

The impact of liberalisation on efficiency: a survey

*A report prepared for
Postcomm*

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A member of the Frontier Economics Group

150 Holborn
London
EC1N 2NS

tel: +44 (0)20 7611 9494
fax: +44 (0)20 7611 9495
www.frontier-economics.com

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Executive Summary

Executive Summary

We have undertaken a survey of published work and some analysis of publicly available data to establish the link between productivity and liberalisation. In the postal sector analysis, our reliance on public data should be treated with some caution because of the possible lack of consistency in the measurement of costs and efficiency inherent in using public data. A summary of the main conclusions is provided below:

- There is significant empirical evidence to support the proposition that liberalisation leads to greater efficiency in both non-postal and postal sectors.
- Liberalisation in non-postal sectors often occurred in parallel with a change of ownership. This can make it difficult to identify a distinct link between liberalisation and efficiency. It is, however, possible to establish the effect of liberalisation by:
 - focusing on those industries where privatisation and liberalisation did not occur simultaneously. For example, the market into which BT was privatised was not fully liberalised until the ending of the duopoly policy in 1990. Efficiency improvements were modest until the duopoly policy ended, after which there was a step change in performance; and
 - assessing the extent to which the productivity performance differed between firms that were liberalised and privatised, and those that were privatised and regulated. Although in the longer term, incentive based regulation led to significant improvements in efficiency, these tended to come some time after privatisation – usually after the regulator had completed the first price review. For companies that were liberalised, the efficiency improvements tended to be made in anticipation of, or shortly after, the liberalisation of the market.
- Full liberalisation in the postal sector with some entry has occurred in Sweden and New Zealand. The efficiency performance of Sweden Post suggests that the introduction of liberalisation had a significant impact on efficiency, with the largest efficiency improvements achieved just before and after liberalisation. The New Zealand experience suggests the same although in this case efficiency improvements have been implemented since the corporatisation of the company, well in advance of the implementation of full liberalisation. In terms of the wider impact of liberalisation, the experience of both countries so far is

Executive Summary

that the incumbents have managed to maintain a profitable operation with no deterioration in the quality of service.

- Sweden appears to have by far outperformed other EU countries in terms of efficiency, measured by letters per employee, since 1992. It appears also that the more recent moves for liberalisation and the anticipation of further liberalisation in the EU have provided a stimulus for EU postal operators to aim for improvements in efficiency.
- This evidence suggests that the efficiency improvements aimed to be achieved by Consignia over the next 18 months are consistent with an improvement in productivity that can be expected in anticipation of, or in response to, a major policy shock such as liberalisation. The data and evidence that we have gathered therefore suggests that a reasonable productivity profile for Consignia could be:
 - 15% improvement in the first 18 months (in line with its own projections),
 - falling to 4% per annum for up to 5 years (in line with experience in other utility sectors), and
 - perhaps falling to a more modest 2% per annum thereafter in line with general improvements in productivity.
- We observe that Consignia's 1995 business plan anticipated productivity growth of a similar order of magnitude to that which it has recently announced. However, these gains were not realised between 1995 and 2000. Consequently, the recently announced efficiency savings would appear to represent catch-up on its original forecasts, with very little productivity growth that had not already been anticipated. This supports the view that the productivity target outlined above is well within Consignia's reach.

1. Introduction

Postcomm has commissioned Frontier Economics to examine the relationship between liberalisation and efficiency, based on the experience of other countries and sectors. We have also considered the effect of other policy shocks such as a change in regulatory regime or change of ownership. The report is structured as follows:

- Section 2 summarises the economic rationale behind the proposition that competition leads to greater efficiency and looks at the efficiency improvements found in other industries in the UK that have been liberalised.
- Section 3 examines the experience of liberalisation in the postal sector. We first review the two countries where full liberalisation has occurred, Sweden and New Zealand. We then provide a comparative assessment of the efficiency performance of Sweden with a selection of countries that have not fully liberalised, including the UK, Germany, and the Netherlands.
- Section 4 reviews the link between efficiency and other “policy shocks” such as a change of regulatory regime or a change of ownership.
- Specific practical examples of efficiency improvements in the postal sector are provided in the Annex.

2. Impact of liberalisation – rationale and empirical evidence

2.1 Economic rationale and aggregate empirical evidence

Liberalisation can, in principle, be expected to provide incentives for increased efficiency in three main ways:

- the market tends to select more efficient firms at the expense of the less efficient;
- it sharpens managerial incentives to reduce slack and improve productivity; and
- it increases incentives to innovate and carry out research and development.

The proposition that competition leads to improvements in efficiency can be supported empirically. Numerous studies point to the efficiency benefits of liberalised competitive markets. Their findings indicate that increased concentration, above a certain threshold level, in a market leads to a reduction of productive efficiency^{1,2,3}. Other studies^{3,4} have found that this relationship still holds, when taking account of the so called ‘reverse causality’ effect (which suggests that it is firms that are productive that gain market share, not that firms that risk losing market share are forced to be more productive).

New entry into a market has also been found to lead to increased innovation and productivity growth⁵. New entry was estimated to account for at least 30% of the observed total factor productivity growth and

¹ Caves R and D Bargon (1990) *Efficiency in US Manufacturing Industries*, Cambridge: MIT Press.

² Green A and D Mayes (1991) ‘Technical inefficiency in manufacturing industries’, *Economic Journal*, 101: 523 – 38.

³ Nickell S (1993) ‘Competition and corporate performance’, mimeo, IES, Oxford University.

⁴ Haskel J and S Szymanski (1992) ‘The effects of privatisation, restructuring and competition on productivity growth in the UK public corporations’, WP No 286, Queen Mary and Westfield College.

⁵ Geroski P (1994) *Market Structure, Corporate Performance and Innovative Activity*, Oxford: Clarendon Press.

innovation accounted for an even greater percentage across a number of sectors. Furthermore, the positive correlation between innovation and entry in this study means that the results probably underestimate the importance of entry and competition in stimulating innovation and productivity growth.

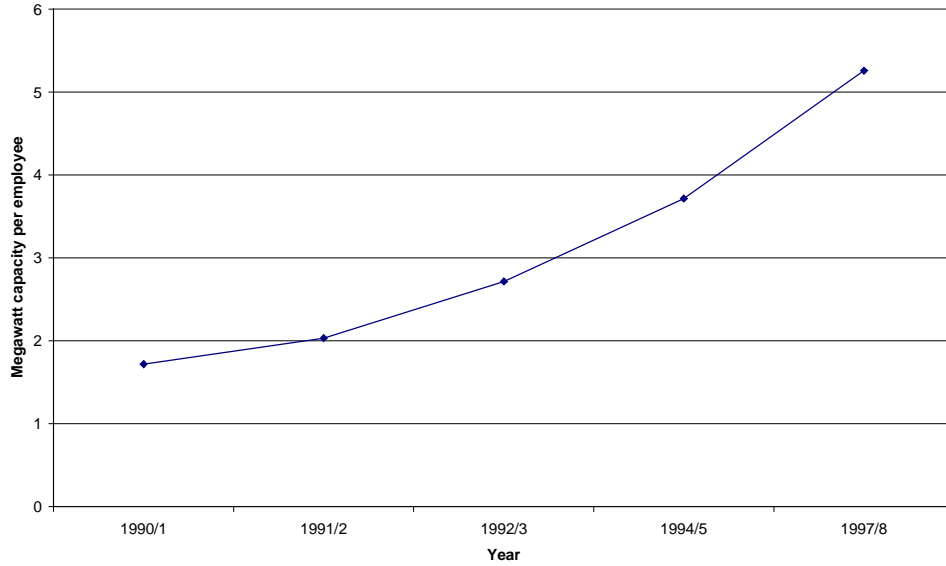
A possible caveat to the results from studies using changes in market share as proxies for increased competitiveness is that the threat of entry may be sufficient to have an impact on incumbent efficiency without actual entry occurring. This means that market share does not need to decrease for there to be increased potential competition and some of the results of these studies may under-estimate the real impact of reductions in concentration on efficiency.

2.2 The experience of UK deregulated utility sectors

The UK has a long experience of liberalising previously government run industries including Electricity Generation, British Telecoms (BT) and British Gas (BG). The evidence from these industries shows that liberalisation was followed by significant productivity and efficiency gains.

