

# Transport regulation and ownership

### Learning Outcomes:

On reading this chapter, you will learn about:

- The forms of regulation of transport services and the rationale for and drawbacks of regulatory measures
- The practical aspects involved when attempting to regulate the market behaviour of a private sector concern
- The reasons behind public ownership and control of transport operations and the management of transport assets
- The main motivations behind a general movement towards reform of public ownership in transport services
- The models under which the public and private sectors combine to produce transport services and facilities.

## INTRODUCTION

In many respects this chapter is concerned with ‘control’ and specifically the control by relevant transport authorities on the levels and behaviour of transport users and operators under their authority. Whilst at first sight this may appear to be only related to public transport, it concerns all areas of transport, whether that be public, private or freight. Government control of transport markets can be achieved through one of two measures – in the first instance the transport authority can own the assets and the means of production. In this case the market is brought into the public sector and thus it does not have to operate along market principles. This it would mainly do in the pursuit of the public interest. This however is not the only reason for public ownership, and others are examined later in the chapter. Alternatively, rather than control through ownership the authority could exhibit its control through direct command, i.e. by telling operators what to do. This would be through regulation of the market, which again would be undertaken on the premise of the public interest, although once more other reasons exist for regulation.

The chapter begins by examining the different forms of regulation before going on to look at the issues surrounding ownership and operation of transport assets by public bodies. It then

considers different ownership forms in transport activities and outlines the various models under which transport services are delivered to the market. In some ways, regulation is a lesser form of ownership, and thus examining regulation first gives a better understanding and leads into the issues surrounding public ownership.

### **FORMS OF TRANSPORT REGULATION**

The main forms of transport regulation can be generally categorised under the broad headings of qualitative and quantitative regulation.

#### **Qualitative regulation**

Currently most forms of movement, irrespective if a mode of transport is involved or not, constitutes regulated behaviour. This is for the simple reason that all forms of movement, if completely unchecked, can result in potentially hazardous outcomes, particularly where others are involved. Even the simple act of walking can result in broken limbs and scraped knees. Individuals therefore need to be able to move around with a reasonable level of confidence that this will not result in serious injury to either themselves or to others. If this was not the case, many individuals would simply not travel at all. This is the basic rationale for qualitative regulation.

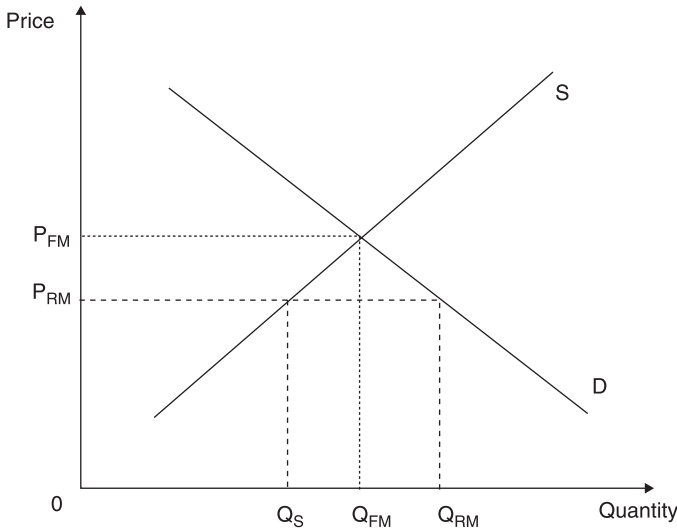
Qualitative regulation therefore is where the regulatory authority intervenes in the market in order to stipulate minimum criteria that regulate behaviour within the market. This tends to come in the form of direct legislative measures that lay down the laws to be followed by users of the transport system. Such actions need to be enforced and breach of any of rules penalised, either through financial penalties or by the withdrawal of the right to use the system. Thus speed restrictions for example are a form of qualitative regulation, as these regulate the speed of vehicles on the roads, with different speed limits applying to different types of roads. Breach of those rules will normally result in the imposition of a financial penalty, whilst a continuous breach of speed limits leads to the withdrawal of the driver's licence. The same type of conditions apply to operators of public transport services or road haulage operators, where there are clear minimum criteria relating to driver behaviour and vehicle condition and a major breach of these rules can lead to the suspension or removal of the operators' licence.

#### **Quantitative (Economic) regulation**

Quantitative regulation, more commonly known as economic regulation, is where the regulatory bodies intervene in the market in order to place economic controls on the operation of the market. This is either in terms of restrictions with regard to the price or restrictions or minimum specifications with regard to the supply. Dealing firstly with price regulation, this comes in a number of different forms:

*Specify the price to be charged*

In theory, this is the simplest form of price regulation and is illustrated in Figure 10.1.



■ *Figure 10.1 Simple price regulation*

In the figure, the free market price is given where supply equals demand, hence  $P_{FM}$ . The transport authority however sets a maximum price below the equilibrium price at  $P_{RM}$ . Note it only makes sense to set a regulated maximum price below the equilibrium price, otherwise it would have absolutely no impact on the market. As can also be seen from Figure 10.1, however, a price at the regulated fare will create excess demand, i.e. there will be more wanting to use the service than is being supplied to the market. This is shown by the difference between  $Q_{RM}$  and  $Q_S$ . The authority would therefore have to address this problem. What it would have to ensure is that the supply curve moved to the right. This can be done in several ways, with the ‘simple’ solution being to pay the operator a subsidy. Alternatively the whole rationale for imposing a maximum fare may be to motivate the operator to lower its cost. Hence the supply curve would shift to the right thereby eradicating the excess demand. In practice this has normally been done over time by regulating price increases, as outlined below.

*Specify the maximum increase in price allowed*

Rather than state a specific price, the authority limits the extent to which the operator can increase its prices over time. In the UK this has normally been done through an ‘RPI-X%’ formula, where RPI relates to the prevailing rate of inflation and X the value to which price increases are restricted to. Hence in theory prices should rise at lower than the rate of inflation, thereby falling in real terms. Hence if the rate of inflation is 3 per cent, and X is set at 2 per cent, then the maximum fares can rise by is 1 per cent. In real terms, therefore, this would be a 2 per cent cut in the fare. As stated above, this would primarily be used to motivate efficiency improvements, as it is only through reducing costs, and not increasing prices, that operators can maintain or increase profitability.

Nevertheless, where price increases are expected to rise by well in excess of the rate of inflation, these can be limited through an ‘RPI+X%’ formula. Thus fares on most of the rail

franchises in Britain are currently regulated on the basis of RPI+1% with some of the franchises allowed to raise fares by RPI+3%.

*Regulate the (final) price through the tax charged on the good or service*

Varying tax levels can be used to regulate the price in the market, and these can be specified either as a percentage or set at a specific value. In most cases such taxes are used as general tax-raising measures in which the government acquires public finance to spend on the provision of public services. In the UK, for example, all goods except exempt items are charged Value Added Tax (VAT) at a rate of 17.5 per cent. Hence this adds 17.5 per cent to the price of the good with this additional tax revenue passed on to the government. Additional or specific taxes however may be imposed to regulate the price in the market, thus fuel duty has the effect of significantly increasing the price of fuel to the consumer. If the government wished to limit car usage, it could do so by increasing fuel duty, thus increasing the price. As seen in Chapter 9, this would be a form of a 'Pigouvian' tax, which is one that is imposed in order to correct for a negative externality.

*Specify the rate of return (profit) to be gained*

Prices charged by transport operators can be regulated based upon the level of profit to be gained. Hence a 'reasonable' rate of return may be set and then prices regulated accordingly to achieve that rate of return. This will normally take place where the level of demand can be estimated to a very high level of accuracy, and hence the only real variation in total revenue will be as a result of the price charged. Network Rail for example is regulated by the Office of Rail Regulation with regard to the level of track access charges it imposes on the train and freight operating companies on this basis. The charge is based upon a rate of return on the assets employed. Given that the level of train movements on the network are known a year in advance, then the level of revenue gained can be accurately predicted by the price. This however is a considerable oversimplification of the problem, as obviously operating costs as well as efficiency gains also need to be estimated in advance. If efficiency gains are not taken into account, then the level of the access charge, or fare in more general terms, would be set at a rate that would provide a higher level of profits than had been deemed to be a 'fair' return. In order to fully illustrate these principles, the whole issue of regulating the former British infrastructure provider, Railtrack, is covered in more depth in Case study 10.1.

