

# **What are the economic impacts of relaxing product and capital market restrictions?**

**Lessons from other industries**

**Report prepared for IATA**

**November 2006**



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## Executive summary

The international passenger aviation sector is subject to considerable regulatory intervention. The web of Air Service Agreements (ASAs) imposes considerable restrictions regarding the terms and conditions under which airlines are permitted to supply their services to passengers (referred to in this report as product market restrictions), and also on the nationality of those that own airlines (referred to in this report as capital market restrictions). Furthermore, the nationality restrictions embedded in the ASAs are, in many cases, supplemented by explicit statutory provisions limiting foreign ownership of airlines.

Increasingly, stakeholders in the airline industry and policy-makers are interested in the potential effects of these restrictions being relaxed or removed. In part, this has been caused by the results of an earlier round of liberalisation. There was considerable liberalisation in the sector from the 1970s to the 1990s, which focused primarily on lifting product market restrictions. For example, the domestic US airline industry was liberalised in 1978, and a similar set of reforms introduced in the EU in 1992. In addition, ‘Open Skies’ agreements have become increasingly important in international aviation routes. Under these agreements, all restrictions relating to airlines, frequencies and destinations with respect to flights made between the two countries are lifted. The general evidence on these reforms suggests that they have had a positive effect. However, deregulation to date has only been partial: capital market restrictions remain in place, while only 17% of international aviation routes are subject to Open Skies agreements. What might occur if further liberalisation were to be pursued has become a very topical issue.

To contribute to this debate, the International Air Travel Association (IATA) has asked Oxera to consider the evidence from other sectors on the impact of the relaxation of constraints similar to those present in the airline sector, and thereby to determine whether, from this evidence, lessons for the airline sector can be drawn. To provide focus to this exercise, most of the evidence that Oxera has gathered relates to four sectors, agreed between IATA and Oxera:

- banking;
- telecoms;
- media;
- energy.

For various reasons, as set out in the report, it is considered that the economic characteristics of these sectors share sufficient similarities with the airline sector for any ‘read-across’ to be meaningful. Within these sectors, evidence has also been collected from a range of geographical areas including Europe, North America, Australia and New Zealand, and Asia.

The results from this research can be divided into two categories: those relating to the impact on consumers, and those relating to the impact on producers (although there are also interactions between these two—in the long run, developments which affect the viability of producers, either positively or negatively, will have a similar positive or negative effect on consumers). Furthermore, while product market and capital market liberalisation may, on some occasions, have similar effects, in other cases the processes can result in tension. Therefore, it is important to consider the impact of each of these processes separately.

## Impact on consumers

In the sectors examined, the general conclusion is that product market and capital market liberalisation have brought benefits to consumers. This is most evident in relation to product market liberalisation. For example, energy supply market liberalisation is estimated to have reduced electricity and gas prices in the EU by 10–20% and 35% respectively. Corroborating evidence was found in the Japanese and South Korean telecoms sector, where prices have fallen substantially post-liberalisation. As well as reducing prices, the evidence from the media sector supports the idea that liberalisation increases quantity and as well as quality diversity, consistent with the evidence observed in Germany, New Zealand and India. This increase in diversity has been matched in those parts of the airline sector that have been liberalised, with the emergence of low-cost carriers.

However, while the case study evidence suggests that product market liberalisation is associated with a generalised reduction in prices—through prices becoming more cost-reflective and, simultaneously, greater pressure being exerted on companies to reduce costs—the greater cost-reflectivity of prices can also result in some impacts that may be perceived negatively by (some) consumers. For example, as has been recently experienced in the UK energy sector, greater cost-reflectivity can mean that when there is an exogenous cost increase (including forward-looking costs—ie, the costs associated with increasing capacity in the future) that affects most or all participants in the market, a greater proportion of that increase is likely to be reflected in prices than when markets are less liberalised. In other words, while product market liberalisation may be expected to result in a general downward trend in prices, it may also result in more volatile prices in the short term. This is a potentially important observation in the context of the sensitivity of the airline industry to (oil price) cost shocks. The case study evidence—specifically the experience of Korea Telecom—also shows that product market liberalisation and greater cost-reflectivity is likely to result in the ‘unwinding’ of cross-subsidies between different consumers that may raise concerns regarding social equity.

It should be noted that these are negative impacts only from the perspective of (some) consumers. For example, the fact that prices may rise in response to (short-term) capacity shortages provides an important signal to producers to undertake further investment. Market mechanisms to reduce the price volatility experienced by final consumers also exist. Similarly, the greater cost-reflectivity resulting from the unwinding of cross-subsidies will improve efficiency and also be perceived positively by those consumers who were previously subsidising loss-making consumers.

Important consumer benefits resulting from capital market liberalisation were also observed. Frequently, these benefits were derived from the additional investment that became possible following liberalisation. A pertinent example is provided by the case of TV3, a television channel in New Zealand. Soon after its launch, it suffered financial difficulty and went into receivership. As a direct result, the New Zealand government lifted its previous prohibition of foreign ownership in the media sector, and a new, Canadian owner for the channel was found, which effectively turned the business around. In the telecoms sector, econometric evidence demonstrates a statistically significant positive relationship between the maximum amount of foreign ownership allowed in the sector and fixed and mobile telephony penetration rates.

Relaxing (foreign) ownership restrictions can also be expected to lead to consolidation within a sector. This can deliver benefits to consumers through allowing greater exploitation of economies of scale, and may be partly behind the positive consumer benefits that appear to have followed the relaxation of (inter-state) ownership restrictions in the US banking sector. However, increased consolidation brings with it the risk of firms acquiring a dominant position and then abusing that dominance, to the detriment of consumers. These concerns should be protected by a robust, well-functioning competition law regime.

In summary, the findings from these other sectors suggest that there are potentially significant consumer benefits to be achieved through greater product and capital market liberalisation. In terms of product market liberalisation, this corroborates the findings of the research into the liberalisation that has already taken place in the airline sector. In terms of capital market liberalisation, consumer benefits could also be expected, although they are predicated on a robust competition law regime.

## **Impact on producers**

The impact of product and capital market liberalisation on producers is analysed in four areas:

- impact on consolidation and excess capacity;
- impact on cost efficiency and productivity;
- impact on profitability;
- strategic responses of companies to the opportunities and challenges presented by these processes.

### **Impact on consolidation and excess capacity**

The case studies suggest that a different impact can be expected from pursuing greater product market liberalisation—where, in the short term at least, supply might be expected to grow further—from that expected from capital market liberalisation—where the relaxation of ownership restrictions appears to facilitate mergers and acquisitions (M&A) activity and hence lead to increased concentration within the sector. There is evidence of the former effect in the UK energy supply markets, German TV markets and New Zealand radio markets. However, in these cases, following the initial increase in supply, there has invariably been a period of consolidation in these sectors as the market rationalises in response to this initial period of liberalisation.

The evidence for the latter process comes from those sectors where product markets are already reasonably liberalised, such as the EU and US banking sectors and the US electricity generation sector. This consolidation, in turn, is generally associated with an improvement in capacity utilisation. However, the case studies also indicate that:

- a) capacity utilisation is not a simple function of the degree of concentration in the sector;
- b) in many sectors, optimal capacity utilisation is likely to be less than 100% and, following relaxation of ownership constraints, there is a possibility for competitive markets to ‘overshoot’ this optimal level, at least in the short term. This is a notable feature of the US electricity generation sector.

It is perhaps these latter findings that are of particular significance to the airline industry, given the perception of excess capacity that currently characterises the sector. Specifically, the evidence suggests that greater liberalisation of ownership is likely to improve capacity utilisation within a sector.

### **Impact on cost efficiency and productivity**

The case studies suggest that both product and capital market liberalisation can help improve cost efficiency and productivity within a sector.

The evidence on product market liberalisation in the Japanese and Korean telecoms markets is particularly informative, since it decomposes the specific impact of liberalisation and indicates the significance of this impact in the aftermath of market opening.

However, the case studies also indicate that cost efficiencies and productivity improvements tend to be derived from relaxing ownership restrictions. Two separate mechanisms can be identified:

- ownership liberalisation leading to a wider pool of owners, facilitating international transfer of best practice;
- ownership liberalisation facilitating M&A activity that in turn allows for the exploitation of economies of scale and scope.

One of the strongest pieces of evidence in support of the former is the international econometric analysis of Trewin (2000) in the telecoms sector, which indicated that countries with more liberal foreign ownership policies tended to have lower costs than those with more restrictive policies. Interestingly, and perhaps according with intuition, this effect was particularly marked for low-income countries.

Corroborating evidence for the second mechanism can be seen in the EU banking sector, where the Single Market Programme (SMP) appears to have allowed the (previously identified) economies of scale and scope to be exploited, with evidence suggesting that the cost efficiency of EU retail banking institutions has improved markedly since the SMP was introduced. These findings are particularly pertinent given the economies of scale and density characteristics of the airline sector.

The report also considers the impact that ownership restrictions may have on a company's cost of capital. A number of theoretical arguments are explored. These arguments appear to be corroborated by the experience of the Canadian telecoms sector, where the evidence suggests that restrictions limiting the access to equity markets (for some companies) were a particular concern. This led to the affected companies adopting inefficient financing structures, with an associated increase in the cost of capital or decrease in investment level. Although the airline sector is perhaps less capital-intensive than a 'pure' infrastructure sector such as telecoms, the industry does make considerable use of capital inputs, implying a potentially important effect.

The only substantive caveat to these conclusions relates to the potential for companies to overestimate projected cost savings that would be delivered from M&A activity, sometimes to a considerable degree. Evidence for this phenomenon comes from the US electricity generation sector.

### **Impact on profitability**

The case study evidence suggests that the combined effects of product market and ownership liberalisation are likely to be desirable. Consistent with economic theory, greater product market liberalisation appears to strengthen competitive pressures and lower reported profitability. The changes in profitability in the UK electricity generation sector provide evidence to support this trend, as does cross-sectional analysis of the profitability level of energy suppliers (retailers) in different EU countries (notwithstanding data limitations).

At the same time, a more permissive ownership regime is likely to provide an opportunity for producers to respond to the challenges created by greater product market liberalisation. A main driver for the M&A activity (and facilitated by ownership liberalisation) is the pursuit of higher profitability and hence shareholder value. The evidence on the success of this from the case studies examined was generally positive. For example, the impact of the Interstate Banking and Branch Efficiency Act 1994 (IBBEA) in the US banking sector appears to have been an increase in profitability levels, at all levels of bank size. A slightly more ambiguous result is provided by the evidence of the EU banking sector after the SMP. In most of the countries examined, profitability appears to have improved following completion of the SMP, although this is not the universal pattern. Combining this with the finding that relaxing ownership restrictions facilitates improvements in capital utilisation suggests that such liberalisation allows for the retirement of inefficient capital.

One dimension of increased profitability that is of particular note is the fact that liberalisation of ownership restrictions allows for a greater potential for takeovers and hence for shareholders of target companies to benefit from the significant share price appreciation that



characterises such corporate activity. The recent example of Ferrovial's takeover of BAA illustrates this phenomenon; this was a takeover that was feasible only after the removal of BAA's 'golden share', which had previously served to restrict the potential owners of this company.

A second dimension of the impact of product and capital market liberalisation on profitability performance is the possibility that it increases the opportunities for pushing the existing regulatory framework to disguise profitability performance (in the short term) but exacerbates the impact of corporate failure (in the long term). The examples of both Enron in the energy sector and WorldCom in the telecoms sector would appear to be examples of this. However, in terms of read-across to the airline sector, it is not clear that the combination of the reforms being contemplated in the sector, combined with the nature of the sector, lead to the potential for this risk to be aggravated. It does, however, highlight the more general need for the wider regulatory regime to be 'fit for purpose' in order for the other benefits that have been identified to be realised. In this context, a recent paper by the UK's CAA addresses many of these challenges, particularly as regards safety regulation (CAA 2006).

### **Strategic responses**

Another aspect considered was the way in which companies strategically responded to the challenges created by liberalisation of both capital and product markets. The main focus of the research was the strategic response to greater ownership liberalisation. Perhaps the key overall finding is that there is significant diversity of company responses, both in terms of the way in which companies have responded to the challenges of these liberalisation processes, and the success of these strategies.

The evidence suggests that many firms have taken advantage of greater capital market liberalisation to grow their international presence. This can be seen, for example, in the growth in activity of foreign-owned banks in the USA, or the growth of assets in foreign-owned (but EU) banks within the EU. It is also the case that M&A activity—as opposed to organic growth—was a common driver of this internationalisation in the media, telecoms and EU banking sectors, corroborating the commentary from some airline industry observers that relaxing cabotage rules (the right for a foreign airline to offer routes entirely within the domestic borders of another country) alone would be unlikely to stimulate the internationalisation of the sector.

However, a potentially important lesson for the airline sector is that this process of globalisation was not as seamless as might be expected. The delay in the cross-border M&A activity in the EU banking sector following the completion of the reform programme is often remarked upon within the sector. In addition, the evidence collected suggests that the profitability of foreign-owned banks in the US banking sector tends to be lower than for domestic banks. In the Indian media sector, foreign entrants needed to adopt strategic alliances with domestic players to enter this market successfully. Examples such as these indicate that, although greater liberalisation of both product and capital markets can give rise to challenges and risks for companies and their management teams, there is a danger of overstating these risks, potentially as a means to artificially protect incumbents.

There are also cases where the initial response to greater ownership liberalisation has been for firms to adopt an international expansion strategy, although this has proved to be less successful than anticipated and firms have responded by retreating to the domestic market. The BT case study is a clear example. BT responded to the relaxation of the ownership restrictions in the US telecoms sector by forming the Concert joint venture, but chose to withdraw from the US market in the aftermath of the dotcom crash of 2001.

There are also companies that have responded to greater liberalisation by creating a more explicit national focus to their activities, and that appear to have been largely successful. The case of Lloyds TSB in the UK/EU retail banking sector is an example of this. In the media sector, authors have pointed to the relative success of traditional newspaper companies

compared with global media companies, and attributed this success to the more local focus of the former companies.

A further aspect of the research is the issue of whether, alongside any liberalisation reform, companies have tended to follow a policy of diversification or specialisation. The case studies indicate that, where economies of scope existed, successful firms tended to diversify—the growth in fee-based income in the EU banking sectors and the growth of cross-media ownership being particularly clear examples. However, there are also cases of companies having potentially ‘over-diversified’ and, in response, shifting back in recent years to focus on a narrower range of activities. The UK energy supply market provides such an example. In addition, some firms have responded to the challenges of liberalisation by focusing on a narrower set of activities where they perceived their management to have an advantage. The cases of BT and Korea Telecom selling off their mobile phone businesses are examples of this.

A final aspect of this research is that the implications of greater product and capital market liberalisation—which, as the evidence presented above suggests, are likely to be largely positive—may be more pronounced the wider the geographical breadth of the reforms. Consequently, a multilateral approach to greater liberalisation is likely to have more substantial (broadly positive) implications for both consumers and producers/shareholders than more narrowly focused unilateral reforms. Furthermore, introducing multilateral reforms may also be easier to achieve politically than a series of unilateral reforms.



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# 1 Introduction

The potential for reforming the current restrictions of ownership and control in the airline sector, as well as for introducing other deregulatory measures, has generated some controversy. Concerns have been expressed about the impact that any such reforms may have on consumers in terms of, for example, the consolidation that this might induce. Furthermore, given recent upheavals experienced by the industry, there is a concern that any further reforms may lead to greater uncertainty. Such concerns are magnified by the perceived strategic/political aspect of the industry.

In this context, the International Air Travel Association (IATA) has asked Oxera to consider what lessons the airline sector could learn from the experience of other sectors that have engaged in reforms similar to those that some have contemplated for the airline industry. The issues on which such a comparative assessment might shed light include the following.

- Does the experience in other sectors suggest that such a reform package might allow benefits to be realised for airline passengers?
- Have reforms led to consolidation in the sectors considered, bearing in mind concerns in the airline sector regarding overcapacity?
- Have reforms brought about changes in the productivity, efficiency and cost performance of companies in the sectors affected?
- Have there been changes in the levels of profitability experienced by companies in the various sectors (again, taking into account concerns regarding historical levels of profitability in the airline sector)?
- In what ways have companies responded strategically to the challenges introduced by the reform programme? Have (some) firms pursued aggressive programmes of international expansion, and/or have (other) firms successfully focused on national markets? Has this been accompanied by diversification or specialisation?

In addressing questions such as these, it was necessary to identify a number of sectors that have engaged in reform processes comparable to those proposed in the airline sector. In consultation with IATA, the sectors that were selected are as follows.

- **The banking sectors in the EU and the USA.** As part of the Single Market Programme (SMP), the European Commission introduced a number of Directives aimed at reducing regulation in the (retail) banking sector and facilitating a single market in ownership and control, and also in the final product market. Similarly, reforms in the US banking sector have been aimed at removing restrictions on ownership and operations of both domestic and international banks.
- **The telecoms sector.** There have been concerted reform efforts aimed at liberalising markets in many countries, and there are also a number of countries where ownership restrictions similar to those prevalent in the airline sector have either been imposed or lifted in recent years.
- **The media sector.** In common with the telecoms sector, there have been efforts to introduce market forces into the distribution and supply of content to final consumers, as well as the cultural aspect of the sector tending to lead to the proliferation of ownership restrictions.

- **The energy sector.** Like the telecoms sector, energy has been subject to deregulatory measures in product markets, and ownership and control restrictions have been of considerable interest in both the EU and USA.

This report is structured as follows.

- Section 2 identifies the current restrictions within the airline sector and the reforms that have been proposed.
- Section 3 briefly discusses the selection of sectors to be compared with aviation.
- Section 4 identifies the transmission mechanisms by which the proposed reforms might be expected to have an economic impact on the market, as well as general evidence on these mechanisms. It identifies that, significantly, the transmission mechanisms resulting from the liberalisation of ownership restrictions differ from those associated with liberalisation of regulations relating to the product market. While these mechanisms may sometimes reinforce each other, on occasion they can also be in conflict.
- Section 5 focuses on the demand side of the market, examining whether the reform processes in the sectors identified have led to benefits being generated for consumers in terms of lower prices, higher quality or greater choice.
- Section 6 considers the implications for producers within the market. In particular, it looks at whether the reforms have led to consolidation in the sector; the impact on cost efficiency and productivity; whether profitability has increased or decreased; and how different firms have responded strategically to the challenges and opportunities generated by the reform processes.
- Section 7 summarises and discusses the main implications for the airline sector.
- Appendices 1–4 provide further information on the sectors examined.

## 2 Current restrictions in the aviation market

Following the 1944 Chicago Convention, a complex web of bilateral air service agreements (ASA) controlled international aviation. Adopting a distinction developed in this report, these restrictions can be divided into two types.

- **Product market restrictions.** Within the ASAs were a number of restrictions limiting the offerings that airlines were able to make to consumers. These included restrictions on the number of companies permitted to operate on a certain route, restrictions on the number of flights that could be made on a particular route over a period of time, and restrictions relating to the fares made available on such routes.
- **Ownership or capital market restrictions.** Various restrictions were also imposed on the limits of foreign ownership of airlines. These took a variety of forms. Within the ASAs, there were conditions giving country X the right to reject country Y's air carrier if the carrier was not 'substantially owned and effectively controlled' by nationals of country Y. These restrictions were frequently supplemented by statutory provisions—for example, an explicit statutory requirement in the USA precluding ownership share of US airlines by non-nationals of greater than 25%. There is an equivalent restriction for EU airlines, although the threshold has been set at 50%.

However, increasingly, there have been moves aimed at reducing (at least the) product market constraints in various parts of the airline sector. Some of the key examples of this reform process include the following.

- The first major step towards product market liberalisation came with the liberalisation of US domestic flights in 1978.
- An equivalent regime was introduced in the EU following the introduction of the 'Third Package' in 1992, which removed the product market restrictions associated with the ASAs for airlines that were part of the 'Community of Interests' undertaking flights within the EU. Similar agreements have also been reached in other regional blocs including Australia and New Zealand, the Caribbean States, and Latin American groupings.
- Also since 1992, with the agreement between the USA and the Netherlands, Open Skies agreements have increasingly governed international aviation routes. Under these arrangements, all restrictions relating to airlines, frequencies and destinations with respect to flights made between the two countries are lifted.

In general, research has suggested that these reforms have been beneficial. For example, Morrison and Winston (1986) estimated that US deregulation led to annual welfare gains to passengers of approximately \$6 billion and profit gains to carriers of \$2.5 billion. Similarly, the competition generated on international long-haul routes as a result of Open Skies agreements has been 'essential' in improving efficiency and lowering (in particular) economy fares (see Gonenc and Nicoletti, 2000). This literature is reviewed in detail in this report.

Despite the many changes to the aviation sector aimed at reducing regulation, it is important to note two caveats.

- First, although many product market restrictions have been lifted, this process is not complete. Indeed, IATA estimates suggest that only 17% of international traffic operates in a liberalised environment.<sup>1</sup> There are a number of other restrictive measures that also remain in place. For example, cabotage rights—the right for a foreign airline to offer routes entirely within the domestic borders of another country (and the so-called ‘eighth freedom of the air’)—remain (generally) prohibited. It has been argued that this limits the benefits associated with the reforms in the international market since the lack of cabotage rights precludes benefits from network re-optimisation being realised.
- Second, progress on capital market liberalisation is considerably less advanced. For each of the three product market liberalisation examples cited above, progress on the equivalent capital market liberalisation has not been forthcoming. In terms of domestic US flights, the 75% restriction referred to above remains in place. For EU companies, non-EU shareholdings are restricted to a maximum 50%.

Finally, ‘Open Skies’ agreements do not remove the nationality ownership rules discussed above—ie, those rules giving country X the right to reject country Y’s air carrier if that carrier is not ‘substantially owned and effectively controlled’ by nationals of country Y. It has frequently been suggested that such requirements lead to distorted outcomes within the airline market—eg, the structure adopted in the Air France–KLM merger, which sought to preserve the ‘Dutchness’ of the KLM element. Furthermore, given that such nationality clauses provide rights to some EU investors that are not available to others, a 2002 European Court of Justice ruling effectively deemed them illegal.<sup>2</sup>

In light of these restrictions, the purpose of this report is to consider what the (micro-) economic impact of these restrictions might be, as well as the effects of the removal of further product and capital market restrictions, through considering the experience of, and lessons that might be learned from, other comparable sectors.

<sup>1</sup> IATA internal estimate.

<sup>2</sup> As discussed in Plant, A. (2006).



### 3 Sector selection

To assess the implications for the airline industry of further deregulatory reforms, it was necessary to select a number of sectors to examine in detail, ensuring that any experience/lessons gained from these sectors remained as relevant as possible, with appropriate read-across.

Following discussions between Oxera and IATA, the sectors chosen were:

- retail banking;
- energy (primarily retail, but with some consideration of generation/upstream activities);
- telecoms;
- media.

The first criterion used to make the selection was whether the sector demonstrated a relatively clear-cut case whereby, as a result of deliberate policy choice, a particular restriction of relevance had been either imposed or removed. This meant that the analysis had a distinct ‘before’ and ‘after’ aspect to it, allowing a meaningful assessment of the effect of the policy change. This is in contrast to some sectors (eg, the automobile sector), which, although more liberalised both in terms of products and ownership rights than the airline sector have limited scope for analysing the effect of policy changes in this process.

Beyond this general criterion, a number of factors relating to the economic characteristics of the airline sector were taken into account.

- **Sectors of ‘political’ significance.** One of the prime motivations for the initial imposition of (ownership) restrictions is often the fact that the sector is considered to be of political or strategic importance and that this justifies limitations on ownership. This certainly appears to be one of the drivers of the restrictions imposed in the airline sector. Consequently, it was important to choose other sectors that also have this political/strategic facet.
- **Spillover benefits for GDP/productivity.** The airline sector is of particular importance because of its role in facilitating growth/productivity in a wide range of other sectors in the economy through improving international communication. For example, IATA (2006) reports that a 10% increase in the level of connectivity (proportionate to GDP size) could increase long-run GDP by 1.1%. It was therefore considered relevant to choose other sectors that also demonstrated this ‘essential’ infrastructure aspect.
- **Cost structure.** It is generally considered that the airline sector benefits from economies of scale (average costs fall as the overall size of operation increases) and/or economies of density (average costs fall as the average number of passengers per route increases) (see Romero-Hernandez and Salgado, 2006). This leads to the possibility that the sector, and particular economic markets within the sector, may either be, or may have the potential to become, oligopolistic. In such a market structure, the market is characterised by a relatively small number of large players. On the one hand, it is possible that this will lead to benefits to consumers since the reduction in average costs would be passed on in the form of lower fares. On the other hand, it may raise concerns about the possibility of such economies limiting the prospect of new entry into markets. This would suggest that examination of other sectors where there are similar economies would be informative. However, it is also relevant to note that these economies of scale and scope are perhaps not as great as they might be in other ‘pure’ infrastructure sectors, where substantial tangible fixed networks need to be provided.

- **Network effects.** Another characteristic of the airline sector is that it is generally acknowledged that there are strong ‘network effects’ such that the addition of a new route to an existing network brings benefits not just to passengers of the new route, but also to existing users of the network due to the increased opportunities for cross-connection. This is the underlying economic rationale behind the development of hub and spoke networks. Consequently, examining other sectors that also have such externalities associated with growth in use was considered important.
- **Customer-facing.** The airline sector is ‘customer-facing’ in the sense that the customer has a personal ‘interaction’ with the supplier at the point of consumption in order for the service to be supplied. This contrasts with the media sector where, at least until recently, the customer and producer interacted infrequently at the point of consumption. This may have economic implications—for example, it may enhance the importance of brand loyalty and thereby diminish the opportunities for foreign entry into domestic markets.

The following matrix sets out a qualitative assessment of these characteristics in the airline sector and their importance in the other sectors selected.

