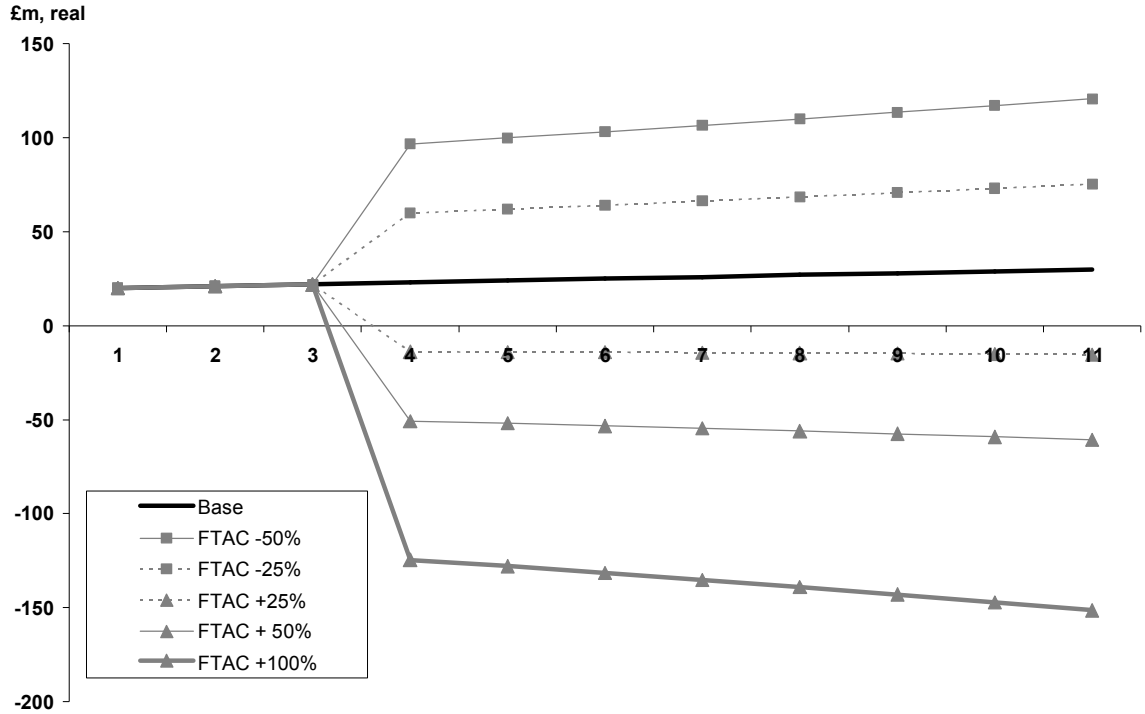


**Figure 5.5**
**Impact of Changes in Fixed Track Access Charges: London & South East TOC**

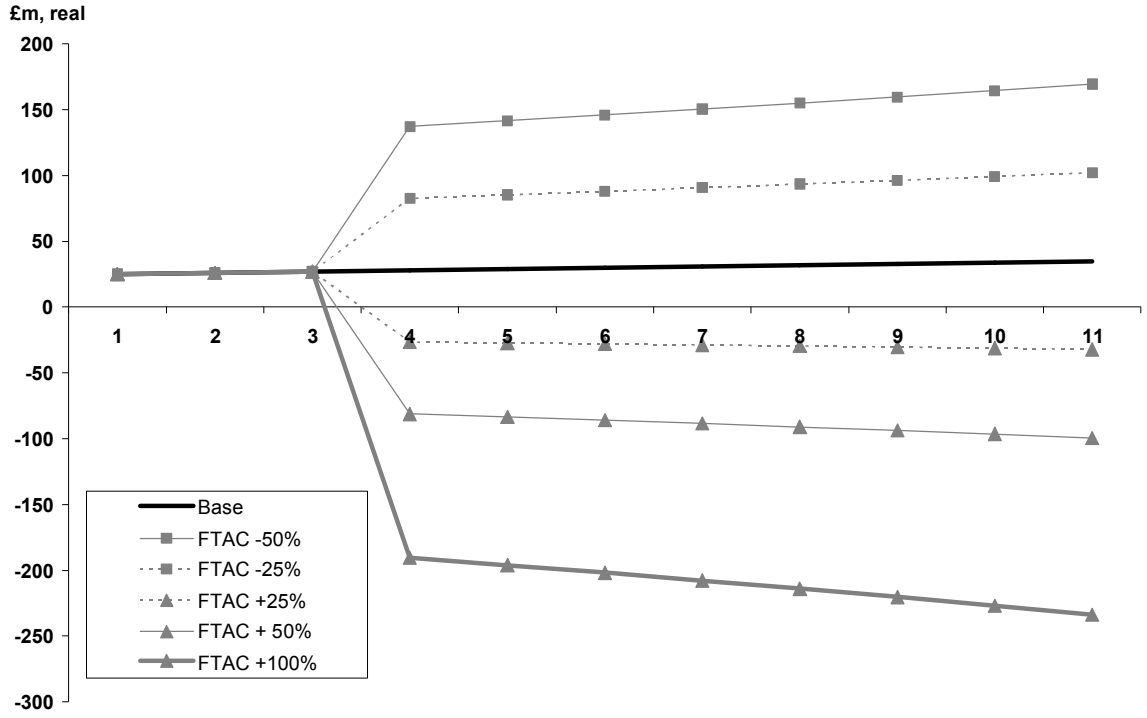
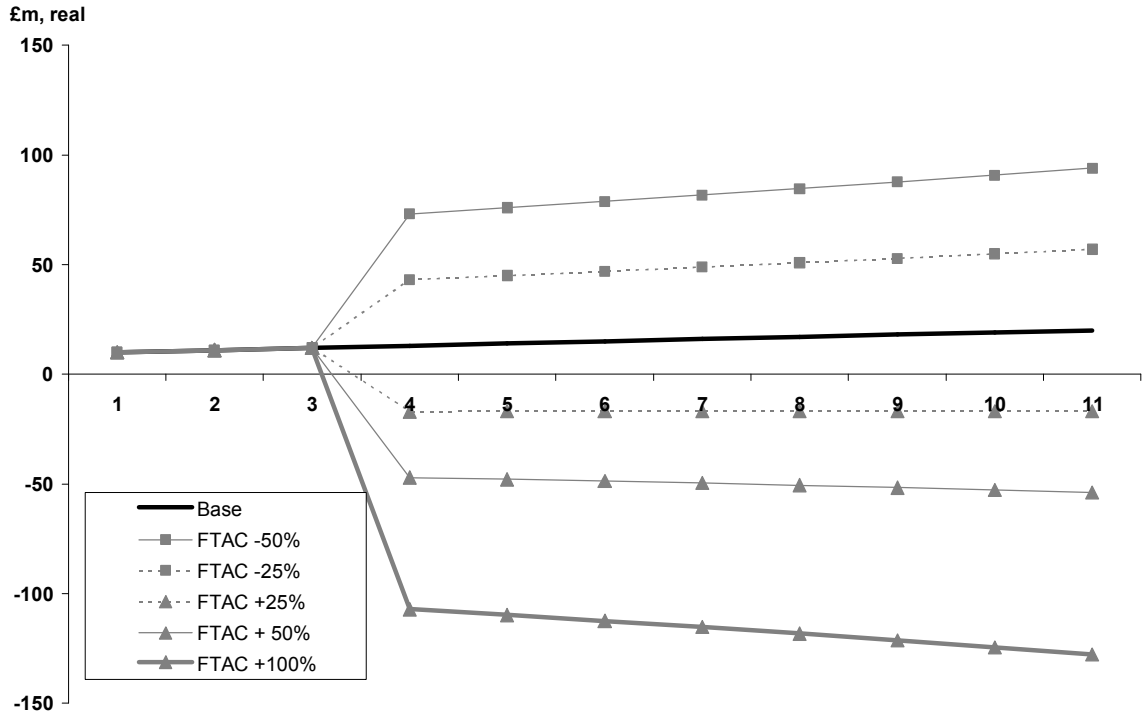



**Figure 5.6**
**Impact of Changes in Fixed Track Access Charges: Regional TOC**




While the risks shown above are dramatic, it is still important to remember that these only represent the additional risks associated with removing clause 18.1 protection. TOCs would

be exposed to these risks as well as their existing risks (ie those associated with macroeconomic conditions, cost growth, etc).

To illustrate the impact of combining these risks, Figure 5.7 to Figure 5.9 show quite conservative combinations of a mild economic boom or recession, plus changes of either 10 per cent or 25 per cent in fixed track access charges. In all but one case, the downside combinations are sufficient to eliminate the TOCs' profits for most of the franchise period.