*Through introducing yardstick competition*

Yardstick competition exists where direct competition in the market is not feasible but is introduced indirectly through regulation, and is normally used to control price levels. This is achieved by linking the performance of different firms in different markets to each other. If it was conceived today, therefore, 'yardstick' competition would probably be termed 'benchmark' competition, as effectively the performance of each firm in the industry is benchmarked against one another. As an example, if two firms A and B faced similar cost and market conditions, then under yardstick competition the price that A could charge would be dependent upon the level of costs in firm B. Thus if B was to lower its costs, the result would be that under the regulatory system A would be forced into charging a lower price in its market and vice-versa. Such regulatory measures are said

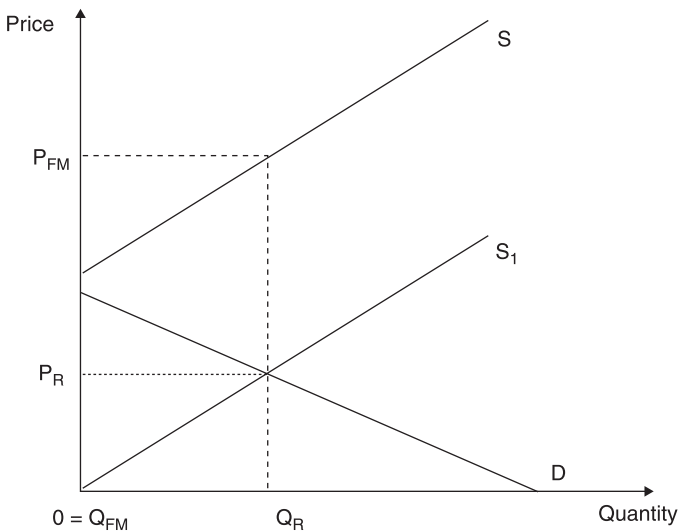
to be appropriate where the potential for cost savings is unknown and difficult to estimate in either market, and where cost and demand conditions in each market are very similar. Exercise 10.2 explores further some of the ideas behind yardstick competition.

These are the five main mechanisms through which the price charged in the market can be controlled; however, price regulation is only one form of economic regulation. The other main form is where the level of available capacity is controlled through regulatory measures, normally in the form of specification of minimum frequencies and/or through the control of market entry.

*Specify a minimum frequency*

In the simple case the authority specifies the minimum level of frequency to be provided. This will normally be in the form of actual frequencies and operating hours; however, it can take other forms such as total vehicle kilometres supplied. This is shown below in Figure 10.2.

In the figure the free market position is shown by supply curve  $S$  and demand curve  $D$ . In this case no market would exist for this transport service as the highest price that consumers are willing to pay, as shown by the demand curve, is below the lowest price that suppliers would be willing to provide a service, as shown by the supply curve. There is no market equilibrium and thus no transport service is provided. In this case, the transport authority specifies a minimum service frequency in order to create a regulated market where none existed before. This is set at level  $Q_R$ . Note however that such action taken on its own would be entirely pointless; even if an operator did, for whatever unwise reason, enter the market it would quickly go out of business as the level of demand would be insufficient to support the level of supply. As with simple price regulation, therefore, such regulatory action cannot be taken on its own. The regulatory authority would need to have some belief that supply will increase and result in a shift of the supply curve from  $S$  to  $S_1$ .



■ *Figure 10.2 Simple quantity regulation*

Thus it may again pay a subsidy or alternatively 'package' the non-existent service with other more profitable routes and put these out to tender to the highest bidder.

### *Limit market entry*

We have already seen in Chapter 7 the legal control of market entry as a barrier to entry, but it is one that would usually be imposed in transport markets as a form of capacity regulation. This is where the regulatory authority will set clear limits on those operating in the market and thereby directly restrict supply. Taxi services in most locations are a good example of this form of regulation, where the regulating authority sets a limit on the number of licences issued. Such measures were originally imposed to avoid street congestion and to limit the competition to public transport services.

## **The rationale for the regulation of transport services**

In most cases regulations, both qualitative and quantitative, are imposed due to some form of market failure, with the main reasons outlined below.

### *To overcome the market failure of imperfect/dissymmetry of information*

The first rationale for the regulation of transport services covers most forms of qualitative regulation, where these are imposed in order to regulate user behaviour and to impose minimum standards on the operation of the transport system. This is directly to overcome the market failure of imperfect information, or more generally because a dissymmetry of information exists where some know more than others. In many ways this is akin to the view that every other driver on the road is an idiot apart from me, and in many ways, there is actually some truth in that statement. In general, users of a transport system need to have a level of confidence in others' movements in order to feel more secure when undertaking their own. Hence when walking on the pavement, pedestrians need to feel reasonably assured they will not be run over by a high-speed vehicle. Similarly, drivers need to feel reasonably assured that pedestrians will not aimlessly walk out in front of the vehicle, hence causing them to swerve dangerously or, worse, run them over! They also need to have confidence in the fact that other drivers will not attempt to use the same piece of road space they are using at that point in time, hence causing a collision. Through regulating behaviour, e.g. you can only walk on pavements, you must obey road signs, you must adhere to maximum speed limits etc, a minimum overall level of behaviour is assured when moving around and total chaos avoided.

Not only individual behaviour however needs to be regulated, but also the condition of vehicles used in the transportation of people and freight. This relates to all forms of transport, private, public and freight haulage, and through this a minimum standard of the equipment used is ensured. None of us when boarding a bus, or an airline, or a train, have sufficient knowledge to be able to assess the skills of the driver/pilot or the condition of the vehicle. Even if we did, the practicalities of doing so would make the whole system completely unworkable. Such knowledge however is not necessary, as that is one of the main functions of the regulatory authorities. They have the skills and the knowledge to assess these issues on behalf of all users of the transport service. In simple terms, qualitative regulation overcomes the market failure of imperfect information and makes the whole system work.

*The market can no longer regulate itself*

If the market can no longer regulate itself, then external regulation is required to ensure that economic efficiency is achieved. Why this occurs is because most transport industries tend towards anti-competitive market structures, namely monopoly and oligopoly, hence regulation is required to attempt to minimise the disadvantages associated with such market structures.

*To correct for externalities*

Even where the market can regulate itself through strong competitive pressures, it may still not produce the 'right' answer in terms of modal splits that maximise economic welfare. This is due to the high level of externalities present in transport markets, hence all decisions are based on private costs and benefits and do not take into consideration the wider implications of these decisions. As a result the 'wrong' society maximising decision is reached. External intervention in the form of regulation, which although a further breach of the conditions of perfect competition, is required to rectify this situation on the basis that two 'wrongs' will make one 'right'. The extent to which this has been successful or not in actual transport markets is considered later in the chapter.

*To ensure the quality of the service provided*

Ensuring the quality of service provided in the market relates directly to qualitative controls on the standards of service to be provided. Whilst relating to 'qualitative' controls, however, most of these are imposed through economic and not qualitative regulatory measures. Thus for example in Britain, Statutory Bus Quality Partnerships are agreements between the local authority and the bus operators, where the local authority can limit entry to the market to only those bus companies that meet the vehicle standards specified in the agreement. Other examples exist where the quality of service is regulated even more directly. British passenger rail franchises agreements for example specify the minimum level of service to be provided and the investments in new rolling stock to be made by the operator over the course of the franchise.

Regulation may also be used to ensure the quality of service in the longer term. For example market entry may be restricted in order to provide market protection and hence maintain the profitability of those already in the market. It is out of profits that investments are funded; hence restricting entry gives current operators the business confidence to make future investments in new vehicle stock and thus maintain or improve quality levels. A similar reason may be to protect the livelihood of those in the industry. The most well-known example is the EU's Common Agricultural Policy, which was originally conceived to lend support to farmers within the industry through regulating the prices of agricultural produce. Regulated prices were set above the market price in order to ensure future livelihoods and thus the future of the industry.

*To provide a transport service where none existed before*

Rather than leave entirely to the free market, transport authorities may decide to intervene and package routes in order to ensure that all necessary services are provided. It may therefore restrict entry on certain (profitable) routes in exchange for the protected operator providing services on unprofitable routes. This is known as cross subsidisation, where the revenue earned from profitable

services is used to fund the losses incurred on unprofitable routes. Whilst such measures prevent the cherry picking of 'good' routes and can provide a far more overall balance in the provision of transport services, there are generally far better measures that can be used to ensure that all necessary services are provided. This is a topic that is developed further in the next chapter.

