

# 7. REGULATION AND OWNERSHIP

# Introduction

- This lecture is concerned with **control** → by relevant authorities on the levels and behaviour of transport users and operators under their authority
- It concerns **not only public** transport, but all areas of transport, whether that be public, private or freight

# Government control

Government control of transport markets can be achieved through one of two measures:

- **Ownership** – the transport authority can own the assets and the means of production. The market is brought into public sector and thus it does not have to operate along market principles
- **Regulation** - control through command; i.e. telling operators what to do

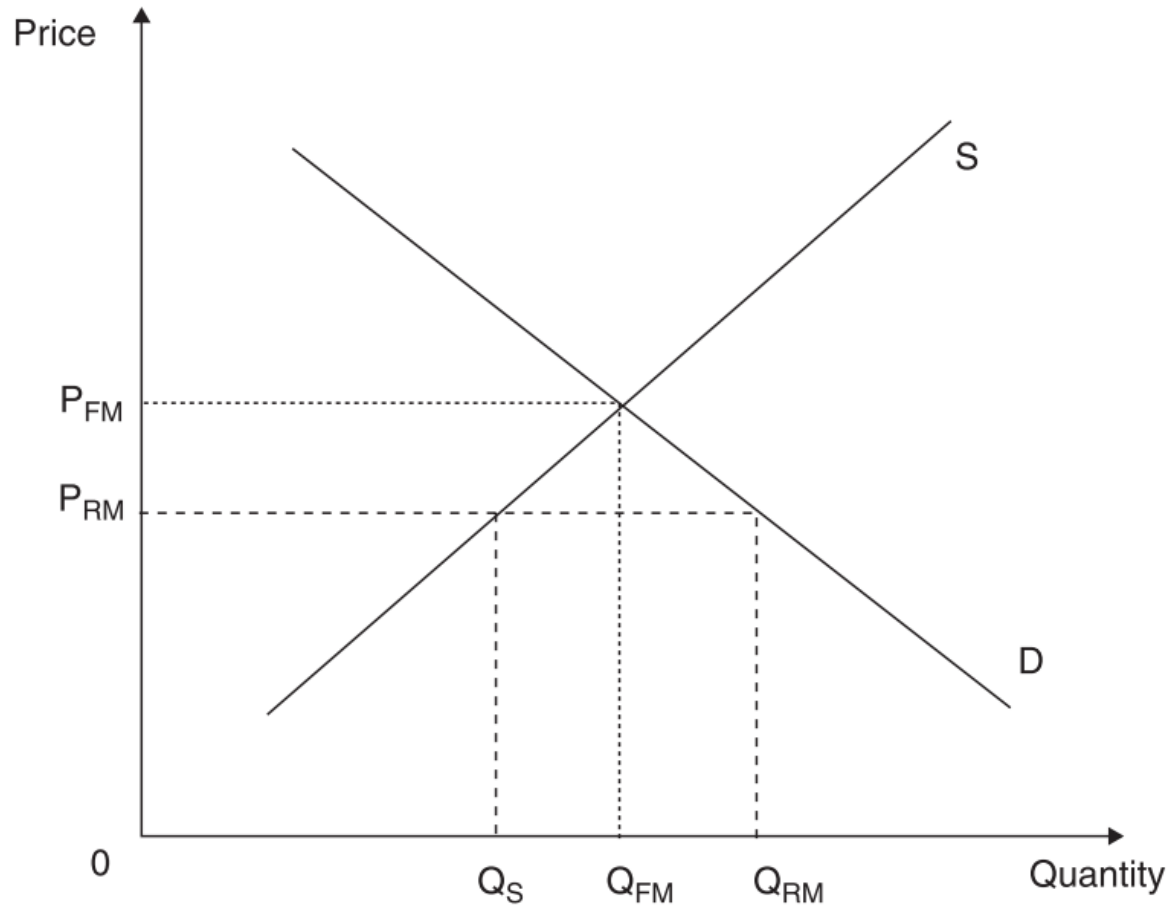
# Forms of regulation

1. Qualitative regulation
2. Specify the price to be charged
3. Specify the maximum increase in price allowed
4. Regulate the (final) price through the tax charged on the good or service
5. Specify the rate of return (profit) to be gained
6. Through introducing yardstick competition
7. Specify a minimum frequency
8. Limit market entry