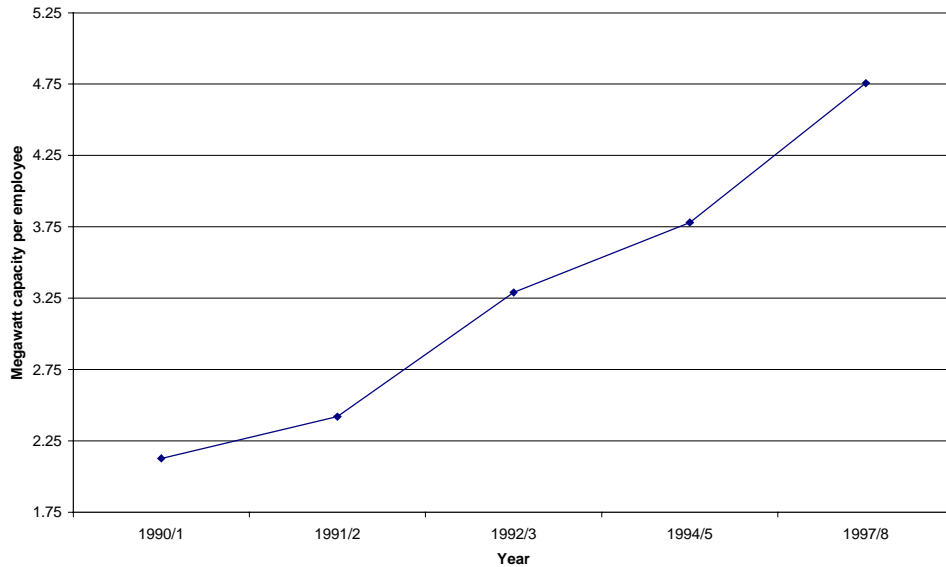
On the 31st March 1990 the monopoly-state-owned Central Electricity Generating Board (CEGB) was restructured into four successor companies including National Power, PowerGen (which were privately owned) and Nuclear Electric (which initially remained in state hands). These companies competed in the electricity generation market, and new entry into the market was permitted. Prior to liberalisation it was thought that the CEGB was relatively efficient. However, the significant improvement in productivity of these successor companies after liberalisation provides strong evidence of the efficiency gains that can result from liberalisation policies. The productivity of National Power and PowerGen as measured by megawatts of capacity per employee increased significantly (see Figure 1 and Figure 2). Whilst some of this improvement may be due to changes in contracting out policies, it is most likely the result of the large reductions in the labour force of both companies.

Figure 1: National Power’s megawatt capacity per employee 1990 - 1998



Source: CRI Statistics

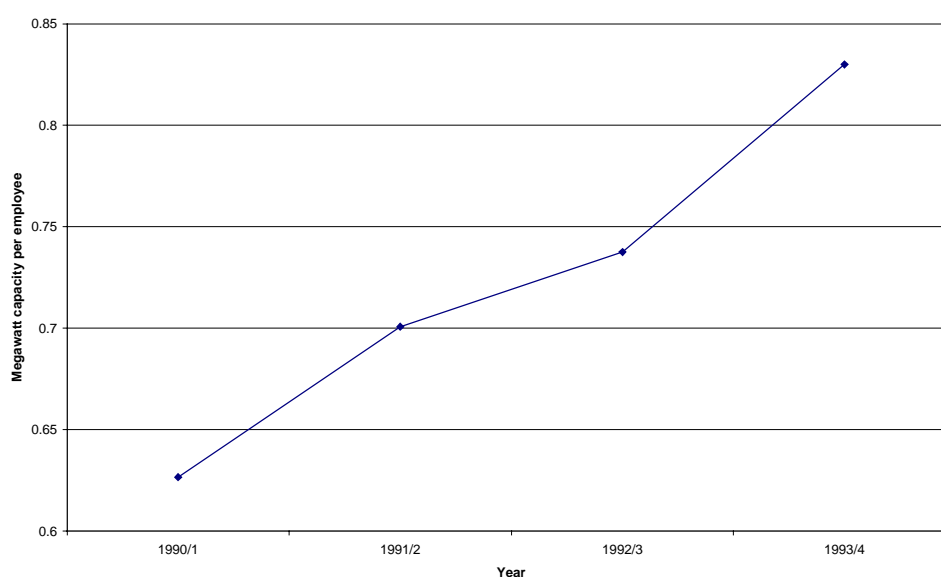
Figure 2: PowerGen’s megawatt capacity per employee 1990 - 1998



Source: CRI Statistics

Since liberalisation coincided with a change of ownership, it is worth assessing the relative impact of each effect. Nuclear Electric remained in state ownership, but operated also in a liberalised market. Its efficiency improvement over the period leading up to privatisation is shown in the figure below, and although it is not as impressive as National Power and PowerGen's, it clearly illustrates that it responded to the new disciplines of the liberalised market.

Figure 3: Nuclear Electric's megawatt capacity per employee 1990 - 1994



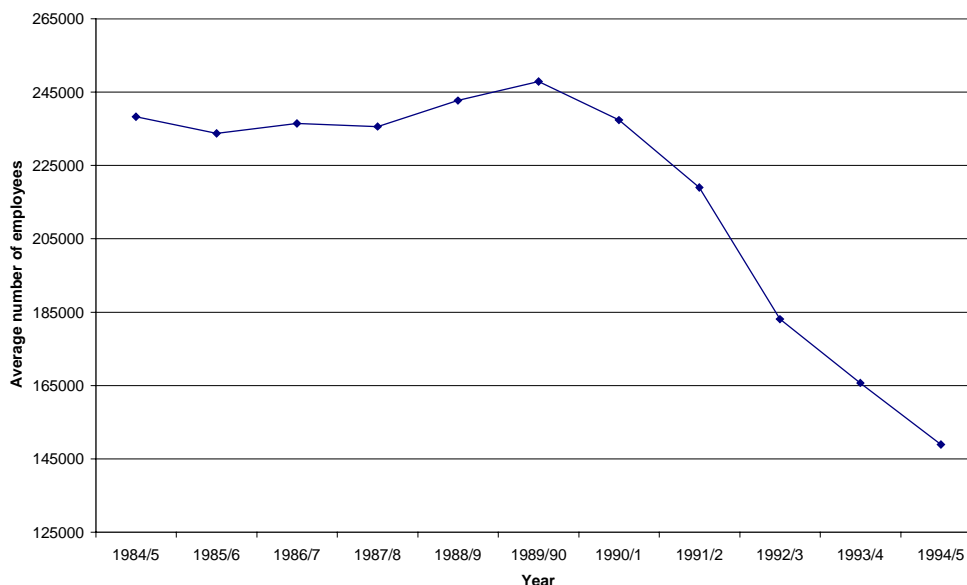
Source: CRI Statistics

British Telecom and British Gas offer two interesting examples of cases where full liberalisation and privatisation did not occur simultaneously. BT was privatised in 1984 but its only competitor was Mercury, which had been awarded its licence in 1982. As Figure 4 below illustrates, the number of employees at BT was constant until 1990 when the duopoly policy ended. After that BT made substantial reductions in employment, despite the fact that its market share across most services was over 90%. This evidence suggests that the duopoly regime did not exert significant pressure on BT, but once new entry was allowed, BT responded.

A similar picture emerges from the gas industry. Liberalisation was slow to take hold, and it required significant regulatory intervention in the mid-1990s to open up the market extensively. From privatisation in 1987 to the credible threat of significant market opening in 1994, BG's productivity

was modest. Thereafter it made significant improvements in efficiency very quickly.

Figure 4: Average number of BT's employees 1984 - 1995



Source: CRI Statistics

More generally, a number of studies have found that the productivity performance of the privatised or deregulated businesses in the UK increased significantly after deregulation⁶, which is largely explained by the superior internal organisation and use of incentive schemes introduced into the companies since the 1980s⁷.

2.3 Summary

The evidence from the economic literature and data analysis of the performance of former monopolies operating in a newly liberalised market suggests a powerful effect of liberalisation on efficiency.

⁶ For example, Bishop M and D Thompson (1992a) 'Privatisation in the UK: internal organisation and productive efficiency', *Annals of Public and Co-operative Economics*, 63: 171 - 188

⁷ Bishop M and D Thompson (1992b) 'Regulatory reform and productivity growth in the UK's public utilities', *Applied Economics*, 24: 1181 - 1190

3. Impact of liberalisation in the postal sector

This section examines the international experience of liberalisation in the postal sector. We start by reviewing the cases of Sweden and New Zealand where full liberalisation occurred in 1993 and 1998 respectively. We then examine some selected EU countries and conclude by comparing the dynamic efficiency performance between fully and partially liberalised postal markets.

The focus of this section is on the relationship between liberalisation and efficiency. We examine also however the impact of liberalisation on the financial performance of the companies and the quality of service, to assess whether any benefits achieved were associated with a deterioration in the quality of service and/or poor financial performance.

3.1 Full liberalisation

3.1.1 Sweden

The postal market in Sweden was fully liberalised in 1993. The 1994 Postal services Act required that all persons should be able to have letters delivered at a uniform regional price. The State ensures that there are one or more enterprises, which between them achieve a nationwide postal service. The State has decided that Sweden Post (Posten AB), the public postal operator shall perform the basic postal service.

In practice, liberalisation was followed by entry of two types of competitors:

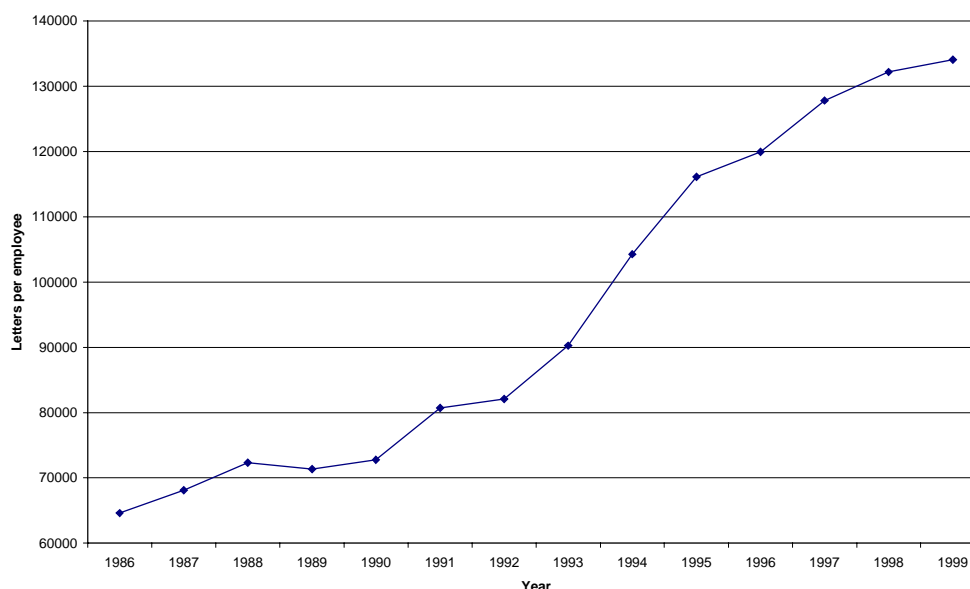
- first, a large number (40+) of local and relatively small postal operators offering a basic service, and
- second, City Mail, a larger operator that has developed a wider network, covering 40% of Swedish households.⁸

⁸ A Lundgren (2001), "Sustainability of USO on a liberalised postal market – some empirical insights"

Liberalisation and efficiency

The productivity of Sweden Post as measured by letters per employee⁹ has increased significantly from 1986 to 1999 with the rate of increase at its fastest between 1993 and 1995 (see Figure 5). Some practical examples of the measures taken by Sweden Post are provided in the Annex.