### *To improve efficiency within the industry*

As outlined above, the regulatory framework can be used in an attempt to bring about efficiency improvements within the industry, normally through restraining price increases. This was a measure that was extensively applied in the British privatisation programme of the 1980s, where charges relating to telecommunications, electricity, gas, water and so on were carefully monitored by an industry specific regulator. After privatisation, rail fares in Britain were also regulated on an RPI – X% basis, where X first equalled zero and then subsequently one. These measures are used to not only instigate efficiency improvements, but also to ensure that productivity improvements result in lower consumer prices rather than higher shareholder dividends. As noted above, however, the British rail franchises are now regulated on an RPI+X% formula, which hardly provides an incentive to improve efficiency but has been introduced for other reasons mainly surrounding investments in rolling stock.

## **The drawbacks of economic regulation**

We have looked above at the rationale behind the regulation of transport activities; however, it does not always result in the desired outcomes and has a number of drawbacks.

### *Limits free enterprise*

Often cited as the biggest drawback of economic regulation, the issue of the limitation of free enterprise was often put forward as a reason for the removal of economic regulatory measures during the enterprise culture of the 1980s. Acting out of self interest, whether that be at a company or at an individual level, is said to be a far stronger motivator to 'do the right thing' than a regulator acting in the public interest. This is related to the free market ideology of consumer sovereignty, where those that profit most are those that are able to give the consumer what they want. In a transport context, the argument would be that not only would an entrepreneur be far better positioned to identify users' needs and provide services users want, but also would be far more motivated to do so by the profit motive, i.e. direct benefit to themselves. This contrasts with a regulatory authority that would plan such networks at a distance and be motivated by the public interest, i.e. simply doing the job they are employed to do. Closely related to limiting free enterprise, regulated markets are said to also limit innovation, as it dampens the free enterprise spirit. This is because there are clear limitations imposed upon the market and consequently less room for the operator to use entrepreneurial flair and innovative solutions in the provision of transport services.

### *Inefficient, second best solution*

As will be developed further in the next chapter on subsidy, issues of subsidy and regulation are



what are termed 'second best solutions'. The best solution is that the market itself regulates the performance of operators. This would be an internal/automatic type of regulation. As we saw in Chapter 6 with perfect competition, any operator that cannot offer services at the lowest price and produce these at the lowest possible cost will be driven out of business, hence the market regulates itself. The problem with an external regulatory body is that this leads to added costs in the operation of the market, as the administrative burden of the regulatory mechanism adds to the overall cost of providing the service. The annual costs of running the Office of Rail Regulation (ORR) in the UK for example came to a total of £30.5m in financial year 2007/8 (ORR, 2008). Whilst these are not all additional costs, as for example if the ORR did not exist then a number of its duties would need to be amalgamated into other government bodies, a large part of it is, particularly those concerning economic regulation. Thus transport services are provided at a higher cost due to increased administration costs.

Also under this heading is the time issue, and in particular the time gap between changes in market conditions and changes in the provision of services. It has often been argued that due to the added layer of regulatory bureaucracy, a regulated market does not act as quickly as the free market in responding to changing conditions in demand and supply. A classic case of this would be the bus industry in Britain, where during the period of the bus wars (see Case studies 6.1 and 8.2) a large number of mergers and acquisitions were referred to the relevant regulatory body, in this case the Monopolies and Mergers Commission. By that time, however, the act of merger/acquisitions had already occurred, hence many of these referrals ended in purely nominal measures and the upholding of the merger. Cowie (2002) for example highlights that of 33 cases referred to the Monopolies and Mergers Commission<sup>1</sup> between 1986 and 1998, only 3 resulted in dissolution of the merged company.

### *Asymmetry of information*

In order to regulate efficiently, the regulator needs a high level of information in order to plan and control operations. Whilst sounding obvious, the major drawback with this is that the regulator will undoubtedly be the authority and not the operator, and hence the operator, unsurprisingly, knows more about their own business than the regulator does. There is therefore a need for a flow of high quality information between the two. It may however be in the interests of the operator to withhold important information from the regulator if they believe this may be used against them. There is thus an imbalance of information, with the operator often holding the key information that the regulator needs to regulate effectively.

### *The issue of regulatory capture*

The theory of regulatory capture was originally put forward by George Stigler (1971) and after the negative effect on entrepreneurial flair is often cited as the second biggest drawback of economic regulation. The issue of regulatory capture is where the regulator, who is supposed to oversee and control the industry on the grounds of the public interest, is in effect not as 'tough' on the industry as they perhaps should be in the public interest. The consequences are that the regulator better serves the interests of the industry than the interests of the consumer. Whilst the term 'capture' suggests that the regulator is enticed in some manner, 'capture' also refers to capture with regard

to the prestige that goes with being an industry regulator. In simple terms, the status and overall prestige of the regulator rises with the importance of the industry. What happens therefore is that instead of regulating the industry, the regulator becomes the protector of the industry. A more direct form of regulatory capture is where the regulator becomes dominated by the vested interests in the industry, where political pressure may be applied from above forcing the regulator to take a 'soft' stance in regulation of the industry.

*Cumbersome regulatory procedures make avoidance of regulatory measures possible*

This is the most basic drawback of regulation where it simply fails to regulate the actions or behaviour it is designed to regulate through avoidance. This is because regulatory measures are by their very nature cumbersome processes that can be avoided or ignored by those they are designed to affect. As a result, the expected outcomes are not achieved. Case study 10.1 shows how difficult and costly it can be to regulate an industry, and such cumbersome processes can make it very difficult to get it 'right'. An obvious example is the issue of the regulation of rail fares highlighted above. These were initially regulated on the basis of RPI-0%, thus in theory rail fares should not have risen above the rate of inflation, and fallen in real terms when the base moved to RPI-1%. Nevertheless, the process used to regulate fares was, and still is, to have a collection of 'regulated' fares and 'unregulated' fares. Hence train companies are at liberty to increase the price fares of unregulated fares. More obviously, given the diverse range of train tickets available for a given journey, companies were at liberty to withdraw lower fare tickets, hence effectively bypassing the regulatory mechanism and increasing the price of the rail ticket above the rate of inflation.

Note that whilst these major drawbacks of regulation have been listed separately, they all in some form relate to the issue of it being a second best solution – in simple terms, the only problem with regulation is that it is needed at all. If there are thus problems with regulating the market for transport services, the alternative is to take it into public ownership. The issues surrounding the public ownership of transport assets are considered after Case study 10.1, which attempts to put some of the issues outlined into practice through examining the process of regulating the British rail infrastructure provider.

**Case study 10.1 The practicalities of industry regulation – regulating the British railway infrastructure provider**

Whilst in theory the process of regulation can appear reasonably straightforward, the practice is almost always far more complicated. This case study attempts to illustrate this through the examination of regulatory mechanisms surrounding the former British railway infrastructure provider, the private sector company Railtrack.

Under British rail privatisation, the single nationalised operator, British Rail, was divided into 104 separate companies with the main purpose to introduce competition at all levels of railway operation. Competition would exist not only between train operators in the passenger and freight sectors, but also between industry suppliers. Thus there were three rolling stock leasing companies and 14 infrastructure maintenance and renewal companies. The one

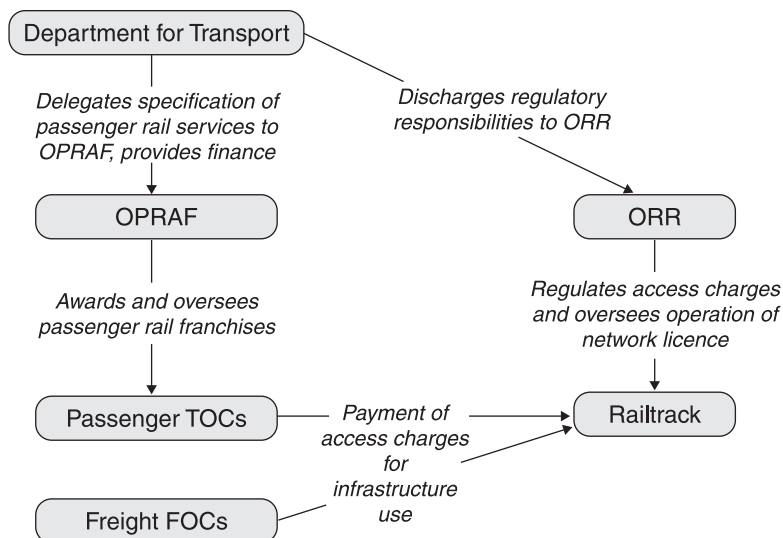
exception was the infrastructure provider, where it was considered that the advantages of having a single national network operator significantly outweighed the drawbacks of splitting the network up into separate geographical areas. This therefore left a monopoly provider of the infrastructure throughout the country. This was organised into a company called Railtrack which was floated on the stock exchange. The company was expected to operate primarily on a commercial basis; hence all infrastructure access charges were to be at full cost. As a result, the firm would return a profit and receive no direct subsidy except to assist the funding of railway investment.