**Table 3.1 Analysis of sector selection**

Criteria	Banking	Energy	Telecoms	Media	Airlines
<b>Political/strategic significance</b>	Recognised as significant although, in recent years, the sector has been subject to less political interference	Significant to the economy eg, recent debates on energy security	Although diminishing, still considered strategically important in many countries	Strategic and cultural relevance recognised in most countries	Sector generates considerable political interest
<b>Spillover benefits</b>	Sector underpins financial system	Essential infrastructure industry, thus spillover effects	Essential infrastructure industry	Some externalities in consumption	Evidence suggests spillover effects are important
<b>Cost structure</b>	As identified later, economies of scale exist, although they vary depending on the initial size	Limited fixed costs in supply, more important in generation and networks, depending on generation type	High fixed-cost network industry	Relatively low fixed costs (apart from for broadcasting)	Some fixed costs, although not as great as in some sectors
<b>Network effects</b>	Lending capacity depends on number of deposits	Limited network effects	Network becomes more attractive the greater the number of customers connected	Interaction between advertising revenues and customer numbers	Of fundamental significance to the sector
<b>Customer-facing</b>	Many customers continue to interact with individual branches/representatives	Some interaction at supply; limited at generation	Limited day-to-day interaction	Limited day-to-day interaction, but potentially growing with digital technology	Remains important

Source: Oxera.

It can be seen that, in combination, the sectors chosen capture many of the key aspects/features of the airline sector.

The final issue to note regarding the sector selection is that specific geographical focus within each of these sectors is deliberately global. As will be seen, for example, the banking

sector in the USA and EU, telecoms markets in the USA and Asia, media markets in Germany, New Zealand and India, and energy markets in both the USA and EU were all considered. Such a broad geographical focus was adopted to reflect the fact that the issue of restrictions in the airline market is of global concern.

## 4 Removal of restrictions: what are the important processes?

As discussed above, the proposed changes to the airline sector, and the reforms that have been considered in other sectors, consist of two related, but conceptually separate, processes.

- **Capital market liberalisation.** A major aspect of the proposed reforms in the aviation sector involves relaxing the restrictions on who can own airlines and, in particular, allows greater ownership and control rights to be granted to investors resident in countries other than that in which the airline is registered.
- **Product market liberalisation.** A further potential element of the reforms is to reduce the restrictions on the service offering that airlines are permitted to provide to their consumers.

It is clear that these reforms are potentially mutually exclusive: previous reforms in the airline sector have focused almost entirely on the latter and maintained the status quo with regard to the former. Equally, it would be possible to relax ownership rules without introducing further reform on the product market side. As such, it is perhaps not surprising that the economic consequences of these processes can be complementary but, also, on occasion, conflicting. Before considering what the experience of these reforms has been in the various sectors examined, this section considers the ‘transmission mechanisms’ by which these processes may be expected to have economic consequences.

### 4.1 Capital market liberalisation

The granting of ownership and control rights to a wider community of investors who are themselves not necessarily resident in the country in which the company is incorporated is one of the key facets of globalisation. As Schulz (1999) explains:

Over the last 50 years, the legal and regulatory barriers to international investment have largely disappeared among developed economies. And in the past decade, such barriers have fallen dramatically in many emerging markets.

As such, this process has received considerable attention in the academic literature. Three potential transmission mechanisms by which this liberalisation may be expected to have an impact on final market outcomes can be identified:

- changes to the cost of capital;
- allowing for the share of managerial practice;
- facilitating changes in scale or scope of activities through making merger and acquisition (M&A) activity easier .

These are discussed in detail in the following sub-sections.

#### 4.1.1 Cost of capital effects

The most immediate impact that relaxing ownership restrictions might be expected to have is through reducing the cost of capital of the affected companies. In turn, this might be expected to make the financing of capital accumulation cheaper, as well as making greater M&A activity possible.

At least three separate processes that result from greater capital market liberalisation might be expected to have an impact on the cost of capital:

- greater scope for diversification;
- improved corporate governance effects;
- improved access to capital.

### Greater scope for diversification

A fundamental tenet of modern finance theory is that investors need only be remunerated for those risks that they cannot diversify away from by holding a well-balanced pool of securities. Risks that *can* be diversified away from do not require compensation. The textbook example of this is an investor in an ice cream manufacturer: the risk that the weather may turn out to be wetter and colder than anticipated can be diversified away from by also investing in an umbrella manufacturer. Consequently, this risk does not require remuneration. By contrast, the risk associated with a general downturn in the economy, leading to a decline in the demand both for ice creams and umbrellas, cannot be diversified away from and hence does require compensation.

The importance of opening up ownership rights to a wider base of investors is that it alters the balance between those risks that are specific, diversifiable risks and those that are systematic or non-diversifiable. When an investor base is only national in scope, any factors that affect the majority of companies within the country will represent a non-diversifiable risk. However, factors that affect the performance of the majority of companies within one country may have no effect on the performance of companies operating elsewhere in the world. Indeed, while something ‘bad’ is happening in one part of the world, something ‘good’ might be happening elsewhere.

Consequently, when investors can invest in a global portfolio of securities, a greater proportion of risks can be diversified away from and the standard deviation of returns on those securities will be lower. Schulz reports that most studies conclude that exchanging a portfolio of US stocks for an internationally diversified portfolio will reduce the standard deviation of returns by at least 20%. With investors facing lower risk, they require a lower return.

However, while globalisation allows for greater diversification of security portfolios and hence a lower cost of capital, an offsetting effect should be noted. Specifically, while globalisation allows investors to invest in a company that is doing well in one part of the world to offset a company doing badly in another part of the world, the greater integration of the global economy also means that the scope for this diversification is diminished—when companies are doing well in one part of the world, it is likely that companies elsewhere are also doing well. However, the academic evidence that has looked at these processes indicates that, at present, the former effect dominates the latter, as indicated in the box below.

## Box 4.1 International diversification and the Nestlé effect

Schulz (1995) and (1999) argues that the reduction of a company's cost of capital through greater scope for international diversification and improved corporate governance is of prime importance in explaining the increase in market value experienced by Nestlé following the removal of its nationality ownership restrictions.

Until November 1988, Nestlé had two main types of share, which differed in ownership restrictions. The first, 'bearer' shares, were available to all investors on an anonymous basis. The second, 'registered' shares, were available only to Swiss investors, and did not provide anonymity. Both share types afforded the same voting rights and dividend entitlements. However, prices differed substantially between the two, with the shares available only to Swiss investors trading at a discount of around 50% of the value of the shares available to foreign investors.

In November 1988, Nestlé announced that it was removing the restrictions on foreign ownership of registered shares. The result of this was arbitrage between the two categories of shares, with registered shares increasing in value and bearer shares falling in value. However, the important consequence from the perspective of this study was the impact that it had on the overall market value of the company. There was a substantial increase in market value following the announcement of the removal of the ownership restrictions, amounting to around 10% or SFr 661m.

Schulz's analysis of this event led to the conclusion that the opportunities it provided for greater international diversification for investors were responsible for a decline in Nestlé's cost of capital of anywhere between 90 and 190 basis points.

Similar analysis is presented by Lam (1997) in relation to the relaxation of ownership constraints in Singapore banks. The regulation simultaneously increased the maximum cap on foreign ownership of most Singapore banks from 20% to 40%, but also required the Development Bank of Singapore (DBS) to comply with the regulations, where previously it had been exempt. The two banks that saw their constraints relaxed—Overseas Chinese Banking Corporation and United Overseas Bank—experienced a market value increase of 4% and 9% respectively, while the market capitalisation of DBS fell by 5%.

### Improved corporate governance effects

An essential aspect of modern economic theory of the firm is that there is the possibility that the interests of the owners of a firm and those of its management may not always align. While it is generally recognised/accepted that owners/shareholders are interested in maximising their returns, managers may have other objectives, such as 'shirking' or 'empire building'. Moreover, as managers of a firm are, by definition, involved in the day-to-day operation of the company, they may be able to pursue their objectives without the owners being fully aware. This concern leads to investors requiring a higher expected return on any finance provided to managers before being prepared to commit capital.

A number of mechanisms are available to overcome this 'asymmetric information' problem.

- **Shareholder activism.** Shareholders can influence the composition and decision-making of the board. A board of directors is elected to represent shareholder interests in the company. Since the election is annual, the board has an incentive to deliver efficient management performance to secure re-election at the next AGM.
- **Creditor monitoring.** Creditors may also provide a similar monitoring role, particularly when managerial performance is poor.

- **Market for corporate control.** When the management of a company performs poorly, the company may become a takeover target, with potential shareholders believing that they can improve company performance. This could involve a change in management. It is therefore argued that an efficient market for corporate control ensures that resources are transferred from inefficient managers to efficient managers.
- **Remuneration methods.** There are various mechanisms designed to link manager and shareholder interests via remuneration—eg, through performance-related pay and stock options.
- **Reputational argument.** A final mechanism for improving the asymmetric information problem is simply to rely on the ‘reputational’ aspect of the labour market—ie, the idea that managers will act in the interests of owners since this will maximise the probability of ensuring future job opportunities.

It is generally recognised that these mechanisms are, at best, imperfect. However, the relaxation of ownership controls effectively increases the pool of potential owners for a firm, and it is recognised that this can improve the efficacy of these various mechanisms and hence reduce the cost of capital. Schulz has identified a number of methods by which globalisation may improve corporate governance methods. Among the most pertinent are the following.

- Greater competition in the market for corporate control. When the potential pool of providers of capital increases, the market for corporate control will strengthen, placing greater pressure on managers to perform.
- With ownership restrictions relaxed, in general, a wider range of capital market service providers (eg, investment banks, credit rating agencies) becomes available to companies. Such organisations can provide both important information to investors about the performance of a company’s management, and also act as a signalling device when companies are considering raising capital (eg, high-quality companies can ‘signal’ their quality by employing higher-quality advisers, which it is not feasible/economical behaviour for low-quality firms).
- Shareholders with large stakes in a company (ie, blockholders) may improve corporate governance by helping to overcome the problems associated with atomised, individual shareholders not benefiting sufficiently to justify costly monitoring activities. However, large blockholders create their own problems. In particular, they may act as ‘insiders’, becoming too closely entrenched with the company’s management to perform their monitoring role adequately. It has been argued, however, that the risk of foreign owners becoming too entrenched is less likely than that of domestic owners.

Evidence on the extent to which the imposition/relaxation these controls may be expected to lead to improved performance of companies is presented in a study that examines the impact of investment restrictions on newly privatised companies. These restrictions, either implicitly or explicitly, are designed to restrict the ownership of companies to domestic investors through, for example, providing governments with veto rights in the event of a takeover. Boardman and Laurin (2000) estimate that the presence of golden shares of this sort results in a statistically significant decline in three-year buy-and-hold returns of between 53 and 62 percentage points. According to the authors, this:

supports the hypothesis that failure to transfer complete control to the private sector, combined with uncertainty surrounding the exercise of the golden share, has a detrimental effect on long-run share price performance.

Oxelheim and Randoy (2001) investigate the impact of Anglo-American board membership on the market value, relative to the book value, of total assets—known as the q value—of firms in Norway and Sweden. After controlling for a number of other variables, they find that



the q values of companies with Anglo-American board membership are statistically significantly greater than for those firms without such membership (2.78 relative to 1.59). The authors attribute this difference to the fact that:

These companies have successfully broken away from a partly segmented domestic capital market by ‘importing’ an Anglo-American corporate governance system. Such an ‘import’ **signals a willingness on the part of the firm to expose itself to improved corporate governance and enhances its reputation in the financial market.**  
[emphasis added]

#### **Improved access to capital**

Finally, much economic/financial theory conventionally assumes that even geographically segmented capital markets work efficiently in the sense that, if there is a realistic expectation that the future flow of cash flows from providing capital to a company/project will provide a return equal to or in excess of the cost of capital, debt/equity capital will be provided—ie, at an appropriate rate of return, the supply of capital is perfectly elastic.

However, for a variety of reasons, geographically segmented capital markets may not always work in this way. In particular, when capital markets are localised, the pool of funds available for investment can be shown to be equal to the domestic supply of savings. Funds may then be further restricted by ‘clientele effects’, where particular types of investor will only be interested in providing capital to firms that demonstrate certain characteristics (eg, high dividend yield companies). If a company does not generate sufficient free cash flow in each year to provide such a dividend pay-out, equity capital may not be forthcoming.

Lifting ownership restrictions may be expected to remove these quantity constraints as companies can attract capital from a wide range of sources.

#### **4.1.2 Share of managerial practice**

A second mechanism by which relaxing ownership restrictions might be expected to have an impact on market outcomes is the transfer of management (best practice) techniques through the greater internationalisation of owners. Subsequently, better management leads to more efficient firms and thereby better outcomes for consumers. The academic literature on this topic is considerable, although two particularly important strands are worth discussing:

- whether foreign ownership is associated with higher productivity of the firm under foreign ownership;
- whether ‘leakage’ occurs from high-productivity foreign-owned firms to host country domestic firms.

With regard to the first question, Benfratello and Sembenelli (2003) conclude that:

there is overwhelming empirical evidence—mostly based on aggregate or cross sectional data—suggesting a positive statistical association between foreign ownership and productivity.

Moreover, there is considerable empirical support to suggest that the direction of causality is that foreign ownership leads to increased productivity. For example, Conyon et al. (2002) collected data on UK firms before and after foreign acquisition and show that firms acquired by foreign companies experience a 14% increase in labour productivity. This is supported by studies that look at cross-sectional analyses—ie, comparing foreign-owned firms with domestic firms. For example, Doms and Jensen (1998) find that foreign subsidiaries have a higher total factor productivity (TFP) than domestically owned firms, after controlling for a range of other factors. However, there have been concerns expressed with some of these studies, suggesting that they do not control for the possibility that highly productive firms may be more attractive for foreign acquirers. The Benfratello and Sembenelli (2003) examination

of Italian data suggests that, controlling for this, the impact of foreign ownership may not be as substantial as previous studies have indicated.

In terms of the second question, Caves (1999) concludes a literature review by claiming that:

the evidence consistently indicates that the productivity of host countries' domestic firms increases with the prevalence of competing foreign subsidiaries.

Interestingly, evidence from Kokko (1992) suggests that these spillover benefits are likely to be greatest when the initial gap between domestically owned and foreign-owned companies is small, and where the initial share of foreign ownership is small. Both of these situations may be expected to hold in the airline sector.

#### 4.1.3 **Allow economies of scale/scope to be realised**

A final way in which relaxing ownership restrictions might have an economic impact is through facilitating expansion through M&A, which, with nationality restrictions in place, would be prohibited.

Strictly speaking, this is not a process that could be achieved only after the removal of ownership restrictions. For example, the fact that until 1988 there were foreign ownership restrictions on the ownership of Nestlé did not prevent other (non-Swiss) chocolate manufacturers from exploiting greater economies of scale through organic growth by expanding sales of chocolate in Switzerland. However, for a number of reasons (eg, brand loyalty, knowledge of the local market, and difficulties in acquiring capital equipment), often the most prevalent way in which economies of scale and scope can be exploited is through M&A activity.

A direct parallel can be drawn with the restrictions in the aviation market. Greater cabotage rights could be allowed without removing ownership restrictions (ie, a company from country X could be allowed to operate domestic flights entirely within country Y, without removing restrictions requiring company X to be predominately owned and controlled by residents of country X). Consequently, in theory, companies could take advantage of the expansion of cabotage rights to exploit economies of scale and scope. However, for reasons similar to those cited above, this might not allow for economies of scale and scope to be exploited to the same extent when expansions through M&A activity are facilitated.

## 4.2 **Product market liberalisation**

It is generally believed that the lifting of restrictions that serve to narrow the scope or range of service–price combinations that can be provided to customers is likely to bring net economic benefits, as a result of providing customers with greater choice. Typically, three efficiency benefits are associated with greater liberalisation.

- **Allocative efficiency.** This relates to the extent to which prices are related to costs. It is anticipated that, with greater liberalisation, prices and costs will become more aligned as companies that offer prices significantly in excess of costs will offer a less attractive proposition to consumers than those that offer products where prices are set in line with costs. This leads to increases in output and also to consumers receiving signals that more accurately reflect the actual resource costs of their consumption decision.
- **Productive efficiency.** Ensuring that costs are minimised for a given level of (quality-adjusted) output is also anticipated to increase with greater liberalisation, as companies will cut costs with the prospect of being able to reduce prices and hence profitably gain market share.

- **Dynamic efficiency.** The extent to which products and services evolve over time to meet new consumer needs is also anticipated to increase with product market liberalisation, as companies again face an incentive to improve profitability.

The benefits arising from all three of these processes are evident in the gains that have been realised from the product market liberalisation that has already been undertaken in the airline sector.

### 4.3 Review of academic literature

This section summarises the findings from a review of the academic literature on the impact of liberalisation in the airline sector on consumers and producers.

The evidence suggests that the impact of liberalisation on consumers occurred mainly in the form of a decline in airfares along with an increase in their diversity. Morrison and Winston (1995) analysed the impact of liberalisation in the US airline market on the fares faced by consumers. Their analysis involved estimating what the fares in a regulated environment would have been had the markets not been liberalised, and comparing them with the fares that were actually faced by consumers. They concluded that the actual fares (in the liberalised environment) were approximately 22% lower than they would have been in the absence of liberalisation.

The Morrison and Winston analysis is supported by evidence from Nijkamp (1996), which concluded that airfares had declined by approximately 30% (in real terms) in the post-liberalisation period in the US airline sector. Moreover, studies have also found that, along with a reduction in fares, liberalisation has led to an increase in the diversity of fares—ie, generally speaking, there has been an increase in price discrimination in the post-liberalisation period. Borenstein and Rose (1994) concluded that in 1986 in the US airline market (ie, in the post-liberalisation period), the difference in price paid by two passengers chosen at random (for a same route-carrier) was around 35% of the average price on that route. Forsyth (1998) also found that deregulation had resulted in an increase in price discrimination, which could be attributed in part to the promotion of better use of capacity since liberalisation. Similarly, the evidence on the increase in diversity of airfares has been corroborated by Wheatcroft and Lipman (1990), who concluded that approximately 92% of all tickets sold in the USA in 1987 were at a discount that could vary for different customers.

The academic literature also suggests that liberalisation has led to an increase in the number of players in the sector, but that this has been followed by the exit of a large number of new entrants leading to consolidation in the sector. According to Forsyth (1998), the new entry that occurred in the US airline sector after deregulation has not been successful, since most of the new players have failed to survive. Of the new entrants that have survived, many have been able to do so primarily because they were able to achieve lower costs. These lower costs of the new entrants have in turn resulted in the incumbent carriers also lowering their costs, thereby leading to higher efficiency in the sector. The evidence on the increase in cost efficiency has also been corroborated by other studies. For example, Reed (1998) examined the impact of liberalisation on cost efficiency in the US airline sector. In order to capture the differential impact of liberalisation on the reduction in costs, he classified the airline carriers into three groups: national, large and regional carriers. It was found that, after liberalisation, the real average unit costs for all types of carrier had declined significantly—by over 40% for the large carriers and the national carriers, and by approximately 50% for the regional carriers. When the decline in costs was broken down, around 50% of the decline was due to increased density and economies of scale; 20% came from rationalised networks; and 30% from technological developments. Prior to deregulation, all network structures had to be approved by the Civil Aeronautics Board; however, since deregulation, carriers have added and dropped routes in order to rationalise their networks and thereby provide a more cost-efficient service.

These studies are also corroborated by Caves, Christensen and Tretheway (1987), who found that deregulation has resulted in an increase in the productivity of airlines in the US sector. By 1983, productivity had increased by 10% over and above the estimate of what it would have been had deregulation not taken place. Forsyth (1998) also found that there had been an increase in productivity growth in the post-deregulation period in the USA.

Finally, as discussed above, Morrison and Winston (1995) concluded that deregulation has had a positive effect on profitability in the US airline sector. The increase in profitability was found to be driven by an increase in incentives for airlines to reduce costs, and a greater flexibility over routes and fares.

One final point is that the fact that the experience relating to previous reform in the airline sector has been broadly in line with expectations, and hence with experience in other sectors, gives further assurance that lessons can be drawn from these other sectors. In other words, this review would support the idea that, in the context of potential benefits of liberalisation and relaxation of ownership restrictions, there is nothing exceptional regarding the airline sector.

## 5 Impacts on consumers

Of key concern to policy-makers when determining whether to make changes to established regulations is the potential impact on consumers. This section focuses on what the impact for consumers has been as a result of product market and capital market liberalisation in the sectors identified. The section is structured thematically, looking first at the impact of product market liberalisation and then at that of capital market restrictions.

### 5.1 Product market liberalisation

Consistent with the findings discussed for the previous wave of reforms in the airline sector, and also in line with economic theory, the evidence from the case studies largely supports the theory that product market liberalisation is likely to bring benefits to consumers in terms of lower prices, greater output or better quality, or a combination of these three. However, the case study evidence also shows that product market liberalisation may result in more volatile prices and/or the elimination of implicit cross-subsidies and/or greater price discrimination. Such developments, while improving the efficiency of the market, may lead to concerns about the implications they may have for consumers, or particular groups of consumers. A number of case studies illustrate these processes.

In the UK electricity market, new entrants in each of the 14 former regional monopoly areas charged lower prices than the incumbent supplier to induce consumers to switch. In 2000, for example, as shown in Table 5.1, discounts on tariffs charged by the former monopoly suppliers ranged from 8.5% to 16.5% for direct debit customers on standard tariffs, and from 6% to 15.2% for those on Economy 7 tariffs.<sup>3</sup>

**Table 5.1 Best-available discounts over the incumbent in all former monopoly areas (%)**

	Direct debit		Credit		Pre-payment	
	Standard	Economy 7	Standard	Economy 7	Standard	Economy 7
2000	8.5–16.5	6–15.2	9.7–14.3	6–17.5	1.2–7.3	0.9–10.3

Source: Ofgem (2000), p. 59.

This experience in the Great Britain energy supply markets has been corroborated by studies examining the EU energy markets as a whole. In particular, a statistical link between market opening and a downward pressure on electricity and gas prices has been found in a study undertaken by Copenhagen Economics (2005). The study found that electricity prices were 10–20% lower than they would have been in the absence of liberalisation, with transmission unbundling being a significant statistical determinant of lower electricity prices. In addition, gas prices were 35% lower than they would have been without liberalisation in EU Member States that are advanced in market opening.

The mechanisms by which product market liberalisation resulted in these price reductions is through bringing prices more into line with costs (improving allocative efficiency) and simultaneously creating a stronger incentive for companies to reduce costs. However, this greater cost-reflectivity of prices that emerges in a competitive market also has, from a strict

<sup>3</sup> The Economy 7 tariff has different prices for units of electricity consumed at off-peak and peak usage times.

consumer perspective,<sup>4</sup> a negative impact. In the event that there is an exogenous positive cost shock and/or there are capacity shortages (implying that forward-looking costs have increased), prices are also likely to rise quickly to continue to reflect these costs. This can be seen in the UK electricity sector where rising oil prices, the impact of the introduction of the EU Emissions Trading Scheme, and generation capacity shortages have resulted in notable increases in retail electricity and gas prices since 2002. By contrast, in less competitive markets elsewhere in Europe, where prices are less reflective of costs, the extent to which prices have risen in response to largely similar external shocks has been somewhat more muted. Consequently, although the evidence from energy market liberalisation indicates that product market liberalisation might be expected to lead to a downward trend in prices, it may also lead to prices around this trend being more volatile. Despite this, the UK energy market also shows that liberalised markets can respond to consumer demand for price certainty by offering fixed-price deals, or capped prices. While short-term and spot pricing may be more cost-reflective and volatile, this does not necessarily mean that prices facing consumers need to exhibit the same volatility.

The experience of liberalisation in the South Korean and Japanese telecoms markets corroborates these general findings, and provides further evidence on the impact of product market liberalisation. Table 5.2 shows that the prices in Korean telecoms fell as a result of competition and new entry into the market in most sub-sectors by around 50% on average.

**Table 5.2 Prices in the Korean telecoms sector (won per three minutes)**

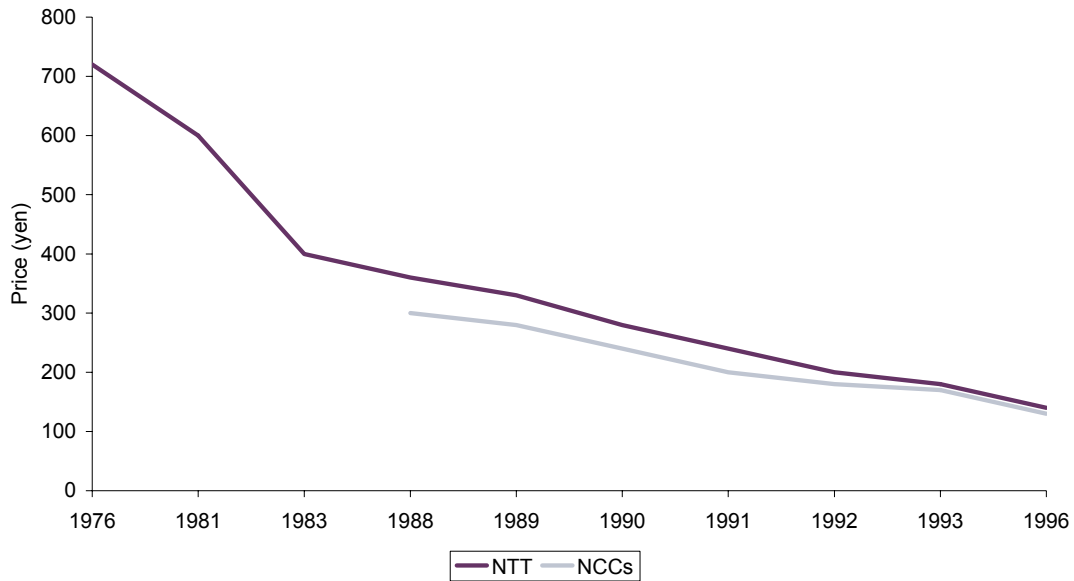
		1993	1998	% change
Local		30	45	+50 <sup>1</sup>
	Zone 1	100	45	-55
Long-distance	Zone 2	360	172	-52
	Zone 3	675	245	-64
International		n/a	N/a	-30

Note: <sup>1</sup> Local prices increased since they were previously subsidised to be below cost.  
Source: Lee and Lie (2000), p. 19.