Figure 5: Letters per employee 1986 - 1999



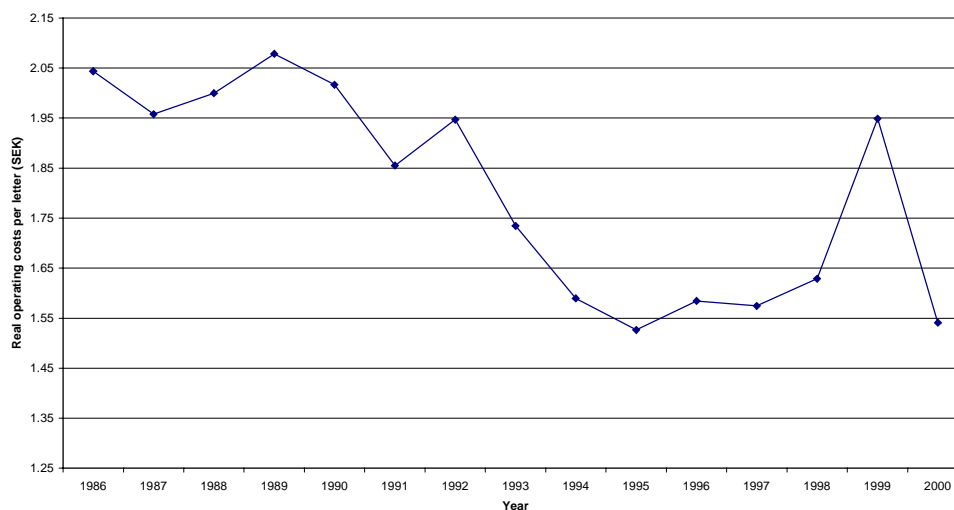
Source: Sweden Post Annual Reports and Statistics Sweden

As Figure 6 shows, there was a reduction in real operating costs per letter from SEK1.73 in 1993 to SEK1.53 in 1995 (indexed to the CPI), implying productivity growth of about 6% per year. However, the data suggests that some of the effect of liberalisation occurred in 1992, in anticipation of liberalisation. If this is taken into account it implies that productivity grew by nearly 9% per annum to 1995. Between 1995 and 1997 the real cost per letter remained roughly constant at approximately SEK1.57. However, in 1999 there was a large increase in the real cost per letter to a level of

⁹ Letters per employee is a widely used measure of postal efficiency. It is a useful measure of efficiency over time and is relatively straightforward to calculate. It can be influenced however by operational changes (e.g. outsourcing) which are more likely to occur before or during liberalisation (and/or other “policy shocks”). It is therefore useful to be used in conjunction with another indicator of total costs – we use in this report the level of “operating costs”, which is by far the most significant in postal organisations.

SEK1.95 reflecting both an increase in investment in the messages and logistics parts of the businesses, and increased costs of SEK2201 million relating to new pensions arrangements.

Figure 6: Real operating costs per letter 1986 - 2000



Source: *Sweden Post Annual Reports and Statistics Sweden*

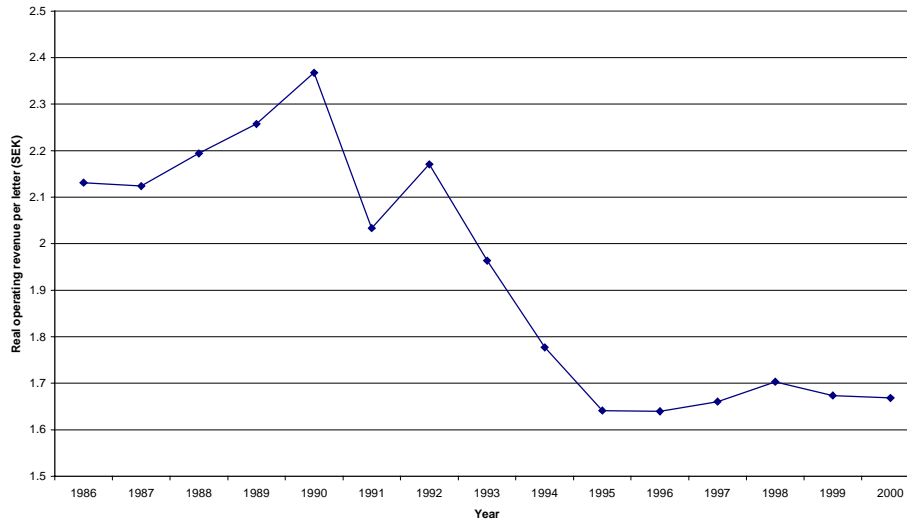
Liberalisation and profitability

As Figure 7 shows, real operating revenues per letter (proxy for average price per letter) also fell over this period from SEK1.96 in 1993 to SEK1.64 in 1995 (indexed to the CPI). Between 1992 and 1995, revenue per letter fell by around 9% per annum, in line with the reported cost performance. Revenues then remained at around SEK1.67 until 1999. Consequently, the evidence would suggest that most of the efficiency gains achieved during the liberalisation were passed on to consumers as lower overall prices¹⁰.

In terms of profitability, real after tax profit of Sweden Post fell throughout 1993 to 1995 and increased slightly between 1996 and 1998. Although profitability has therefore been reduced post-liberalisation, Sweden Post retained overall profitability until 1999, when the large one-off increase in costs led to significant losses. The 2000 figures suggest that the company is now moving back towards profitability (see Figure 8).

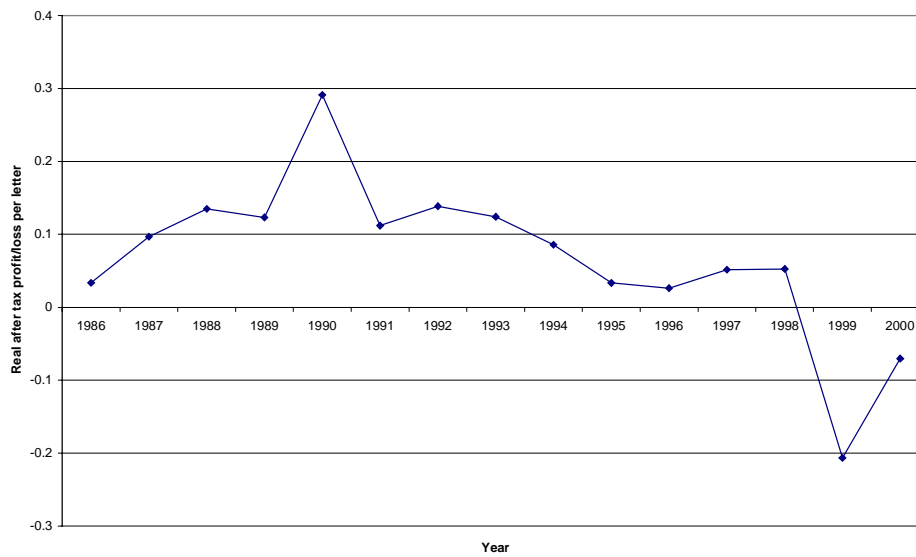
¹⁰ It should be noted however that the price of a letter for non-bulk mailings has increased during the period. See A Lundgren (2001), "Sustainability of USO on a liberalised postal market – some empirical insights".

Figure 7: Real operating revenue per letter 1986 - 2000



Source: Sweden Post Annual Reports and Statistics Sweden

Figure 8: Real after tax profit per letter 1986 - 1999



Source: Sweden Post Annual Reports and Sweden Statistics

Liberalisation and quality of service

The quality of service achieved by Sweden Post has moved from 95.8% next day delivery in 1992 to 97.3% in 1998¹¹. Although there are various factors that will affect the performance in any particular year, this evidence suggests that there has been no deterioration in the quality of service achieved by Sweden Post, in terms of next day delivery performance.

The overall accessibility of the network (measured by the density of the Swedish Post postal network) has been reduced through a combination of franchising and reduction in the number of postal outlets. This trend was apparent before liberalisation started (from 1990) and has in fact continued at the same overall pace. This trend is also equally present in a number of other countries where liberalisation has been much slower up to date, including the UK. In Sweden, the trend has also been associated with an overall reduction in the demand for counter financial services, and a quick spread of the internet. It would therefore be difficult to argue that liberalisation *per se* was responsible for this trend.