**Figure 5.7**
**Impact of Combinations: InterCity TOC**

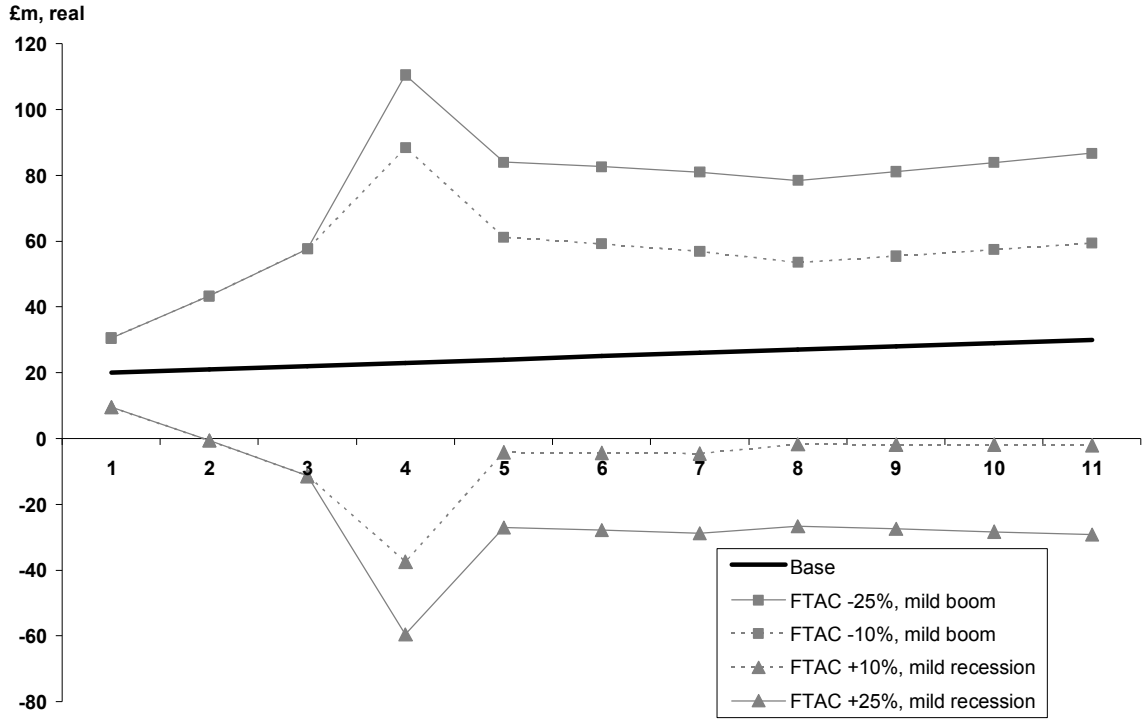


**Figure 5.8**
**Impact of Combinations: London & South East TOC**

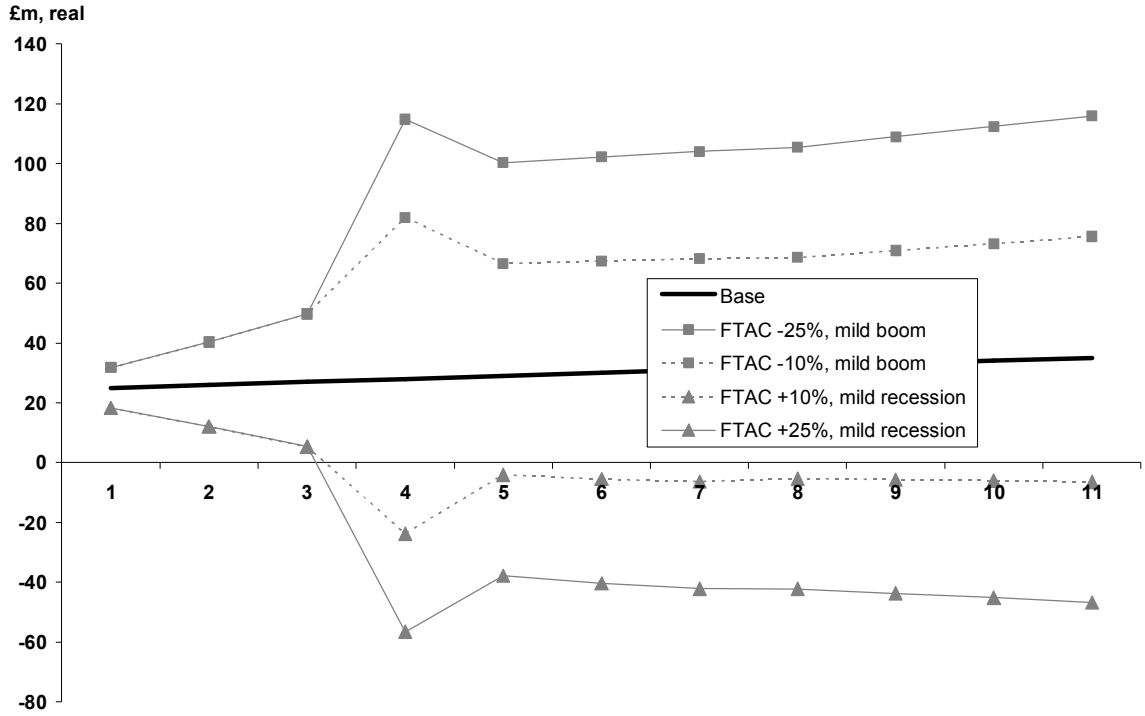
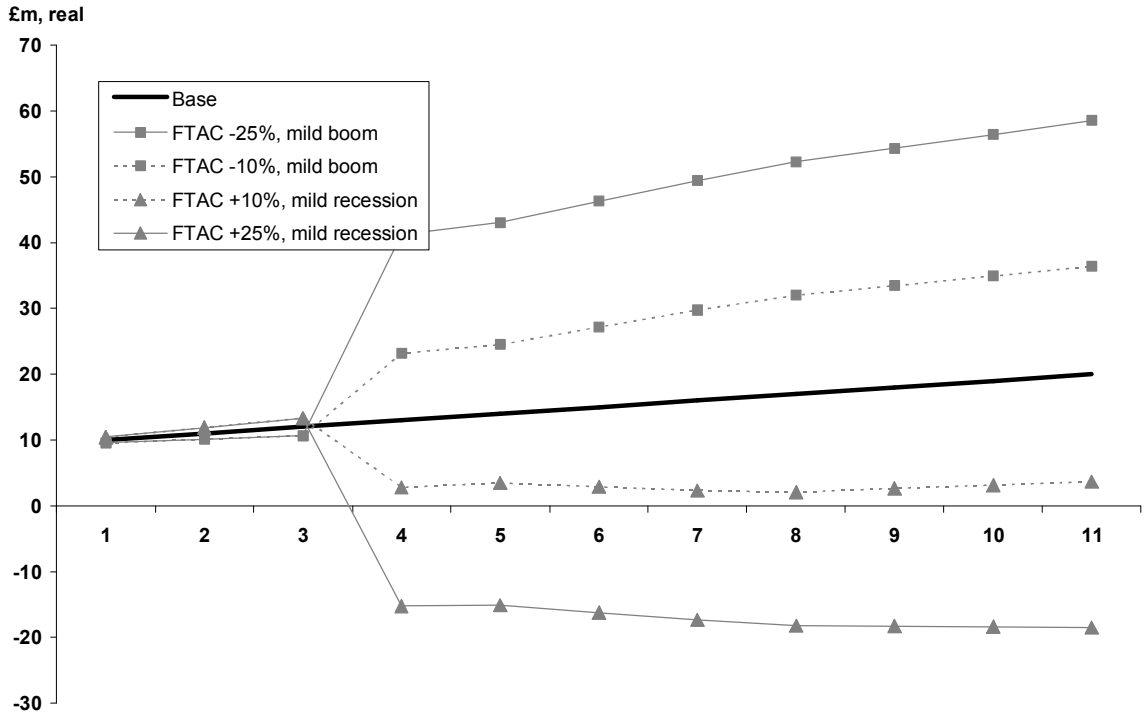