Similarly, in Japan, liberalisation led to aggressive price competition between the incumbent (NTT) and the new entrants, New Common Carriers (NCCs) in the telecoms sector. Figure 5.1 shows that, by 1996, the average price charged by the incumbent had fallen by almost 70% from the 1976 level.

<sup>4</sup> It should be noted that the fact that prices rise in situations such as those experienced by in the UK electricity sector, is only 'detrimental' from the perspective of consumers. Increased prices in response to capacity shortages provide the appropriate price signal for new investment in capacity.

**Figure 5.1 Decline in prices in the Japanese telecoms sector**



Source: Piragibe (1998), p. 11.

However, the experience in the Korean telecoms sector, where prices for local calls rose by around 50%, illustrates a further potential impact on prices by product market liberalisation: namely that, as in this example, product market liberalisation jeopardises the continuation of cross-subsidies between different products. Such cross-subsidies, where prices are not reflective of costs but where losses on some products can be offset by profits made on other products, become increasingly difficult to sustain in the advent of product market liberalisation where new entrants can specifically target their offerings in the profitable segment of the market. This development, from an economic point of view, is likely to be efficient—prices become more reflective of costs—but may have undesirable social implications. There are potential alternatives in the event that the social consequences are considered undesirable but where there is the intention to pursue liberalisation—such as switching from implicit cross-subsidies to explicit government subsidies—although such approaches may present their own problems.

A further impact of product market liberalisation on prices where there may be a similar trade-off between efficiency and equity is the possibility that liberalisation will lead to greater scope for discrimination—ie, charging customers differently<sup>5</sup> depending on their willingness to pay. Although no evidence on this was collected as part of these case studies, the evidence discussed above on the impact of liberalisation in the US domestic aviation sector illustrated this phenomenon. Such developments are likely to have important efficiency benefits (eg, facilitating the recovery of fixed costs), as well as bringing benefits to (particular) consumers through allowing the expansion of the market to customers who would be 'priced-out' if a uniform price had to be charged. However, as a result of charging different customers different prices for the same products, such a development may still bring concerns regarding social equity to some stakeholders. There may also be concerns regarding the competitive effects of these practices if undertaken by companies in a dominant position within the market.

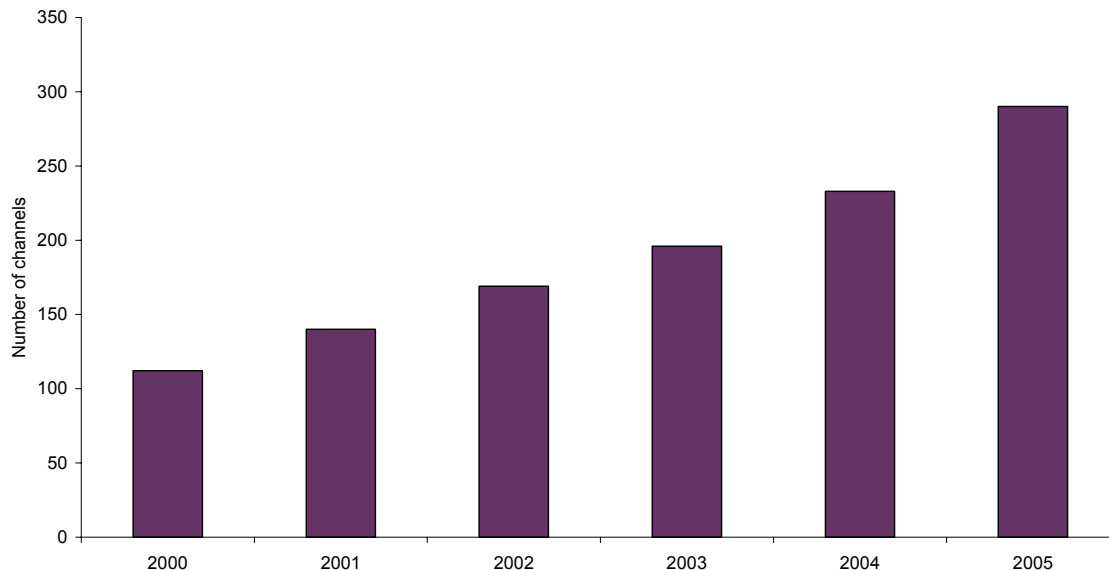
As well as these impact on prices, product market liberalisation also tends to lead to improvements in the quantity and diversity of outputs. For example, in the Indian media

<sup>5</sup> Or, more strictly, charging customers different mark-ups over marginal costs depending on their willingness to pay.



sector, the number of channels increased from one in 1991, which was provided by the state-owned incumbent, to 300 by 2005 (see Figure 5.2). According to Thusssu (1999), the state-owned monopoly reacted to competition by increasing the number of channels from one in 1991 to 19 by 1998, and the number of transmitters increased from 200 in 1987 to 1,000 in 1997.

**Figure 5.2 Increase in the number of channels in the Indian television sector**



Source: PricewaterhouseCoopers (2006), p. 22.

A similar picture emerges in the German TV sector, where the number of channels increased from around three in 1984 to 60 at the end of 1997 (see Holtz-Bacha, 1997). The increased choice for consumers could be attributed in part to liberalisation and the growth in the number of firms in the sector. This is corroborated by evidence from Shanahan (2000b), who analysed the impact of liberalisation on the New Zealand radio sector. The author found that, since deregulation, both the number and diversity of youth-oriented formats increased, which led to an increase in the time that young people spent listening to the radio. Similarly, McGeever (1997) cites evidence that deregulation opened up additional frequencies that have been used by niche broadcasters to cater for smaller interest groups, thereby increasing the desirability of radio as a broadcasting medium.

In short, the experience from a range of sectors, from EU energy markets through to Asian telecoms markets, to media markets in a number of countries, supports the idea that the liberalisation of product markets tends to lead to benefits to consumers in terms of lower prices and greater output and quality. It also illustrates the fact that the greater cost-reflectivity of prices can result in both more volatile prices when underlying costs are themselves volatile (a situation which probably reflects the airline sector)—markets can choose to hedge volatile commodity costs to give consumers more price stability if there is a demand for this—as well as the unwinding of cross-subsidies. Nonetheless, the general positive impact supports the findings already discussed in relation to the product market liberalisation that has already been undertaken in the airline sector, and the idea that further product market liberalisation would be expected to lead to further consumer welfare gains.

## 5.2 Capital market restrictions

As well as product market liberalisation providing consumer benefits, there are a number of examples where the lifting of (foreign) ownership restrictions has also been found to bring important welfare improvements to consumers. This is because the presence of additional

foreign-owned firms can provide a greater number of competitors, intensifying competitive pressures in the market. In addition, when foreign ownership restrictions are lifted, a greater pool of potential owners can make existing companies more effective competitors—either because new owners can bring greater managerial and/or technological expertise (part of the benefits of which get passed on to consumers), or because the M&A activity permitted following the lifting of restrictions allows companies to generate economies of scale and scope, with such cost savings being passed on to consumers in the form of lower prices. Experience in the media, telecoms and banking sectors provides evidence of such benefits.

A particularly pertinent example is provided by the case of TV3 in the New Zealand broadcasting sector, discussed in the box below.

### **Box 5.1 Case study: TV3 in New Zealand**

The New Zealand television channel TV3 proved to be unsuccessful after its launch. While it had expectations of capturing 30% of the national audience, it managed to attract only 14%. Its share price collapsed and, after 157 days of broadcasting, it went into receivership (see Seven Network, 1999).

As a result, the foreign ownership restrictions in the New Zealand media sector were removed in 1991 to revive TV3. After the removal of restrictions, CanWest, a Canadian TV broadcaster, bought a 20% stake in TV3, and also secured exclusive management rights to control and operate the channel. Under the ownership and control of CanWest, the performance of TV3 improved. A report submitted to the Productivity Commission states that:

CanWest's management of TV3 has made it financially viable along with providing it with stability in its total New Zealand TV hours.<sup>6</sup>

By 1998, TV3 accounted for almost 25% of the audience share of peak-time viewing. Moreover, in 1997, CanWest launched a free-to-air channel, TV4, which was available to 60% of the population.<sup>7</sup> Walker (1998) found that TV3 offered more programme diversity to its viewers than the two incumbent channels. Other foreign-owned channels currently operate in the New Zealand television sector (eg, Prime television and Sky television<sup>8</sup>) providing an additional source of competition to the existing channels.

Sidak (1997) concluded that allowing foreign investment in the US telecoms sector had led to greater consumer welfare. The study cites the examples of Telefonica de Espana's investment in Telefonica Larga Distancia de Puerto Rico (TLD) and BT's investment in McCaw, which led to the first nationwide cellular network.

A quantitative investigation by Warren (2000) of the impact of foreign ownership (and other product and capital market restrictions) in the telecoms sector corroborates the Sidak (1997) findings from a more international perspective. The analysis was based on a sample of 137 countries, with separate regressions for fixed-line and mobile penetration. The results are summarised in the tables below. As shown in Table 5.3, for every 1% increase in the maximum foreign ownership cap, the penetration rate of fixed lines was found to be around 4% higher. In general, when both the product and capital market restrictions were eased by

<sup>6</sup> Seven Network (1999), p. 35.

<sup>7</sup> Ibid., p. 25.

<sup>8</sup> Prime is owned by an Australian firm, while Sky is owned by a number of US television firms.

1%, the penetration rate was found to be 5.26% higher. The results for mobile penetration also showed similar parameter estimates.

**Table 5.3 Impact of policy variables on fixed-line penetration**

Policy measure	Impact on quantity	Interpretation
Discriminatory capital market restrictions (eg, cap on foreign equity)	3.93 <sup>1</sup>	A 1% increase in the allowed level of foreign investment, was associated with approximately a 4% higher penetration rate
Discriminatory product market restrictions (eg, whether call-back facilities are allowed to foreigners)	-0.33 <sup>2</sup>	Countries without discriminatory product market restrictions were found to have 0.33% less fixed-line penetration
Non-discriminatory capital market restrictions (eg, caps on investment by an individual player)	4.73 <sup>3</sup>	For every 1% increase in the allowed level of investment, the penetration rate of fixed lines was found to be 4.73% greater
Non-discriminatory product market restrictions (eg, whether call-back facilities are allowed)	-0.46 <sup>4</sup>	For every 1% point reduction in an index of restrictions, the penetration rate of fixed lines was found to fall by 0.46%
Policy average	5.26 <sup>5</sup>	When all the restrictions are eased by 1%, the penetration rate of fixed lines was found to increase by 5.26%

Note: <sup>1</sup> Coefficient was significant at the 99% level. <sup>2</sup> Coefficient was significant at the 90% level. <sup>3</sup> Coefficient was significant at 90% the level. <sup>4</sup> Coefficient was significant at 90% level. <sup>5</sup> Coefficient was significant at 95% level. The explanatory power of the model was around 90%. Source: Warren (2000).

**Table 5.4 Impact of policy variables on mobile penetration**

Policy measure	Impact on quantity	Interpretation
Non-discriminatory capital market restrictions (eg, caps on investment by an individual player)	3.02 <sup>1</sup>	With a 1% increase in the allowed level of investment, the amount of mobile penetration was around 3% greater
Policy average	3.05 <sup>2</sup>	On average, when all the restrictions are eased by 1%, the mobile penetration rate was found to be 3.05% greater

Note: <sup>1</sup> Coefficient was significant at 95% level. <sup>2</sup> Coefficient was significant at 90% level. The explanatory power of the model was 80%. Source: Warren (2000).

Overall, the study shows that restrictions, including those on foreign ownership, tend to have had a negative impact on output and that consequently, a repeal of restrictions would be expected to boost output and hence penetration levels.

A similar positive impact can be seen in the relaxation of ownership restrictions in the US banking sector. The Interstate Banking and Branch Efficiency Act (1994) (IBBEA) allowed interstate branching for the first time for both foreign and domestic banks, hence allowing mergers to take place between banks in different states. To a significant extent, the restrictions preventing cross-state mergers would be anticipated to have much the same impact as restrictions that preclude cross-country mergers, with simply the scale of analysis being slightly different. Academic studies have shown that the deregulation of nationwide branching appears to have led to an improvement of quality standards (eg, while employees per branch decreased slightly, the density of branches, and the average salary per employee, increased between 1993 and 1999. In terms of pricing, banking spreads appear to have decreased by around 0.7% as a result of deregulation, although, at the same time, there has been an increase in service fees (see Table 5.5).

**Table 5.5 Change in quality and price indicators in US banking 1993–99**

	1993	1999
Employees per branch	31.95	30.26
Branch density (number of branches in local market/ square miles in local market)	0.0029	0.0031
Salary per employee (\$)	32,900	42,140
Service fees	0.6%	0.7%
Spread	6.7%	6.0%

Source: Dick (2003).

Although there is evidence that the relaxation of ownership restrictions has brought benefits to consumers, there is a potential downside. As discussed in more detail in the next section, the relaxation of ownership rules has tended to lead to consolidation within sectors, as firms find it easier to exploit economies of scale and scope through M&A activity. This consolidation has the potential to bring consumer benefits, as explored above. Furthermore, as discussed below, it can also facilitate the retirement of inefficient capacity and potentially boost profitability for suppliers, bringing further welfare gains. This is of particular interest to the airline sector. However, increases in concentration within a sector/market also raise concerns about the possibility that dominant firms will be able to abuse their position, to the detriment of consumers. To preclude this possibility, there is a need for a robust competition law regime that focuses on the possible consumer detriments associated with mergers and blocks them if necessary (or requires other behavioural or structural remedies) when such detriments are considered likely.

### 5.3 Summary

Table 5.6 summarises the key findings on the impact of product and capital market liberalisation across the various sectors considered.

**Table 5.6 Summary impact of liberalisation measures on consumers**

Sector	Product market liberalisation	Capital market liberalisation
Energy (supply)	New entry led to price reductions. EU electricity prices estimated to be 10–20% lower and gas prices 35% lower than without liberalisation. Corroborated by UK experience. However, the greater cost-reflectivity of prices in liberalised means that exogenous, market-wide cost shocks are likely to be passed through more fully to consumers	Not examined in detail
Telecoms	Prices in Korean telecoms sector fell by approximately 50% and in Japan by around 70%  In Korea, liberalisation resulted in the unwinding of cross-subsidies between local and national calls	Econometric evidence suggests that those countries with higher maximum foreign ownership limits have greater telephony penetration  Sidak has pointed to benefits of ownership liberalisation in US telecoms sector
Media	Increase in quantity and diversity of channels in Indian TV sector, German TV sector and New Zealand radio sector	Case study of TV3 in New Zealand shows potential benefits that can be generated through foreign ownership 'rescuing' company
Banking	Not examined in detail	Relaxation of (interstate) ownership restrictions in US banking appears to have increased branch density, and decreased spreads (although service fees increased)  Illustrates potential for increased concentration in market and hence need for robust competition law regime

Source: Oxera analysis.

The sectors examined illustrate the potential for product market liberalisation to bring substantial benefits to consumers in terms of prices, quantity and diversity, albeit with some offsetting effects which, although positive from an economic efficiency perspective, may be perceived negatively by consumers themselves. This corroborates the findings from those sub-sectors of the airline sector that have been liberalised, as discussed in section 4.3 above. The sectors also demonstrate the benefits that can be realised by consumers from greater ownership liberalisation, particularly in terms of the investment that the foreign investors have brought—eg, rescuing TV3 or being associated with a higher level of telephony penetration. Finally, the US banking case illustrates how relaxing ownership restrictions can allow economies of scale to be exploited, with the potential for these savings to be passed through to customers, but also allows for the possibility that the consolidation might lead to higher levels of concentration, requiring vigilance on behalf of competition authorities.

## 6 Impacts on producers

The focus in this section shifts from consumers to producers and the impact that the relaxation of restrictions might have on both individual producers and market structure. Four separate issues are considered:

- the impact on consolidation and excess capacity;
- the impact on cost efficiency and productivity;
- the impact on profitability;
- the strategic responses of companies to the relaxation of restrictions.

### 6.1 Impact on consolidation and excess capacity

One of the most important issues for consideration when assessing the impact of reforms in other sectors and their read-across to the airline sector is the impact on the structure of the market and the degree of capacity utilisation and/or excess capacity. It is generally considered that the airline sector is currently fragmented with surplus capacity and that this, in turn, is one of the key drivers of the relatively low levels of (sectoral) profitability. Consequently, in the following sub-sections the evidence on the lifting of restrictions on consolidation and capacity utilisation is considered.

#### 6.1.1 Product market liberalisation

In the case studies examined, the initial market response to the removal of product market restrictions tended to be a sharp increase in the number of companies in the market, as companies sought profitable opportunities in the newly liberalised environment. The evidence suggests that, in the short term, this impact tends to dominate any consolidation effect that might be anticipated in the event of product market liberalisation being accompanied by a relaxation of ownership restrictions. However, the evidence also suggests that the wave of new entry following liberalisation tended to be followed by a wave of consolidation as the market rationalised and the more successful firms acquired less successful ones.

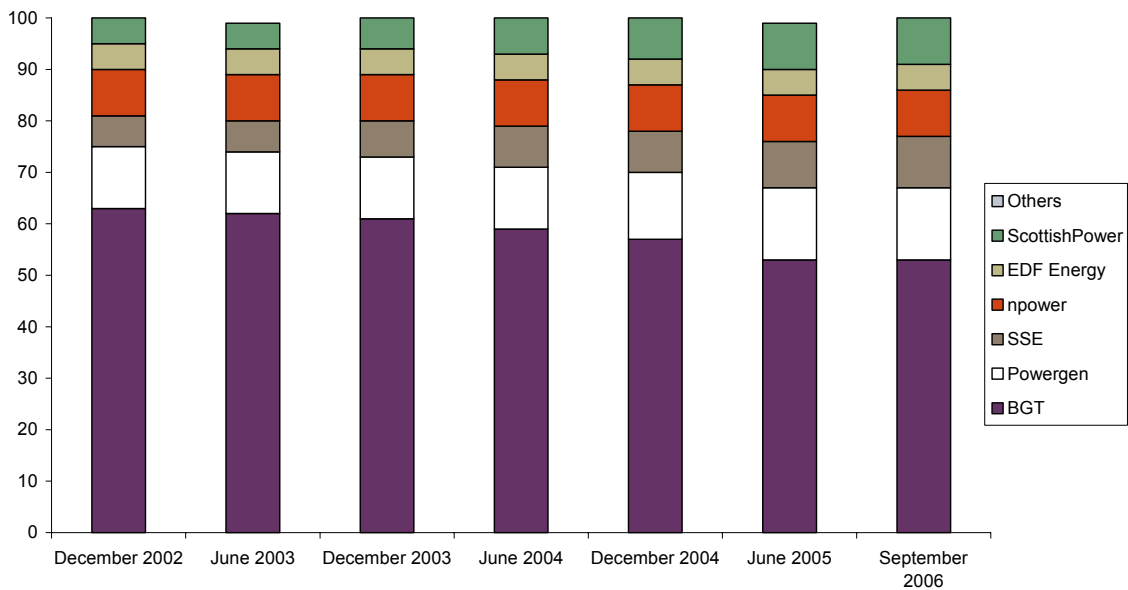
One of the clearest examples of this can be seen in the liberalisation of the energy markets in Great Britain. Prior to liberalisation, the national domestic gas supply market was a monopoly, with British Gas Trading being the sole supplier. Electricity was supplied to domestic consumers by 14 regional monopolies. The gas supply market was opened in a series of phases between April 1996 and May 1998, and the electricity supply market was opened between September 1998 and May 1999.

On liberalisation, significant new entry took place in both markets. The 14 regional electricity monopolies entered the gas supply market. The gas incumbent entered the electricity supply market, and the existing regional electricity monopolists began to supply electricity across the country instead of only in their designated regions. There was also entry by small independent suppliers, while large foreign companies such as EDF, RWE and E.ON entered the gas and electricity supply markets by acquiring some of the former regional electricity monopolists.

Thus, with the introduction of competition, the number of licensed and active gas suppliers increased substantially, but has declined since. While, prior to liberalisation, there was a single gas supplier, 21 companies were actively supplying gas by July 1999. However, this declined to nine active suppliers by December 2003 due to M&A activity, with six suppliers—British Gas Trading, Powergen, EDF Energy, Scottish & Southern Energy (SSE), ScottishPower, and RWE npower—accounting for 99% of the market. Since the end of 2002, there has been no significant M&A activity among the major suppliers, resulting in stability in

market shares, as shown in the Figure 6.1. The minor changes shown in the chart were the outcome of marketing activity.

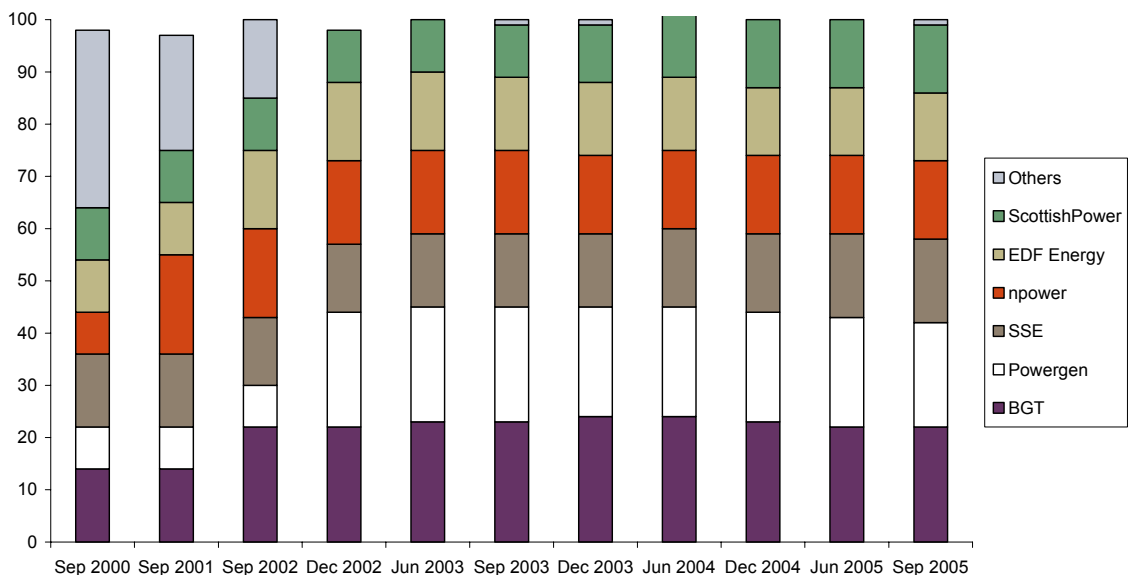
**Figure 6.1 Domestic GB gas supplier national market shares (%)**



Note: Figures may not sum to 100% because of rounding issues in presentation tables.  
Source: Ofgem (2006).

A similar pattern is observed in the domestic electricity supply market in Great Britain. Over time, the market has become increasingly consolidated, with six major suppliers (the same six as in the gas market) having 64% of the market share in September 2000 and with more than 99% of the market by December 2002, primarily as a result of M&A activity (see Figure 6.2).

**Figure 6.2 Domestic GB electricity supplier national market shares (%)**



Source: Ofgem (2006).

Key M&A activity leading to the consolidation of the Great Britain energy markets includes Powergen's acquisition of TXU Energi in October 2002, which increased its gas market share from 4% to 12%, and its electricity market share from 8% to 22%. RWE npower's acquisition



of the Northern Electricity and Yorkshire Electricity regional suppliers increased its market share from 8% in September 2000 to 19% in September 2002 (see Ofgem, 2004).

A similar pattern can be observed in other sectors and countries. In the 1980s, the German television sector consisted of two public service broadcasters (PSBs)—ARD and ZDF—providing three television channels. In 1984, the media sector was liberalised, with private sector entry permitted and no nationality restrictions imposed. The initial response to this liberalisation reform was a large number of private firms entering the market. However, over time, takeovers and mergers reduced the number of market participants until only two private firms remained: Bertelsmann/RTL Group and ProSieben Group (former Kirch/SAT Group). By 2004, the German Commission on Concentration in Media (KEK) described the German television sector as having ‘tight oligopolistic market structures’, with the market share of the top four companies at 90%.<sup>9</sup>

A third case study supporting this trend relates to the liberalisation of the New Zealand radio sector, which took place at the same time as that of the television sector in 1989. According to Shanahan (2000a), the same pattern emerged with the entry of several smaller providers. However, over time, competition and consolidation led to the emergence of just three main groups: the radio network, CanWest and Radio Works. By 1999, these groups owned and controlled 80% of the commercial radio networks. Interestingly, a survey conducted by Shanahan (2000a) suggested that foreign capital had helped to facilitate this consolidation.

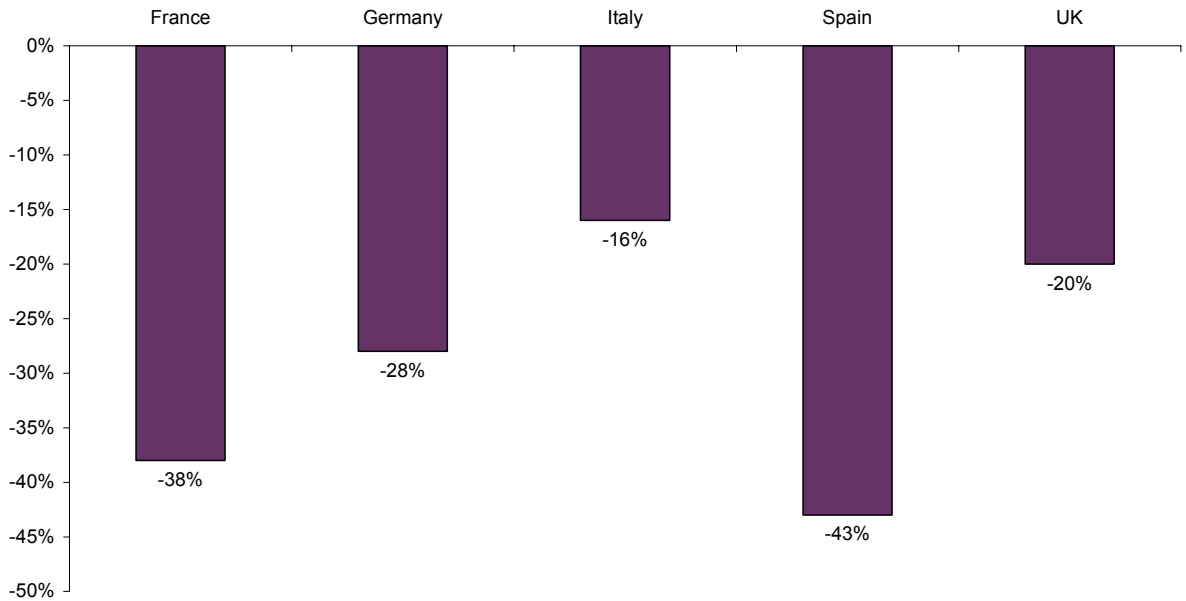
### 6.1.2 Capital market restrictions

While the evidence above suggests that, when both product market liberalisation and capital market reforms are introduced simultaneously, in the short term, the impact of product market liberalisation may outweigh any trend towards consolidation brought about by the lifting of ownership restrictions, in sectors where there has already been a reasonable amount of liberalisation, the response to capital market liberalisation tends to be a more immediate consolidation. However, even here, the consolidation process—particularly cross-border consolidation—can still take time.