3.1.2 New Zealand

New Zealand Post became a State-owned enterprise on 1st April 1987. This process was known as corporatisation; it created New Zealand Post as a limited liability company headed by a board of directors and required it to operate as a successful business enterprise. New Zealand Post was established with a degree of regulatory protection. Letters costing less than \$1.75 and weighing less than 500g were protected from competition but, in return, New Zealand Post had to provide a universal letter service throughout New Zealand at a uniform price. A review of this protection was carried out in 1989 and resulted in a phased reduction of the reserved area, which culminated in a protected area of \$0.80 in December 1991. Full deregulation occurred on 1st April 1998.

The effect of liberalisation on New Zealand Post cannot be identified as having a single major impact at one point in time because liberalisation progressed gradually and many of the initial preparations for the liberalisation occurred prior to its actual occurrence¹². We would therefore expect that New Zealand Post (NZP) would be more prepared, relative to

¹¹ A Lundgren (2001), "Sustainability of USO on a liberalised postal market – some empirical insights".

¹² "In many ways we have been preparing for deregulation since corporatisation in 1987. Indeed the benefits of deregulation can already be said to be in place with our price reductions in the standard letter, large volume business mail and some international markets." (Elmar Toime, 1997 New Zealand Post Annual Report). Practical examples of efficiency improvement measures implemented by NZP since 1988 are provided in the Annex.

Sweden Post for liberalisation, and hence would expect to see a smaller change in performance around the actual date of liberalisation.

Liberalisation and efficiency

Unfortunately, the reported cost data is not particularly informative since it is only possible to obtain data on the consolidated business of New Zealand Post from 1995 until 1999 from their Annual Reports. These figures reveal that total operating costs per letter were roughly constant between 1995 and 1997, then increased slightly during 1998. In 1999, the operating costs per letter increased significantly, which simply reflects the purchase of Ansett Express, which contributed a large proportion of the 15% increase in operating costs. Costs increase again in 2000 and 2001 which reflect further acquisitions made by New Zealand Post over this period so once again they are not comparable to the previous figures.

A somewhat better guide to performance may be obtained from the New Zealand Post staff numbers, which declined by 43 per cent from 12,006 full time equivalents in April 1987 to 6892 full time equivalents on 31st March 1997 (Postal services in New Zealand 1998). However, some of the decreases in direct employment have been offset by outsourcing and the creation of some 1000 new jobs in subsidiary companies. We estimate that letters per employee increased by between 70% and 112% over the ten-year period¹³.

Liberalisation and profitability

Real revenue per letter fell from NZ\$0.84 in 1995 to NZ\$0.79 in 1997, and increased slightly in 1998. The reduction in revenue in 1995 and 1996 can be largely explained by the reduction of the price of the standard letter from 45 cents to 40 cents. For the reasons described above, the revenue figures after 1999 are not comparable with those of previous years.

The real after tax profits per letter of New Zealand Post increased from 1993 to 1996, fell significantly between 1996 and 1998 and have since increased in 1999, 2000 and 2001 (post-liberalisation). The evidence suggests again that liberalisation is associated with a reduction in profitability, but NZP, like Sweden Post, has remained profitable after the introduction of full liberalisation.

¹³ We did not have data for letters volume in 1987, so we inferred a figure by taking the 1997 figure for letter volume from the New Zealand Post Annual Reports and assuming a unit income elasticity for volume growth – this yields a productivity increase of 112% over the period. If there had been no volume growth between 1987 and 1997, letters per employee would still have increased by over 70% over the period.

Liberalisation and quality of service

New Zealand Post aims to deliver its letters according to the following objectives:

 Fast Post

- next working day between major towns and cities across New Zealand.

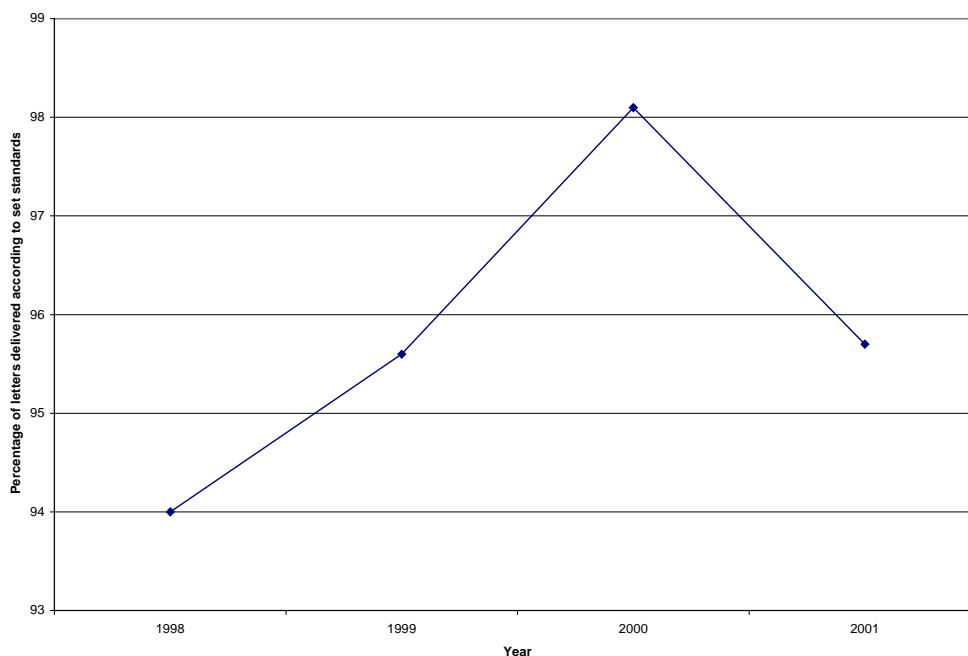
 Post

- delivery next working day for letters whose destination is the same urban centre; and
- delivery within three working days for letters whose destination is in another Urban centre within New Zealand.

NZP measures its service performance according to the percentage of letters delivered that meet the above requirements. The percentage of letters meeting the above requirements performance improved slightly over the period from 94% in 1997/8 to 95.7% in 2001, although within the period it appears from Figure 9 that performance improved markedly and then fell back in 2000¹⁴. On the whole there appears to have been no deterioration in terms of quality of service as measured by these objectives as a result of full liberalisation.

¹⁴ The figures are taken from the New Zealand Post Annual Reports. The sample size used to calculate the percentages differs in different years and in particular the figures for the year 2000 should be viewed with some caution as they represent a three month sample only.

Figure 9: The percentage of letters delivered that meet the standards of New Zealand Post 1998 - 2001



Source: *New Zealand Post Annual Reports*

3.2 Comparative Efficiency Performance

The evidence presented above on the efficiency increases achieved by postal operators in fully liberalised postal markets suggests that significant productivity improvements have been achieved in anticipation of, or shortly after, the liberalisation of the market. It is useful to compare this performance with the performance of the UK and other countries that have moved more slowly in terms of liberalisation.

We have selected the following countries for comparison:

- Germany, where some liberalisation has occurred and is comparable in terms of size to the UK;
- Italy, where there has been very limited moves for liberalisation, until recently;
- The Netherlands, where direct mail is liberalised and the postal operator has been privatised; and

- Finland, where a legal framework for full liberalisation has also been introduced

In all of these countries there has been some movement towards greater liberalisation. Before presenting the evidence on the comparative efficiency performance we provide a brief summary of the liberalisation trends in each country.

3.2.1 Germany

In Germany the postal sector has been partially liberalised since 1998. The National operator, Deutsche Post has a reserved area for letters weighing up to 200 grams (5 x basic tariff) and for bulk items weighing up to 50 grams. In return, Deutsche Post is required to provide a universal service for letter items up to 2 Kg and parcels up to 20kg (one delivery and collection every working day Mon-Sat).

3.2.2 Italy

Italy has followed the EU liberalisation policy and has a monopoly on mail weighing less than 350 grams and costing less than 3.1 euros.

3.2.3 Netherlands

There has been partial liberalisation of the postal market in the Netherlands since 2000. The National postal operator, PTT Post, has a reserved area for letters up to 100 grams (3 x tariff). In return they are required to provide a universal service for printed matter up to 2kg and parcels up to 10kg (one delivery and collection every working day Mon-Sat). Direct post and bulk mail are, in contrast, entirely open to competition and since 1 June 2000, no registration has been required for courier companies.

3.2.4 Finland

In Finland there has been full liberalisation since 1994, but with a licensing regime up to 2kg. Licenses are issued on the basis of a decision by a Council of State. The Ministry and the national operator (Finland Post) are represented on the Council – but not the regulator. In practice, only Finland Post is operating under a license on the mainland (a local operator has a license to cover the Aland Island) and is required to provide a universal service for addressed mail up to 2kg (one delivery and collection every weekday Mon-Fri).