Being in a monopoly position, therefore, the access charges levied on the train-operating and freight-operating companies required to be regulated in order to avoid abuse of this market position. The Office of the Rail Regulator (ORR) was thus established as an independent regulator to oversee the market actions of the infrastructure provider, Railtrack. This however was not only in terms of the access charge levied on train companies but also to ensure that the conditions under which Railtrack had gained its network licence, which gave the company the right to be the infrastructure provider, were upheld. The ORR was thus empowered to set the contractual and financial framework under which Railtrack operated the network, ensure that the company carried out its activities efficiently and finally had an obligation to see that the company was adequately funded to enable it to discharge its responsibilities effectively. This in many respects underlines the balancing act that a regulator has to achieve between the needs of the company and the needs of the customer. The company needs to have sufficient profits to be in a position to undertake investments whilst at the same time leaving a reasonable level of profits to satisfy shareholders in the form of dividends. This would tend to suggest higher prices, whilst the interests of the consumer are obviously best served by lower prices. The regulator therefore needs to set a price that strikes a 'fair' balance between these two parties. In this particular case, however, the situation is further complicated by the indirect payment of subsidy. Although Railtrack was not directly subsidised, its principal customers, the train-operating companies, were, and in most cases to fairly substantial amounts. Failure to regulate correctly therefore could have serious knock-on effects in terms of the whole industry supply, i.e. increase subsidy, and the imposition of financial penalties difficult to impose given the contrasting nature of the responsibilities of the regulator, i.e. to regulate Railtrack and ensure it had sufficient funds for investment.

Figure 10.3 illustrates the independent nature of the rail regulator in the privatised rail industry structure created by the Railways Act 1993. Whilst OPRAF was delegated responsibility for the awarding and the overseeing of the passenger rail franchises (and hence was directly accountable to the DfT), the Office of the Rail Regulator was an independent body outside of the direct control of government. It could therefore, in theory at least, act in the public interest without fear of political interference or pressure.

#### *How therefore was regulation to be achieved?*

The key to the whole regulatory structure was centred upon the setting of the access charge to be paid by the train- and freight-operating companies. This would then ensure that sufficient revenue was raised through the charge to cover operating and maintenance costs, depreciation charges and provide a return on capital (i.e. profit) of 8 per cent, which was the agreed form of regulation. The 8 per cent rate of return and depreciation charges were set on Railtrack's



■ **Figure 10.3** Rail industry regulatory structure 1997–2001

Regulatory Asset Base (the RAB), which in simple terms was a list and valuation of all assets to be included for regulatory purposes in order to determine the level of profit. Valuation of the RAB was initially based upon a Modern Equivalent Asset Value (MEAV), in other words how much would it cost to replace all the assets in the RAB? This by and large was a highly questionable basis from which to value the asset base (Stittle, 2002), and most agreed one that would produce an artificially high valuation and consequently an over-inflated profit. For the purposes of regulation, the RAB was to be revalued every five years, which divided the regulatory periods into the first control period, running from 1995 to 2001, the second control period from 2001 to 2006 and the third control period from 2006 to 2010.

To recap, therefore, in order to set the access charge the regulator needed to calculate the 8 per cent return on capital (the RAB), estimate Railtrack’s operating and maintenance costs over 5 years and its depreciation charges over these periods. Around that basic figure then arose questions of Railtrack’s investment needs, its borrowing requirements (and more importantly associated interest payments) and its possible efficiency gains (see next paragraph). This would then produce a figure that amounted to Railtrack’s financial requirements over the 5-year period. In (very) simple terms, this would then be divided by total track usage to derive the access charge. Through such a pricing regime, therefore, the infrastructure provider would recover the full cost of the use of the network and its investment requirements to which it would add an 8 per cent mark up for its profit – sound simple?

During the process of regulating Railtrack several highly contentious points arose. The first concerned Railtrack’s investment needs. If Railtrack was to be regulated on the basis of an 8 per cent rate of return on capital, then higher investment needs would push up depreciation charges and interest payments, and thus if not properly accounted for would literally eat into the 8 per cent rate of return. This debate also included questions over the cost of capital to Railtrack, as higher costs of capital would again reduce profit if not appropriately accounted for. The second and perhaps greatest disagreement between the ORR and Railtrack was over the issue of

efficiency gains. Again if Railtrack was to be regulated on the basis of profit, then the question of the extent to which Railtrack could lower its unit operating costs over time became crucial. As mentioned above, this is because the level of access charges required to produce the 8 per cent return needed to be set in advance, and if efficiency gains were not taken into account then even modest improvements would increase the level of profit and push it above the 8 per cent regulated limit. The regulator therefore commissioned an independent report from NERA to examine the potential for efficiency gains in the infrastructure provider. One of the problems facing any such assessment however was a lack of empirical evidence of other systems, as very few rail systems at the time had such a vertical separation of infrastructure from services. Nevertheless NERA (2000) estimated potential efficiency gains of between 3.3 to 3.9 per cent per annum. Railtrack on the other hand, in their own evaluation (Railtrack, 1999), forecast significantly lower efficiency gains of around 1.5 per cent per annum (Railtrack, 1999). A second group of consultants, Booz, Allen and Hamilton (BAH), were then commissioned by the ORR to examine Railtrack's own estimates. BAH (1999) derived a target figure of between 4 and 5 per cent for efficiency gains for Railtrack in the period 2001–2006. Other stakeholders, notably the freight companies, also commissioned a separate report into potential cost savings in the provision of the infrastructure company, and one that estimated potential efficiency gains of a higher order, at around 6 to 7 per cent (LEK, 2000). In very broad terms therefore, there were three estimates of Railtrack's potential efficiency gains, ranging from 1.5 per cent (Railtrack), around 4 to 5 per cent (ORR commissioned studies) and finally 6 to 7 per cent (a Railtrack 'customer'). Eventually, the efficiency target was set at 3.6 per cent per annum (Pollitt and Smith, 2002).

One of the problems however was that Railtrack had effectively very little control over its own costs. Under the structure created at privatisation, sub-contractors carried out all of Railtrack's maintenance and renewals. This was further compounded by a loss of railway engineering expertise in the company that could either evaluate the need for the work or the standard of the work completed. Thus most efficiency gains were not under the direct control of Railtrack but rather were dependent upon the structure created on privatisation delivering a competitive market in rail infrastructure maintenance and renewal.

To worsen problems, a train derailed at Hatfield resulting in four fatalities and seventy injuries. This was as a result of a broken rail that had been known for some time to be 'at risk'. The fear that more rails on other parts of the network might be similarly affected led to the imposition of temporary speed restrictions in many parts of the network whilst these were checked, resulting in widespread disruption. Under the terms of the track access agreements, Railtrack then had to pay more than £500m to the train-operating companies as a result of the disruption caused. This combined with major cost overruns on the company's major infrastructure project at the time, the upgrade of the west coast mainline between London and Glasgow, led to the company being placed in administration by the then Minister for Transport in October 2001.

This case study not only shows some of the difficulties with industry regulation, but also the failure of Railtrack raises the question if this was a case of regulatory failure? In other words, did Railtrack fail due to failure of the regulator to sufficiently protect it and enable it to continue in profitable operation? Whilst regulatory failure can come in a variety of guises, such as regulatory capture highlighted in the text, Lodge (2002) only finds some evidence of what is

known as regulatory 'drift'. This occurs when there has been an insufficient upholding of the policy by the regulator. In this case, this was as a result of agenda selection where certain areas of the regulator's remit were overly focused upon at the expense of other aspects which were also under the regulator's control. Lodge, however, suggests that the failure of Railtrack was more as a result of a far more complicated and widespread set of circumstances, many of which are connected to the general reform of public transport services. In simple terms, implementing reforms into transport markets is not easy.