# 1) Qualitative regulation

- **Qualitative regulation** occurs when the regulatory authority intervenes in the market in order to specify minimum criteria that regulate behaviour within the market
- **Speed limits** for all road users
- **Minimum criteria** applied to driver behaviour and vehicle conditions (public transport, road haulage)

## 2) Specify the price to be charged



### 3) Specify the maximum increase in prices allowed

- Rather than state a specific price, the authority **limits** the extent to which the operator can **increase** the prices over time
- In the UK this has normally been done by **RPI – X%** formula (RPI = rate of inflation)
- The measure is intended to motivate **efficiency improvements**, as it is only through reducing costs, and not increasing prices that operators can maintain or increase profitability

## 4) Regulate the price through the tax

- Varying tax levels can be used to regulate the price in the market
- General **VAT** imposed on all goods and services
- Additional or specific taxes may be imposed to regulate the price on the market → fuel tax, **Pigouvian taxes** (to correct negative externalities)



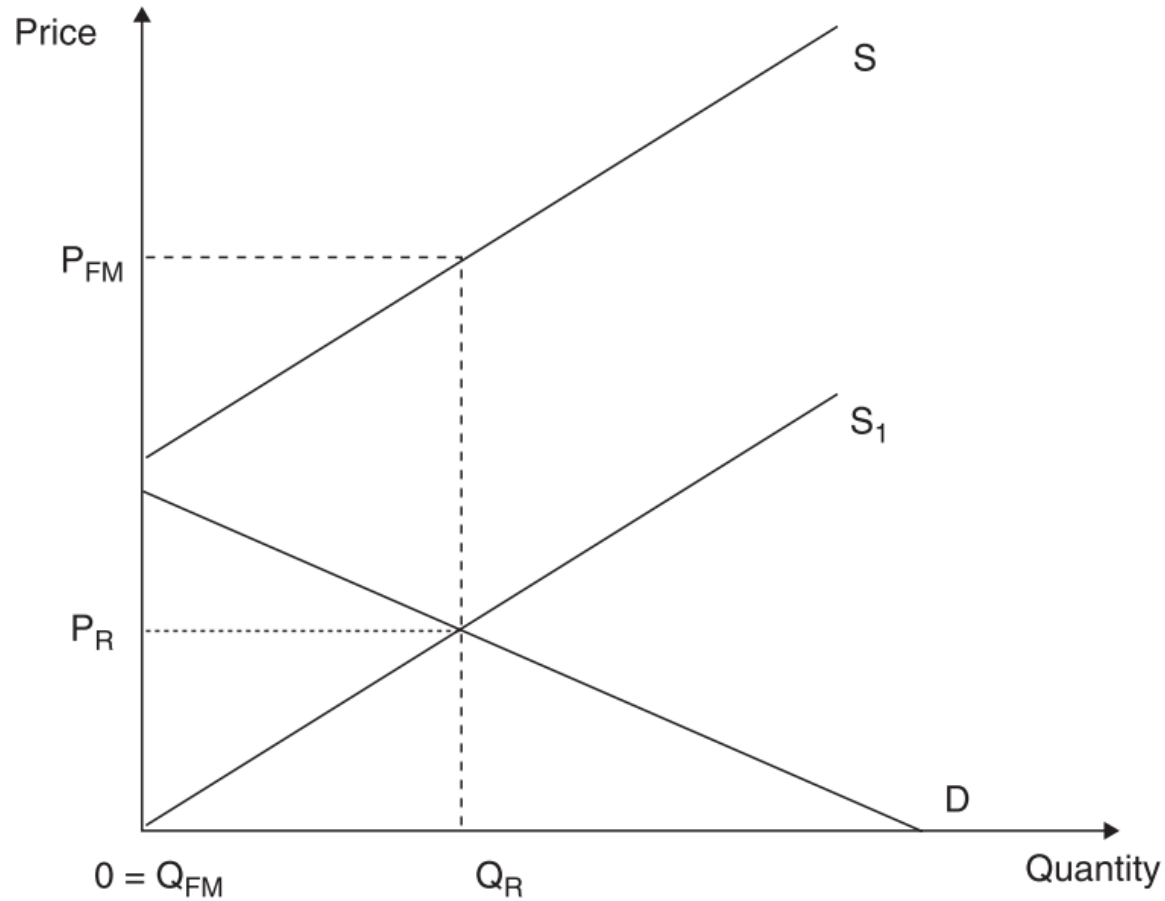
## 5) Specify the rate of return to be gained