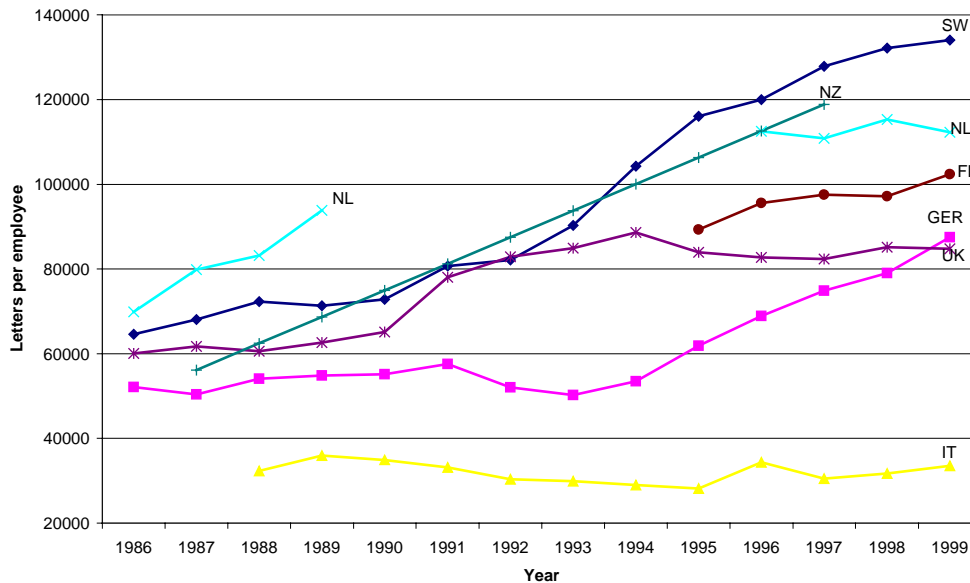
3.2.5 Comparative productivity performance

We have used letters per employee as the efficiency measure for comparison. The actual level of this variable will be influenced by a range of country specific factors, including:

- the specification of the universal service (coverage and delivery days);
- the actual service provided, e.g. one or two deliveries per day, the delivery time window, etc;
- the geography/density of the population and the urban centres;
- the level of development/use of direct mail;
- the use of part-time/casual employment and
- the scope/range of services offered by the postal organisation.

Comparisons of the actual levels of letters/employee should therefore be conducted with some caution, as part of a more comprehensive benchmarking exercise. Rather than focus on the level of performance, it is useful to examine the change in performance over time. Figure 10 below provides the level of domestic traffic per employee over time, for the period 1986-1999¹⁵.

¹⁵ The sources of the data are the UPU and company annual reports. The UPU data, although provided by operators, is not necessarily consistent over time so we have used annual report data wherever possible.

Figure 10: Domestic letters per employee 1986 - 1999

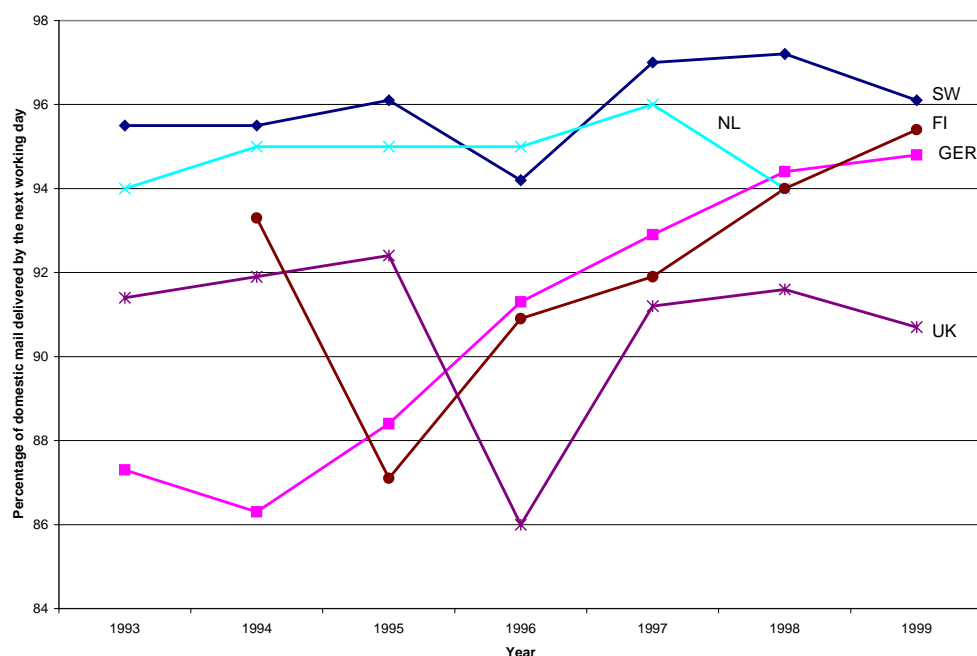
Source: Universal Postal Union website and Annual Reports

It is notable that Sweden appears to have outperformed significantly the performance of all other countries in terms of letters/employee. Productivity in the Netherlands has followed behind (note that the trend after 1998 may not be directly comparable because of the acquisition of TNT), whereas the performance of the UK and Germany is similar and has changed less markedly over the 15 year period. Both Germany and Finland have also seen an improvement after 1993 and 1995, whereas productivity in Britain has not shown any significant increase since 1994¹⁶.

Figure 11 illustrates the comparative performance over the same period, of the countries examined in terms of quality of service (where data were available). The indicator used is the percentage of mail delivered the next day. As can be seen from the chart, Sweden has consistently kept a higher level of quality of service, with the exception of 1996, when the percentage of letters delivered the next day were slightly below the Netherlands. The chart would therefore support the hypothesis that faster liberalisation has not led to any deterioration in quality of service, compared to countries that have liberalised more slowly.

¹⁶ The letter per employees trend for Germany was very similar whether UPU or annual reports figures were used but the UPU figures allowed a greater run of data.

Figure 11: Percentage of domestic mail delivered by the next working day 1993 - 1999



Source: Post Office Consulting Version 1.5

3.3 The recent performance of Consignia

3.3.1 Employment

As illustrated earlier the productivity performance of Consignia after 1994/95 as measured by the number of letters per employee, has hardly changed. It is useful to break-down the productivity measure to examine the actual change in employment over the same period to identify the possible sources of such performance. The table below provides the actual % change in the number of Consignia employees (FTEs) over the period, compared to Sweden Post. Note that over the 1995-1999 period, the change in employment in Consignia was over (+16%) with an equivalent change in Sweden Post of (-12%).

Table 1: Employment changes 1995 - 2000

	1995	1996	1997	1998	1999	2000
Consignia	10%	0.1%	1%	1%	4%	3%
Sweden Post	-2%	-2%	-5%	-2%	-1%	-1%

Source: Sweden Post Annual Report / Consignia annual report.

It should be stressed that this is a high level comparison that does not take into account:

- differences in the starting point;
- operational specifications; and
- environmental changes in the two countries.

However, even without this information, it is possible to glean an understanding of Consignia's performance by comparing it to what it forecast it would aim to achieve at the last major efficiency review undertaken by the DTI in 1995. In that year, Consignia forecast a 5-year cumulative volume growth of 13%¹⁷. Given Consignia's own LRMC estimate of 0.6, this would imply that, holding real wages constant, a 13% increase in volume would require a 7.5% increase in the number of employees. However, Consignia's own forecasts indicate that the anticipated growth could be met with a reduction in the number of employees of 10%, over the same time period. This implies that Consignia was expecting to achieve overall productivity improvements over the five year period of the order of 17%¹⁸.

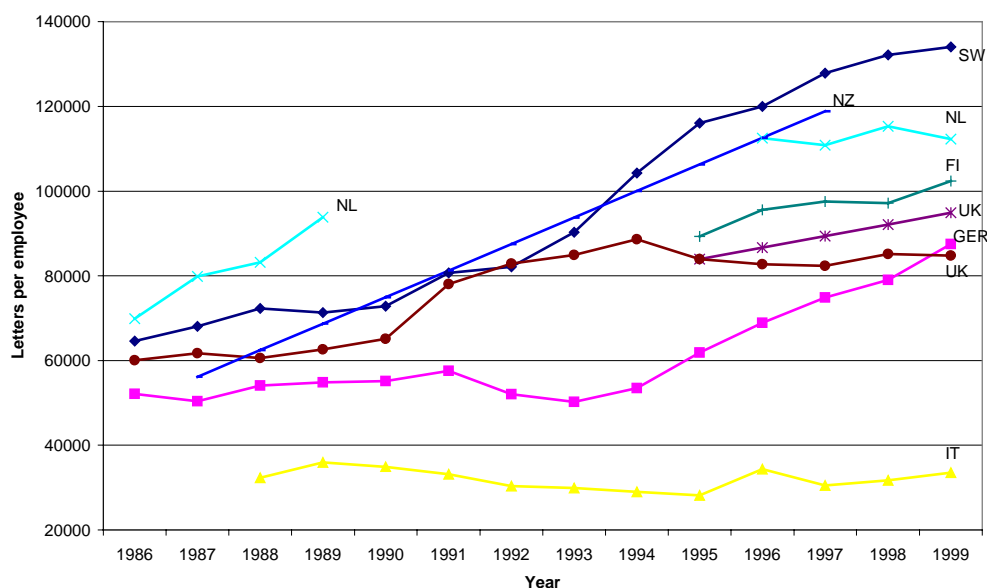
In the event, volume growth was 23%. Consignia's scale elasticity suggests that labour input should have increased by 14%. However, if it had achieved its productivity target of 17%, then the labour input could have been reduced by around 3%, rather than increased by 10%, as it actually was. To put it another way, Consignia has appeared to achieve productivity growth of only around 4% rather than 17%. These calculations would therefore suggest that a significant proportion of the recently announced cost reduction plans, simply represent savings that were already in the 1995 plan but were not achieved.

¹⁷ "Post Office: Performance Review", August 1995, KPMG.

¹⁸ We presume that the scale elasticity with respect to labour input is similar to the overall scale elasticity.