## THE ISSUE OF OWNERSHIP IN TRANSPORT MARKETS

If you have read the book up to this point, then you should realise by now that transport markets except with one or two exceptions cannot be left entirely to market forces to resolve economic transport issues. In most cases, therefore, they need some form of external intervention in order to correct for market failures. One way that this can be achieved, as seen above, is through regulation of the market. The alternative is far more direct and is where the state effectively takes control of the market by bringing it into state ownership. The market therefore does not have to follow market principles, i.e. be subject to the forces of supply and demand, nevertheless the economics of the whole operation still need to add up.

### Reasons for the public ownership of transport assets

The issue therefore of ownership within transport markets in most cases comes down to the simple choice of whether services should be provided by the public sector or a regulated private sector. The 'old' view was that transport services, both passenger and freight, were vital services to the national and local economies that they served. Rather than questions surrounding issues such as the standard of service to be provided or the fare to be charged being left to the private sector to decide, these should be resolved by the state on the basis of the public interest. The 'best' way to achieve this was through direct ownership and control of the assets required to produce such services. This view is best exemplified with what eventually developed into the 'Morrisonian model' of public ownership, named after one of the leading Labour politicians of the time, Herbert Morrison. In the early 1930s, London's public transport services comprised of buses, trams and the underground, and all operated as individual transport modes by 89 mainly private sector operators. Morrison's view was that these individual services could only be fully exploited (in terms of public benefit, not profitable reward) as part of a single unified system that was controlled and operated by a single transport authority. The authority should operate 'at arm's length' to the local authority with the remit to provide economic and efficient transport services. This was the origins of London Transport, which was enacted by the London Passenger Transport Act (1933) that established the London Passenger Transport Board to bring all passenger modes in London into public ownership and under the Board's direct control.

However, the public interest argument is not the only reason why assets should be taken into the public sector, or nationalised, the main other ones being:

### *Eradicate wasteful competition*

Wasteful competition has already been outlined in Chapter 7, and is where two or more services exist where one would be sufficient. One way that this can be eradicated is to bring competing services under the control of a single operator. The problem however with such a re-organisation is that the eradication of competition would leave a monopoly provider with all the associated problems of such a market structure. One way these drawbacks can be overcome is through direct control of the operator via public ownership. The operator could then be managed on the basis of the public rather than the profit interest. If managed correctly, this should result in economic efficiency. Alternatively, wasteful competition could be removed through regulation, thereby replacing the free market with a planned or regulated market and ensuring that capacity matched demand.

### *Military significance*

The industry is seen to have important military applications that mean it cannot be simply left in private hands. In some ways the rail industry is an example of this, where during WW2 the 'big four' rail companies were jointly managed in order to better assist the British 'war effort' and to co-ordinate troop and equipment movements.

### *Public goods*

If left to the market certain types of beneficial goods, known as public goods (see Chapter 1 for a description), would not be provided as no single firm could make a profit out of doing so. One way to ensure that such goods are provided is through state ownership.

### *Essential to the economy*

This is an extension of the public interest argument. Certain industries were viewed as underpinning the whole economy and hence could not be left to market forces because if the particular industry suffered the whole economy would suffer. Hence for example the coal industry was nationalised in 1947 and steel in 1965 as at that time these were important raw materials to the whole British economy. Many transport industries came under this same argument, hence the railways nationalised in 1947, road haulage and the major ports in 1948 and most of the bus industry taken into public ownership in 1968.

### *A large employer*

Very much a rationale of the times of mass production, where firms were major employers and thus their potential collapse could not be contemplated in unemployment terms. As an alternative, they were nationalised. Hence British Leyland, a major British car manufacturer and mass employer at the time, was nationalised in 1975 following its bankruptcy. This was and remains a particularly acute threat in certain areas or localities, where certain firms may be the only major employer in the area, and hence its collapse would have implications far beyond the direct loss of employment. The aerospace industry in South West England for example is a major employer, and

hence the collapse of the industry would result in considerable economic hardship throughout the whole region.

### *Key industry*

A key industry is different from an essential industry to the economy as it is one that is seen to be of vital importance to the country. Hence for example Rolls-Royce was nationalised in 1971, the only firm to be taken into the public sector by a Conservative government, for reasons that primarily related to it being a key industry. This is because firstly retention of the skills and knowledge employed in the company were seen to be important to the country and secondly, it was and remains one of a small number of 'prestigious' companies that stand for excellence in British engineering. Note also that the Rolls-Royce example falls under the military rationale, as most Royal Air Force and Royal Navy aircraft are powered by Rolls-Royce engines. Retention of such engineering skills and knowledge was therefore also of military significance.

### *High project development costs*

Any major project requires considerable financial outgoings before any revenue is forthcoming. In many instances these can be of such a size that the whole company is put at risk. In the case of Rolls-Royce, for example, the company ran into major cash flow problems over the development of the civil RB211 aero engine that ultimately forced it into liquidation. Because of such high business risks, projects of this nature would not be undertaken by the private sector regardless of any wider benefits that may follow completion. Consequently under 'normal' circumstances, only a publicly owned company could take on such a project.

In the 21st century many of these arguments are outdated and reflect different times. In several cases, other alternatives to public ownership can now be used to overcome many of the issues. In other instances, however, reasons for public ownership still apply. For example, the net outcome of the reform of ferry services to the islands off the west coast of Scotland, which was required under EU competition laws, resulted in the services being provided by a combination of two heavily subsidised public sector companies rather than previously where they were only provided by one heavily subsidised public sector company. All private sector bidders withdrew in the course of the bidding process as they were unwilling to bid under the terms of the tender. As the ferries are essential to the economy and social foundation of these islands, if no private sector company was willing to take the risk in providing services they could only be operated by a public sector concern. Whilst this is not a typical example, it does nevertheless lead into the more general issue of public ownership reform.

## **Reasons for reform**

If transport services should or can only be provided on the basis of the public interest, which can be 'best' guaranteed under the direct control of public ownership, then why reform? Some of the reasons for reform are outlined below:



*Increasing discontent with the model of public ownership*

Over the years there has been increasing discontentment with the model of public ownership for a number of reasons. The first is the basic efficiency argument, where such organisations are perceived to suffer from general management slackness and thus are not as efficient as private enterprise. This is the classic x-inefficiency argument. The second relates to the constraints that operating in the public sector imposes on such concerns, which may limit options and overall performance. This particularly surrounds financial constraints, where because all borrowings count as part of the National Debt, these are closely scrutinised and controlled. For companies and organisations working in the public sector this limits planning horizons and investment plans, and consequently leads to much shorter planning frameworks.

*Changing macroeconomic environment combined with social change*

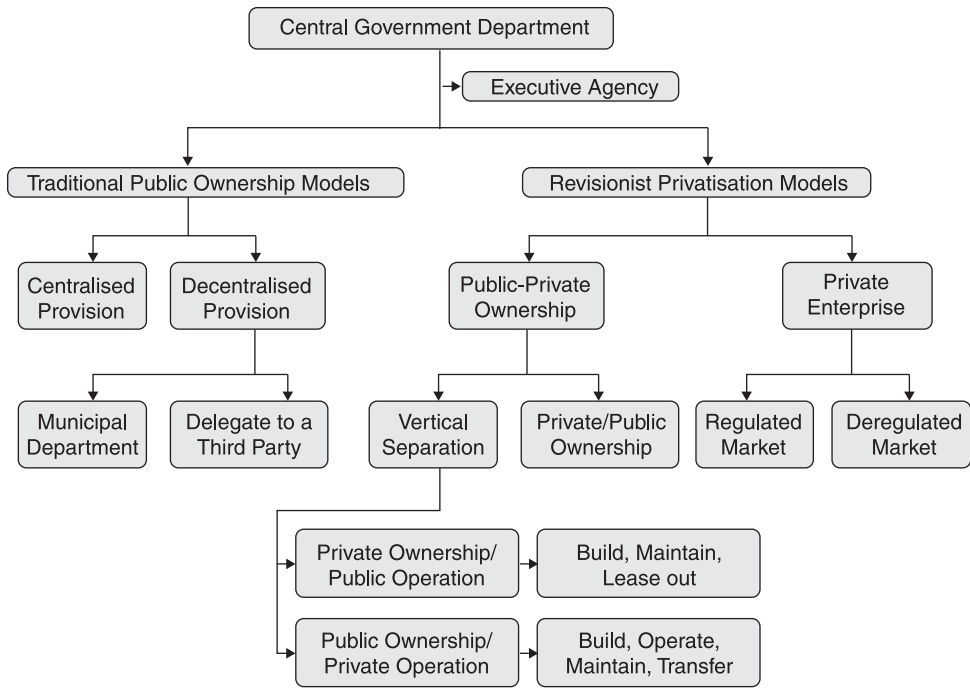
A changing macroeconomic is mainly as a result of changing global economic conditions (see Chapter 12). As a consequence, the economic power of governments and their ability to influence markets has been considerably reduced due to the rise of multinational and transnational companies. Governments therefore have found it increasingly difficult to intervene directly in markets, and hence the government's role in certain markets has changed more towards that of one of a facilitator. Reduced economic power has also meant that governments can no longer afford to simply give public transport operators an open budget with which to provide services. Over this time there has also been major social change, with changing mobility patterns and overall increases in levels of personal travel. In particular, less people are now reliant on public transport services, thus the gap between costs and revenues have grown substantially causing an increased subsidy requirement. One 'solution' to this was to cut transport services, a view best encompassed by the 'Beeching' approach, where unprofitable railway lines were closed in the 1960s in the UK in search of the profitable railway. An alternative approach is to attempt to run the existing network but at a reduced cost, hence the motivation for reform.