- Prices charged by transport operators can be regulated based upon the level of **profits** to be gained
- A „**reasonable**“ rate of return may be set and then prices regulated accordingly to achieve this rate of return
- Can be applied when we **know demand** precisely and the only variation in revenues will be due to change in prices
- How to deal with **efficiency gains**? → if they are not taken into account, there will be higher rates of profit
- Example: Case – **Network Rail**

## 6) Through introducing yardstick competition

- **Yardstick competition** exists where direct competition in the market is not feasible but is introduced indirectly, and is normally used to control price levels
- This is achieved by **linking the performance** of different firms in different markets to each other
- **Benchmark** competition → the performance of each firm in the industry is benchmarked against each other

# 7) Specify minimum frequency



## 8) Limit market entry

- **Legal control** of market entry = barrier to entry
- Can be used as the form of **capacity regulation**
- **Limits** on the number of operating firms
- To avoid competition in the provision of **public transport**
- Regulation of **taxi services** – to avoid street congestion

# The **rationale** for the regulation (1)

- To **overcome the market failure or imperfect/asymmetric information** → the minimum standards of vehicles and drivers/pilots
- The market can **no longer regulate itself** → most transport industries tend towards anti-competitive market structures
- To **correct for externalities** → the market may still not produce the right modal splits or maximization of economic welfare

# The rationale for the regulation (2)

- To **ensure the quality** of the service provided → local or national authority wants to specify minimum quality or minimum level of service or the requirement for the new rolling stock
- To provide a transport **service where none existed** before → rather than to leave them to free market, authorities may decide to intervene → e.g. to restrict entry to profitable routes in exchange for the protected operator to provide services on unprofitable routes (cross – subsidization)
- To **improve efficiency** within the industry → regulatory framework can be used in to bring about the efficiency improvements

# The **drawbacks** of economic regulation (1)

- **Limits free enterprise** → it is against laissez faire ideology → it limits consumer sovereignty → it may limit innovations → it dampens free enterprise spirit → because there are clear limitations imposed
- **Inefficient, second best solution** → the best efficiency solution is always when market regulates itself → regulation creates additional administrative costs → there is also usually time gap because the reaction of regulation is usually slower than market response
- Cumbersome **regulatory procedures** make avoidance of regulatory measures possible → when regulation fails to regulate actions of behaviour that it is designed to regulate through avoidance (see Railtrack)

# The drawbacks of economic regulation (2)

- **Asymmetry of information** → to regulate efficiently, the regulator needs information to plan and control operations → however, the operator unsurprisingly knows more about its own business than the regulator → it may be in the interest of the operator to withhold information if they believe it may be used against them
- **Regulatory capture** → Stiegler (1971) → the regulator, not as tough on the industry as they should be → the regulator better serves the interest of the industry than the interest of the consumers → regulator is dominated by the vested interest in the industry → or even become the protector of the industry



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

# Introduction

- Theory may appear straightforward, the **practice is almost always more complicated**
- This case study illustrate it through the **examination of regulatory mechanism** surrounding the former British railway infrastructure provider, the private sector company **Railtrack**

# British rail reform

- **British Rail divided** into 104 separate companies → to **introduce competition** at all levels → not only between train operating companies → but also among rolling stock leasing companies and infrastructure maintenance companies
- The only exception was the **infrastructure provider** → advantages of single network outweighed the drawbacks of geographical separation → **Railtrack** was created and was floated on the stock exchange
- Railtrack was supposed to operate on **commercial basis** → access charges were set on **full costs basis** → **profit** was expected and **no subsidies** intended (except to assist the funding of rail investment)

# Regulation

- Railtrack was in monopoly position → access charges **needed to be regulated** → to avoid the abuse of monopoly position → The Office of the Rail Regulator (ORR) was established
- **ORR** regulated charges, network access and Railtrack financial framework → dilemma between **high charges** (profit for shareholders, investment for network) and **low charges** (for train operating companies) → for lower fares for customers and lower subsidies for TOC