A clear example of this is provided by the SMP in relation to banking services in the EU. As explained in Appendix 1, the key aspects of this reform programme were intended to relaunch European market integration through the reduction and harmonisation of national regulations. The differences in regulation were perceived as a key barrier to cross-border competition and market integration. In addition, the SMP introduced the concept of a ‘passport’ such that any firm authorised in its home country would not require further authorisation to conduct business in another Member State. Moreover, the principle of ‘home country control’ means that a company registered in country X with activities in country Y (potentially through acquisition of a company from country Y) would have its country Y activities subject to the regulatory regime of country X. It was perceived that this represented the removal of one of the key implicit barriers to a greater internationalisation of ownership. The SMP was undertaken between 1986 and 1993. The response of market participants to the agenda of the SMP was a steady consolidation of the market, both in specific national markets and in the EU as a whole. This is illustrated in Figures 6.3 and 6.4, which show the decline in the number of banking institutions in a range of EU countries, and the average market share of the top five banks in each Member State. It can be seen that, under each measure, the sector has consolidated since the SMP, although the market share measure shows the greatest increase between 1980 and 1985, with only a smaller incremental change since the completion of the SMP in 1993.

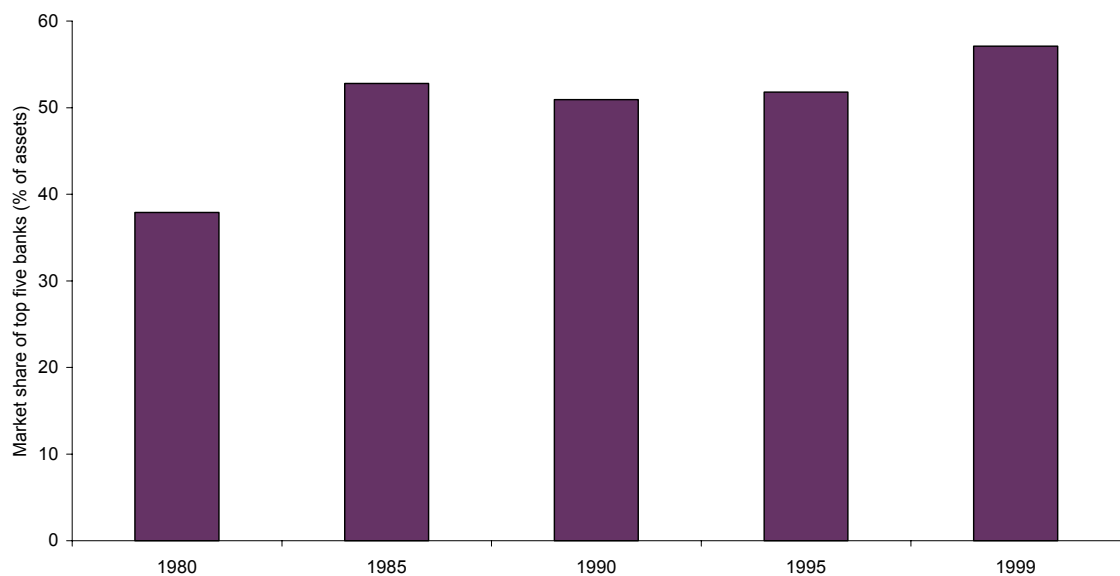
<sup>9</sup> Open Society Institute (2005), p. 765.

**Figure 6.3 Number of banking institutions 1985–98 (% change)**



Source: Molyneux (2003).

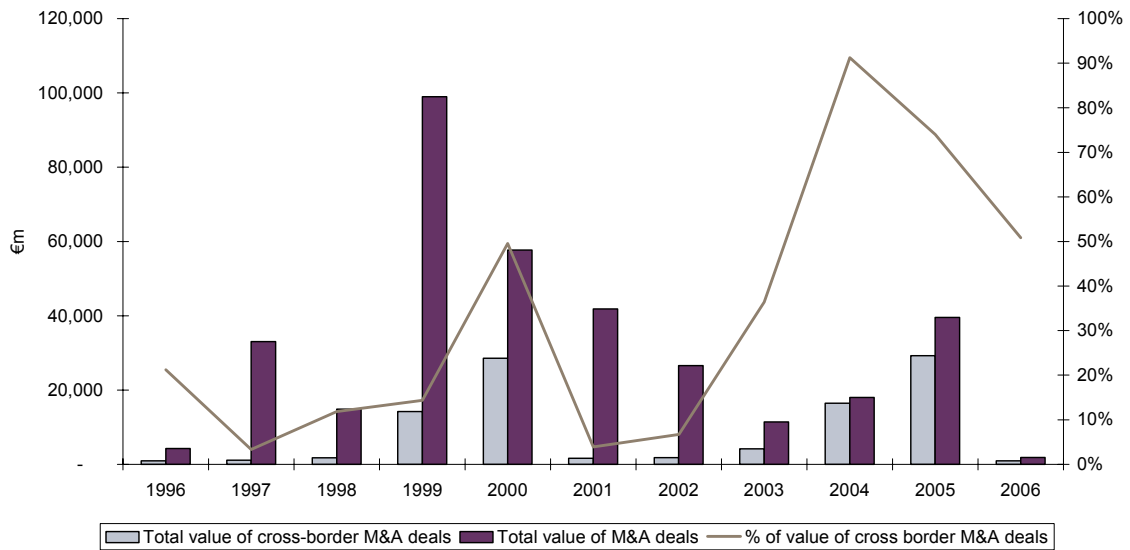
**Figure 6.4 Market share of top five banks (EU average)**



Source: ECB (2000).

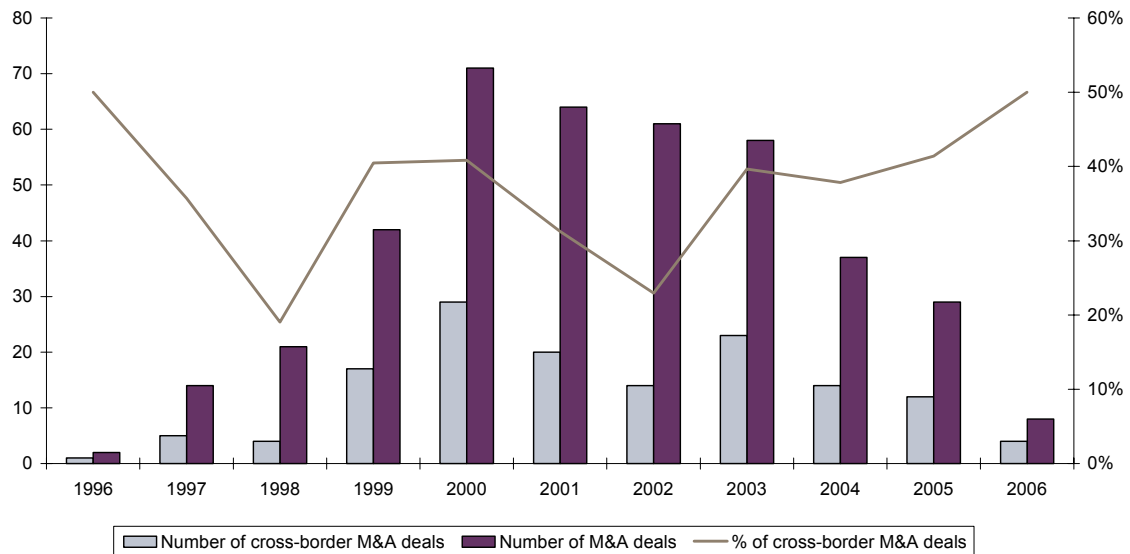
One of the interesting aspects of the consolidation process in the EU banking sector is that a number of commentators have suggested that it demonstrates a two-stage process (see Molyneux, 2003). In the first stage, the consolidation was primarily at a domestic level, and it is only in recent years (ie, many years after the initial regulatory impulse) that the process has become cross-national. Evidence consistent with this is presented in the figures below, showing the number and value of M&A deals in the second part of the 1990s. However, the proportional value of cross-border M&As has increased significantly only since 2000.

**Figure 6.5 M&A activity: asset value, 1996–2006**



Note: 2006 data refers to the first half of the year.  
Source: Bloomberg.

**Figure 6.6 Number of M&A deals, 1996–2006**

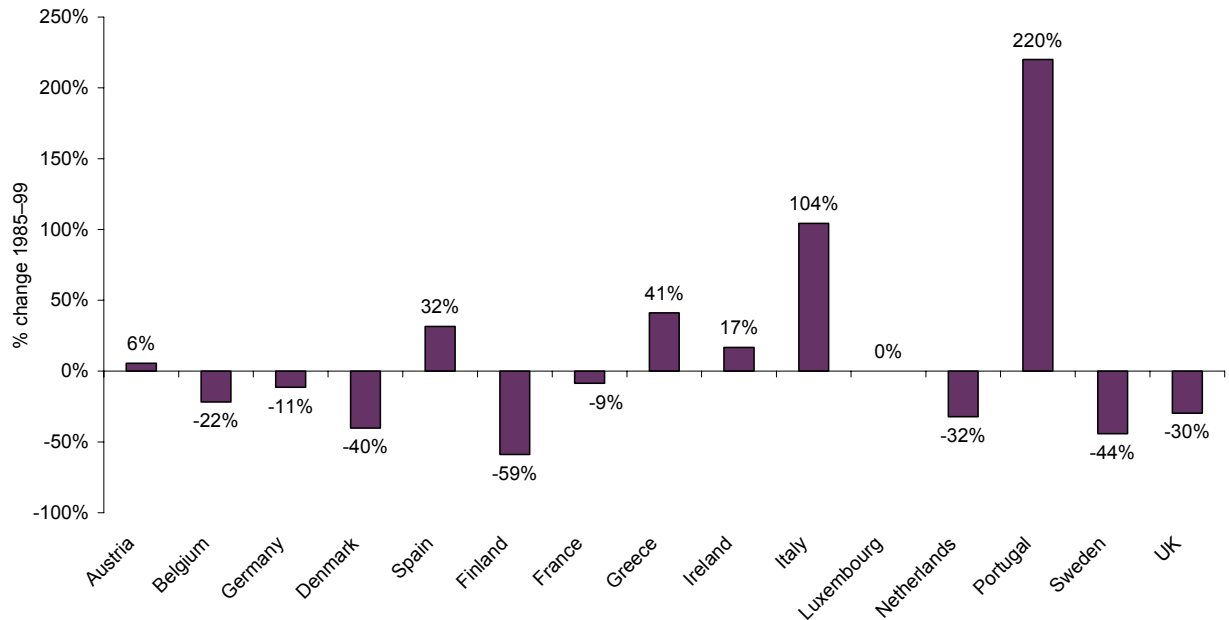


Note: 2006 data refers to the first half of the year.  
Source: Bloomberg.

It is possible to examine the impact that this consolidation—both domestic and international—has had on restructuring of capacity, in terms of density of the branch network. In most countries, consolidation has been linked to a reduction in branch density (the number of branches per 1,000 capita)—see Figure 6.7. Such a link is not necessary however, since banks can merge, leaving their respective branch network untouched. Nevertheless, it seems that one of the main features of banking mergers has been a rationalisation of the branch network in order to reduce overlap. Branch density decreased by 9% in France, 11% in Germany and 30% in the UK. Only in a few countries has branch density increased over the period 1985–99. These countries had very limited competition in the early 1980s because of a high level of public ownership (eg, Italy and Portugal) and extensive regulations

(eg, Spain)—see Appendix A1.1. In these countries, the impact of liberalisation (both product and capital market relaxation) has led to an expansion of banking activity and of the branch network. In some cases, the increase was dramatic; for example, in Italy, while the number of credit institutions diminished by 27%, branch density doubled.

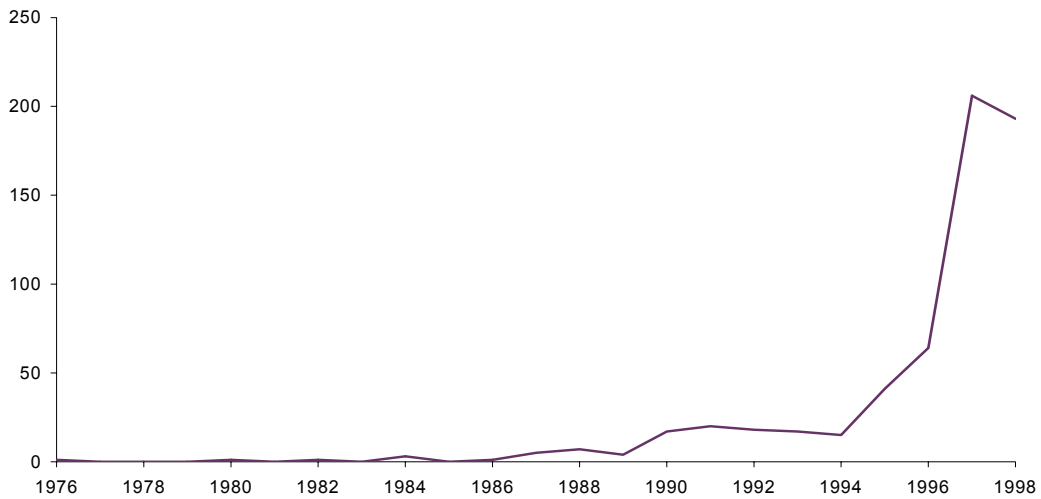
**Figure 6.7 Change in branch density (number of branches per 1,000 capita), 1985–1999 (%)**



Source: ECB (2000).

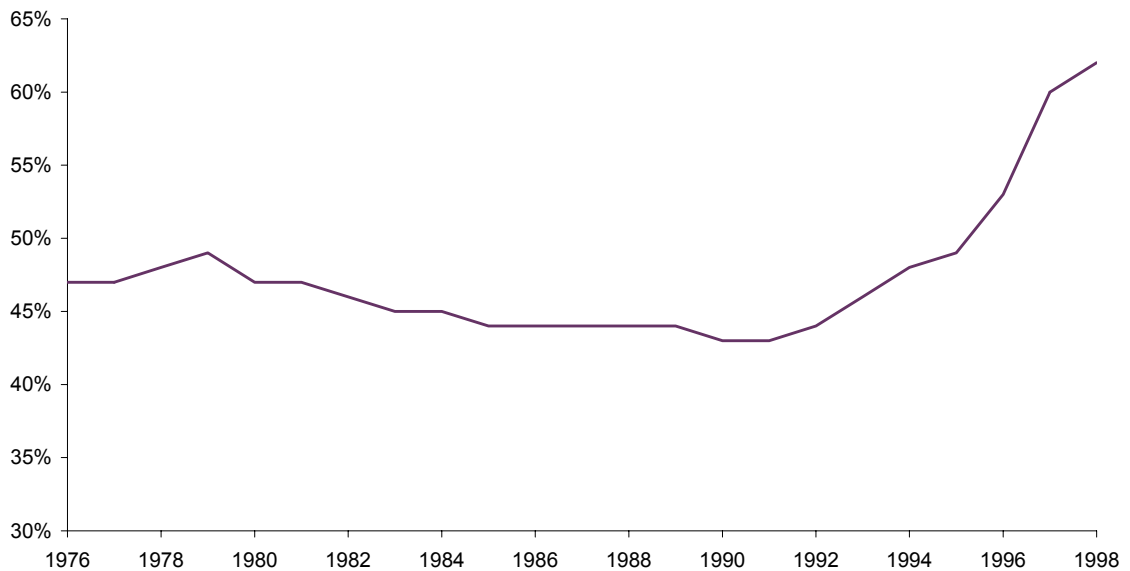
A similar pattern of consolidation, although taking place considerably more quickly, can be seen in the removal of restrictions in the US banking sector. As explained above, and in more detail in Appendix 1, the IBBEA was passed in 1994 but came into effect in 1997. The Act allowed interstate branching for the first time for both foreign and domestic banks, allowing mergers to take place between banks in different states in the same way that removal of foreign ownership restrictions would allow mergers between companies in different countries. The impact of this change on the market structure was almost immediate as shown in the figures below: interstate commercial bank mergers jumped from 17 in 1993 to 206 in 1997 (Figure 6.8), and share of total assets of the top 100 banks increased from 46% in 1993 to 62% in 1997 (Figure 6.9).

**Figure 6.8 Commercial bank mergers between US states**



Source: Jeon and Miller (2003).

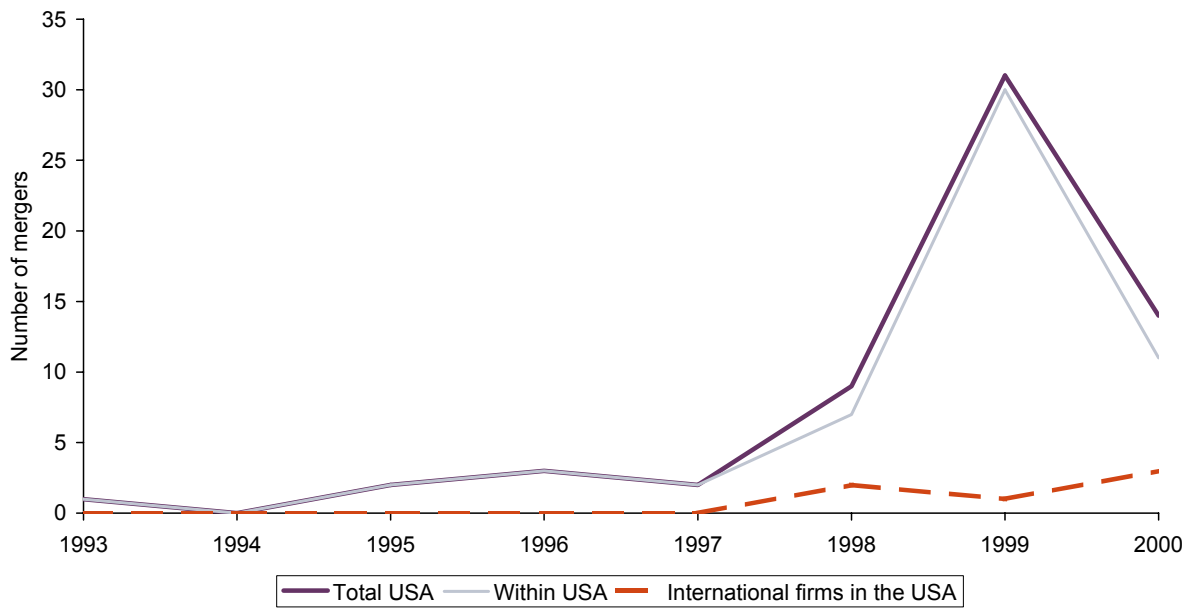
**Figure 6.9 Top 100 US banks' share of total assets (%)**



Source: Jeon and Miller (2003).

Moving from the banking sector, the pattern is also corroborated by the experience in US telecoms. The Telecommunications Act 1996 not only enabled the Federal Communications Commission (FCC) to override foreign ownership restrictions that had previously prevented ownership of more than 25% of equity by non-US nationals, but also removed the restrictions on cross-ownership in the media and telecoms sector. This led to a wave of consolidation in the US telecoms and media sector. The removal of cross-ownership restrictions appears to explain why domestic mergers account for most of the mergers that occurred in the USA. There was also an increase in foreign activity, although this seems to be less significant (see Figure 6.10).

**Figure 6.10 Trends in mergers and acquisitions in the US telecoms industry**



Source: Warf (2003) and Oxera calculations.

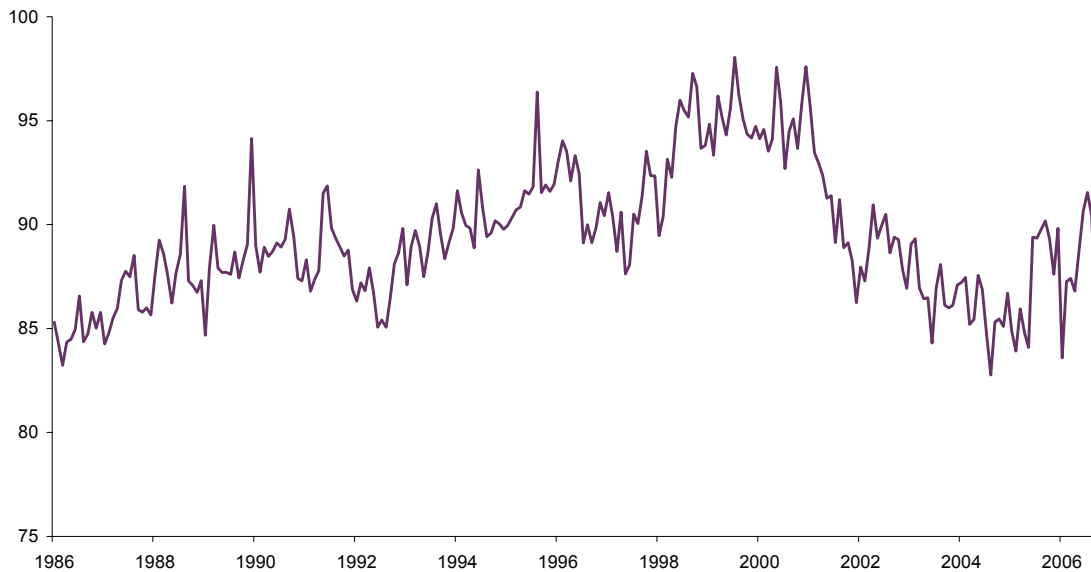
Finally, the experience in the US electricity sector is also worth consideration, with a particular focus on generation. The conditions of the Public Utility Holding Company Act of 1935 ensured that most utilities either operated in one state or in contiguous states. The Act effectively precluded non-utilities from entering electricity generation, restricted the ability of investor-owned utilities from entering the generation business outside their regions, and effectively barred foreign acquisitions by US utilities (see Joskow, 2000). A number of these restrictions were removed by the implementation of the Energy Policy Act of 1992, leading to an increase in M&A activity that resulted in a 50% increase in the proportion of nationwide generation capacity held by ten largest investor-owned utilities by 2000 (Kwoka, 2005). These mergers have been driven by targets for improving economic efficiency, diversification into non-electricity markets, defensive moves to prevent own-acquisition by other companies, and improved capacity utilisation. Balancing capacity shortages and surpluses in different geographic areas was identified by the merging companies as the reason for the Iowa Resources/Midwest EN merger, the PacifiCorp/Utah P&L merger and the Tucson Electric/SDG&E merger. In a different context, investor-owned utilities were also found to be investing heavily in telecoms technology to enable them to market their excess capacity in a number of areas such as automatic meter reading (Diamond and Edwards, 1997 pp. 41 and 44).

A broad measure of capacity utilisation across the whole sector is provided by data from the Federal Reserve. Figure 6.11 shows capacity utilisation for the US electricity generation, transmission and distribution sector for the last 20 years. The chart shows a significant increase in capacity utilisation in the sector from 1992 to 2000. This was mainly a feature of low investment combined with significant demand growth (rather than large scale retirement of capacity). However, ownership changes in generation played a role since it gave the opportunity for some companies (existing utilities and new entrants) to expand their generation portfolios without having to build new capacity.

By 2000 the increase in capacity utilisation had gone too far, with a number of regions being in danger of blackouts (see United States Energy Information Administration, 2001). Wholesale power prices rose sharply in a number of regions and independent generators responded with a large new build programme. This led to a reversal of capacity utilisation through to 2004. Over the last two to three years there has been a further phase of consolidation and capacity rationalisation. The liberalised market has responded to low

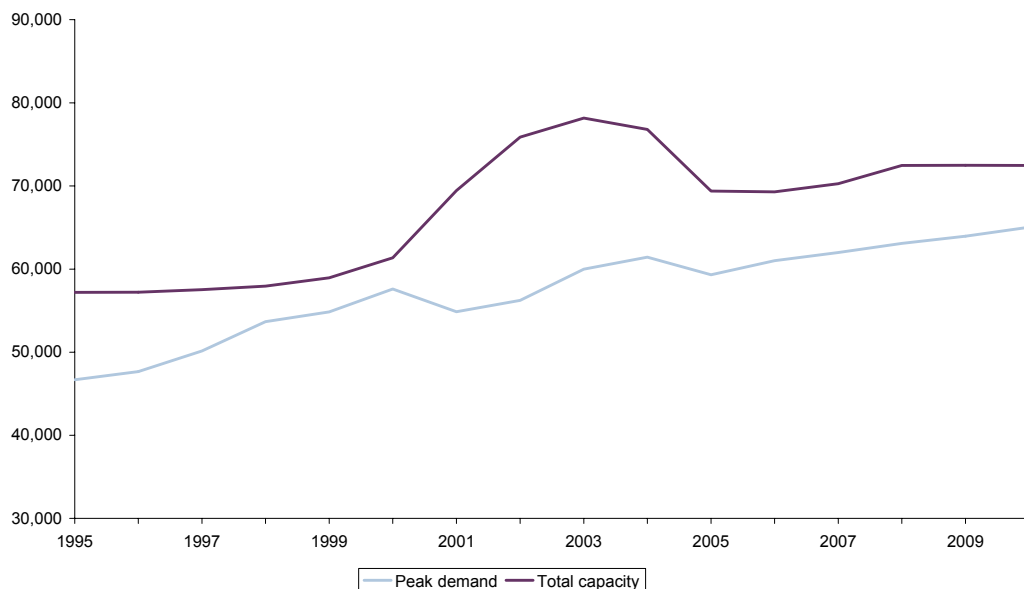
prices. The removal of capital restrictions facilitated ownership change and consolidation (sometimes through bankruptcies) and this was combined with capacity withdrawal, retiring or mothballing old power stations. Capacity utilisation has now improved once more.