*The desire to introduce competition into the provision of transport services*

This is partly connected to increasing discontentment with public service provision. The Morrisonian view of transport provision is that of a public corporation being the sole provider of transport services. Apart from the x-inefficiency argument cited above, reform may be motivated because of social change and the increased desire for choice and options. Whilst fifty years ago people would generally put up with the bus service provided by the local city corporation regardless of the quality of the service, now they won't. Choice is more a part of today's society than it has been in the past, hence introducing competition into the market gives the consumer more viable choices.

**Ownership forms in the provision of transport services**

Even where considerable market reforms have been enacted in the provision of transport services, there still remains a wide range of ownership forms within the sector: public ownership is far from being completely removed from the provision of transport services. Ownership structures range



■ **Figure 10.4** Ownership forms in the provision of transport services

Source: Adapted from Jain *et al.* (2008) and Cowie (1995)

from a tightly controlled government department to a free market profit maximising company. In many ways the issue of the ownership of transport assets is very closely associated with the issue of transport governance, as those empowered by the state to provide transport services are generally those that own or control transport assets. This close relationship is very similar to the old adage that possession is ninth tenths of the law. Nevertheless, Figure 10.4 attempts to summarise the main ownership forms with focus on the economic rather than the legal issues. Some cross over between the two however is inevitable.

### *Central government department*

Beginning at the top of Figure 10.4, a central government department is where the provision of transport services or the management of transport assets, such as national roads, remains directly a responsibility of central government administration. The department receives an annual budget from central government funds to enable it to fulfil this obligation. Rather than perform all of these duties internally however, it may delegate a specific task or aspect of these responsibilities to an external body in the form of an Executive Agency. As an example, the Highways Agency is an executive agency of the Department for Transport (DfT) and is responsible for the management, maintenance and development of the national road network in England. The running of the British passenger rail franchises was also formerly under the control of an executive agency, the Strategic Rail Authority. This however was abolished in 2006 and the function brought directly back under central government administration in the shape of the DfT Rail Group.

In many other instances, responsibility may be delegated to other bodies further removed from central government, which leads into the traditional forms of public ownership.

### *Traditional public ownership forms*

These are subdivided into centralised and decentralised provision.

#### ***Centralised provision***

This is where transport services are provided on a national basis, usually by a nationalised operator in the form of a statutory corporation. These are legally constituted bodies given the authority by the state to perform a public service. Within the transport sector, this has normally related to rail services. Thus in Britain, for example, until 1996 all rail services were provided by the nationalised British Rail. Statutory corporations still exist in other countries in Europe and other parts of the world. Interstate passenger rail services in both Canada and America for example are provided by statutory corporations, VIA Rail in the case of the former and Amtrak in the latter. These bodies will generally plan and operate all transport services for which they have been given the legal authority.

#### ***Decentralised provision***

Rather than run on a national basis, under this form of public ownership transport services are owned and controlled at the local level. This is usually done either directly by the local council or responsibilities are delegated to a third party.

#### **The municipal department**

This is where the local council plans and directly provides transport services. In Britain prior to the Transport Act 1985, this form of public ownership was widespread in bus operations, where buses were part of a transport department that was no different to any other local authority department such as housing, education, refuse collection, libraries, social services etc. Under this model of ownership, the transport department is given a budget and for that budget expected to provide local transport services. Many transport assets in Britain are still managed in this way, such as urban and county roads, bus stations and many ports and harbours.

#### **Delegate to a third party**

As with central government, the local council may also transfer specific responsibilities to a third party. This can come under a multitude of legally constituted forms, from the wholly owned subsidiary through to an executive agency or statutory corporation. Thus for example Transport for London is a statutory corporation responsible to the Greater London Authority for most aspects of the city's transport system, whilst Highlands and Islands Airports Ltd is a wholly owned company of the Scottish Government. As a very general rule, at the local level planning and co-ordinating bodies are normally constituted as statutory corporations, whilst operating arms as wholly owned subsidiaries. Thus London Underground Ltd is a wholly owned subsidiary of Transport for London. In all cases, however, the level of public control is very high as the third party is wholly responsible to the local council.

One of the major reasons for this type of public ownership structure rather than it being part of the local administration is that it allows the organisation with the responsibility to focus entirely on the specific activity. A further reason is that a degree of competition can be more easily

introduced into operational activities rather than simply giving a budget to an internal department. Thus subsidised transport services can be put out to competitive tender, and even (if desired) competition introduced on profit-making routes. The performance of the publicly owned company can thus be 'benchmarked' or even more directly set against private operators in the market. For example Lothian Buses in Edinburgh, by far the largest publicly owned bus company remaining in Britain, not only openly competes in the market against private sector companies for patronage, but also has to tender for local authority contracts. It receives no direct funds from the council, and profits made on operations are paid to the council in the form of dividends. Nevertheless, in Britain this form of public ownership is a peculiarity left over from bus privatisation in the 1980s. Most of these companies were organised separately from the council as a prelude to privatisation, hence the ownership type transitory, as it was never intended that they should remain in public ownership. Nevertheless, there are many examples in Europe and other parts of the world where either publicly owned transport firms compete with private sector companies or perform specific transport functions for the local authority.

### *Revisionist privatisation models*

Under revisionist privatisation models, aspects of the private sector are directly involved in the provision of transport services and/or the management and operation of transport assets. This would be consistent with what Swann (1988) termed as a 'wide' form of privatisation, in which any measure designed to refocus the public enterprise towards market-based principles can be described as privatisation. The main forms of revisionist privatisation models to be found in the delivery of transport services are also shown in Figure 10.4 and outlined below.

### ***Public–private partnership***

As the name clearly indicates, this is where there is some form of partnership between the public and private sectors. The most straightforward is where a joint company is set up to operate the service or transport facility. In France for example some bus companies are jointly owned by the public and private sectors. Other examples exist of joint public–private operation of airports. Under this model of ownership, this is a straightforward partnership, where a hypothetical case would be where Lothian buses, rather than being entirely owned by City of Edinburgh Council, was partially owned by a private sector operator. Interestingly, however, research has consistently shown that in terms of operational efficiency, this tends to be the worst form of ownership. Roy and Yvrande-Billon (2007) for example in a study of French bus operators found that privately owned firms were technically more efficient than publicly owned companies, but that the worst form of ownership was the mixed public–private model. This they attributed to three possible reasons. Firstly, that it led to opportunistic behaviour due to responsibilities being difficult to attribute between the two partners. Secondly, public administrations were 'captured' by their private partners so that their performance was even worse than if acting alone. Thirdly, that those public administrations that had retained the direct management of their public transport systems were particularly proactive in this respect, i.e. were keen to see, and highly active in providing, a high-quality public transport service. This last argument is particularly valid, especially when it is considered that technical efficiency assessments completely ignore the quality of service as they are solely based on quantitative measures of service output. This research as a whole, and this aspect

in particular, illustrates very clearly some of the major issues in the reform of public transport services.

The other form of public–private partnership is far more complex and is where there is a clear division of responsibilities between the public and private partners. The first of these forms highlighted is where the private sector constructs and owns the transport assets, which it then leases to the public authority to use. Examples of such ownership structures in transport however tends to be limited, but does include some bus stations where the station may be part of a larger development that is owned by a private sector company and leased to and operated by a public authority. It has however been extensively applied in other areas of public service provision, such as schools and hospitals. The advantage of this model of delivery is that the authority may be able to bring forward investments in transport facilities, because the private sector will carry the debt, hence by-passing the financial constraints of the public sector.