It is interesting to re-state Figure 10 on the basis that Consignia had achieved its 2000 projected productivity targets, set out in 1995. This is done in Figure 12. It shows that rather than staying flat over the period, Consignia's productivity would have grown at a rate similar to that of Finland and would have maintained an edge over Germany.

Figure 12: Domestic letters per employee 1986 – 1999, including Consignia's forecast performance



3.4 Summary

This section lends support to the view that liberalisation in Sweden was associated with significant improvements in efficiency, both in absolute terms, and relative to the performance of other operators who faced a less competitive environment.

A simple analysis of Consignia's actual performance in the 1995-2000 period suggests that it fell short of its own productivity improvement targets by around 13%. Had Consignia achieved that performance, it would have exhibited productivity growth much closer to Germany and Sweden. Consignia have recently announced significant efficiency savings, the size of which are consistent with achieving productivity improvements that they had anticipated from 1995, but did not achieve. If they now achieve these improvements over the next 18 months, then this will put Consignia back on a more realistic productivity track.

4. The impact of other policy shocks

In this section we broaden the analysis to include a brief review of the impact on performance of other major policy shocks. We group these into two types - the effect of a change in the regulatory regime, often accompanied by privatisation, and the effect of a change of ownership itself. The evidence suggests that these policy changes can also have a major impact on the performance of businesses.

4.1 Changes in the regulatory regime and ownership

Significant productivity growth has been achieved in many UK utilities following privatisation and the implementation of RPI-X type price controls. While there are clearly significant differences between the activities of the different utilities sectors and those involved in postal services there are also some notable similarities. Specifically, like many of the other utility businesses prior to privatisation, Consignia is a publicly owned monopoly provider of a national distribution service. The productivity growth that has been achieved by other utilities may thus provide some indication of the improvements that Consignia might be expected to achieve under the new regulatory regime.

In many cases the X factors themselves provide an indication of the rate of productivity growth expected by regulators, and invariably achieved by companies. In many cases companies have out-performed targets, which is commonly attributed to the combination of incentive regulation and private ownership. Further, price controls may reflect factors other than productivity growth. Consequently, in this section, we present evidence on both the X factors chosen by regulators and actual changes in costs and productivity in a number of the major UK utility sectors.

Table 2 below summarises the X factors applied by regulators in the gas, electricity, telecoms and water sectors in England and Wales (or the UK, depending on the sector). For each sector we present the price limits on a year-by-year basis and express them as an average annual rate of change. This represents the rate of change in prices relative to RPI that would be required to achieve the same total change in prices over the whole period¹⁹. Negative values in the table signify that prices fell relative to the RPI.

¹⁹ We note that if these annual average figures had been applied as price limits they would have resulted in revenue streams that were different in net present value terms to those associated with the actual annual limits. However, for the purposes of assessing average rates of productivity rates growth these annual average growth rates are informative.

Table 2: Price Controls for Selected UK Utilities Since Privatisation

	Gas Transmission & Distribution (British Gas)	Gas Transmission (BG Transco)	Electricity Transmission (NGC)	Electricity Distribution (RECs)	Water & Sewerage (WaSCs)	Telecoms (BT)
1984/85						-3.0
1985/86						-3.0
1986/87	-2.0					-3.0
1987/88	-2.0					-3.0
1988/89	-2.0					-3.0
1989/90	-2.0					-4.5
1990/91	-2.0		0.0	1.3	5.4	-4.5
1991/92	-2.0		0.0	1.3	5.4	-6.5
1992/93	-4.0		0.0	1.3	5.9	-7.5
1993/94	-4.0		-3.0	1.3	4.5	-7.5
1994/95	-4.0		-3.0	1.3	5.0	-7.5
1995/96	-4.0		-3.0	-14.0	1.8	-7.5
1996/97	-4.0		-3.0	-11.5	1.5	-7.5
1997/98		-23.0	-20.0	-3.0	1.4	-4.5
1998/99		-2.0	-4.0	-3.0	1.6	-4.5
1999/00		-2.0	-4.0	-3.0	1.5	-4.5

Table 2: Price Controls for Selected UK Utilities Since Privatisation

	Gas Transmission & Distribution (British Gas)	Gas Transmission (BG Transco)	Electricity Transmission (NGC)	Electricity Distribution (RECs)	Water & Sewerage (WaSCs)	Telecoms (BT)
2000/01		-2.0	-4.0	-24.5	-12.7	-4.5
2001/02		-2.0	0	-3.0	-0.4	
2002/03		-4.0	-1.5	-3.0	0.3	
2003/04		-2.0	-1.5	-3.0	1.4	
2004/05		-2.0	-1.5	-3.0	1.8	
Annual Average	-2.9%	-4.9%	-3.2%	-4.6% (-3.9% to -5.6%)	1.5% (0.6% to 2.9%)	-5.1%

Sources: Ofgem, Ofel, Ofwat and Frontier Economics calculations

With the exception of the water and sewerage industry, the price limits presented above reflect annual average price changes of between 2.9% and 5.1% less than annual movements in the RPI. These X factors are thus consistent with expectations of average productivity growth in excess of the economy-wide average. The institutional and organisational changes that generally accompany privatisation are sometimes associated with one-off, step improvements in productivity. However, the profiles of price limits shown above imply that the regulators' expectations of productivity growth have not diminished over the periods since privatisation; in some cases more than ten years on.

The K factors for the water and sewerage companies reflect both the regulators' expectations of productivity growth and the substantial costs of quality enhancements necessitated by new legal obligations. When the high levels of investment undertaken in these sectors since privatisation are taken into account the relatively small increases in prices relative to RPI imply that productivity growth in excess of the economy-wide average has also been expected by the regulator. This view is supported by the price limits set in the 1999 periodic review.

Overall, X factors applied by other regulators are broadly consistent with annual price reductions of between 2% and 6% for provision of a constant level of service quality.

4.1.1 Changes in Costs and Productivity

A review of trends in the costs of UK privatised utilities was undertaken for the Office of the Rail Regulator (ORR) by Europe Economics, as part of an assessment of the scope for efficiency improvements by Railtrack in advance of the 2000 review of track access charges. Initial work provided estimates of changes in "Real Unit Operating Expenditures" ("RUOE") derived from company accounts data on operating costs and expressed relative to RPI²⁰. These estimates did not include any estimate of capital costs. Estimates of changes in "Real Unit Operating Costs" ("RUOC"), which reflect operating costs including current cost depreciation, were presented in a subsequent report²¹.

In principle a measure that includes capital costs is clearly more appropriate for assessing the scope for improvements in total factor productivity. However, variations in accounting policies across time and

²⁰ See *Review of Railtrack Efficiency*, ORR/Europe Economics December 1999, Appendix 1.

²¹ See *Analysis of Responses to "Review of Railtrack Efficiency"*, ORR/Europe Economics July 2000, Appendix 1.

companies can make comparisons of total cost measures difficult. For this reason we present below the results of both analyses for a number of UK utility sectors, alongside a number of our own estimates.

Table 3 presents evidence on changes in operating costs and productivity excluding all measures of capital inputs for the electricity, gas, telecoms and water sectors. For ease of interpretation, positive values are used to represent reductions in unit costs and growth in productivity.

We note that the ORR/Europe Economics analysis of real unit operating expenditure makes no adjustments for the effects of exceptional items or non-regulated activities on the accounts, but take the view that these effects are unlikely to systematically bias trends observed in the sectors. A number of other points should be noted in relation to each of the sectors:

- For *electricity distribution* we present our own estimate of productivity growth (excluding capital inputs) for the twelve RECs, alongside the unit cost figures. This estimate of productivity growth represents a simple average of estimates for each of the twelve RECs.
- For *BT*, estimates of changes in real unit operating costs were calculated relative to two different output measures; exchange connections and call minutes. The latter measure is believed to be a more accurate measure of output as increases in the number of services provided through a single line are not captured by the connections measure. Due to the limited availability of data on call minutes both figures are presented.
- Due to the restructuring of *British Gas* in 1996 separate figures are provided for British Gas (prior to 1996) and Transco (after 1996). Again unit cost figures are based on two different output measures. Trends in unit costs measured relative to gas volumes may be distorted by the significant growth in gas supplied to power stations during the 1990s. For this reason the number of meters was used as an alternative measure.
- For the *water* and *sewerage* sectors ORR/Europe Economics examined trends in total “base service” operating expenditures. These cost estimates abstract from the impact on costs of the substantial quality improvements necessitated by new legal obligations. For comparison we also present our own estimates of changes in real unit operating costs for water and sewerage services, based on unit cost estimates published by Ofwat that make no allowance for quality enhancement²².

²² *Water and Sewerage Services Unit Costs and Relative Efficiency 1999-2000 Report*, Ofwat, December 2000.