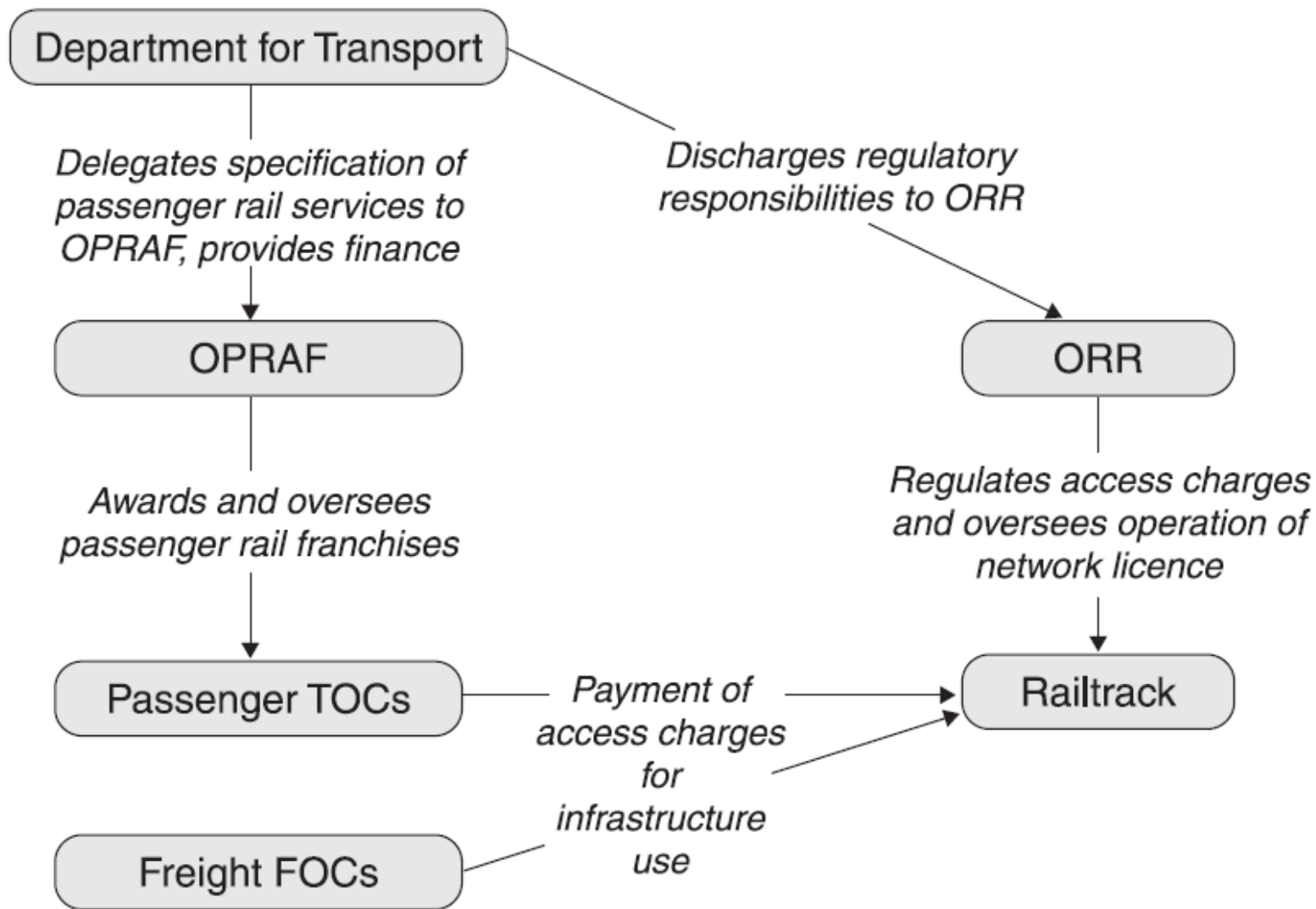


Figure 10.3 Rail industry regulatory structure 1997–2001

# Regulatory challenges

- The key was to **set the access charges right** → to raise revenue to cover all Railtrack's costs + depreciation charges + 8% rate of return → how to calculate asset base from which to calculate depreciation and rate of return?
- How to deal with investment needs and how to divide **profits into dividends and investment?**
- How to push Railtrack into **efficiency gains** and how to measure them and account for them?