**Figure 6.11 Capacity utilisation in US electricity generation, transmission and distribution (%)**



Source: US Federal Reserve ([http://www.federalreserve.gov/releases/G17/ipdisk/utl\\_sa.txt](http://www.federalreserve.gov/releases/G17/ipdisk/utl_sa.txt)).

**Figure 6.12 Texas (ERCOT) generation capacity compared to peak demand (MW)**



Source: ERCOT.

Figure 6.12 illustrates the cycle for one of the major liberalised markets—Texas. Ownership transfers and declining capacity margins (the margin of installed capacity over peak demand) were seen during the 1990s. A phase of new build (with overshoot) occurred in the early part of this decade, but the liberalised product and capital markets allowed considerable sector consolidation and capacity withdrawal over the past few years to return the capacity margins to more sustainable levels, thereby allowing generation margins to recover.



In general the liberalisation of the US electricity sector has demonstrated the ability of the market to deliver new capacity, to continue to operate with changing ownership structures, and to deal with oversupply in response to price signals.

The major exception to this picture occurred in California, where a lack of new build led to severe shortages of generation capacity and extreme financial distress of the incumbent utilities. However, this resulted not from the general liberalisation of the market but from artificial restrictions in product and capital markets. The incumbent utilities were not permitted to build generation, through ownership restrictions, and nor could they provide long-term contracts to purchase power from independent generators at stable prices. The result was a lack of investment and severe physical and financial difficulties. The unusual combination of partial and distorted liberalisation with continuation of restrictive regulation makes the California experience of limited usefulness in providing a read-across to the airline sector.

### 6.1.3 Assessment

Table 6.1 summarises the findings from the various sectors analysed on the impact of liberalisation of product and capital markets on excess capacity and consolidation.

**Table 6.1 Summary table on impact of liberalisation on consolidation and capacity utilisation**

Sector	Product market liberalisation	Capital market liberalisation
Energy	Energy supply: sharp increase in number of suppliers in UK energy supply markets, followed by consolidation to more 'stable' market shares (although with continued high rates of customer switching)	Relaxation of ownership restrictions in 1992 Energy Policy Act led to consolidation with 50% increase in proportion of capacity held by top ten investor-owned utilities. Partly driven by desire to balance capacity shortages and surpluses in different areas  Ownership consolidation was also a key mechanism for capacity rationalisation in Texas and the UK following periods of low prices in response to overcapacity
Telecoms	Not examined in detail	Relaxation of international ownership restrictions in the USA increased M&A activity, although this was a less significant driver than cross-media ownership restrictions
Media	Sharp increase in suppliers following liberalisation of German TV sector in 1984 but result is now that only two private firms remain  Similar picture emerges in the New Zealand radio sector	Noted that the consolidation in the New Zealand radio sector was facilitated by removal of ownership restrictions
Banking	Not examined in detail	Decline in number of banking institutions across key EU countries and, related to this, increases in the market shares of the top five banks. Associated with an increase in capacity utilisation (declining branch density) in the more 'mature' markets  EU cross-border M&A activity has been slower, leading to hypothesis of 'two-tier' consolidation  Consolidation was much quicker (mergers increased from 17 to 206 in four years) in response to liberalisation of interstate ownership restrictions in the US banking sector

The general pattern that emerges from these case studies is that the removal of ownership restrictions tends to lead to consolidation within the markets studied. This appears to have been particularly dramatic and rapid in relation to the ownership restrictions that were

removed in the US telecoms/media sectors, the US banking sector and the US electricity generation sector (where cross-state consolidation can be taken as some form of proxy for cross-border consolidation). The process was slower than in the EU banking sector, where the SMP aimed to remove implicit as well as explicit restrictions; nonetheless, the evidence suggests that cross-border consolidation has begun to occur in this sector as well.

The fact that there have been fewer mergers in the US media and telecoms sector involving foreign firms than cross-state, cross-media, but national mergers may also suggest that the response to the lifting of international ownership restrictions, although important, was less pronounced, or at least less immediate, than responses to the removal of ownership restrictions in smaller geographical areas.

In sectors where an explicit measure of capacity utilisation can be considered as well as general patterns of consolidation (ie, electricity generation), the evidence suggests that, accompanying this consolidation, there has been a general increase in capacity utilisation.

A final important observation is that, although a general trend for consolidation can be discerned from the case studies, in those cases where removal of ownership restrictions has been accompanied by product market liberalisation, in the early stages the liberalised product market has led to an increase in the number of suppliers. This was seen in the electricity and gas supply markets in Great Britain, the German broadcasting sector, and the New Zealand radio sector. However, after this initial response, the trend appears to revert to rationalisation and consolidation as the market matures and a smaller number of larger players emerge.

## **6.2 What is the impact on cost efficiency and productivity?**

One of the most important areas of interest when restrictions are imposed or removed is understanding what impact this policy choice may have on cost efficiency and productivity gains. This is examined in the sub-sections below. The same structure is followed as in the section examining consolidation/capacity utilisation trends above, with product market and capital market liberalisation examined separately. In addition, a further sub-section explicitly examining the case study evidence on the impact on a specific cost, the cost of capital, is included. As discussed in section 4, the impact that ownership restrictions may have on the cost of capital has received particular attention in the academic literature.

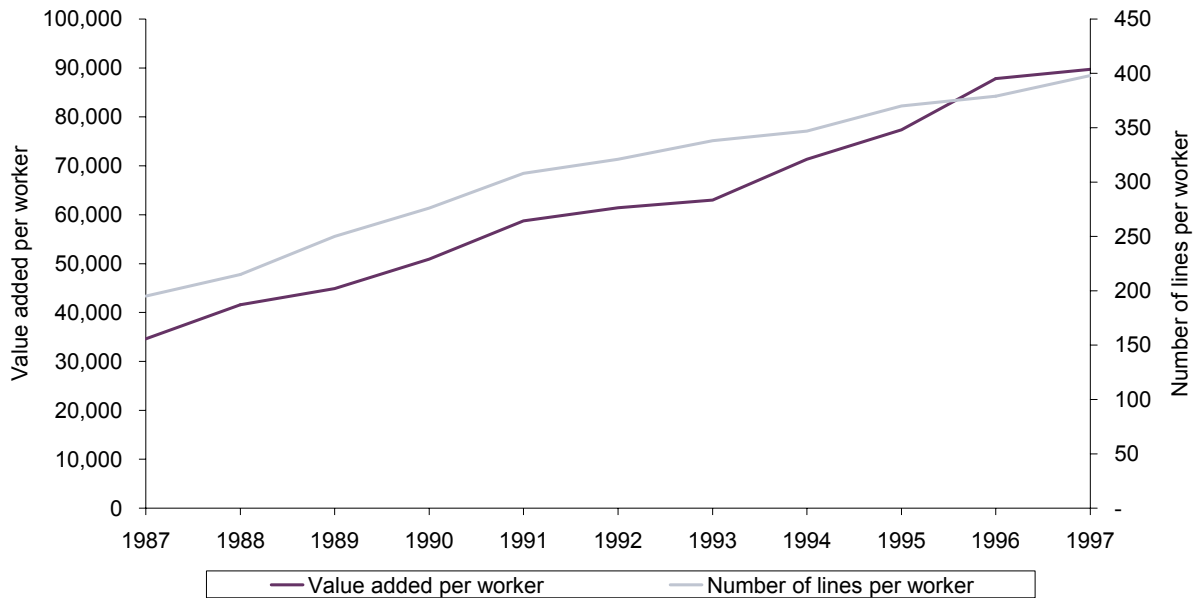
### **6.2.1 Liberalisation**

It is generally recognised that exposure to market forces tends to lead to improvements in the cost efficiency and productivity of firms, as they attempt to lower costs, and thereby prices, to compete effectively. Some of the evidence relating to the aviation sector has already been considered, but it is helpful to corroborate this with findings from other sectors.

Examples from the liberalisation of telecoms markets in Asia provide a useful complement. Figure 6.13 depicts the increase in labour productivity of Korea Telecom (KT) between 1987 and 1997. It can be observed that both the value added per worker and the number of telephone lines per worker doubled during the period.<sup>10</sup>

<sup>10</sup> Korea liberalised its telecoms sector in three stages. The first stage was from mid-1990 to mid-1994; the second stage from mid-1994 to mid-1997; and the third stage was from mid-1997 to 2001.

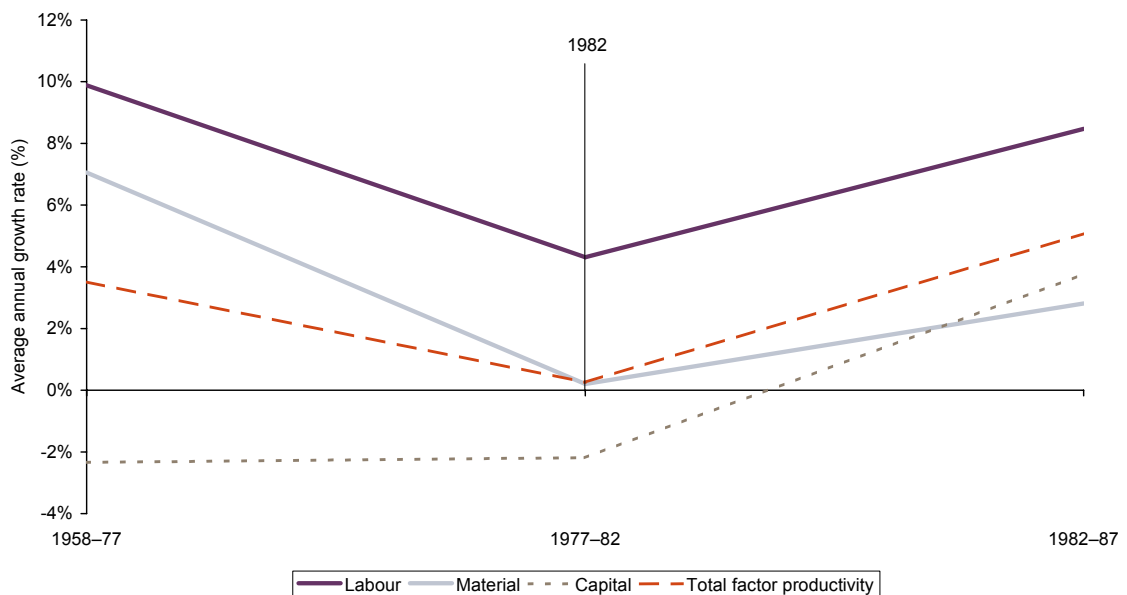
**Figure 6.13 Increase in labour productivity in Korea Telecom (KT)**



Note: Value added measured in thousand won.  
Source: Yoon (1999), p. 298.

Similarly, the effect of liberalisation on the TFP of the Japanese incumbent telecoms provider is shown in Figure 6.14. The growth rate of NTT's TFP was very low prior to liberalisation, averaging only 0.25% per year. However, the growth rate increased to 5.08% per year after 1982, when the decision to liberalise was announced. Moreover, the average rate of growth of partial factor productivity of capital, which was negative prior to liberalisation (-2.19% in 1997-82), turned positive and increased to 3.77% between 1982 and 1987. Similarly, the rate of growth of labour productivity increased from 4.31% before 1982 to 8.47% after 1982, and the rate of growth of material productivity increased from 0.20% to 2.81% for the same period.

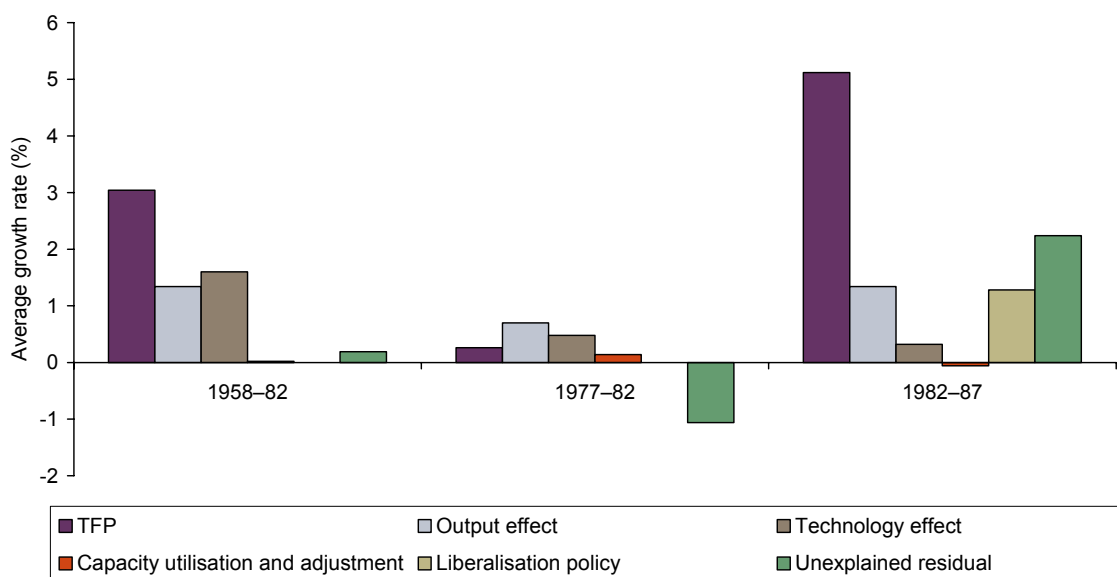
**Figure 6.14 Change in NTT's total and partial factor productivity**



Source: Oniki, Oum, and Stevenson (1994), p. 66.

Therefore, both the Korea and Japan case studies corroborate the hypothesis that liberalisation and new entry into the market are likely to have a positive impact on the productivity of the incumbents. However, it is possible to take this analysis further as academic studies have assessed the discrete role of liberalisation and competition in increasing the productivity of KT and NTT. Figures 6.15 and 6.16 show the breakdown of the TFP of NTT and KT respectively. Figure 6.15 shows that liberalisation had a significant and positive effect on TFP. For the five-year period prior to the announcement of liberalisation in 1982, there was a small increase in TFP—less than 1% per year—which was mainly accounted for by the increase in output. However, after 1982, TFP increased by 5.1%, and the liberalisation effect accounted for 1.3% of this increase.

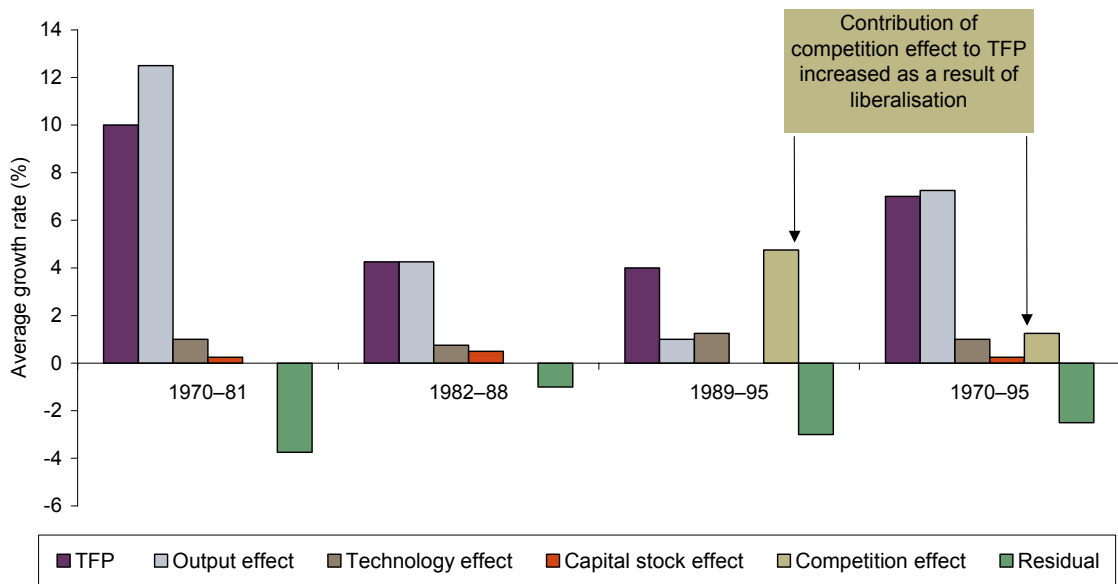
**Figure 6.15 Decomposition of NTT’s TFP growth (%)**



Source: Oniki, Oum and Stevenson (1994), p. 72.

Similar to the case of NTT, the evidence suggests that the impact of liberalisation on TFP was positive. While the overall TFP performance of KT was lower in the years following liberalisation compared with prior to liberalisation, this is largely explained by the difference in the output effects between the earlier and latter periods. Indeed, in the period 1989–95, without the impact of the competition effect, overall TFP growth rates would have been negative.

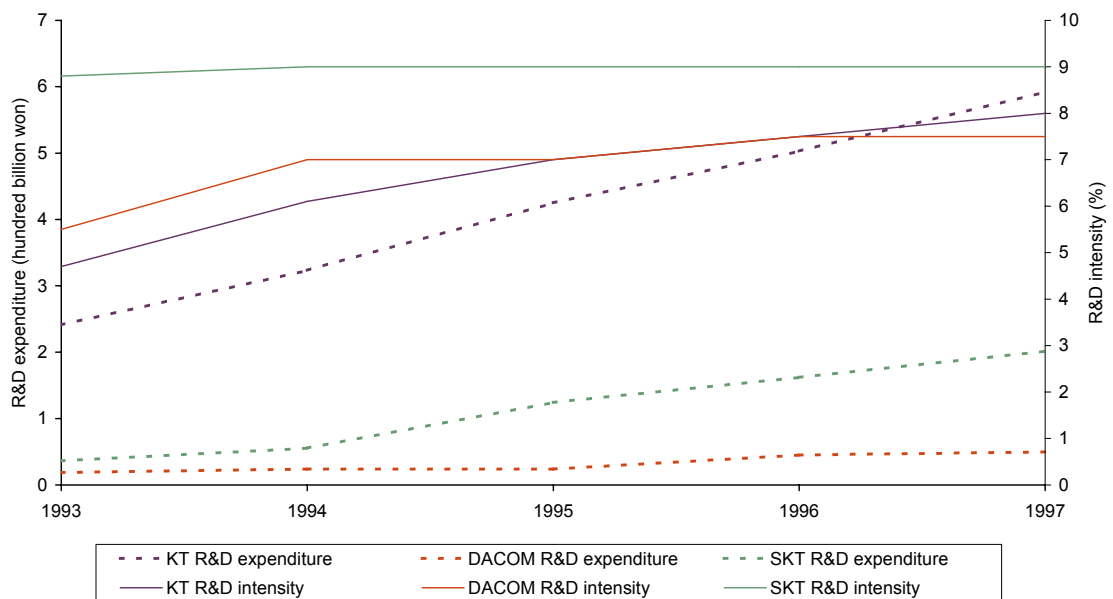
**Figure 6.16 Decomposition of the change in KT's TFP**



Source: Yoon (1999), p. 304.

Consistent with this improvement in efficiency and productivity, the expenditure on R&D by the incumbent monopolist, KT, increased as a result of liberalisation and new entry into the sector. According to Yoon (1999), 'the overall R&D activities of the industry are likely to be simulated by liberalisation policy' (p. 302). Figure 6.17 below shows that the major telecoms carriers in the Korea increased both their R&D expenditure and intensity. Moreover, the increase in R&D activity seems to be most significant for KT. The R&D expenditure and intensity of KT increased by approximately 130% and 60%, respectively, between 1993 and 1997, while the increase in the R&D intensity was 36% for DACOM, and only 2% for SKT. According to Yoon (1999), 'the incumbent carrier has to guard against any unfavourable outcome by increasing their investment in R&D'.

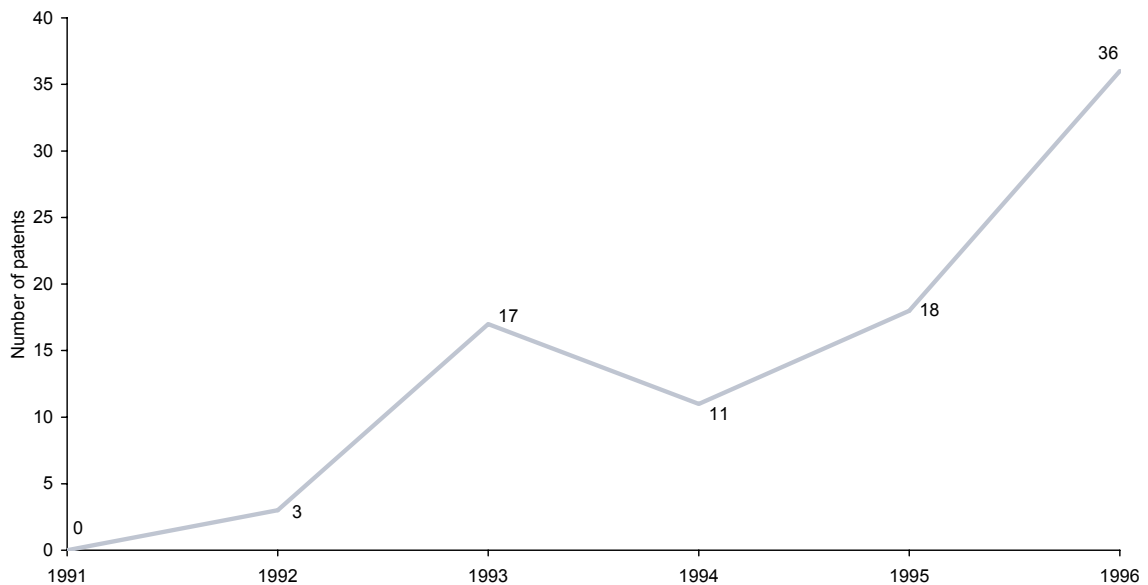
**Figure 6.17 Change in R&D expenditure and intensity in the Korean telecoms industry**



Source: Yoon (1999), p. 302.

The increase in KT's R&D activities can also be observed in Figure 6.18, which shows the substantial increase in the number of patents sought by KT. While in 1991, when the liberalisation process had only just started, KT did not have any patents, by 1996 it had obtained 36 patents.

**Figure 6.18 R&D performance of KT (number of patents)**



Source: Yoon (1999), p. 302.

### 6.2.2 Capital market impacts

Turning from product market effects to the possible impact of relaxing ownership restrictions on cost efficiency and productivity, two separate transmission mechanisms can be identified.

- Through greater diversity in ownership patterns, the transfer of international best practice in management and technological development and deployment is facilitated.
- Relaxing ownership restrictions facilitates M&As that would otherwise be prohibited. This M&A activity, in turn, allows the exploitation of economies of scale and scope.

Evidence relating to both of these effects can be observed from the case study evidence.

In terms of the first, according to Sidak (1997), one of the benefits that foreign direct investment brought to the US telecoms industry was in the form of 'positive externalities in technology and management' (p. 69). It has been argued that investment by foreigners generated beneficial spillover effects to the US telecoms firms in the form of new technology diffusion and improved management practices.

This argument appears to be supported by the results of research undertaken by Trewin (2000). In this analysis, time series data (from 1982 to 1992) was obtained for 37 countries on the total costs incurred in the provision of telecoms services, and econometric analysis was undertaken to determine the relationship between costs and the level of foreign investment.<sup>11</sup> Moreover, to capture the differential impact of spillover benefits, the sample

<sup>11</sup> Other explanatory factors in the model included output, wages, bond yield, main lines, tele-density (number of phone lines per 100 people), purchasing power parity (PPP), time and a constant.

was divided into high-income and low-income countries. As might be expected, the impact of increased foreign investment in cost reduction on low-income countries was much higher than in high-income countries—it was found that, for every 1% increase in the maximum allowed foreign ownership, costs for low-income countries tended to be 1.74% lower, while for high-income countries the figure was 0.33%.<sup>12</sup> These results appear to indicate that the benefits arising from foreign investment in low-income countries are greater due to the greater scope for improvement in managerial and technical expertise.

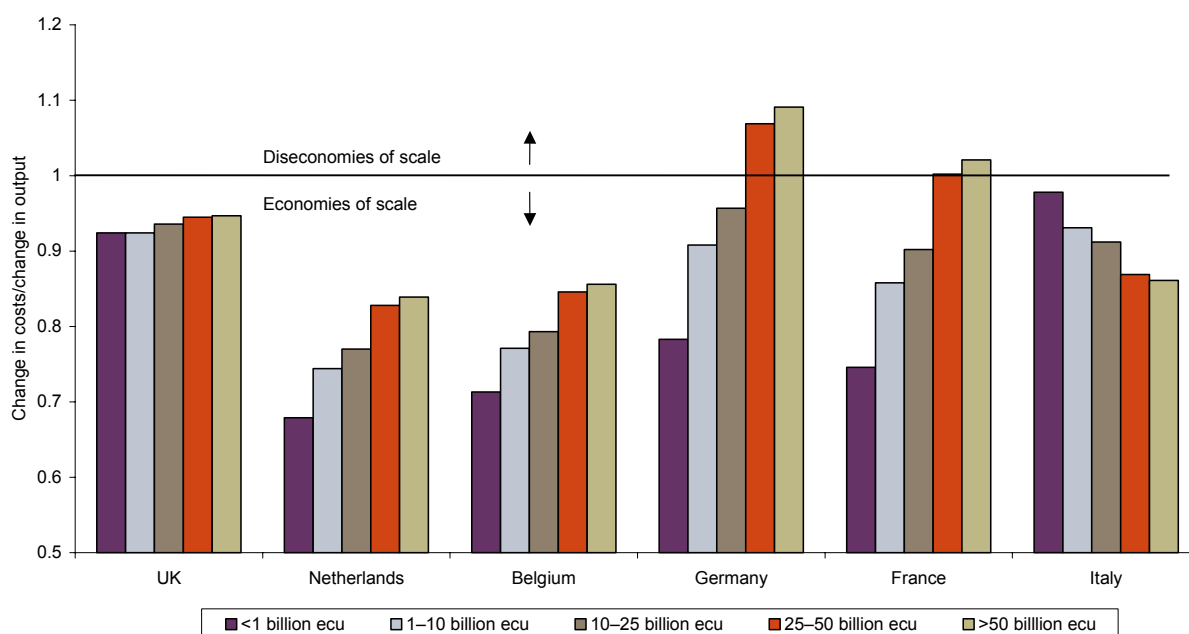
Similarly, Lee and Lie (2000), in analysing the Korean telecoms sector, conclude that investment by foreign investors led to a transfer of technical expertise and skills from the foreign company to the Korean company. The study suggests that such a skill transfer takes place because the foreign investors in Korea were mainly major telecoms companies in developed countries, which, generally speaking, have better technology and skills in place.