Table 3: Reductions in Real Unit Operating Expenditure (RUOE) and Productivity Growth in Privatised Utilities

Company / Sector	Type of Measure	Period	Overall Change	Annual Average Rate of Change
Electricity distribution (12 Regional Electricity Companies, England & Wales)	RUOE	1990/91 to 1997/98	16.6% to 53.6% [36.8%]	2.6% to 10.4% [6.5%]
Electricity distribution* (12 Regional Electricity Companies, England & Wales)	Productivity growth (exc. capital inputs)	1990 to 1998		9.0%
National Grid Company	RUOE	1990/01 to 1997/98	38.50%	6.80%
British Telecommunications	RUOE (per call minute)	1992/93 to 1998/99	25.5%	4.8%
British Telecommunications	RUOE (per exchange connection)	1983/84 to 1998/99	9.4%	0.7%
British Gas	RUOE (per TWh gas throughput)	1986/87 to 1995/96	50.2%	7.5%
British Gas	RUOE (per 000 meters)	1992/93 to 1995/96	16.7%	5.9%
Transco	RUOE (per TWh gas throughput)	1995/96 to 1997/98	30.1%	16.4%

Table 3: Reductions in Real Unit Operating Expenditure (RUOE) and Productivity Growth in Privatised Utilities

Company / Sector	Type of Measure	Period	Overall Change	Annual Average Rate of Change
Transco	RUOE (per 000 meters)	1995/96 to 1997/98	31.0%	16.9%
Water (all water companies, England & Wales)	Total Base Service Operating Expenditure	1992/93 to 1997/98	15.9%	3.7%
Water* (all water companies, England & Wales)	RUOE (per unit of water delivered)	1992/93 to 1999/2000	13.9%	2.1%
Sewerage (10 water and sewerage companies, England & Wales)	Total Base Service Operating Expenditure	1992/93 to 1997/98	17.7%	4.1%
Sewerage* (10 water and sewerage companies, England & Wales)	RUOE (per unit of sewage collected)	1992/93 to 1999/2000	12.5%	1.9%

Sources: ORR / Europe Economics (2000), except (*) Frontier Economics estimates.

Substantial reductions in real unit operating expenditure (excluding capital costs), can be seen across the utility sectors. The smallest change is in the telecoms sector, however the simple unit costs measures used do not fully reflect the change in the quality and variety of services offered by BT over the period examined.

Telecoms services on offer now are very different from those available in 1983. These quality enhancements suggest that underlying productivity growth in BT is much greater than is implied by the unit cost analysis. The effects of quality enhancements on unit operating expenditures in the water and sewerage sectors can be seen in the differences between the reductions in “base service” costs and overall unit operating expenditures. When quality enhancement is accounted for cost reductions are found to be around 2% greater. The cost reductions achieved by Transco are large relative to those made in other utilities. However, since these savings were made over a relatively short period following a significant restructuring of the business they may provide a poor indication of the scope for medium-term non-capital productivity growth in other utilities. Excluding the Transco data, and considering the impacts of quality improvements in the water and telecoms sectors, these utilities have generally achieved average reductions in unit costs (excluding capital costs) of between 4% and 10% per year. Our estimate of non-capital productivity growth for the RECs lies towards the top end of this range.

Evidence on changes in real unit costs including current cost depreciation is presented in Table 4 along with an estimate of total factor productivity (TFP) growth for the electricity distribution companies. As in Table 3, the unit cost analysis is not adjusted for the effects of exceptional items or non-regulated activities on the cost data.

With regard to our own analysis, the Frontier Economics estimate of TFP growth for the RECs incorporates our own estimates of annualised capital costs for those businesses. Our estimates of unit operating and capital costs for the water and sewerage sectors are again based on Ofwat estimates of unit costs and reflect both operating costs and capital maintenance charges²³. It is not possible to incorporate capital costs into the “base service” analysis of the water and sewerage sectors, used by ORR/Europe Economics, as the necessary data is not collected.

²³ These charges reflect the use of infrastructure renewals accounting, rather than current cost depreciation for some water sector assets. They are analogous to the current cost depreciation charges used in some other UK utilities.

Table 4: Reductions in Operating and Capital Costs and Productivity Growth in Privatised Utilities

Company / Sector	Type of Measure	Period	Overall Cost Reduction / Productivity Growth	Annual Average Rate of Change
Electricity distribution (12 Regional Electricity Companies of England and Wales)	RUOC	1990/91 to 1997/98	14.5% to 40.8% [Average 28%]	2.2% to 7.2% [Average 4.7%]
Electricity distribution (12 Regional Electricity Companies of England and Wales)*	TFP	1990 to 1998		6.0%
National Grid Company	RUOC	1990/91 to 1997/98	27.2%	4.4%
British Telecommunications	RU8OC (per call minute)	1992/93 to 1998/99	-5.1%	-0.8%
British Gas	RUOC (per TWh gas throughput)	1986/87 to 1995/96	48.4%	7.1%
Transco	RUOC (per TWh gas throughput)	1995/96 to 1997/98	30.3%	16.5%
Water (all water companies, England and Wales)*	RUOC (per unit of water delivered)	1992/93 to 1999/2000	2.0%	0.3%
Sewerage (10 water and sewerage companies of England and Wales) *	RUOC (per unit of sewage collected)	1992/93 to 1999/2000	3.7%	0.5%

Sources: ORR / Europe Economics (2000), except (*) Frontier Economics estimates.

When capital inputs are taken into account, real unit cost reductions are generally lower. This is consistent with the view that some degree of substitution of capital for labour inputs has occurred in these sectors over the period since privatisation. Nevertheless substantial average annual cost reductions have been made. On balance we believe that this evidence is consistent with medium-term unit reductions relative to RPI of between **2%** and **7%** per year, for a constant level of service quality cost (and including capital inputs).

The annual average productivity increases reported here mask an interesting profile of productivity growth that is quite common across the regulated businesses. Most of the companies did not make particularly vigorous productivity improvements immediately after they were privatised and subjected to a new regulatory regime. It could be argued that this is due to the companies learning to operate in their new environment. However, this argument clearly did not apply to the power generators, for example, who made significant efficiency gains immediately after they were privatised and the market was opened. Instead, it has become clear that regulated businesses tend to time their efficiency improvements to coincide with the regulatory cycle. For example, many of the electricity distributors reported only modest gains up to the first regulatory determination in 1994, after which they made extremely large efficiency savings for the next two or three years. The rationale for this strategy is two-fold: first, to postpone efficiency gains until after the price review, so that they are not factored into the new price control; and second, more generally to condition the expectations of the regulator in advance of a price review.

In summary, it appears that the performance of the regulated businesses are not too far out of line with that achieved by companies in a liberalised environment, but the timing of those productivity gains differ. In competitive markets, where prices tend to depend on market conditions and not on the costs of an individual business, companies have a strong incentive to remove inefficiency as fast as possible. In a regulated environment, where prices depend to some extent on one's own costs, the efficiency programme tends to be managed more strategically in order to maximise profits for shareholders.

4.2 Change of ownership

In many countries and industries liberalisation has been accompanied by privatisation. Privatisation can also lead to efficiency gains in an industry, which makes it difficult to identify the impact of liberalisation on an industry alone.

Privatisation can, in principle, lead to efficiency gains in an industry for a number of reasons:

- ❑ A privately owned firm is more able to focus on the objectives of profit maximisation than a government owned firm when the government's objectives may differ and may change from one administration to the next.
- ❑ In the private sector it is easier to write contracts that adequately tie managers' incentives to the goal of profit maximisation.
- ❑ The Government is less likely to be able to interfere in the operations of a private firm because their transaction costs of so doing are higher.
- ❑ Governments are unlikely to let large state owned industries go bankrupt. A harder budget constraint is imposed on a privatised firm by the market, which provides a much greater incentive to the firm to become more efficient than when it was in the public sector.

There are two different methods by which the impact of government ownership on performance can be measured. They are a comparison of the performance of government-owned firms to privately owned firms or analysis of the performance of firms before and after privatisation. We discuss each in turn.

4.2.1 *Efficiency differences between State and privately owned firms*

There are a multitude of studies, a few of which are outlined below, that find support for the theoretical proposition that firms under private ownership are more efficient than those under state ownership.

- ❑ The study by Ehrlich et al (1994)²⁴ found that there was a significant link between ownership and firm specific rates of productivity growth.

²⁴ Erlich, Isaac, George Gallais-Hamonno, Zhiqiang Liu, and Randall Lutter (1994) "Productivity Growth and Firm Ownership: An empirical investigation", *Journal of Political Economy*, 102, pp. 1006 – 1038.

Their sample of 23 comparable international airlines of different ownership categories for the period from 1973 – 83 suggests that private ownership leads to higher rates of productivity growth and declining costs in the long run. Their study, however, also suggests that in the short run the change from state to private sector ownership can have an ambiguous effect on productivity and costs. The study uses good data and is robust to changes in specifications and sub-samples but suffers from the drawback that it is based on one industry and relatively old data.

- Boardman and Vining (1989)²⁵ examined the performance of the 500 largest non-US industrial firms in 1983. Their results show that State owned and mixed ownership firms are significantly less productive than their privately owned counterparts.

The conclusions of the above studies should be interpreted with caution because the comparison of government owned firms with privately owned firms can be problematic because it is often difficult to determine the appropriate set of benchmark firms. In spite of this caveat, it is common theme that privately owned companies tend to be more efficient than state-owned companies.

4.2.2 Effects of privatisation on performance

The examination of the differences of performance between privately owned and state owned firms provides a guide to how performance of a state owned firm might be expected to improve after privatisation. In this section we assess to what extent privatisation alone ought to have brought about significant efficiency improvements. A recent survey²⁶ summarises a large number of studies that aim to test whether privatisation has improved the performance, both financial and operational, of previously government owned firms. A number of these studies are outlined below:

- Newbery and Pollitt (1997)²⁷ performed a counterfactual analysis of the 1990 restructuring of the U.K's Central Electricity Generating Board (CEGB) and documented significant post-privatisation performance

²⁵ Boardman, Anthony and Aidan R. Vining (1989) "Ownership and Performance in Competitive Environments: A Comparison of the Performance of Private, Mixed and State-owned enterprises," *Journal of Law and Economics*, 32, pp. 1 – 33.