The second form of vertical separation is where the private sector operates the service; however, the assets are effectively owned by the public authority. Such structures are fairly common in light-rail schemes, where the infrastructure and vehicles are constructed and built by the private sector, but ultimately owned by the public sector. One of the first examples of this model of delivery was the Manchester light-rail scheme, Metrolink, which was constructed in the late 1980s and opened in 1991. Construction was undertaken by a private sector consortium, which then had a fifteen-year concession on the operation and maintenance of the system. After that period, ownership of the assets reverted back to GMPTE, the local transport authority, who then re-let the franchise.

### *Private enterprise*

The last main heading given in Figure 10.4 is private enterprise. This is where the service is provided entirely by the private sector. The constitutional forms of private sector companies are far more straightforward than public sector concerns, and are outlined below:

#### **Stock market listed**

This is the public limited company (plc), where shares are quoted on the stock exchange. Any investor therefore can purchase shares in the company. Most of the major private operators in transport markets are of this form, as the ability of plcs to raise finance and the options to spread financial risks are considerably enhanced. Liability is limited to the amount invested in the shares in the company. Plcs can and normally do have wholly owned subsidiaries, which are in the form of private limited companies.

#### **Private limited companies (Ltd)**

Private limited companies are similar to plcs in that shares are purchased and liability limited to the level of investment in shares; however, the difference is that shares cannot be sold openly on the stock market, any share transfers will be in the form of private sales. These therefore tend to be smaller transport operators as financing levels tend to be limited to the financial reserves of the (private) shareholders in the company. As stated above, however, many bus companies are wholly owned subsidiaries of plcs. Hence for example First South Yorkshire Ltd was previously Mainline Partnership Ltd, which was a private limited company owned by the management and employees of the firm. However, after a majority of the shareholding agreed to sell their shares to First Group plc, the company then became a wholly owned subsidiary of First.

In terms of how private sector companies provide services to the market, two possibilities are outlined. The first is under a regulated market, where normally a private operator will run services to the specification of a public transport authority. This is the model found in many urban areas, notably London Buses, and other examples are given in Case study 10.2. The second is the deregulated market, where any operator that meets the requirements of business start up can operate services. This is the most extreme form of revisionist privatisation model where the whole transport market is privatised and operates like any other normal good. Better known examples of such markets are buses and road haulage in Britain and air, trucking and rail freight services in America.

What this discussion shows is that even with major reforms, such as bus deregulation in Britain, there is still a significant element of public provision in deregulated transport markets. The only possible exceptions are freight specific railways such as in America; however, even these are subject to minor forms of economic regulation from the US Surface Transportation Board, particularly in the area of proposed railroad mergers. What should not be taken from this discussion however is that Figure 10.4 presents a definitive set of discrete forms of ownership and operation in the provision of transport services. There are not only many other variants that exist, but also a high degree of cross over between a number of the structures outlined. Hence for example public ownership/private operation is normally tendered on a regulated market basis. Ownership forms are thus very difficult to specifically pigeonhole into a number of well-defined and discrete categories.

Some of the issues surrounding reform through introducing private sector practices into the running of publicly owned transport services are explored further in Case study 10.2, which examines three different models of reform, two in urban-based systems and one in a national railway.

### **Case study 10.2 The move away from control through ownership to control through regulation in public transit markets**

*'Regulatory reform is often seen as a road paved by good intentions, but leading to "policy hell"'* (Lodge, 2002, p. 271).

We have already examined in Chapter 7 the impacts of reforms on the British bus market outside of London. Whilst that is an example of reform, it is only one example of reform. In this case study we underpin a number of the ideas outlined in this chapter by considering other examples where there has been a reform away from a traditional public ownership model towards some form of revisionist approach. Three examples are given, two from major European cities and one state railway. The case begins with the London example, as this picks up from the Morrisonian model of public transport provision outlined earlier in the chapter and the reforms enacted in London have been broadly followed in other major cities.

Prior to reform, as we have seen public transport in London was provided by a single at arm's length authority, London Transport, which planned and operated all services. Under the provisions of the London Regional Transport Act 1984, these functions were divided and separated out of a single unitary authority. The planning function was transferred to a new body, London Regional Transport, which was formed to take responsibility of the public transport network

under the direct control of central government. In 2000 this was replaced by Transport for London (TfL), who now report to the Greater London Authority and have wider responsibilities that also include implementing transport strategy. The bus operating arm of London Transport, London Buses Ltd, was divided into ten subsidiaries and these were then eventually sold to the private sector in the mid 1990s. TfL put individual bus routes out to tender and private sector bus companies operate the service to fare levels and service patterns specified by TfL. These contracts are purely on an operational basis (to be examined further in the following chapter), hence the tender is for the cost of operation and all revenue returned to the authority. TfL also lay down other service specifications, such as the standard of vehicles to be used and importantly in the case of London, that all buses are red. The London Underground remains in public ownership and is operated by London Underground Ltd, which since 2003 has been a wholly owned subsidiary of TfL. Like the private sector bus companies, London Underground runs services to a pattern specified by TfL. In 2003 responsibility for maintenance of the trains, stations and infrastructure was transferred to two private sector companies, Tube Lines and Metronet, who supplied these under contract to London Underground Ltd. Following financial difficulties, however, in May 2008 the Metronet companies, which were responsible for maintenance on 9 of the 12 tube lines, were transferred to new companies within Transport for London. Hence maintenance responsibilities on these lines are now back in the public sector. As all urban public transport services within London are under the direct control of a single transport authority, TfL, an integrating ticketing scheme is operated where tickets are valid on all services as well as some rail services. This is the well-known Oyster card seen in Chapter 8, where debit is built onto the card and the 'fare' deducted from the value on the card.

This model of urban public transport provision whilst not the first of its kind is probably the most well known. In essence, the buses have been privatised and are run under contract to the local transport authority, whilst urban rail remains in public ownership. Very similar characteristics to these are to be found in other major cities; however, under slightly different delivery models. Using Helsinki as an example, the city has a wide range of different public transport services that include the bus, the tram, two ferry services, mainline rail services and an underground. The overseeing transport authority, Helsinki City Transport (HKL), was formerly the operator of all of these modes outside of mainline rail, which was the preserve of Finnish State Railways. Bus services however were merged with another city-owned bus company in 2005 and privatised to form a new private sector operator. HKL now specify the bus services to be run, and as in London these are contracted out to private sector companies on an operational basis with a similar model of the passenger revenue being returned to the authority. HKL however remains as the direct owner and operator of the trams, metro and ferries in Helsinki. Public transport services to the outlying areas of Helsinki are overseen by the regional transport authority, the Helsinki Metropolitan Area Council, YTV, who plan and specify bus services in the same manner as the HKL. Again an integrated electronic ticketing system is used and is valid on all modes operated within the city. Whilst very similar to the situation in London, this model of delivery is more consistent with the traditional form of public ownership, particularly in character, where operation and management of all transport assets except buses remain directly within the local transport authority.

The final example given is of reform in state railways. British privatisation has been well covered elsewhere in this text, but this is only one example of the approach taken in the reform

of European railways. Britain however was not the first country in Europe to radically restructure its railway. In the late 1980s, Sweden divided its rail operations between infrastructure and services. Infrastructure was separated out into the National Rail Administration, Banverket, which is a government agency directly responsible to central government for the maintenance and development of the national rail network. To carry out this responsibility, it receives a budget every year directly from state funds. Operator track access charges are paid directly to the Swedish government and are levied on the basis of the marginal cost, hence do not meet the full cost of the network. At the time of the split, services remained the responsibility of the Swedish State Railway (SJ). The rail network however was notionally divided between a commercial sector, mainly intercity routes, and a contract sector, made up of local and interregional services. On the commercial sector SJ had a monopoly over the provision of these services and was expected to cover the cost of operations out of passenger revenue. Note that it only pays the marginal and not the full cost on infrastructure. SJ now however faces some direct competition on parts of these routes in the south west of the country following the loss of the Oresund train contract to DSB First, a joint venture between the Danish state railway and First Group. For information, the Oresund is the sea strait between Malmo in Sweden and Copenhagen in Denmark and was bridged in 2000 by a combined bridge/tunnel fixed link. SJ may also face further competition in the commercial sector as a result of EU-wide rail reforms, specifically the opening up of the market for international passenger rail services that includes cabotage rights, i.e. the right to pick up and put down passengers along the whole route.