# Problems

- Railtrack had effectively **little control** over its own **costs** → subcontractors carried out all of maintenance and renewals → loss of engineering expertise at Railtrack
- Train derailed at **Hatfield** → 4 fatalities and 70 injuries → because of **broken rail** → Railtrack panicked and introduced **severe speed limits** over the whole network → then had to pay to TOC more than 500m GBP as **compensations**
- **Major cost overruns** on the major infrastructure project → West Coast mainline → from 2b to 8b GBP
- Railtrack went **bankrupt** in October 2001

# Lessons

- Industry **regulation is not easy**
- Was the failure of Railtrack a **regulatory failure**?  
→ Did Railtrack fail due to failure of regulator to sufficiently protect it and enable it to continue in profitable operations?
- **Regulatory capture** → who is in charge of regulation?
- **Agenda selection** → certain aspects of regulation were neglected (with dire consequences)
- British rail **reform was extraordinary complex**



**OWNERSHIP**

# Discussion question – to heat up

1. What do you see as the main advantages and disadvantages of public ownership in transport markets?
2. What do you see as the main advantages and disadvantages of involving the private sector in the provision of public transport services?
3. What are benefits and risks of privatization?

# Reasons for the public ownership of transport assets (1)

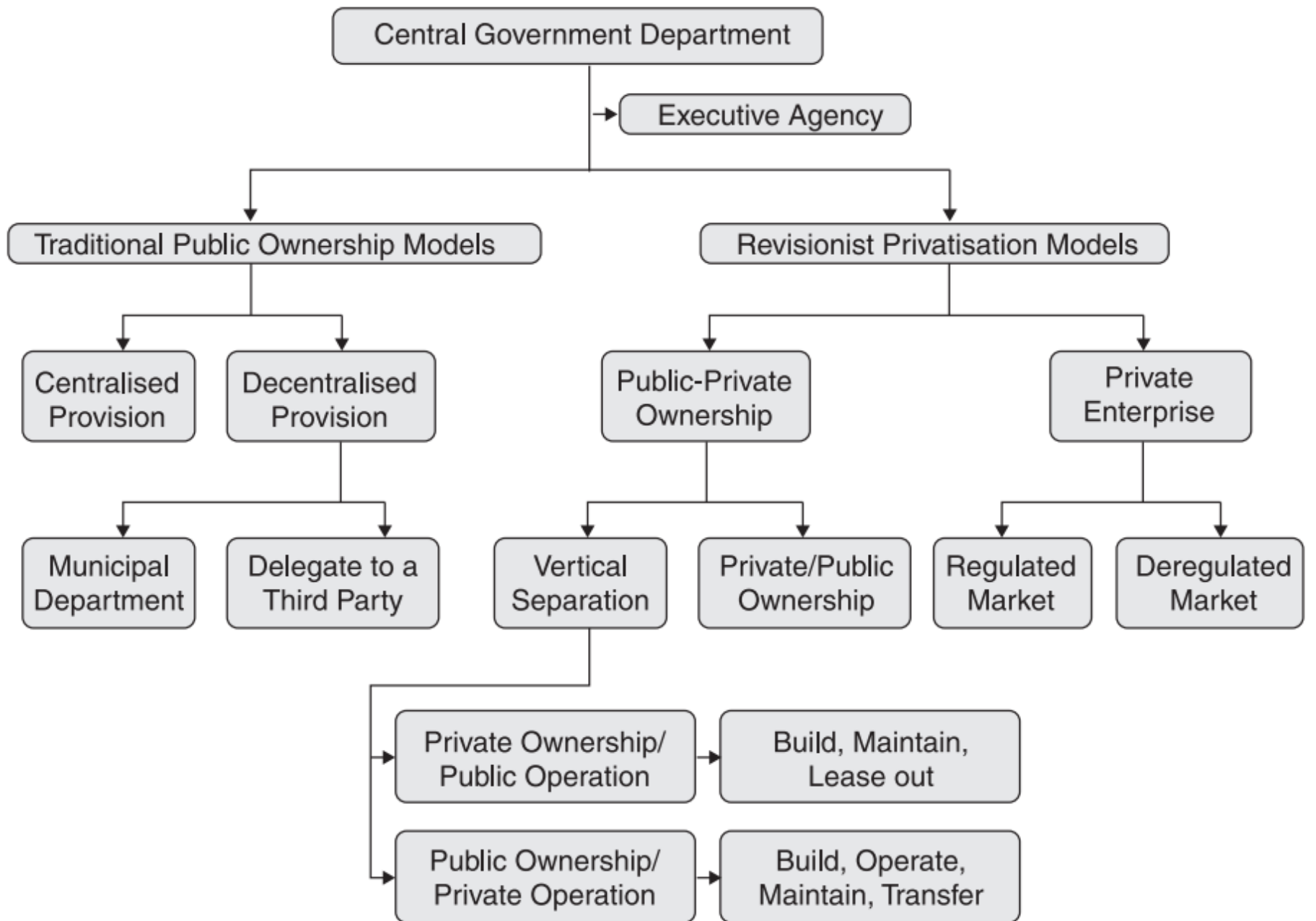
- **Eradicate wasteful competition** → where two or more services exist when one would be sufficient → however wasteful competition can be also removed through regulation
- **Military significance** → railways during wars
- **Public goods** → if left only to market forces, some (public) goods will not be provided
- **Essential to the economy** → rail passenger commuting; rail coal freight