**Figure 5.9**
**Impact of Combinations: Regional TOC**



### 5.2.3. Option 3: Extended cap and collar

The second option for which we illustrate the likely impact on TOCs' risk exposure is Option 3, which involves the complete removal of clause 18.1 (as in Option 1) but then assumes that regulatory changes in access charges are included within the scope of the cap and collar risk-sharing mechanism.

As noted in Section 4.2.3, there are a number of ways that this approach could be implemented. Our illustrative calculations, shown in Figure 5.10 to Figure 5.12, assume that the only change to the existing cap and collar mechanism is that regulatory increases in access charges are treated as additional reductions in revenues, and regulatory reductions in access charges are treated as additional increases in revenues.

One important implication of this approach is that TOCs receive no protection at all until the cap and collar mechanism comes into force in year 5. If this option were to be introduced (and especially for franchises that were awarded at a time when a regulatory review was close to completion), then bidders might require risk-sharing mechanisms that apply from a much earlier point in the franchise.

Even when the cap and collar does operate, however, this option still leaves the TOCs exposed to significant additional risks. A 25 per cent increase in fixed track access charges, for example, would come close to eliminating the annual profits of each of the hypothetical TOCs, and larger increases could lead to significant losses.

**Figure 5.10**
**Fixed Track Access Charges with Amended Cap & Collar: InterCity TOC**

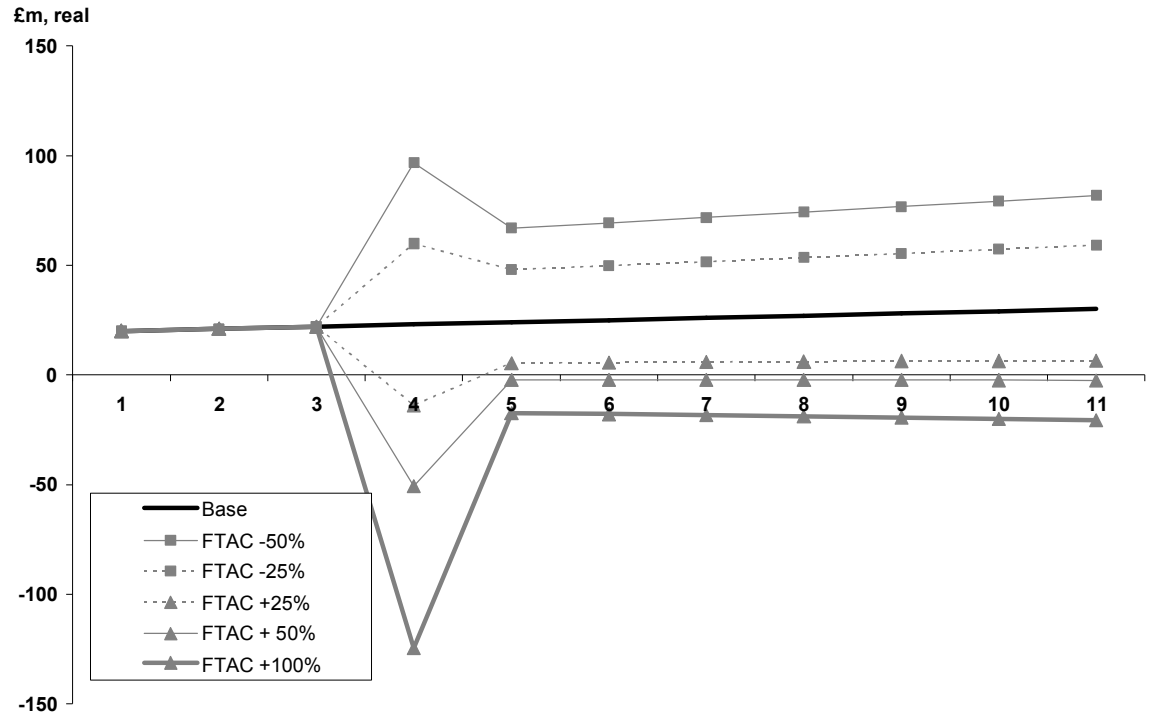


**Figure 5.11**
**Fixed Track Access Charges with Amended Cap & Collar: London & SE TOC**

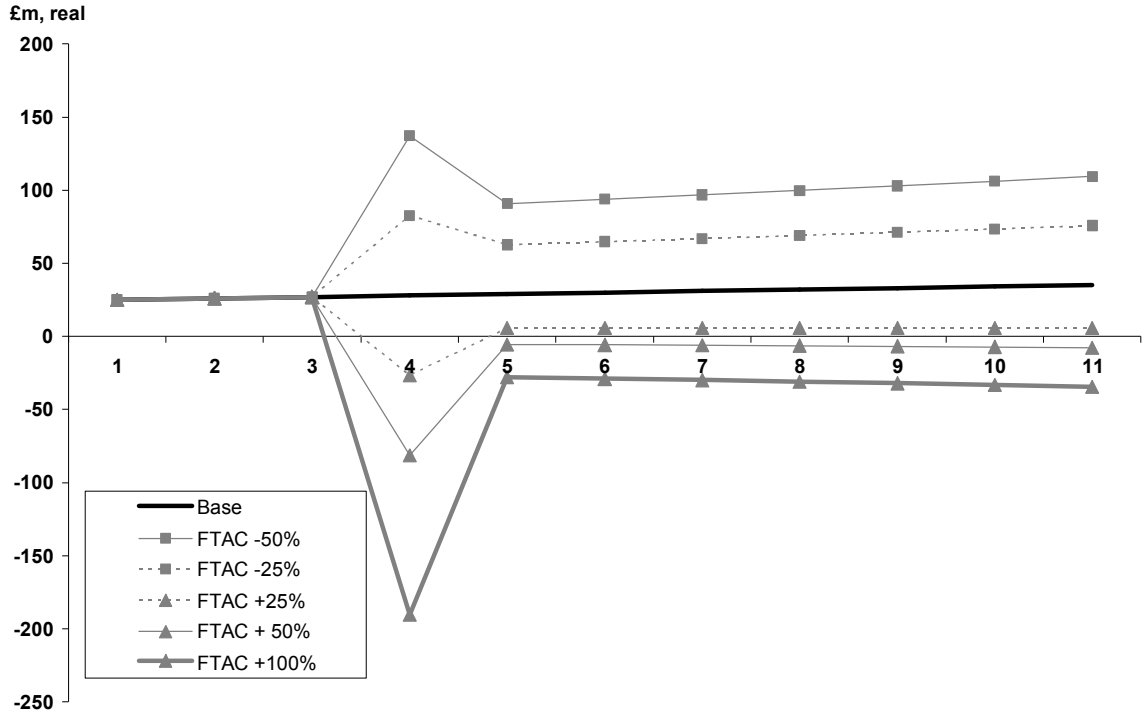
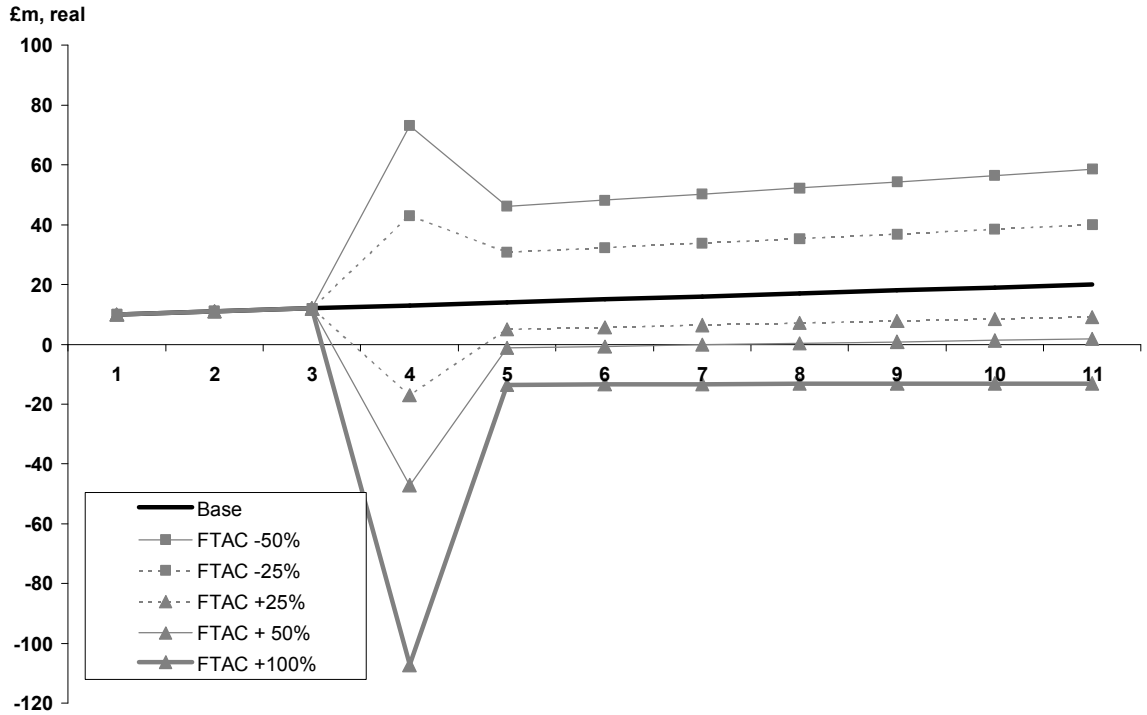