²⁶ Megginson, William L and Jeffrey M Netter (2001) "From state to market: a survey of the empirical studies on privatisation, *Journal of Economic Literature*, 39, No. 2.

²⁷ Newbery, David and Michael G. Pollitt. (1997) "The restructuring and Privatisation of Britain's CEGB – Was it Worth It?," *Journal of Industrial Economics*. 45, pp.269 – 303.

improvements. However, they also found that consumers benefited from relatively few of these improvements.

- Martin and Parker (1995)²⁸ found that less than half of the British firms they studied performed better after privatisation once business cycle effects were controlled for. However, they did find evidence of a 'shake out' effect where several firms improved performance before being privatised.
- La Porta and López-de-Silanes (1999)²⁹ found that Mexican State owned enterprises rapidly closed the large performance gap with privately owned firms after privatisation and in some cases sales per employee roughly doubled. The authors attribute most of the performance improvement to productivity gains resulting from better incentives, with at most one third of the improvement being attributable to lower employment costs.
- Laurin and Bozec (2000)³⁰ compared the productivity and profitability of two large Canadian rail carriers, one private and one state owned. They found that after the privatisation of the state owned rail carrier in 1995 its performance rapidly converged to the performance level of its private comparator during the pre-privatisation but post announcement period and then rapidly surpassed it afterwards.
- Ramamurti (1997)³¹ found that there was a 370 per cent improvement in labour productivity and a 78.7 per cent decline in employment following the 1990 restructuring and privatisation of Ferrocarrilla Argentino, the Argentine national freight and passenger railway system. He concluded that these improvements could not have been made without privatisation.

²⁸ Martin, Stephen and David Parker (1995) "Privatisation and Economic Performance Throughout the UK Business Cycle," *Management Decisions in Economics*, 16, pp. 225 – 237.

²⁹ La Porta, Rafael and Florencio López-de-Silanes (1999) "Benefits of Privatisation – Evidence from Mexico," *Quarterly Journal of Economics*, 114:4, pp. 1193 – 1242.

³⁰ Laurin, Claude and Yves Bozec (2000) "Privatisation and Productivity Improvement: The Case of Canadian National (CN)," Working Paper, Ecoles de HEC, Montreal.

³¹ Ramamurti, Ravi (1997) "Testing the Limits of Privatisation: Argentine Railroads," *World Development*, 25, pp. 1973 – 1993.

- Ramamurti (1996)³² provided a summary of a number of empirical studies that examined the privatisation of the telecommunication industry around the world. On balance these studies indicate that deregulation and liberalisation of the telecommunication industry is associated with significant improvements in operating efficiency and the quality and price of telecom services. However, they find that the impact of privatisation alone is less clear-cut although the combination of privatisation with deregulation or liberalisation is associated with significant improvements.

Interpretation of the above results should be treated with caution, as there are a number of empirical problems with studies of this sort³³. However, in general, the results point in the same direction.

4.3 Summary

In this section we have described the efficiency effects of other policy shocks, namely a change of ownership and regulation simultaneously, and a change in ownership itself. We find that there is significant support for the argument that these policy shocks stimulate efficiency improvements, although probably not as great as the effect of liberalisation.

³² Ramamurti, Ravi (1996) "The New Frontier of Privatisation," in *Privatising Monopolies: Lessons From the Telecommunications and Transport Sectors in Latin America*. Ravi Ramamurti, ed., Baltimore : John Hopkins University Press, pp. 1 – 45.

³³ Problems that arise with these sorts of studies include sample selection bias (because it is often the healthiest firms that are privatised first), data availability problems (the data available tends to be greater in the more developed countries and for the better performing firms meaning they are likely to be over-represented in the sample) and problems of determining the correct measure of operational performance.

Annex 1
Examples of efficiency
improvements in Posts

Examples of efficiency improvements in Posts

Sweden

Some practical examples of efficiency improvement measures taken by Sweden Post in the period from 1995 to 2001 include:

- rationalisation measures led to a reduction of about 900 in the average number of employees (c 2% of employees) in 1995;
- Sweden Post Transport rationalised (1995);
- reduction by 2617 in the number of employees (c. 6% of staff) (1997);
- reorganised into profit centres at the lowest possible operational level to increase incentives (1997);
- decentralised organisational structure introduced aimed at reducing costs (1998);
- reduced the number of employees by 795 (c. 2% of staff) (1998);
- major investments within the messages and logistics operations unit (1999);
- Posten Foratjning (Operator of the post office network) managed to reduce losses through cost rationalisation measures (2000); and
- Post Giro (banking arm) cut expenses particularly (2000).

New Zealand

Practical examples of efficiency improvement measures introduced in the New Zealand Post business include:

- 432 Post Offices were closed and replaced with a network of private sector retail outlets (1988);
- 560 jobs were lost (c. 4% of their total workforce) in 1988;
- 25 per cent cut in recurring costs in 1988;

- product rationalisation occurred as mail was re-classified by size, not weight and the second class mail stream was removed (1988);
- major streamlining of mail practices that reduced handling costs by 30 per cent (1992);
- productivity benefits from new Integrated Mail processing technology (1997/98);
- closure of some mail centres on the North Shore and in Wanganui, Ashburton and Timaru (2000); and
- the network was reconfigured which slowed down the increase in business related costs (2000).

Other countries

UK

- awarded an IT outsourcing contract worth £5 million (1999);
- the intention was to spend £130 million on sorting technology and invest £400 million in postal operations in London to increase the quality of service. This meant four new delivery centres and a new mail centre would be created resulting in 2000 job cuts (2000);
- the price of a first class stamp was raised by one pence to 27p in April 2000;
- in October 2001, Consignia announced that it will need cut £1.2 billion from its cost base (15%) and reduce its workforce by up to 30,000;
- Consignia considered outsourcing large parts of its operations including letter sorting and delivery (2001);
- Consignia announced plans to shed 2100 post office managerial jobs (July 2001);
- Consignia put its entire fleet of 40,000 Royal Mail and Parcelforce vehicles up for sale (September 2001);
- other savings being considered include reducing £400 million a year capital spending programme and head office cuts (2001); and
- Consignia revealed it was putting 4500 jobs on the line by shutting 59 of its 70 call centres (2001).

Germany

- between 1993 and 1998 Dm8 billion was invested in a new programme 'Letter 2000' aimed at streamlining and enhancing delivery and reliability of letter mail;
- 170,000 postal workers received a 3.1% pay rise valid for 15 months from 1 January 1999. In the 3 months preceding that date they also received a lump sum payment of DM500 each (1999);
- Deutsche Post needed to cut DM718 billion in costs to offset expected sales and profit declines due to full liberalisation (1999);
- a new wage structure introduced affecting about 30,000 employees and equating to a pay cut of up to 28 per cent (2001);
- plans to cut 7500 jobs from its transport division by 2004 and outsource the affected functions in an attempt to reduce its wage bill by E100m (\$88m) annually (c. 3% of total workforce) (2001);
- plans to cut 3000 jobs (c. 1% of total workforce) in its mail delivery business were postponed due to pressure from Unions (2001);
- plans to outsource Deutsche Post's IT development activities into a new subsidiary at the beginning of 2002;
- plans to reduce its mail division's management staff;
- plans to cut two overnight air-mail routes within Germany from next January; and
- plans to cut the number of branch managers from 83 to 49 from 2002 and to reduce the number of mail branches to 49 through a reorganisation in early 2004 thought to amount to savings of approximately EUR 50 million (2001).

Italy

- issued a new priority postage stamp to ensure that mail posted in Italy will reach its destination in the country within 48 hours (1999);
- implementation of a National Service Centre to enhance the quality, speed and efficiency of Italy's mail services planned (2001);
- plans to cut its workforce by around 9000 (2001) – c. 5% of workforce; and

- cut its workforce by 6800 in early 2001 and put in place a new worker contract in early 2001 (2001).

The Netherlands

- planned cost savings of EUR320 million at PTT because of decline in mail volumes (2001);
- the price of sending a letter raised for the first time in 10 years by five cents from July 2001;
- PTT post has been investing heavily in new infrastructure for the sorting and transportation of national mail since 1997. This investment has been aimed at achieving significant cost reductions and quality improvements in the sorting operation of PTT post. The business customers of PTT post benefited directly from the cost reduction as PTT post announced that its new tariff level for its business mail in 1999 will be equal to the discounted tariff level for pre-sorted mail from 1998. (Overdijk 1997); and
- the quality of next day delivery has improved from an average of 90% in 1990 to 95% in 1995. (Overdijk 1997).

Norway

- 1500 jobs cut in 2001 (c. 5% of workforce); and
- reports that as part of the company's on-going cost cutting exercise, a total of 5000 jobs will be cut (including previous reduction of 1500 jobs means a total of c. 18% of workforce (2002).

Austria

- plans to cut the number of distribution centres by more than a thousand by 2003 and shed 6000 jobs by 2004 in response to high costs and future liberalisation (2000).

France

- outsourced the management of its 48,000 strong fleet of vehicles to make cost savings of an estimated FFr 123 million (2001); and
- large cost increases relating to the Euro switchover, higher transport and energy prices and the implementation of the 35 hour working week were blamed for a 51 per cent drop in profits in 2000.