Further corroborating evidence is provided by the survey results reported by Shanahan (2000a), which concluded that foreign participation led to the importing of better skills and technology in the New Zealand radio sector.

In terms of the second transmission mechanism—allowing exploitation of economies of scale and scope through facilitation of M&A activity—case study evidence from the EU and US banking sectors is particularly informative.

At the beginning of the SMP, the EU banking sector appeared to present significant opportunities to exploit economies of scale, and some opportunities to exploit economies of scope. Figure 6.19 shows that economies of scale were concentrated at the small end of the market—for small French banks (assets below 1 billion ecu), a 1% increase in output led to a 0.7% increase in costs. Economies of scale vanished progressively as size increased. For large banks in Germany and France, they were already fully exploited. Hence, it appeared that large cost savings could be achieved by merging small/medium banks.

**Figure 6.19 Economies of scale by bank size, 1991**



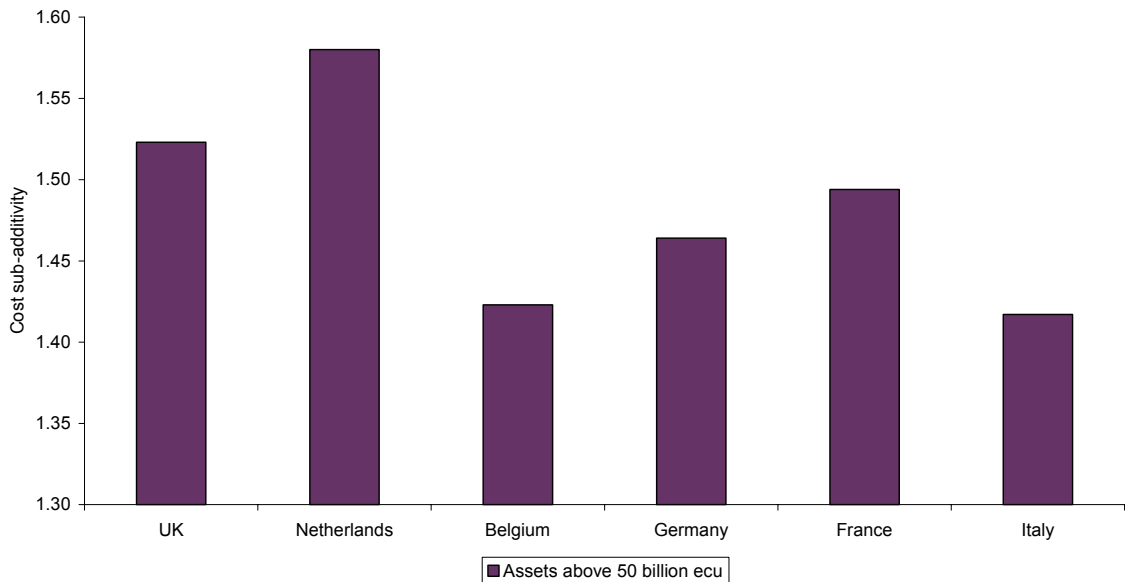
Source: European Commission (1997).

<sup>12</sup> Both coefficients were found to be significant at the 1% level.



Figure 6.20 shows that, for large banks, there were also opportunities to exploit economies of scope by combining different banking activities (loans, securities and short-term funds) and reducing total costs. The SMP led Member States to scrap regulation that prohibited banks from carrying out activities such as securities dealing and insurance. The 1990s saw a process of convergence between different financial services providers. For example, in 1995 Dresdner Bank, a large German commercial bank, acquired Kleinwort Benson, a UK securities house; in turn, Dresdner was acquired by Allianz, a German insurer in 2002.

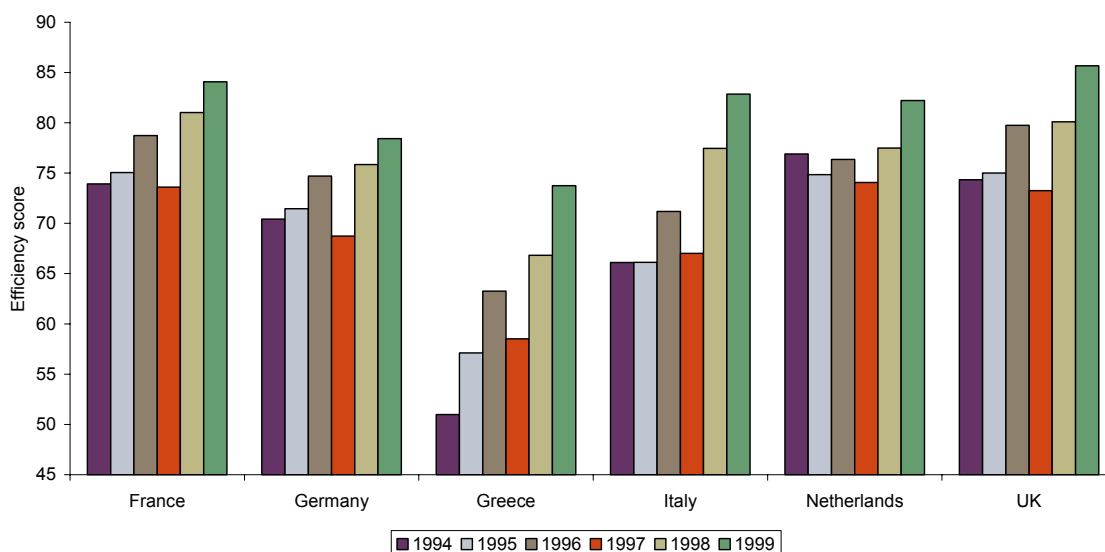
**Figure 6.20 Economies of scope in large banks**



Note: Cost sub-additivity examines whether a bank of a given size can produce a combination of outputs more efficiently than two smaller banks that produce, when combined, an identical combination of outputs. Positive values imply that a break-up would lead to increased costs.  
Source: European Commission (1997).

The wave of consolidation following the SMP appears to have allowed European banks to improve their cost structure by taking advantage of economies of scale and scope. There is also evidence that, between 1994 and 1999, European banks were able to increase their overall efficiency. Figure 6.21 shows that efficiency scores for banks in several Member States increased significantly over 1994–99. Efficiency scores measure how close a bank's cost structure is to best practice. Figure 6.20 also suggests a convergence, with banks in the least efficient countries (Italy and Greece) improving their performance at a faster pace than banks in the most efficient countries (UK and the Netherlands).

**Figure 6.21 Efficiency scores of retail banks in various Member States**



Source: Weil (2003).

In terms of the US banking sector, Peristani (1996) investigates the post-merger performance of acquiring banks during 1980–90. The author finds that banks realise a small but significant decline in pro-forma X-efficiency 2–4 years after the merger—suggesting that, during the 1980s, mergers were not beneficial to banks in terms of X-efficiency. However, the author also finds that acquiring banks achieve moderate improvements in scale efficiency and profitability. Some of the performance improvements may be related to the reduction in personnel costs. Kashian and Monaco (1998) find that, between 1991 and 1995, employment in the banking sector (including savings institutions) fell by 3.3%. They estimate models of employment for commercial banks and savings institutions and find that there is a positive relationship between the number of banks and employment. In the period following the 1994 IBBEA, costs appear to increase by around 1%; Dick (2003) attributes the increase to improvements in quality—in particular, higher salaries for employees.

However, while there is general evidence that mergers tend to allow economies of scale and scope to be exploited, there is also evidence suggesting that, on occasion, the extent of the projected savings maybe overstated. This is borne out by the various studies on mergers of electricity utilities in the USA. Anderson (1999) concludes that only 15% of mergers and acquisitions achieve the expected financial objectives. Furthermore, Kwoka and Pollitt's work (Kwoka, 2005) finds that acquired firms performed at higher efficiency levels than acquiring firms. The selling firms' efficiency was, however, found to decline after the mergers.

### 6.2.3 Cost of capital impacts

As well as the impact that lifting/imposing ownership restrictions may have on operating cost performance, a further cost that is of importance is the cost of raising finance. In section 4, some of the theoretical reasons why the imposition/liberalisation of ownership restrictions might be expected to lead to an increase/decrease in the cost of capital were explored. This sub-section develops this discussion through consideration of the impact of ownership restrictions in the Canadian telecoms sector, where the introduction of restrictions in 1991 prompted considerable debate.

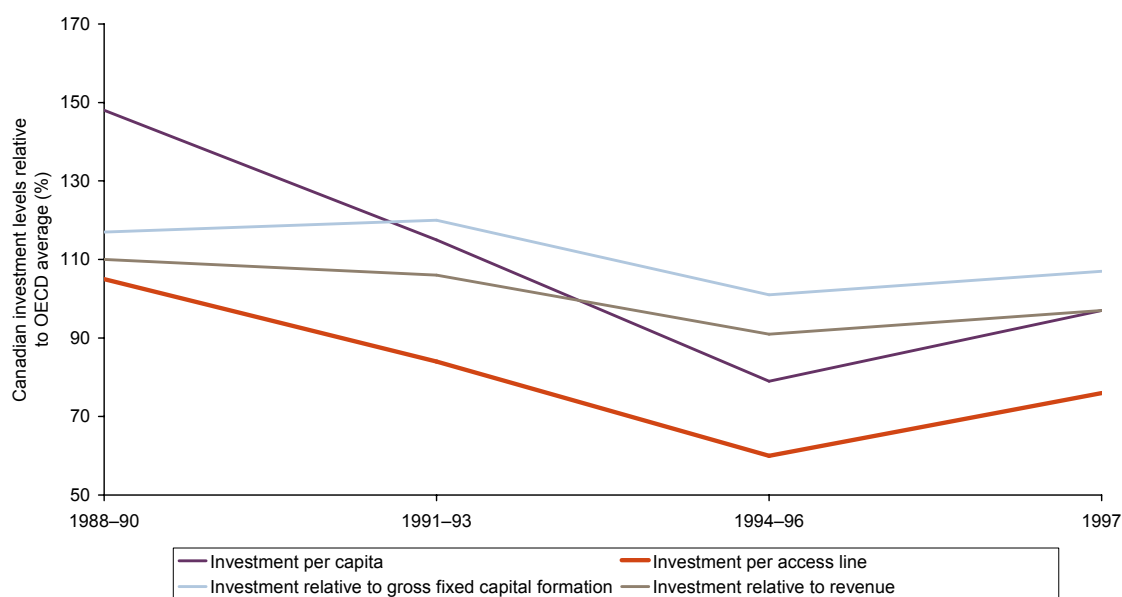
Much of the focus in the Canadian telecoms sector has been on the possibility that ownership restrictions limited access to capital for some companies, causing them to adopt inefficient financial structures, and hence increasing their costs of capital. In particular, studies have tended to focus on the differential impact of foreign ownership restrictions on

the incumbent local exchange carriers (ILECs), which represent the incumbent telecoms operators, and the competitive local exchange carriers (CLECs), which represent all telecoms operators other than the incumbents. The studies found that, since ILECs were more profitable, they were less dependent on external finance compared with the CLECs. This meant that restrictions on access to foreign equity capital had a disproportionate impact on the CLECs, causing them to adopt more highly geared structures: gearing for CLECs was typically in the region of 70% (for example, AT&T, GT Group, Call-Net Enterprises) compared with 50% for ILECs (for example, Bell Canada) This led to significant differences in the respective costs of capital for the two types of company. The Canadian Standing Committee on Industry, Science, and Technology (2003), reported that, in 2001, it was estimated that the average cost of capital for a CLEC (GT Group) was 20%, while it was only 6.3% for an ILEC (Bell Canada) (p. 19).

Moreover, in a survey seeking the views of Canadian telecoms operators, it was found that foreign ownership restrictions also led to complex ownership and share structures as the companies attempted to maximise the opportunities to raise foreign capital, which in turn imposed additional costs. (Wall Communications, 2000). In another survey undertaken by Statistics Canada in 1997 (also cited in Wall Communications, 2000), it was found that the foreign-owned telecoms companies<sup>13</sup> in Canada have a higher component of equity financing (versus debt financing) than Canadian-controlled companies.<sup>14</sup>

It would be anticipated that an increase in the cost of capital would lead to a decrease in investment levels. This appears to have been corroborated by Wall Communications (2000), which shows that investment in the Canadian telecoms sector has declined. Figure 6.22 shows that this decline was more prominent after 1991, the year when the foreign ownership restrictions were formally introduced into the sector. However, a detailed econometric examination of the impact of the restrictions on investment was not undertaken.

**Figure 6.22 Decline in investment in Canadian telecoms**



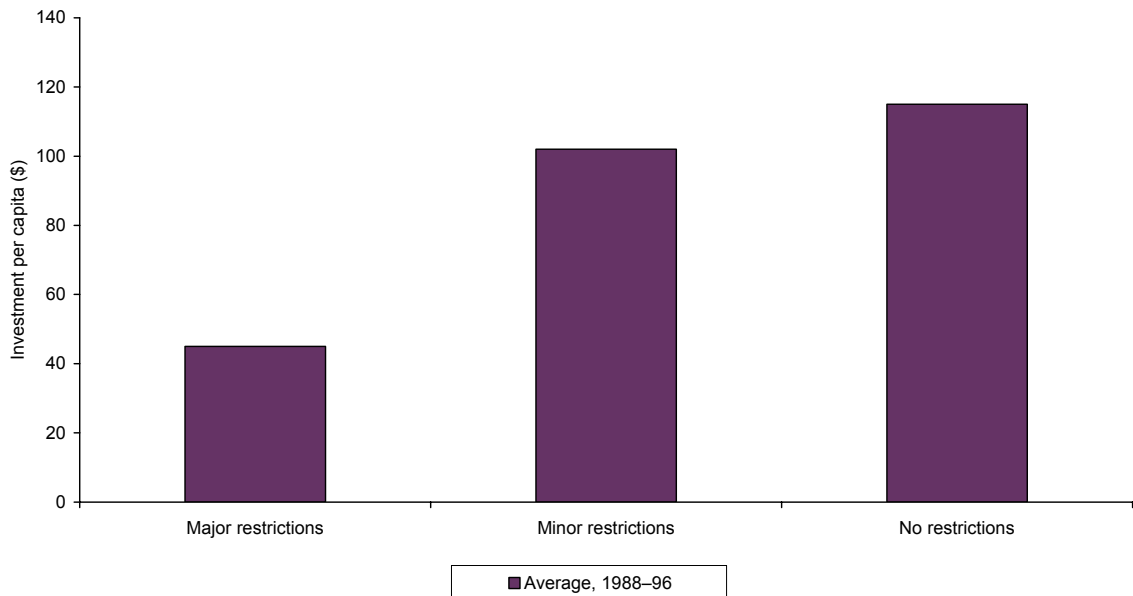
Note: The years shown for 'Investment relative to revenue' differ slightly: 1988-91, 1992-94, 1995-96, and 1997. Source: Wall Communications (2000), p. 76.

<sup>13</sup> For resellers (and some exceptional cases), 100% foreign ownership is allowed.

<sup>14</sup> The study also found that the wages in the foreign-owned firms were 20% higher than the industry average.

The same study also compares the average levels of investment made by countries that have strict restrictions on foreign ownership with those made in countries where there were either minor restrictions or no restrictions at all.<sup>15</sup> It was found that, on average, countries that have strict restrictions on foreign ownership in the telecoms sector tend to have lower investment in the sector than countries with either minor or no restrictions in place. However, again, this is a high-level analysis (which did not control for other effects), and the results should be treated with due caution.

**Figure 6.23 Investment in the telecoms sector and the relationship with ownership restrictions**



Source: Wall Communications (2000), p. 39.

The general findings were corroborated by Lee and Lie (2000). This study, which analysed the Korean telecoms sector, concluded that the entry of foreign firms led to an increase in the level of investment by the facilities-based providers (for mobile services) by 27% between 1998 and 1999 (pp. 17, 24 and 26).

Similarly, in New Zealand it was found in a survey conducted by Shanahan (2000a) that foreign capital served as an important means to support the three large groups that emerged in the radio sector, which, it was considered, the New Zealand equity markets would not have been able to support without foreign investment. Lee and Lie (2000) concluded that foreign capital served to provide a constant source of finance for the telecoms industry at the time of the Korean financial crisis in the late 1990s.

#### 6.2.4 Assessment

Table 6.2 summarises the evidence on the impact of liberalisation measures on cost efficiency and productivity across the sectors.

<sup>15</sup> An example of minor restrictions includes investment restrictions on foreign ownership of only the incumbent/state-owned firm. An example of major restrictions includes a strict foreign ownership cap (such as 20%).

**Table 6.2 Summary table on impact of liberalisation on cost efficiency and productivity**

Sector	Product market liberalisation	Capital market liberalisation
Energy	Impact not studied in detail	US electricity studies suggest that acquirers may be overly optimistic about achievable efficiencies from mergers
Telecoms	Evidence that product market liberalisation led to productivity improvements in Japanese and Korean telecoms sectors, with academic work suggesting a distinct role for 'competition' effect  Improvements in R&D expenditure, intensity and number of patents of incumbent in Korean telecoms sector	Econometric evidence supports link between maximum foreign ownership limits and cost performance  Evidence from Canadian telecoms suggests that imposition of ownership restrictions increased the cost of capital (especially for smaller, new entrants) and led to reduction in investment  In Korea, entry of foreign firms estimated to lead to an increase in investment of 27% for facilities-based mobile providers, while it was considered that foreign capital provided a constant source of finance during the Asian financial crisis
Media	Impact not studied in detail	Foreign participation in the New Zealand radio sector judged to have led to the import of improved skills and technology
Banking	Impact not studied in detail	SMP has led to the exploitation of economies of scale and scope such that efficiency scores of the banking sector in most EU countries have increased, with largest increases for relative laggards  Corroborated by economies of scale achieved by merging banks in USA

The evidence collected from the case studies examined suggests that both product market and capital market liberalisation can generally be expected to lead to improvements in cost efficiency and productivity. In terms of product market liberalisation, studies on the impact of liberalisation in both Japan and Korea identify a generalised improvement in productivity performance at the time of liberalisation, and have been able to isolate a specific contribution from liberalisation policies, which are separate from other drivers of productivity performance. The evidence also suggests that liberalisation improves R&D performance.

The case studies suggest that relaxing ownership rules also appears to generate efficiencies/productivity improvement. Two distinct mechanisms can be identified.

- Widening the potential set of owners would appear to encourage the transfer of international best practice and technology deployment. The econometric evidence collected by Warren (2000) in relation to ownership restrictions in the telecoms sector is consistent with this hypothesis.
- Relaxing ownership restrictions facilitates M&A activity, which in turn, gives companies greater opportunities to exploit economies of scale and scope. The experience in the EU banking sector following the SMP shows the potential importance of this mechanism.

A separate 'cost' that also needs to be considered is the impact that restrictions on ownership may have on the cost of capital. Evidence from the Canadian telecoms sector, corroborated by views expressed about the Korean telecoms sector, indicates that the imposition of ownership restrictions has the potential to limit access to (equity) capital, leading to companies adopting inappropriate financial structures, and hence an increase in their cost of capital.

The only caveat to these generally positive impacts on costs and productivity associated with both product and capital market liberalisation is the evidence collected in the US electricity generation sector, which suggests that cost improvements anticipated for mergers are often not as great as anticipated.

### 6.3 Impact on profitability

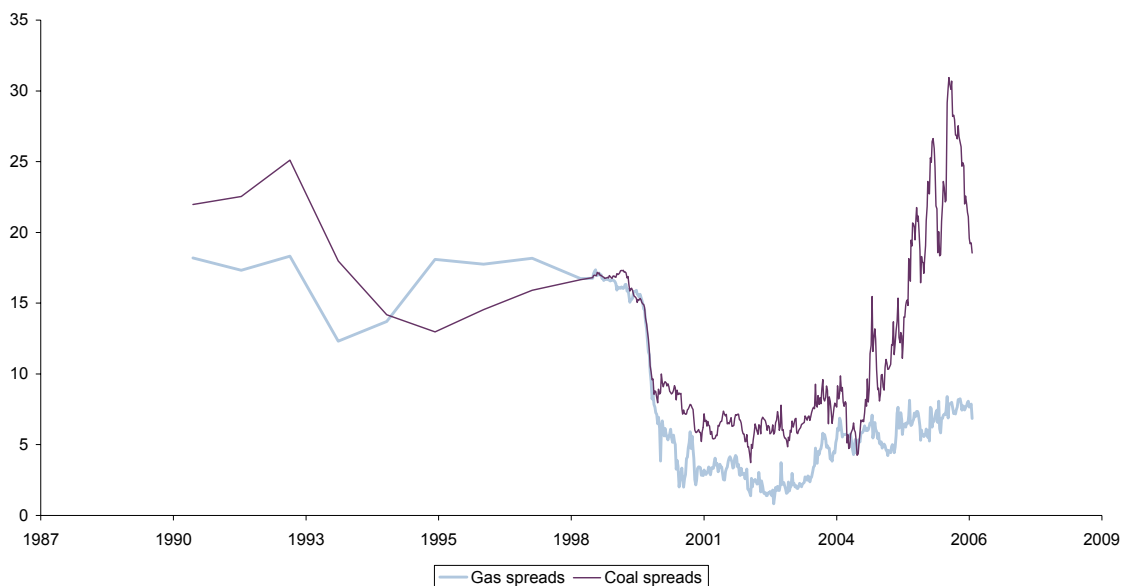
One of the generally recognised features of the airline industry (at a sectoral level) is its relatively low levels of profitability. Consequently, the potential impact that reforms may have on profitability levels are of importance. This section considers the impact that reforms have had on profitability levels in the sectors examined. Once again, the impact of product market liberalisation is distinguished from the lifting of capital market restrictions.

#### 6.3.1 Liberalisation

The evidence from EU energy markets is that greater product market liberalisation tends to encourage more vigorous competition and therefore lowers sectoral profitability.

This can be seen particularly clearly in relation to the experience in the UK electricity generation sector.

**Figure 6.24 Spreads for UK gas and coal-fired power stations (£/MWh based on wholesale market power prices and fuel costs)**



Source: UK Pool, Reuters, Dresdner Klienworts.

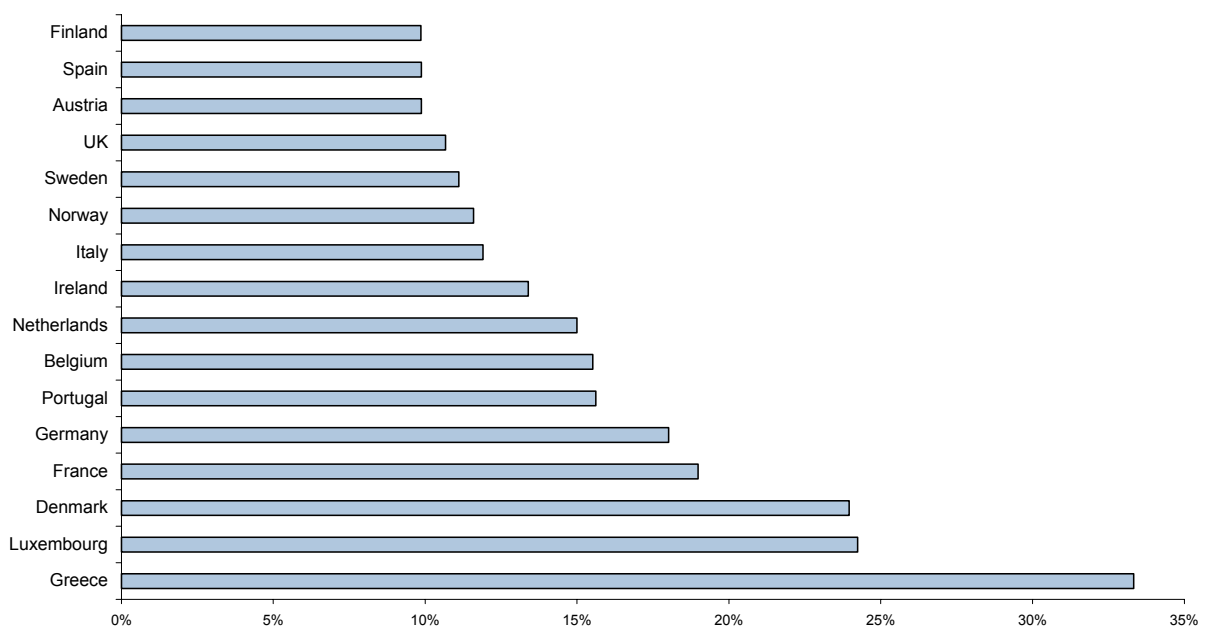
Figure 6.24 shows the progression of gross margins for UK coal and gas generation since privatisation (based on wholesale power prices minus market fuel costs including carbon costs were applicable). Although considerable new entry occurred (through the downstream retailers building new capacity) in the 1990s, effective competition in the UK generation sector really emerged from 2000 as disposals of capacity by the major generators were combined with the move to introduce a new trading system. The progression of profits since then illustrates a number of drivers. The initial impact of competition was to drive down market prices (and margins) rapidly towards short-run costs given the significant oversupply in the market. A number of bankruptcies occurred and the financial distress facilitated ownership consolidation, with a few major generators (and integrated players) buying out smaller operators. Capacity rationalisation followed, with closures and mothballing of stations. This allowed margins to improve once more over the last few years, with the spreads for gas-fired power stations rising towards the levels needed to give reasonable

returns on new investment (spreads for coal stations rose more dramatically since gas capacity was setting marginal prices and coal remained a cheaper fuel, even taking into account the costs of CO<sub>2</sub> emissions).