**Figure 5.12**
**Fixed Track Access Charges with Amended Cap & Collar: Regional TOC**



# 6. Implications for Franchise Bids

## 6.1. Introduction

Having identified and provided examples of the additional risks that the removal or amendment of clause 18.1 protection would create for TOCs, we now consider the likely impact of this risk on franchise bidding. First, we summarise the general way that TOCs approach the task of bidding for franchises, then we discuss the likely impact of different options on first the size of bids and then on other aspects of the franchising process.

In the following sections, we focus especially on Option 1, which has the most direct impact on TOCs' risk exposure. We do not directly consider Option 3, since its impact on TOC risks is similar in its nature (though smaller in size) to Option 1, or Option 4 which we do not believe would be credible to bidders. Neither do we directly address Option 2, which is associated with almost no additional risk and therefore we would not expect this to affect operators' behaviour at the bid stage.

## 6.2. TOCs' Approach to Franchise Bidding

The process of bidding for rail franchises has two phases, the prequalification phase ("PQQ") and the principal bid phase in which operators have a period (usually 90 days) to respond to the Invitation to Tender ("ITT").

At the PQQ phase, bidders submit a document (often restricted in length to around 20,000 words) in which they set out their credentials for operating the new franchise. Typically, up to 10 operators will respond to the PQQ. DfT will then select a shortlist ranging from three to five bidders. At the PQQ phase, no indicative pricing is offered so the bidder's approach to financial risk is not considered as part of the selection criteria.

In responding to the ITT, operators will calculate a margin as part of the bid financial model. The margin will reflect:

- a level of financial return that is perceived to be acceptable to the shareholders; and
- a level of financial resilience in order to protect against downside risks. These risks will typically include the revenue impact of an economic downturn and cost and performance risks similar to those discussed in Section 3.

The return to shareholders is commonly measured as a margin on passenger revenue. This is certainly the case for InterCity and commuter TOCs. For regional TOCs, the margin may be calculated instead in relation to total operating costs, especially where the franchise is heavily subsidised or for PTE controlled services (where revenue risk is not transferred to the operator). Financial returns are not calculated as a return on capital due to the small amount of equity that is put into a franchise. While some of the original franchise contracts stipulated an injection of equity of £5 million, in the new contracts there is no requirement to put equity into the TOC.

When a bid is presented to the bidding organisation's Board for approval, downside sensitivities would normally be included as part of the presentation. Typical sensitivities will include a recession and the impact on staff costs of an increase in headcount (normally the

source of greatest cost uncertainty at present). Other sensitivities may also be presented; for instance, in the current climate of electricity prices rises, sensitivities in the traction current rate represent a risk that could affect the financial success of the franchise. Sensitivities should take account of any revenue share/support mechanism that is included in the franchise contract, and would be undertaken both for the full franchise term and taking account of any earlier contractual break-point (such as has been included in recent franchise competitions).