# Reasons for the public ownership of transport assets (2)

- **A large employer** → in certain localities and areas, certain firms may be the only major employer in the area → its collapse would have implications far beyond the direct loss of employment
- **Key industry** → the industry that is seen to be of vital importance to the country → Example: Rolls-Royce in the UK
- **High project development costs** → any major project requires considerable financial outgoings → high speed rail in Japan and France

# Reasons for reform

- **Increasing discontent** with the model of public ownership
- **Changing macroeconomic environment** combined with social change
- The desire to **introduce competition** into the provision of transport services



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

# Case: 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**
- In lecture 6, we have observed **British bus** reform
- We will now add three other examples: **London, Helsinki and Swedish rail**

# London

- Before reform, all transport **services planned and operated** by public London Transport
- After reform (1984): planning and operation **divided and separated** → planning and strategy in Transport for London (TfL) → services tendered under fare levels and services specified by TfL
- Contracts on **operational basis** → tender is for the costs of operation and all revenue is returned to the authority
- TfL also lay down **other service specifications** → standards of vehicles to be used → importantly in case of London all buses are red!



# London (2)

- **London Underground** remains in public ownership and it is a subsidiary of TfL
- Like the private bus companies, London Underground runs services to **patterns specified by TfL**
- In 2003 **responsibility for maintenance** of trains and stations transferred to two private sector companies
- All urban public transport services within London are under direct control of TfL → **integrated ticket scheme** is operated → tickets valid on all services as well as some rail services → Oyster card

# Helsinki

- **City transport** → bus, tram, two ferry services, rail and underground → Helsinki City Transport (HKL) used to operate them all (except rail)
- **Reform:** Bus privatised and HKL only specifies services → trams, metro and underground are still owned and operated by HKL → cost based contracts with revenues back to HKL
- Public transport services to outlying areas of Helsinki are overseen by the **regional transport authority** → electronic integrated ticketing is used

# Swedish rail (1)

- **Late 1980s** → vertical separation of infrastructure and services
- **Infrastructure** manager (Banverket) → responsible for maintenance and development of rail network → it receives budget from government → access charges based on MC (not full costs) and paid by TOC directly to government
- **Services** → responsibility of Swedish State Railway (SJ) → divided into commercial (intercity) and contract (local and interregional) sector
- SJ used to have **monopoly** in commercial sector → now is challenged on Stockholm-Gothenburg line by open-access **competition**

# Swedish rail (2)

- On the **contract side** → services are run under contract to regional government contracts → gross costs contracts on regional and local lines → net cost contracts (revenues – costs) on interregional contracts → usually for five years
- **Freight** was privatized
- **Problems:** overoptimistic bids, disruptions in services, ticket integration among competing operators, rise in ticket prices
- **Successes:** rise in passenger numbers, decrease in subsidies
- **Biggest risk:** disruption of services as result of company failure → easier to solve in case of buses than trains

# Rail privatization (1): **Japan**

Thompson, L. (2003). Changing railway structure and ownership: is anything working?. *Transport Reviews*, 23(3), 311-355.