The UK generation experience illustrates the fact that liberalisation against a background of overcapacity tends to drive down prices and margins. This can then encourage sector consolidation and capacity rationalisation, which should allow margins to return to more sustainable levels in the medium term.

Further corroboration appears to be provided through cross-sectional evidence of supply profitability provided by the European Commission, although compared with generation activity, data on supply is more limited. From the Commission's data it is possible to estimate the gross margins made by retailers (suppliers) in different European countries for supplying gas and electricity to industrial users.

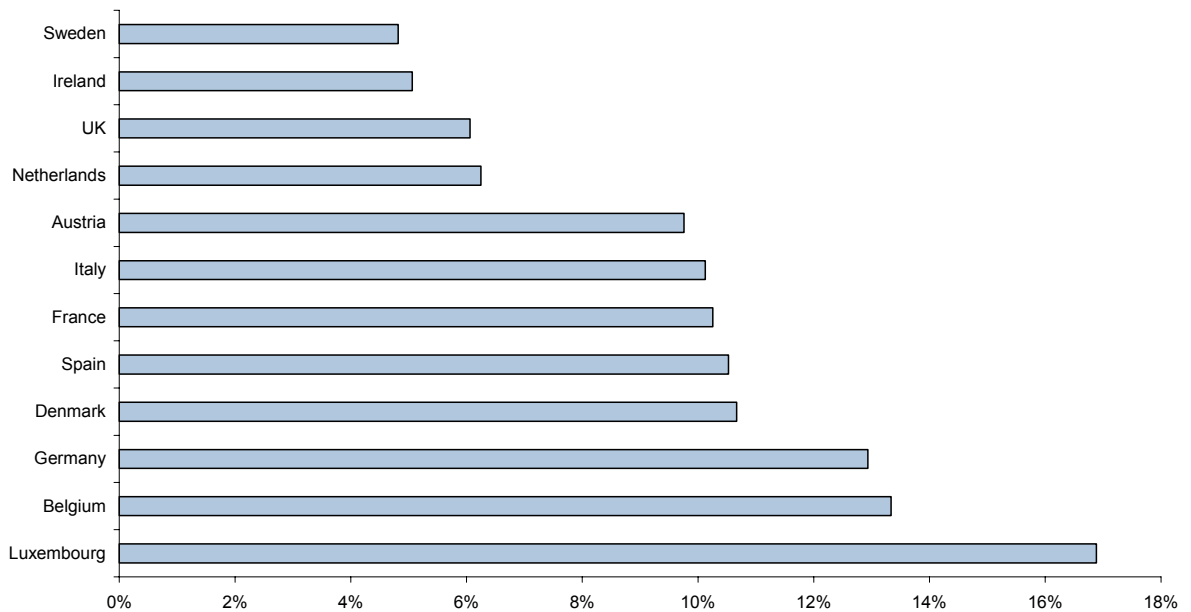
**Figure 6.25 Gross margins in supply of electricity to industrial users**



Source: European Commission (2004).



**Figure 6.26 Gross margins in supply of gas to industrial users**



Source: European Commission (2004).

It can be seen that, profitability is lower in countries that are more advanced in introducing competition. Among the EU countries for which detailed analysis of the impact of liberalisation was undertaken (France, Germany and the UK), electricity and gas supply margins are, in general, similar and higher in Germany and France than in UK. This arguably reflects the fact that the UK markets are fully open to competition, with six major electricity and gas suppliers active at a national level, whereas, despite the introduction of liberalisation as discussed above, regional and local monopolies remain relatively common in Germany. In France, supply competition is the least developed, with regulation relied upon to keep prices and profits reasonable.

### 6.3.2 Capital markets

Whereas the case study evidence suggests that product market liberalisation may be expected to lower profitability, the impact of relaxing ownership restrictions is more mixed. As discussed in section 4.1 above, one of the main expected benefits of M&A activity (in turn, facilitated through the removal of ownership restrictions) is the pursuit of economies of scale and scope. If realised, and all else being equal, this would be expected to lead to an improvement in profitability.

Shanahan (2000a) found that deregulation—both product and capital market liberalisation—of the New Zealand radio sector led to increased profitability for operators, and also generated greater value for shareholders. Moreover, it was also found that deregulation led to a reduction in costs.

This is corroborated by evidence from the US banking sector. Nippani and Green (2002) investigate the structure and performance of the US banking industry by comparing performance before and after the implementation of the IBBEA in September 1995 which, as discussed above, led to consolidation in the sector. They compare the averages of a number of variables (including return on assets, return on equity, net interest margins) of the different banks, grouped according to average assets. Their results point towards an improvement of banking performance for all asset categories (Table 6.3).

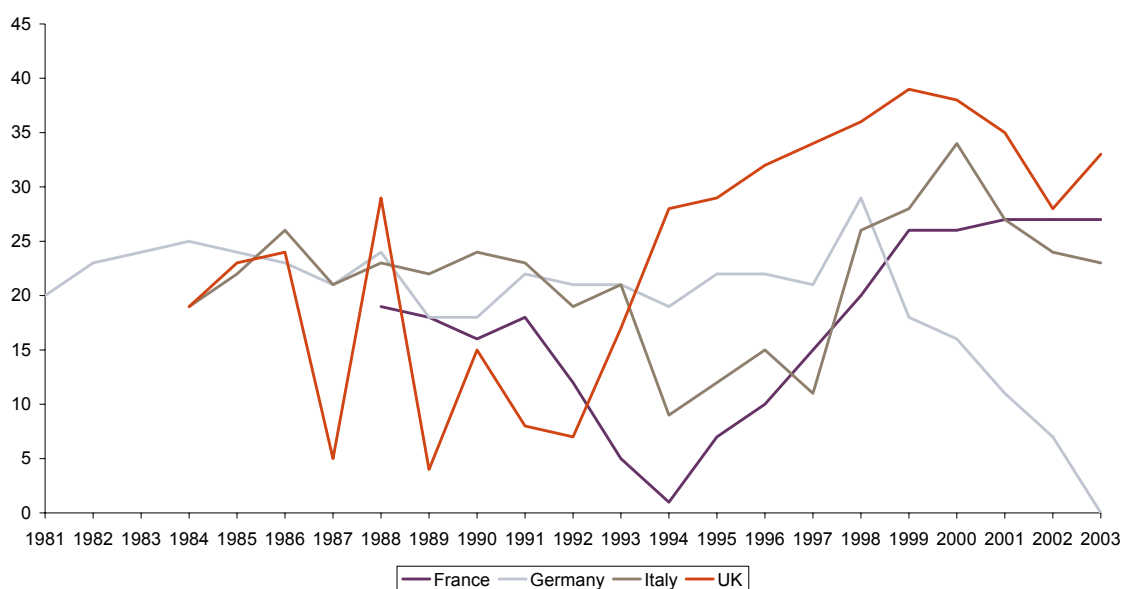
**Table 6.3 Comparison of the performance of US banks pre- and post-IBBEA**

Asset category	Number of banks	Bank performance
<\$100m	Decreased	Improved
\$100m–\$300m	Increased	Improved
\$300m–\$1 billion	Increased	Improved
\$1 billion–\$15 billion	Decreased	Improved
>\$15 billion	Increased	Improved
All banks	Decreased	Improved

Source: Nippani and Green (2002).

Evidence from the EU banking industry following the SMP is slightly more ambiguous. After the introduction of the SMP, profitability generally appears to have increased significantly, as seen in the experience of France, Italy and the UK. However, in Germany, the opposite trend was observed, as shown in Figure 6.27.

**Figure 6.27 Pre-tax profit as share of gross banking income 1981–2003 (%)**



Source: European Commission (2006).

The evidence suggesting that the relaxation of ownership restrictions is associated with a general increase in profitability is consistent with the pattern of improvements in capacity and greater consolidation. Specifically, it suggests that liberalisation is likely to lead to the retirement of inefficient capital (as illustrated in section 6.1) with the increase in the marginal productivity of capital being revealed in higher profitability levels.

### 6.3.3 Further impacts

There are two further impacts of product and capital market liberalisation on profitability that are important to note,

- The impact that removing foreign ownership restrictions may have on the likelihood of takeovers, and the capital gains that this may allow shareholders of target companies to realise.

- The impact on the opportunities for ‘disguising’ profitability performance in the short term, but which in the long term result in—or exacerbate—corporate failure.

### **Share price appreciation resulting from takeover activity**

On the first of these, it is well established in financial economics that takeover bids typically value companies well in excess of the value implied by the share price prior to the takeover being announced, leading to the share price of the target company appreciating sharply when the intended takeover is announced. Consequently, the abolition of investment restrictions increases the likelihood of a takeover and hence for shareholders to benefit from these capital gains.

This can be illustrated by data from a previous Oxera study on companies that had had their ‘investment restrictions’ subject to investigation by the European Commission.<sup>16</sup> The table below shows that in the sample of ten companies that have had their investment restrictions overturned by a European ruling, no less than four companies have subsequently had shares acquired by an international company. Similar experience can also be seen following the (voluntary) removal of investment restrictions in the UK regional electricity companies (RECs) operating in the electricity distribution/retail sector and the UK generators. Most of the RECs were subsequently acquired and PowerGen and Innogy were also acquired by foreign companies at substantial premia to prevailing share prices. The UK government and the energy regulator were satisfied that these acquisitions would not compromise the interests of consumers in the energy sector since a robust regulatory framework remained in place.

<sup>16</sup> This database was compiled by Oxera and the European Commission for a study by Oxera on the economic impact of investment restrictions in privatised companies in the EU. For more details, see Oxera (2006).

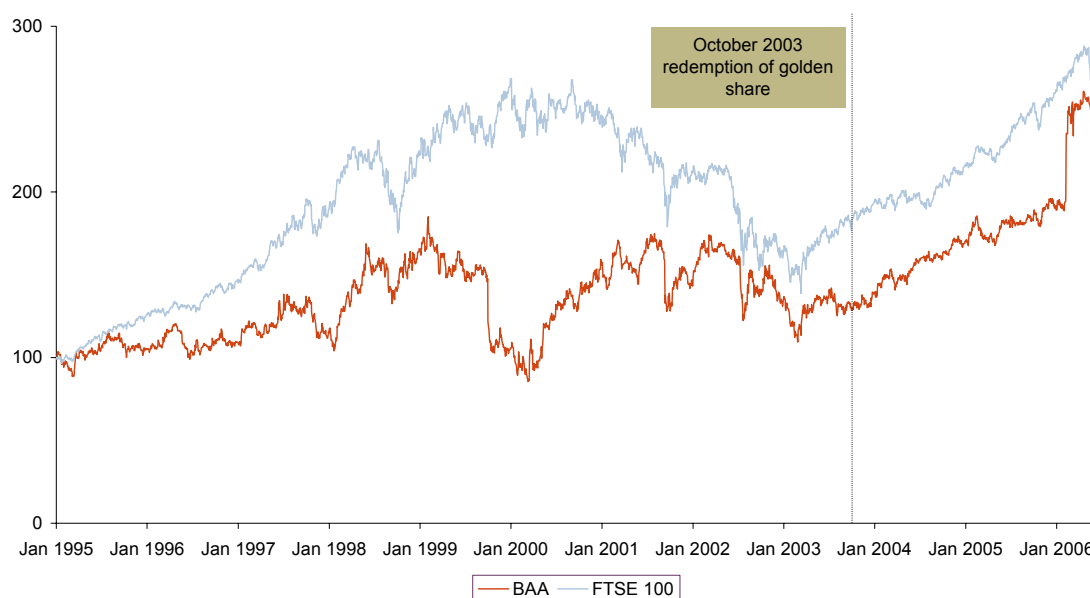
**Table 6.4 Corporate activity in companies following removal of special rights**

Company	Country	Sector	Special rights status	Acquirer company and details of acquisition	Country
ELF Aquitaine	France	Oil and gas	Abolished in October 2002	–	–
Copenhagen Airport	Denmark	Airport	Letter of formal notice February 2003	Macquarie Airports acquired 53% in 2005	Australia
BAA	UK	Airports	Abolished in October 2003	Ferrovial acquired 100%	Spain
CIMPOR	Portugal	Cement	Abolished in October 2003	–	–
Banco Totta & Acores	Portugal	Bank	Case closed in July 2004	–	–
Portugal Telecom	Portugal	Telecoms	Abolished in October 2003, although right to veto certain company decisions through privileged A shares	Telefonica acquired around 3% in April 2004  Sonae has announced offering but deal is still pending (as of October). However, a Portuguese company so not affected by the removal of any nationality restrictions	Spain  Portugal
Telefonica	Spain	Telecoms	May 2003 European Court of Justice (ECJ) ruled against Spain. December 2003 Spain introduced new law. Remaining special rights due to expire in 2007	La Caixa acquired a further 1.5% in March 2004, although a Spanish company so not affected by removal of any ownership restrictions	Spain
Electricade de Portugal	Portugal	Electricity	October 2003 and February 2004		
Argentaria	Spain	Finance	Special rights phased out in 1999, May 2003 ECJ ruled against Spain	Banco Bilbao Vizcaya Argenta acquired 100% in 1999, although a Spanish company so not affected by removal of any ownership restrictions	Spain
Tabacalera	Spain	Tobacco	May 2003 ECJ ruled against Spain. Special rights phased out in 2000 following merger of Tabacalera and Seita to form Altadis	British American Tobacco acquired 94% in 2003	British

Source: Oxera (2006), Bloomberg, European Commission.

The impact that (the potential for) takeovers had on the possibility for shareholder gains can be seen clearly in the takeover of BAA by Ferrovial. As Figure 6.28 shows, BAA's share price performance improved notably following the redemption of the golden share in October 2003, although most of this gain was in line with the general UK market improvement. However, the announcement of the bid from Ferrovial caused a substantial increase in the share price in 2006, meaning that for the first time over the period assessed, BAA's shares outperformed the market.

**Figure 6.28 BAA's share price performance following the removal of its golden share**



Source: Datastream.

### Corporate failures

The second additional aspect of the combined impact of product and capital market liberalisation in the context of profitability concerns the possible opportunities for companies to push the boundaries of the existing regulatory framework inappropriately. This may take the form of companies disguising their profitability performance in the short run, such that when corporate failure results, the impacts are more serious than would otherwise have been the case. There is evidence relating to such behaviour in two of the sectors considered in this study:

- the failure of Enron in the energy sector, seemingly caused by the creation of an unsustainable financial structure which was then concealed from investors through accounting discrepancies;
- the collapse of WorldCom in the telecoms sector for similar reasons.

As regards the read-across to the airline sector, the first point to note is that it is arguably not the collapse of these companies per se that is significant—the fact that firms exit markets, as discussed above, can bring benefits to both producers and consumers through retirement of inefficient capacity, while the fact that this happened through bankruptcy provides an indication of the relative robustness of different financial structures. Rather, seemingly due in part to the more liberalised environment in which these firms operated, the risk of collapse was hidden from investors for a period of time such that, when it was realised, shareholders suffered disproportionately.

In this context, it is not immediately obvious that greater product market liberalisation or the specific capital market liberalisation measure envisaged in the airline sector (ie, relaxation of ownership and control rules), combined with the nature of the airline sector would result in this specific risk being aggravated. However, more generally, it does indicate that the overall

regulatory framework needs to be appropriate for the benefits of reforms to be realised. In the airline sector, the most obvious regulatory aspect to consider is how the safety regulatory regime would need to adapt in the event of ownership liberalisation. In this regard, a recent paper by the UK's Civil Aviation Authority (CAA, 2006) highlights a number of small amendments to the regulatory regime that could be put in place to maintain or even improve safety performance at the same time as allowing other benefits from relaxing ownership regulation to be realised. This can be seen as a similar pre-requisite to ensuring that benefits are realised from liberalisation as the requirement for a robust competition law/anti-trust regime being in place to prevent companies abusing any dominant position in which they find themselves.

### 6.3.4 Assessment

Table 6.5 summarises the findings from the sectors examined on the impact of product and capital market liberalisation on profitability.

**Table 6.5 Summary table on impact of liberalisation on profitability**

Sector	Product market liberalisation	Capital market liberalisation
Energy	UK generation market experience illustrates the impact of effective competition in reducing margins  Evidence from European energy markets suggests that countries with more vigorous competition tend to have lower profitability levels	Not studied in detail, although the collapse of Enron illustrates the need for a robust regulatory framework to accompany any reforms
Telecoms	Not studied in detail	Not studied in detail, although the collapse of WorldCom illustrates the need for a robust regulatory framework to accompany any reforms
Media	Product market liberalisation (accompanied by ownership restriction liberalisation) led to increased profitability for operators and generated shareholder value	Product market liberalisation (accompanied by ownership restriction liberalisation) led to increased profitability for operators and generated shareholder value
Banking	Not studied in detail	Consolidation following the IBBEA led to improved profitability in the US banking sector across banks of all sizes  Evidence following SMP in the EU banking sector is more ambiguous, although in most countries an improvement in profitability was realised
Golden shares database	n/a	Database shows that a number of firms have been takeover targets following the removal of golden shares, leading to share price appreciation associated with such bids

Source: Oxera analysis.

The case study evidence suggests that the combined effects of product market and ownership liberalisation are likely to be desirable. Consistent with economic theory, product market liberalisation appears to strengthen competitive pressures and lower reported profitability. The changes in profitability in the German electricity supply index over time provide one indication of this trend, as does the cross-sectional analysis of the profitability level of energy companies in different EU countries.

At the same time, a more permissive ownership regime is likely to provide an opportunity for producers to respond to the challenges created by greater product market liberalisation. A main driver for the M&A activity (and facilitated by ownership liberalisation) is the pursuit of higher profitability and hence shareholder value. The evidence on the success of this from

the case studies examined is generally positive. For example, the impact of the IBBEA in the US banking sector appears to have been an increase in profitability at all levels of bank size. A slightly more ambiguous result is provided by the evidence of the EU banking sector after the SMP: in most of the countries examined, profitability appears to have improved following its completion, although this is not the universal pattern. Nonetheless, the overall pattern is of improved profitability. Combining this with the finding that relaxing ownership restrictions facilitates improvements in capital utilisation suggests that such liberalisation allows for the retirement of inefficient capital.

There are two final areas of consideration. The first is the prospect of ownership liberalisation increasing the likelihood of takeover and allowing the shareholders of the target company to benefit from a pronounced appreciation in the share price: Ferrovial's takeover of BAA within the aviation sector illustrates this point.

The second is the possibility that greater liberalisation of product and capital markets either places greater pressure on, or provides greater opportunities for, companies to stretch the existing regulatory framework. In relation to the issue of profitability, and in the sectors examined in this report, the examples of Enron and WorldCom provide particular examples. However, the key point that these cases illustrate is that, when undertaking liberalisation, it is necessary to establish a regulatory framework that is fit for purpose. In the context of airline liberalisation, the most important aspect of any regulatory framework is likely to relate to safety regulations. This is an issue that has recently been discussed in detail, and found by the CAA to not represent an insurmountable barrier to greater (capital market) liberalisation.

## 6.4 Strategic responses of firms

A final aspect of the 'supply side' of the market to be considered is the strategic response of companies to liberalisation. The sub-sections below examine the extent to which firms have responded to liberalisation either by expanding into global markets or by acting more 'defensively' and successfully developing national 'niches' in response to the challenges of globalisation. They also examine the extent to which firms have tended to either diversify or specialise their range of activities in response to the lifting of ownership restrictions.

### 6.4.1 Expansion into global markets

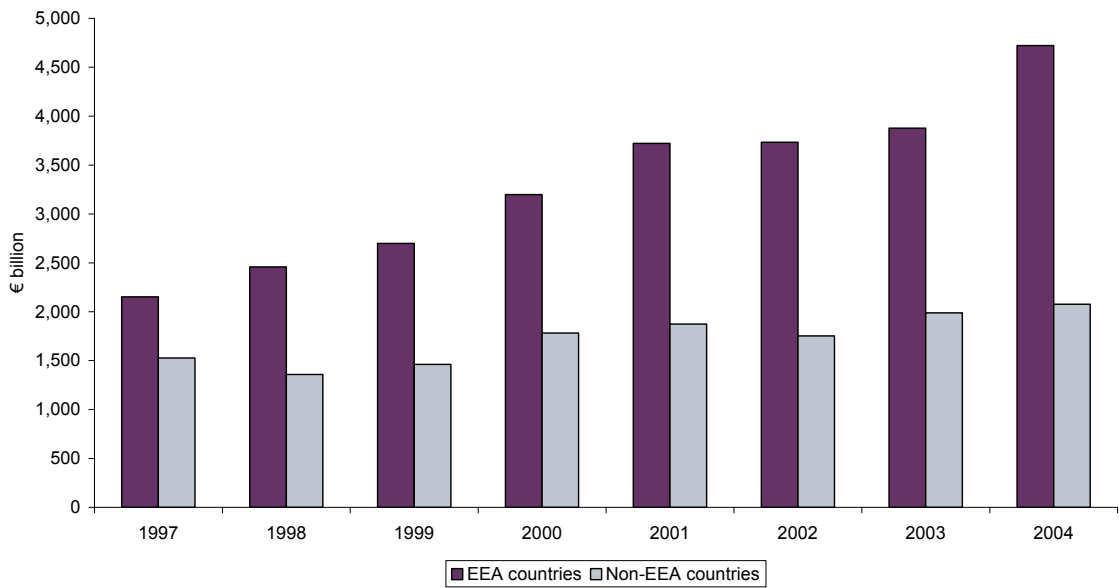
It is clear that, as restrictions on international ownership have been lifted, some firms have responded by taking advantage of the new opportunities that this has presented. This pattern is clear across a range of sectors examined. It is also evident that this expansion has frequently been achieved through M&A activity, rather than by firms growing 'organically' in a new country.

In the EU banking sector, as discussed above, the process of consolidation has been in two stages, focusing on domestic consolidation first and then on cross-border consolidation. The process of domestic consolidation was focused on extracting economies through a series of mergers at the small-size level. Moreover, it allowed the creation of national champions such as BBVA and BSCH in Spain. Cross-border acquisitions came at a later stage, and with different goals. Foreign acquisitions focused on new geographic markets and business activities, and in exploiting the difference in efficiency between acquirer and target. For example, cross-country differentials in the annual cost of bank accounts are large: the estimated cost is €250 in Italy, €220 in Germany, but only €60 in the UK (see Capgemini, 2004).

Figure 6.29 shows the progressive increase in the assets of banks from other European countries between 1997 and 2004, driven primarily through this M&A activity. Over the same period, the assets of banks from non-European countries have remained stable, suggesting that the SMP may have been an important factor in European cross-border banking.



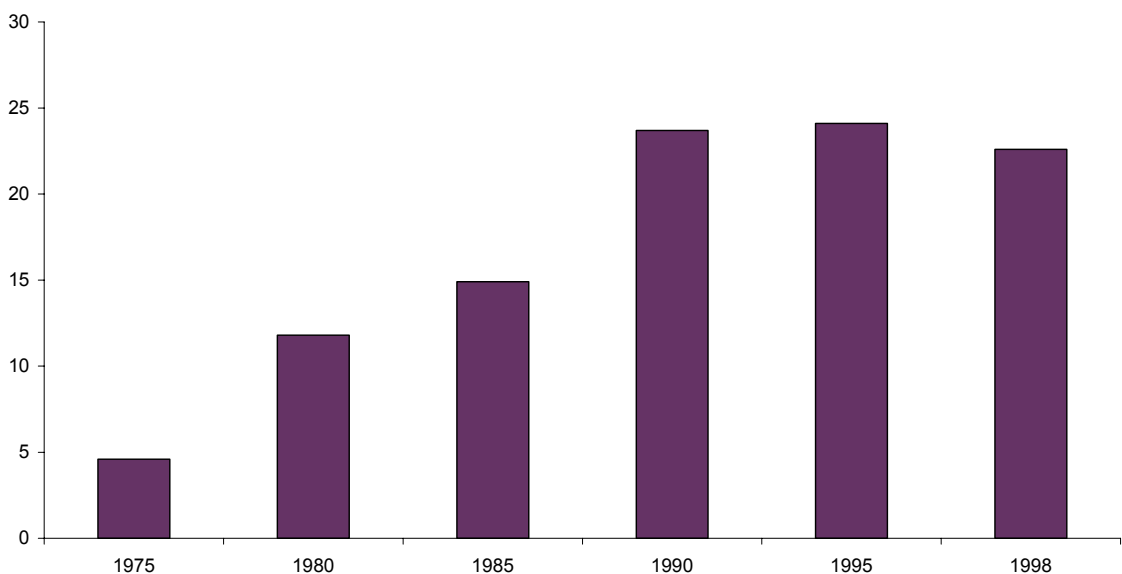
**Figure 6.29 Total assets of foreign bank branches and subsidiaries**



Source: ECB (2004 and 2005).