A bid is likely to receive Board approval only when sensitivity analysis indicates that there is not an unreasonably high risk that significant losses would be incurred in the circumstances projected through the "stress testing" sensitivities. TOCs are not typically supported by a parent company guarantee. In theory, a possible risk mitigation strategy exists since losses on an individual franchise could be capped at the level of the performance bond, as this defines the cost at which a TOC could "walk away" from the franchise. However, in practice, there are strong deterrents from taking this course of action, including:

- the reputational risk involved in walking away from a major contract; and
- "cross-default" provisions, whereby the holder of more than one franchise could lose all of its contracts if it defaults on one of them.

It is important to note that financial resilience against the bid risks is not solely captured by the margin applied in the financial model. In addition, bidders will seek protection in the list of Authority risk assumptions. This is a list appended to the franchise agreement that covers areas where the bidder seeks to pass the financial (or operational) impact of a risk back to DfT. This list of risks is one of the key areas used to discriminate between bidders in a franchise competition. It has the potential to make the difference between the success and failure of a bid.[21]

## 6.3. Pricing of Additional Risk Under Option 1

The removal of clause 18.1 protections across all services would introduce a substantially greater risk exposure for bidders, as shown in Section 5. Two major possibilities underlie the additional risk:

- changes to the overall level of access charges on completion of a five-yearly (or interim) regulatory review; and
- changes in the level of access charges for particular TOCs as a result of changes in the method of calculating fixed track access charges (for example, because of moves to route-specific access charging).

In each case, there is substantial uncertainty that the TOCs would need to estimate when compiling their bids:

- historically, there has been a large variation in the level of access changes between (and indeed within) review periods. We would expect TOCs to base their risk assessments on

[21] In our discussion of the options for amending clause 18.1 projection, we have assumed that bidders will not be allowed simply to pass back access charge risk to DfT by including it as an Authority risk assumption. Rather we have focused on the impact of each option on the margin included in the bid financial model.

precedent, and we would therefore expect there to be substantial contingencies within their forecast costs and/or bid margins;

- there is no historical precedent for the implementation route-based fixed access charges, and so no empirical means for TOCs to estimate the financial impact of the risk or whether they would be a "winner" or "loser" in the reallocation. In the absence of any precedent, we would expect TOCs to place a substantial premium on this risk.

An illustration of the potential impact on bid margins of Option 1 is set out below for hypothetical InterCity and London & South East TOCs.

In the base case scenario, cumulative profits over the franchise term are £275m for the InterCity TOC and £330 million for the London & South East TOC, which is based on a margin of about five per cent of passenger revenue. In the "mild recession" scenario, the type of sensitivity that an operator would typically run when seeking Board approval for its bid, cumulative profits fall to £70 million and £167 million, reducing profit by 50 to 75 per cent.

In determining how a bidder might increase margins if clause 18.1 protection is removed for all services, we have considered how much margins would have to increase to provide the same level of profit (ie £70 million for the InterCity TOC and £167 million for the London & South East TOC) should a mild recession be combined with either a 25 per cent increase in access charges or a 50 per cent increase.

To retain the same level of financial resilience, bidders would need to increase their margins to around 11-12 per cent of revenue if a 25 per cent increase in access charges was anticipated, or to around 18-20 per cent for a 50 per cent increase. Across the industry as a whole, assuming total passenger revenue of around £4 billion, this would increase the price of bids by around £250 million or £500 million respectively.

In the case of an overall increase in charges, the risk may crystallise (ie the risk of the change in charges may become a reality), therefore justifying the increase in bid prices. However, there remains a significant potential upside to bidders if there is no increase or indeed if access charges fall. We would expect that DfT would seek to share in such an upside through "windfall" profit share mechanisms.

Where access charges do not increase in aggregate but there is a risk of a material reallocation which all bidders have priced for, the increase in the cost of bids will clearly be inefficient as, although the risk will have crystallised in some cases, other TOCs will be clear winners.

The pricing of bids will also be affected by bidders' ability to withstand risks or to manage the consequences. Bidders will have highly constrained options open to them to mitigate any risk once the franchise commences. Notably:

- the level of services that have to be run is highly prescribed by the SLC within the franchise contract. A TOC would not be able to react to the price signals of higher access charges by running fewer services;
- fares regulation means that very little additional money can be raised from passengers should an access charge review result in higher charges; and

- rail services have high levels of inescapable costs. Even if a TOC received agreement from DfT to reduce its SLC commitments, it might still be required to pay lease charges on its fleet for the duration if the franchise.

We therefore expect that the risk associated with Option 1 would be likely to lead to a material increase in the bid prices offered to DfT (ie decreased premiums or increased subsidies).