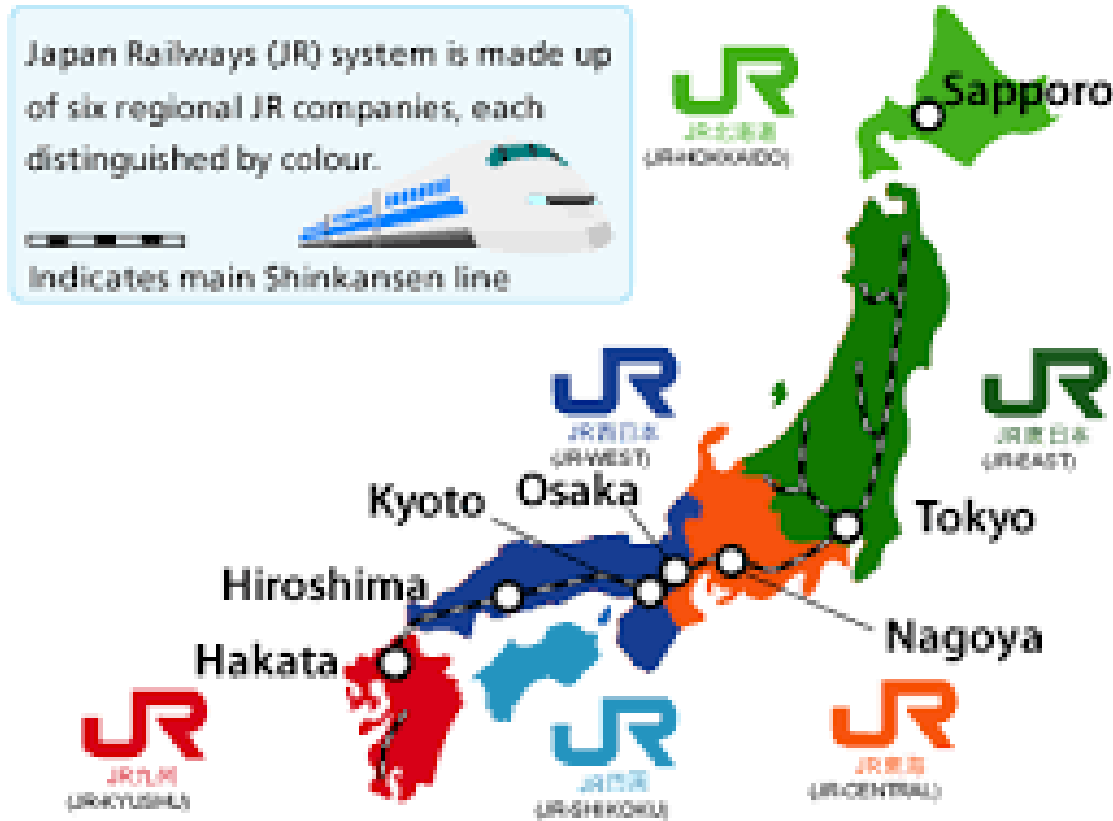
# Japan rail

- **Passenger** traffic **dominant**
- **Freight** rail **marginal** – due to sea traffic
- **HSR Shinkansen** – starting from 1964 on Tokyo-Osaka line; Highly successful – leading to build up of further lines with lower commercial potential
- **1980s** – high indebtedness of JNR , overemployment

# 1986 Reform

- **Sack of management**
- **Horizontal separation** (JR Freight)
- **Geographical separation** (JR East, JR Central a JR West - commercialization, JR Hokkaido, JR Shikoku a JR Kyushu - subsidies)
- **Yardstick competition** – competition on the edges only
- **Indebtness solution** – partial bail-out, partial transfer to JR East, Central and West
- **Privatization** of JR East, Central and West in 1990s