On the contract sector of the network, train services are run under contract to regional government transport authorities on regional and local lines on the basis of operational contracts where the authority pays for the cost of providing the service and takes all the revenue, and the Swedish National Public Transport Agency (a government agency) on interregional services under net cost contracts, which is the net difference between cost and passenger revenue. Contracts are normally awarded for five years. Here SJ faces competition in the bidding for these contracts from other rail operators, such as Arriva and the French operator Veolia Transport and other state railways, specifically Norwegian, Danish and German. In 2005, SJ had around 74 per cent of the total Swedish passenger rail market.

After the reforms of the late 1980s, freight operated as a separate division within SJ. In 2001, however, SJ was further divided into six separate operating companies, all wholly government owned. The two main ones are passengers, which remains as SJ, and freight, named Green Cargo. In 2002 Green Cargo returned heavy losses and the government contemplated privatising the company in the form of a private sale to another rail freight operator. The company now however appears to have returned to reasonable profit levels and remains state owned.

As with Britain, however, Swedish rail reform has not been without its problems. Alexander-son and Hultén (2006) report many similarities between the two, with over-optimistic bids, disruptions in services, several cases of bankruptcies of the train operators, problems with co-ordinating and integrating tickets between services supplied by different operators, monopolistic behaviour by SJ and ticket prices up 43 per cent in real terms since the beginning of the reforms in 1988. On the positive side, passenger numbers have risen by 32 per cent since 1995 and subsidy levels have usually decreased by 10 to 20 per cent. Over time however with



subsequent re-tendering, the general trend has been for the level of reduction to fall and even in one case, to increase.

What this case study shows is that whilst it is relatively easy to talk about models of reform of public transport services, in practice implementation is far from straightforward. It also shows some of the general dangers of involving the private sector in the provision of public services, in this case specifically public transport. The biggest danger is that failure of the company will result in withdrawal of the public service, a situation that the relevant authorities simply cannot allow to happen. Many other facets are related to the original reasons for taking public transport services out of the private sector and thus no longer subjected to market forces in the first place. This is particularly relevant to the eradication of wasteful competition, that services should be run on the basis of the public interest and finally that these are vital industries to the economy. Whilst these and other objectives can be achieved successfully with private sector involvement, such as shown in the case of London and Helsinki buses, further involvement appears to become more problematic and hit or miss. Why for example should Tube Lines deliver London Underground maintenance and network enhancements on time and to budget and Metronet not? This raises the question of when does private sector involvement 'work' and when does it not? This case study, in common with many learned transport professors, cannot provide an answer to this question as this is a multifaceted topic and one of the major issues in transport economics today. One reason however why bus services have been the most reformed and rail services the least is that any private bus company is fairly easily, i.e. cheaply, 'replaceable' by another bus company. In the case of mainline and urban-rail-based operations however it becomes far more problematic, i.e. expensive and disruptive.

## CHAPTER SUMMARY AND REFLECTION

This chapter has examined the issues of regulation and ownership in transport organisation and operation. As should have been seen in the course of the text, there is a balance somewhere between the regulation of transport markets through the mechanisms of ownership and regulation. The old style model is encompassed in the ideas of what became known more generally as the Morrisonian model, where a national public corporation is a publicly owned company that operates at arm's length to the state with a remit to act in the public interest and break even. Such a model originated from a transport problem, i.e. London's public transport. Various drawbacks however were identified and encountered with this approach in public ownership, and much transport provision across the globe has been privatised or reformed. Much however still remains in public ownership, with buses normally privatised but metros, trams and rail services in most cases still remaining in public ownership. The problem now has switched from trying to overcome the problems with public ownership to trying to steer the private sector towards doing what the public authorities want it to do through the regulatory mechanism.

## CHAPTER EXERCISES

### Exercise 10.1 Regulating the price

In the following exercise, you are given some basic information for a local bus operator for the first year of operation and then asked to find the regulated average price over the following two years. In the following calculations, you should round all figures to the nearest whole unit (i.e. nearest £000s, 1000 journeys or the nearest pence in terms of the actual price). Information on the first year of operation is thus given below:

	Year One
Operating Costs (£000s):	500
Journeys in thousands:	600
Profit Margin:	16%
Average Fare Charged:	0.97
Revenue (£000s):	580
Profit (£000s):	80

As seen above, the level of profit margin in the first year is 16 per cent at an average fare of £0.97. You are given the following information below in order to set the regulatory price:

Expected inflation in prices and operating costs in each of the next two years:	3%
Rise in passenger traffic in each of the next two years:	1%
Expected annual efficiency improvements:	2%

Increases in passenger numbers are expected to arise from other external factors that impact on the local bus market, therefore you should assume that this growth is not dependent upon the final price that will be set. It is also anticipated that this increase will be incorporated on existing available capacity, thus any changes in passenger numbers will have no effect on costs, therefore any increases in costs are purely as a result of inflation.

- a) You should calculate the regulated average price (to the nearest pence) for the following two years on the following two bases:
  - i On a straight RPI-X% basis where X is set at 1 per cent
  - ii On a return on capital employed basis, where the regulatory asset base is set at £1.2m and the rate of return at 8 per cent.
- b) Now re-calculate both a(i) and a(ii) on the basis of an anticipated rise in passenger traffic of 2 per cent over the next two years.
- c) Using your answers to parts a and b, outline the advantages and disadvantages of regulating based upon RPI-X% as opposed to a return on capital basis in an expanding and a declining market.
- d) The company proposes to undertake an increased investment programme in order to enhance existing bus services. It estimates that it will invest £500k up front and write these investments

off over a ten year period. It will fund this investment initially from increased borrowings, which on average will be borrowed at a 5 per cent rate of interest over the first two years. It forecasts however that these enhancements will have a major impact on demand, increasing it by 12 per cent in each of the first two years. The authority agrees that £300k of this new investment can be added to the regulatory asset base. Using your original calculations for part a(ii), what would be the revised regulated price over the first two years that would maintain an 8 per cent return if the proposed investments were made? Should the regulator agree to this investment plan – note that whilst a ‘good’ thing as it will increase passenger numbers, are there any other reasons why the regulator should agree to this investment plan?

### Exercise 10.2 Yardstick competition

Yardstick competition as a principle is not extensively applied in transport markets, nevertheless as a subject it does raise a number of issues concerning the economic regulation of transport operators. This exercise will therefore take the ideas of yardstick competition and illustrate some of the principles involved in using such a system to regulate the price of transport operators and then examine some of the issues raised.

Consider the following two transport operators:

Unit costs and prices:		
1st Period	Company A	Company B
Average Revenue	2.00	2.00
Average Costs	1.75	1.75
Profit per unit	0.25	0.25

The level of the price for these two companies in Period 2 is to be based on a straight percentage of the reduction in the other’s costs. Thus, for example, a 10 per cent reduction in B’s average costs will cut the price in Period 2 for firm A by 10 per cent. Using that as the basis of regulation, you should now calculate the respective prices and associated unit profit levels for each of the following three scenarios:

Scenario 1: B cuts its average cost to £1.60; A fails to make any cost savings

Scenario 2: Both A and B cut their average cost to £1.60

Scenario 3: B undertakes a massive cost-reduction exercise and cuts its unit cost to £1.40; A fails to make any cuts in costs

Questions:

- a) What is the basic equity problem created by scenario 1 and how may the regulatory formula be adjusted to partially overcome this issue?
- b) If we assume equal numbers in both markets:
  - i which scenario is the best possible outcome from the passengers’ perspective?
  - ii would that answer still apply if B was a deprived area and A a relatively prosperous one?
- c) Although unrealistic as a scenario, what are the problems that are likely to arise from scenario 3?

- d) From undertaking this exercise, what is the basic assumption underlying operator behaviour that is required for yardstick competition to work? As probably a very big hint, in this market there will only ever be a small number of firms 'competing'.
- e) Why can yardstick competition only be practised in markets in which there is inelastic demand?
- f) What do you see as the main problems in introducing yardstick competition:
  - i in general?
  - ii specifically in certain transport markets?
- g) Compare and contrast yardstick competition with competitive tendering and outline the main strengths and weaknesses of the two approaches.
- h) Whilst yardstick competition may not be extensively practised in transport markets, what role might such a model of competition play in the contracting of transport services through a negotiated contract?

### **Other questions**

- 1 Outline the main roles and responsibilities of a regulator in the transport industries.
  - 2 What do you see as the main advantages and disadvantages of public ownership in transport markets?
  - 3 What do you see as the main advantages and disadvantages of involving the private sector in the provision of public transport services?
-