## 6.4. Other Possible Impacts

### 6.4.1. Skewing of selection criteria

At present, the costs and revenues and related risks within the franchise market are well understood by operators. Similarly bidders know that, to be successful, they need to submit a series of detailed plans, in areas such as rolling stock, fares, depots and train crew, to demonstrate that a bid is deliverable. Recent franchise competitions have been close (with all bidders' prices falling within a narrow NPV range), except where the incumbent's knowledge has enabled it to make a particularly aggressive bid.

Removal of clause 18.1 protection (for example, as in Option 1), and the high level of uncertainty that this introduces, would be likely to have a significant impact on franchise competitions. The approach to pricing this uncertainty by including bid contingencies as set out above could prove to be a major differentiator between bids. Having access charge risk as a bid differentiator would sidestep the carefully defined objectives for each franchise (cost efficiency, revenue growth and operational resilience) against which DfT currently selects successful bidders.

### 6.4.2. Changes to other parts of the franchise agreement

There is currently a cross default clause within the franchise contract. This deters TOCs from "handing back the keys" on a loss-making franchise, as this could jeopardise other profitable franchises within the operator's portfolio. If clause 18.1 protection is removed for all services (ie Option 1) and the risk profile increased, bidders are likely to request that franchise contracts no longer have cross default clauses.

If bidders were successful in changing cross default provisions, then they might not attempt to price the uncertainty around changes in access changes into their bids by increasing margins. Rather, they might decide that, should they suffer a material downside as a result of an access charge adjustment, then they would walk away from the franchise. On a typical InterCity or commuter TOC, the performance bond that the operator has in place is around £20-30 million or five per cent of annual operating costs. This would represent around a single year's worth of losses should access changes increase by 25 per cent, and 3-6 months worth of losses should they increase by 50 per cent.

While a change in the cross default provisions may constrain the increase in bid prices that would otherwise result from Option 1 or similar approaches, it could reintroduce potential major instability into the franchising market, similar to the disruption and loss of focus caused by a series of renegotiations in 2001-2003. This prospect could also deter

participation in the market due to the reputational risks associated with not honouring contracts.

In the case of the changes to risk transfer associated with Option 1, we also anticipate that TOCs might seek to change other risk allocations within the template franchise agreement. These could include changes that increase TOCs' ability to mitigate the additional risk, or that provide other protections from financial downside, such as:

- relaxation of SLC undertakings;
- relaxation of fares regulation;
- recalibration of the revenue risk-sharing mechanism to be more favourable to the TOC; and/or
- other "risk assumptions" (ie caveats) to the TOC's obligations under the franchise agreement.

Each of these is likely to mean that the risk retained by DfT tends towards that prior to the clause 18.1 change, and also unbalances the risk allocation that resulted from the fundamental review of the template franchise agreement.

# 7. Conclusions

One of the few "constants" in passenger rail franchising, despite several changes of policy and a fundamental review of risk allocations, is that OPRAF, SRA and now DfT franchise contracts have protected TOCs from the risks associated with regulatory reviews of access charges. There may have been occasions in the past where opportunities have been lost, or inefficient decisions made, because clause 18.1 has prevented TOCs from being exposed to changes (and presumably improvements) in the incentive structure. It is possible that such cases could arise again if clause 18.1 protection continues to apply. But we expect that, in practice, franchisees' scope to introduce new services (or cut existing services) in response to any changes in the incentive structure is likely to be severely limited.

Any response by TOCs to changes in the incentive framework is therefore most likely to involve a change in the way that existing services are provided, rather than any increase or decrease in the number of services that they operate. If the DfT were to adopt a permissive approach when considering proposed changes to SLC services,[22] then it is possible that some TOCs might consider adjusting certain aspects of their services (such as changing or modifying the rolling stock they use, or minor changes to their timetables) in response to any changes in the level or structure of access charges. But it is not clear how many such adjustments would be likely to occur in practice.

In contrast, it is clear that some of the options we have examined in this report (especially the complete removal of clause 18.1) would be likely to place very significant additional risks on TOCs. This, in turn, would have a number of serious implications for the franchising process, including a large increase in the margins TOCs would seek in their bids, possible distortions in franchise award decisions and an increased risk that TOCs will view "handing back the keys" as a viable risk-mitigation strategy.

Among the other possible approaches, the likely impact on TOCs' risk exposure would be small under Option 2 (the lump sum adjustment), though this depends on the adjustment being defined and calculated in such a way that bidders are sufficiently confident that they will be held harmless.

Option 2 therefore appears to strike the best balance between protecting TOCs from risk and ensuring that any change to the incentive structure becomes effective as soon as it is introduced. But for the reasons noted above, even if TOCs are exposed to new incentives in this way, it is not clear what impact this will have, in practice, on their decisions about which services to run, which rolling stock to use and so on.

[22] This covers both the approval of TOC proposals (unless there is a clear disadvantage) and also allowing the TOC to retain at least a reasonable share of the expected benefits of the change.

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