# Geographical separation and yardstick competition





# Results

- Between 1987-1991: **traffic + 20%; employment** down from 280.000 to 160.000
- **Labor productivity**: +68% between 1985-88 and another +25% between 1988-98
- **JR East, Central and West – profitable** +3 bn income taxes per year (5 bn subsidies to JNR before reform)
- **JR Freight and JR Hokkaido, JR Shikoku a JR Kyushu** – stable traffic, operational subsidies
- Better **quality and responsiveness** to customers

# Assessment

- **Successful** reform/privatization
- **Careful planning** → expert group → sack of management
- **Commercialization** → breaking monolith into independent market focused companies
- Main **goals**: to decrease indebtedness and bigness of JNR → stabilization was financially costly
- **No competition!**
- More **effective structure and incentives**

# Rail privatization (2): **New Zealand**

Laird, P. G. (2013). Government rail asset sales, and return to the public sector, in New Zealand and Tasmania. *Research in Transportation Business & Management*, 6, 116-122.

# General characteristics

- Rail primarily oriented towards **freight** traffic
- In **passenger** traffic there is important **commuting** to Wellington and Auckland and a few intercity connections
- Until 1993 **vertically and horizontally integrated** structure in state ownership
- Strong **intermodal competition** and **worsening economic results**

# 1993 privatization

- NZ government in 1993 sold its railway for 400 million USD to consortium of private investors
- In the years after privatization, **profits rose**, however not enough to cover costs of capital
- **Freight traffic rose steadily**

# Problems

- Private owners had **increasing problems** with operations of **passenger** rail transport and in 2002 sold commuter rail network back to government
- **Financial problems** were increasing and in 2004, private owners sold back rail **infrastructure** to NZ state for 1 USD
- **NZ government** agreed to infrastructure investment, however bitter disputes over the level of infra charges emerged
- This led to complete purchase of remaining rail enterprise by NZ government for 690 million dollars. What was considered to be **highly overpriced purchase**.

# Lessons

- Very problematic privatization in New Zealand (and very similar case in Tasmania) shows **dangers of rail privatization involving passenger transport**
- Passenger rail transport in developed countries is usually **not very profitable, however politically sensitive**

# Appendix: **Regulation and privatization**

Based on Ch. Nash (2005)  
Privatization in Transport



# History (1)

- **1970s** – in much of the world, transport had become a largely public sector activity
- Roads, railways, airports and many ports were **publicly owned**
- Rail most bus and coach **services** and many air services were provided by public sector operators
- The one **big exception** to the rule was road haulage

# History (2)

- **1980s** – transport policy moved progressively in the direction of the **market approach** and widespread privatization of transport operations and sometimes even infrastructure took place
- **UK under M. Thatcher** – deregulation of express coach services in 1980s; deregulation and privatization of most local bus services, privatization of the major airports, ports and British Airways; privatization of rail

# Why public ownership?

- **Natural monopoly** argument
- Transport so **fundamental** that it requires a degree of central planning and control
- Large **external** benefits and costs of the transport

# What went wrong?

- **Government** decision taking may **not** always be **competent** (SR political advantage x LR objectives)
- Publicly owned organizations **lacked** strong **incentives** to achieve high quality services at minimum cost
- Transport sector has heavy **requirements for investment**

# Is privatization the solution?

- Privatization can lead to clear and explicit **objectives**, where operators are motivated by profits
- Politicians need to make **explicit arrangements**, through regulation, taxes, or subsidy, to achieve their political and social objectives
- Together with **hard budget constraint** and takeover threats should be enough to increase **efficiency**

# Competition .... ?

- However, privatization has most often been accompanied by action to open up the market to **competition**, by removing regulatory and other barriers to entry
- Competition would lead to provision of services and infrastructure at **minimum costs** and **maximum innovations**

# Potential pitfalls

- Much of the transport sector was seen as a natural monopoly – competition can lead to loss of **economies of density**
- Technical **efficiency** is likely to be maximized by a **competitive** approach, whereas **revenue** from asset sale is **highest** when the company concerned retains a monopoly

# Solution?

- **Natural monopoly** confined to the infrastructure, and it is perfectly possible to have competing operators over the same infrastructure.
- What about the **infrastructure**? – privatization, cost-plus regulation, franchising?