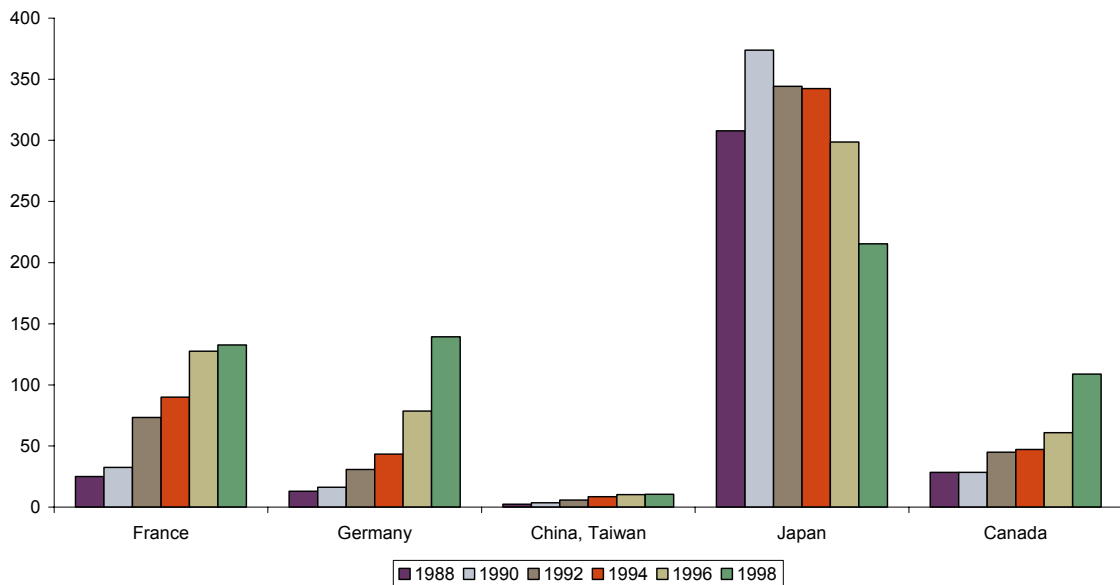
A similar trend towards internationalisation can be observed in the USA in the 1980s and 1990s, following a series of legislative changes: the International Banking Act 1978, the Foreign Bank Supervision Enhancement Act 1991, and the IBBEA 1994. As a result of the reform, foreign banks faced a coherent regulatory framework throughout the USA (as opposed to a patchwork of state legislations) and were permitted to set up a US-wide branching network. Foreign bank shares of US commercial bank assets grew steadily between 1975 and 1995 (Figure 6.30). Initially, much of the build-up to 1991 was driven by the entry of around 25 Japanese banks. The sharp falls in the Japanese equity and commercial real estate markets during the late 1980s and throughout the 1990s caused the capital positions of Japanese banks to decline. At the end of the 1990s, expansion into the USA was driven by European banks (Figure 6.31).

**Figure 6.30 Foreign bank share of US commercial bank assets (%)**



Source: Houpt (1999).

**Figure 6.31 Assets of US branches and agencies of foreign banks, selected countries and years (\$ billion)**



Source: Houpt (1999).

Turning to the other sectors considered, Table 6.6 provides evidence to suggest that foreign firms tend to enter into new markets by forming alliances with local players instead of through organic growth. As shown in the table, the foreign firms tend to acquire a significant ownership share in the domestic firm or form a new company altogether. For example, in 1989, BT entered the US telecoms market by acquiring a 20% stake in US telecoms firm, McCaw;<sup>17</sup> in 1996, it re-entered the US telecoms sector by forming an alliance with MCI to create a new company altogether, Concert (see Box 6.1 below).<sup>18</sup>

Similarly, most of the US firms that entered the German television sector mainly did so by acquiring a share in the previously German-owned television channels. As is seen in the table, other US firms followed the same strategy. Other examples, not listed in Table 6.6, also indicate that foreign firms entered the German television market through mergers and alliances. For example, Swiss channel, SRG, and Austrian channel, ORG, formed an alliance with ARD and ZDF to form 3Sat. Similarly, French pay-TV channel 'Canal +' gradually extended its influence in the German TV market by acquiring shares in domestic channels—24.5% in Vox, 33% in Eurosport, 37.5% in Premiere. Another French channel collaborated with the German channel to form Arte in 1992. A similar pattern can be seen in the experience of the Indian media sector.

<sup>17</sup> However, in 1994, BT sold all its sold shares to AT&T.

<sup>18</sup> This merger proved to be unsuccessful, which led BT to withdraw its shares in 2001.

**Table 6.6 Entry strategies of foreign firms in a variety of sectors**

<b>US media firms in German media sector</b>		
<b>German channel</b>	<b>US media firm (foreign firm)</b>	<b>Ownership share of foreign firms (%)</b>
n-tv	Time Warner/Turner	49.8
Viva	Time Warner/Turner	19.8
Viva 2	Time Warner/Turner	19.8
CNN International	Time Warner/Turner	n/a
Super RTL	Walt Disney/ABC	50
Tele Munchen	Walt Disney/ABC	50
RTL2Tm3		(32.2)
		(50)
ESPN		80
Eurosport	Walt Disney/ABC	(33)
MTV Europe	Viacom	n/a
VH-1 Germany	Viacom	n/a
Nickelodeon Germany	Viacom	90
NBC Super Channel	NBC/General Electric	88
<b>Foreign participation in the US telecoms sector</b>		
<b>US firm</b>	<b>Foreign firm(s)</b>	<b>Ownership share of foreign firms (%)</b>
Concert	BT	66
Global One	France Telecom and Deutsche Telekom	66.7 (between France Telecom and Deutsche Telekom)
Telefonica Larga Distancia de Puerto Rico	Telefonica de Espana	Approx. 79
McCaw	BT	22
Jones Intercable	BCE	30
<b>Foreign participation in the Indian media sector</b>		
<b>Indian company</b>	<b>Foreign firm(s)</b>	<b>Ownership share of foreign firms (%)</b>
Modi New Work India Pvt Ltd	New World	50
UTV	Twentieth Century Fox	49
Buena Vista TV (1) Pvt Ltd	Disney	51
Siticable	News Corp	45
MTV	Viacom and Polygram (joint venture)	50 each
Channel [V]	News Corp, BMG, Warner Music Group (joint venture with an Indian media firm)	50, 12.5, and 12.5 respectively

Note: The brackets in the column for ownership share of foreign firms indicate indirect ownership by the foreign firm. For example, Walt Disney owns 50% of the shares of Tele Munchen, which in turn owns 32.2% and 50% of the shares of RTL2 and Tm3, respectively.

Source: Holtz-Bacha (1997), Sidak (1997) and Pathania-Jain (2001).

However, while there are clear cases of companies successfully responding to the wider range of opportunities presented to them following the opening-up of markets and the removal of constraints on international ownership, it should also be noted that the process by which this has happened has not always been straightforward. As has already been noted, the experience in the EU banking sector was that cross-border M&A activity took place only after a period of time had elapsed following the SMP. There have been similar challenges faced by other companies seeking to expand globally, as evidenced by the experience in the US banking sector and Indian media sector.

For example, a number of studies on the US banking market have found that foreign-owned banks are less profitable than their American peers. Between 1980 and 1991, profitability at foreign banks' branches or subsidiaries, whether measured by return on assets or return on equity, was found on average to be one-third that of domestic banks over the period (Seth, 1992 and Nolle, 1995). There are several possible explanations for lower profitability of foreign banks. Seth (1992) focuses on the selection bias implicit in the enterprises for sale, which are likely to have problems with asset quality. Similarly, Peek, Rosengren and Kasirye (1998) find that poor performance is a result of the foreign banks acquiring poorly performing US banks and being unable to improve performance sufficiently within the period examined. Leveen and Praveen (1992 and 1994) find that foreign banks operate with greater risk exposures than their domestically owned counterparts. All of these indicate that there are often problems or challenges associated with foreign ownership that are not shared by domestically owned firms. However, the findings on foreign-owned bank profitability are not unanimous: DeYoung and Nolle (1996) arrive at the rather different conclusion that subsidiaries of foreign banks were significantly more profit-efficient than US-owned banks.

There were also challenges faced by companies seeking to expand into the Indian media market following the relaxation of ownership restrictions. Although some foreign firms entered the market through TV software and content production, they failed to capture a significant proportion of the audience. According to Pathania-Jain (2001), this was mainly due to the presence of cultural differences and varying viewing habits. The author argues that most of the foreign firms operating in the Indian media sector have collaborative alliances with local players, since localisation becomes important if globalisation is to be successful. As a result, the foreign firms changed their strategy to adapt their programmes to Indian culture. The study concluded that, in such a strategic partnership, foreign and domestic firms bring different expertise. While the foreign partner brought in financial support, marketing and sales expertise, and economies of scale, the native firms often provided an understanding of the requirements of consumers, and the ability to deal with regulatory requirements.

Finally, there are a number of cases where companies have expanded internationally, only to retract their expansionist strategies at a later date. The case of BT in the telecoms market represents an interesting example.

## Box 6.1 Case study of international expansion of BT

A strategy to expand into international markets was made a priority for BT after privatisation. In 1989, BT entered the US telecoms market by acquiring a 22% stake in McCaw Cellular Communications. However, by 1994, McCaw became a wholly owned subsidiary of AT&T, which left BT with only a very small holding in AT&T. By 1995, it had sold all its shares in AT&T.

Determined to operate in the US telecoms sector on larger scale, BT purchased a 20% stake in MCI in 1995/96 (the second largest company in the USA at the time), with the intention of purchasing the rest of the shares (see Jamison, 1998, p. 4). In 1996, together with MCI, BT launched an alliance called Concert. BT's intention to purchase all of MCI highlighted its interest in operating Concert as a wholly owned subsidiary. However, BT's attempt to fully acquire MCI was unsuccessful, and MCI was instead purchased by Worldcom. In 1998, BT purchased MCI's shares in Concert, and the following year BT went into partnership with AT&T in its ownership of Concert.

By 2001, in the wake of the dotcom crash, BT had divested of Concert, along with many of its other international subsidiaries. Several reasons have been suggested for the failure of Concert.

- Fundamentally, Concert suffered from poor performance. It failed to develop a sufficiently large customer base, while maintaining a high cost base, which made it unprofitable. Part of the reason why Concert failed to attract a large customer base was that it was competing with AT&T and other subsidiaries of its parent companies for customers, and the parent companies were reluctant to share their customer base with Concert.
- BT's ownership was restricted to 20%, which contributed to reducing Concert's profitability. The main reason for BT's relatively small share was the restrictions on foreign ownership, which were capped at 20% at that time by US regulators.
- Regulatory requirements for BT to commit to regular investments in the home telecoms sector put a strain on its financial resources. Coupled with this, BT had accumulated substantial debt owing to its expansionist strategy.
- According to Jamison (1998), one of the other problems was that, due to information asymmetries, BT was unaware of MCI's financial losses at the time it intended to purchase the company. Although BT learned about these losses and tried to renegotiate the financial aspects of the merger, it was again unsuccessful—mainly due to disagreements between internal management and the shareholders of BT.

Source: Borsch (2004), Jamison (1998) and Halpern et al. (2001).

### 6.4.2 Development of niches in national markets

Not all firms have responded to liberalisation and globalisation by adopting an expansionist approach. Nellis, McCaffery and Hutchinson (2000) point to the example of Lloyds TSB, which has focused its strategy on retail business, *primarily within the UK*. According to reports on the company, this strategy was underpinned by three main aims:

- 1) being a market leader in the group's chosen segments, necessitating a narrow business focus;
- 2) being directed towards the needs of customers;
- 3) maintaining low day-to-day operating costs.

The authors note that the company was the only UK financial institution not to get involved in the 'big bang' of the 1980s, and that it was the first UK bank to withdraw from the US retail market. Highlighting the fact that the company had some of the highest returns on equity among EU comparators in 1997, they conclude their discussion by arguing that:

What is being argued is that ... future changes in the structure of EU banking markets do not point to either the universal banking model as the dominant form of organisation, **or to globalisation as the inevitable outcome for the European banking industry.** [emphasis added]

A similar idea is presented by Greenwald and Kahn (2005), who cite a number of case studies in which adopting local/national strategies appears to have been more advantageous than adopting an explicitly global focus. In the media sector, they point to the fact that large, global media players (of which they cite four: Time Warner, Viacom, Disney and News Corporation) have on average generated shareholder returns of 5.8% per annum, compared with the S&P500 average of 10.5%, while 'traditional' newspaper companies<sup>19</sup> outperformed the market index, generating annual average returns of 12.8%.<sup>20</sup> The authors conclude that:

For all the talk of convergence of global consumer demand, separate local environments are still characterised, in both obvious and subtle ways, by different tastes, different government rules, different business practices and different cultural norms ... As our comparison of vertically integrated media and newspaper companies makes clear, the decision to concentrate on a narrow set of products or services has its own benefits. Coping with either regional differences or an unwieldy range of offerings puts heavy demands on any company's management.

#### 6.4.3 Diversification/specialisation

A related question regarding the strategic response of firms to liberalisation and the relaxation of ownership restrictions is whether this has encouraged firms to expand/diversify across a wider range of activities within (or even sometimes outside of) the sector, or whether firms have tended to specialise in a narrow range of activities.

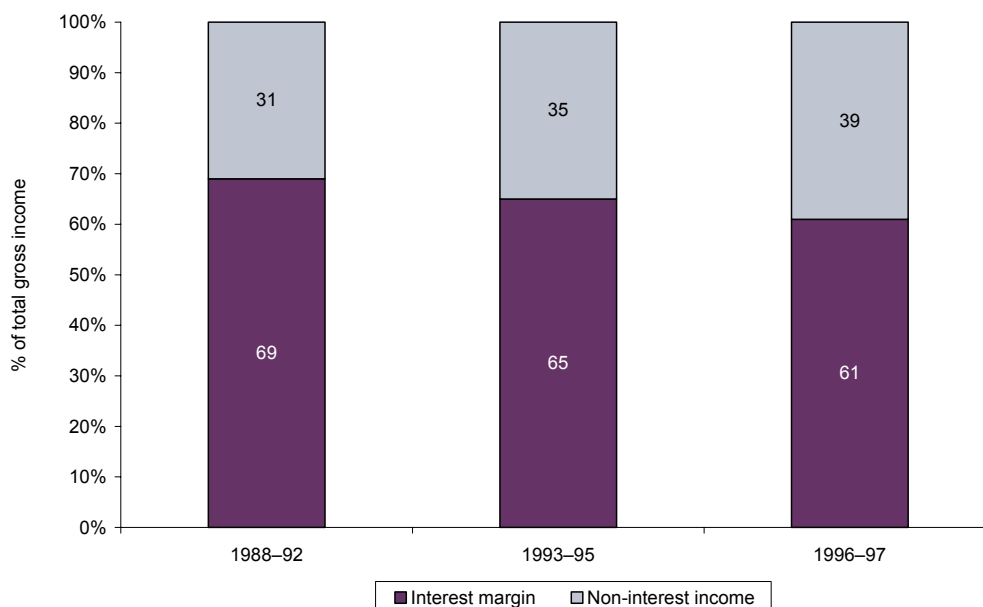
There are certainly many cases where the response of companies to the pressures of globalisation has been to expand across a wider range of activities. This can be seen most clearly in the EU banking sector, as well as in the media and energy supply sectors.

Within the EU banking sector, the consolidation process referred to earlier was combined with a diversification process. According to Bank for International Settlements (2000), in 1999 the total value of mergers between Eurozone banks and non-banking financial institutions was over \$25 billion. In particular, banks sought to diversify into fee-based activities (such as investment banking) to offset the erosion of spreads in the intermediation business. Landi and Venturelli (2000), as shown in Figure 6.32, find that non-interest (fee-based) income as a proportion of EU banks' total income increased during the 1990s.

<sup>19</sup> The authors' sample consists of Tribune, McClatchy, Washington Post, Gannett, Scripps, New York Times, Knight Ridder and Pulitzer.

<sup>20</sup> No attempt is made to assess the relative risk differentials of the companies in the two samples.

**Figure 6.32 Interest margin and non-interest income as percentage of total gross income for EU banks**



Source: Landi and Venturelli (2000).

Evidence on consolidation in the GB energy sector discussed above also shows that electricity utilities have diversified into the gas sector, whereas gas utilities have diversified into the electricity sector. Suppliers now make 'dual fuel' offerings that allow consumers to obtain their electricity and gas in a single contract. Suppliers have also expanded their activities beyond electricity and gas into services such as telecoms, water and the Internet. It was envisaged that this expansion would allow the energy utilities to provide a range of services as a bundled offer, thus reducing their costs of supply by taking advantage of possible economies of scope across the sectors. It also enables them to engage in cross-selling by marketing electricity and gas to consumers of the other products and vice versa. However, as discussed below, aside from dual fuel offerings, the success of this strategy has been mixed.

Similarly, there is considerable cross-media ownership in the German private radio broadcasting industry. This is evident from Table 6.7, which shows that two out of the top three television firms (in terms of market share) also formed the top firms in the radio sector. Similarly, two of the top three regional press companies represent two of the top three national press companies.

**Table 6.7 Cross-ownership in the German media sector**

Sector	Top three firms	C3 (%)
Television	ARD, RTL, ProSieben	90.9
Radio	ARD, RTL	56.8
Regional press	Axel Springer, WAZ, SZV	27.9
National press	Axel Springer, SZV, VFAZ	87.4

Source: Netherlands Media Authority (2004), p. 93.

However, while this diversification has been important in some sectors, there are cases where companies have decided that this diversification process has been taken too far, and either economies of scope have been replaced by diseconomies of scope, and/or there has been a lack of strategic focus/expansion beyond what might be justified by economies of



scope. Alternatively, in response to financial problem, some companies have resorted to (more successfully) specialising in their core activity. For example, the national strategy of Lloyds TSB discussed above was accompanied by a focus almost exclusively on retail activities. Nellis, McCaffery and Hutchinson (2000) point out that, following the TSB merger, the newly formed group exited from 14 lines of business.

In the GB energy supply market, although RWE npower considered its water business (Thames Water) an important part of its portfolio, exploiting the synergies between the energy and water industries to reduce costs and to increase customer acquisition and retention, it has recently sold the company. In addition, Centrica acquired the Automobile Association in 1999 and One.Tel (a telecoms company) in July 2001. These businesses were sold in 2004 and in 2005, respectively, with British Gas Trading's strategic refocus towards energy and related services.<sup>21</sup>

Further interesting examples can be drawn from the telecoms sector. In response to mounting debt problems, discussed above, BT, the incumbent telecoms operator in the UK, sold off its mobile operation, Cellnet, in 2001. According to Borsch (2004), 'it spun off mobile telephony because it did not meet financial performance goals.' A similar case was that of KT, which also sold its mobile business following the liberalisation measures in the country, and the government plan to privatise the telecoms sector.

#### 6.4.4 Summary

This section has focused on the strategic approaches that companies have adopted to the challenges and opportunities presented by the relaxation of ownership restrictions (in particular) as well as, on occasion, the impact of greater product market liberalisation. The main conclusion that emerges from this examination is the plurality of different strategies adopted by companies to respond to these pressures. As these strategies are company-rather than sector-specific, it is perhaps best to summarise the findings thematically.

- Not surprisingly, many companies have responded to the relaxation of ownership restrictions by expanding globally, through M&A activity.
- However, it should be noted that this expansion has not always been successful, or without difficulties. The hypothesis of a 'two-tier' response to the stimulus to acquisition activity provided by the SMP is a clear example of this. Furthermore, evidence from the US banking sector suggests that foreign-owned banks may not actually be as successful and profitable as their domestically owned rivals, due to greater informational problems faced by foreign-owned banks. Finally, the experience in the Indian media sector illustrates the potential importance of companies retaining an understanding of local market conditions.
- There are also occasions where companies' international expansion strategies have ultimately been unsuccessful, and they have retreated to their national markets. The case of BT's expansion into the US telecoms market following the relaxation of ownership restrictions in this sector represents a paradigmatic example of this.
- Some companies have also consciously focused on an explicitly national strategy, with apparent success. The case of Lloyds TSB in the retail banking sector, with its explicit UK focus, represents such an example.
- A closely related issue to that of national versus international focus is of whether, in response to the challenges presented, companies have sought to diversify their range of

<sup>21</sup> Centrica annual reports 1999, 2001, 2004 and 2005.

activities or develop more specialised niches. Again, successful examples of both strategies can be seen, although there are also cases where greater specialisation has emerged following an (unsuccessful) attempt at diversification.

## 7 Conclusions and implications for the airline sector

This report has examined the implications of the liberalisation of product markets and ownership restrictions in a range of sectors and jurisdictions, with the aim of assessing what the impact might be if further product market/capital market reform were initiated in the airline sector. The overall picture that emerges from the case study analysis, and the potential implications for the airline sector, are discussed below.

### 7.1 Impact on consumers

In terms of the implications for airline passengers of any further reform to product market liberalisation, the message from these case studies is broadly positive: after the reforms, prices tend to fall, product availability tends to increase and quality and diversity of quality improve. This is seen in a range of sectors such as the EU energy and Asian telecoms sectors. However, these case studies also illustrate the potential for impacts from product market liberalisation that may be perceived negatively by (some) consumers. For example, the greater cost-reflectivity associated with liberalised product markets may result in more volatile prices (if underlying costs are themselves volatile), although this can be hedged where demand for de-risking is sufficient, and also the unwinding of cross-subsidies that may be seen as socially desirable. Nonetheless, the evidence from these case studies suggests that, on average, most consumers gain from greater product market liberalisation, corroborating the impact of such liberalisation that has already been undertaken in the airline sector.

In the context of the airline sector, however, it is plausible that the slightly more important lessons to be drawn are those associated with the relaxation of ownership constraints. For product market liberalisation (although there is scope for further relaxation of restrictions; IATA estimates the number of international routes operating in a liberalised environment to be less than 20%) it may be the case that some of the benefits have been realised from previous rounds of reform. Certainly, it would seem unlikely that the impacts of product market reform, as seen in the UK energy markets, where the number of suppliers increased dramatically, would be replicated in the already partially liberalised airline markets.

The case studies indicate that relaxing foreign ownership constraints do bring benefits to consumers. These are derived from two complementary sources.

- **The relaxation of ownership constraints increasing the number of competitors and therefore augmenting the impact of product market liberalisation.** The case of TV3 in New Zealand is particularly informative: it is only with the relaxation of foreign ownership constraints that this channel was able to survive as a viable competitor to the established channels—a policy change made specifically to secure this objective.
- **The relaxation of ownership constraints allowing for more effective competitors to develop.** For example, the evidence from the US telecoms sector suggests that the relaxation of ownership restrictions led to increases in investment and innovation, while the introduction of ownership constraints in the same sector in Canada appears to have led to the opposite result. The econometric evidence from Warren (2000) also indicates that the relaxation of ownership caps tends to be associated with higher penetration rates. Finally, the evidence from the IBBEA in the US banking industry—which allowed interstate mergers for the first time—indicates that some of the benefits from consolidation were passed on to consumers in terms of higher-quality service provision and lower prices.

These lessons indicate the potential for similar consumer benefits—lower costs and hence greater investment, improved management and a sharing of the gains from consolidation—to be realised from the relaxation of ownership restrictions in the airline sector.

However, the case studies also indicate that the relaxation of ownership restrictions tends to lead to consolidation (as discussed below). While such consolidation does have the potential to deliver the benefits set out above, beyond a certain point it also has the potential to allow the formation of dominant firms, which can then preclude effective competition by abusing their dominant position. However, there would appear to be no intrinsic reason why such a risk could not be mitigated by a robust competition law regime, in the same way that this risk is mitigated in other sectors.

## **7.2 Impact on producers**

Turning to the impact on producers, a number of aspects were considered. The overall findings were again that further reforms had the potential to deliver benefits to producers, but that there was also, on occasion, tension between the impacts that might be expected from further product market liberalisation and relaxing ownership restrictions.

### **7.2.1 Impact on consolidation and excess capacity**

The potential impact of reform on consolidation and excess capacity represents one of the key areas of interest for the airline sector, given the perception that the sector currently suffers from overcapacity. The case studies indicate that a different impact can be expected from pursuing greater product market liberalisation—where, in the short term at least, supply might be expected to grow further—than that expected from capital market liberalisation—where the relaxation of ownership restrictions appears to facilitate M&A activity and hence lead to increased concentration within the sector. There is evidence for the former in the UK energy supply markets, German TV markets and New Zealand radio markets. The potential for consolidation following ownership restriction relaxation is shown particularly clearly in the US banking industry and the US electricity generation sector. The latter is particularly informative in that, in a similar way to the airline sector, a distinct measure of capacity utilisation can be tracked. The evidence shows how capacity utilisation improved significantly throughout the 1990s, in part facilitated by the changes in ownership rules following the 1992 Energy Policy Act. Indeed, the level of capacity utilisation arguably increased to too high a level, prompting a wave of new build, although there has been further consolidation and removal of capacity in the most recent years.

The EU retail banking sector is another interesting example. The move to Europe-wide consolidation was not immediate; instead, consolidation appears to have followed a two-tier process, proceeding initially on a within-country basis. This may in part reflect the relatively ‘atomised’ structure of the EU banking sector, but also the importance attached to customer interface. Given that this is also an important facet of the airline industry, this may be of significance to the sector.

Although product market liberalisation appears to spark considerable new entry into markets in its immediate aftermath, a general pattern emerging from the case studies is that, after a certain period, this is followed by rationalisation and a wave of consolidation. The UK energy markets, both generation and supply, and German TV markets represent paradigmatic examples of this pattern.

### **7.2.2 Impact on cost efficiency and productivity**

The key patterns emerging from the case studies are relatively unambiguous: both further product market liberalisation and a relaxation of ownership restrictions appear to stimulate cost efficiency and productivity improvements. In terms of the impact of product market liberalisation, the evidence collected in response to the liberalisation of the Japanese and Korean telecoms markets is particularly informative, since it decomposes the specific impact

of liberalisation and indicates the significance of this impact in the aftermath of market opening.

However—and, as discussed above, arguably of particular relevance to the airline sector—the case studies also indicate that cost efficiencies and productivity improvements tend to be derived from relaxing ownership restrictions. Two separate mechanisms can be identified:

- ownership liberalisation leading to a wider pool of owners, facilitating international transfer of best practice;
- ownership liberalisation facilitating M&A activity that in turn allows for the exploitation of economies of scale and scope.

One of the strongest pieces of evidence in support of the former is the international econometric analysis of Trewin (2000) in the telecoms sector, which indicated that countries with more liberal foreign ownership policies tended to have lower costs than those with more restrictive policies. Interestingly, and according with intuition, this effect was particularly marked for low-income countries.

Corroborating evidence for the second mechanism can be seen in the EU banking sector, where the SMP appears to have allowed the (previously identified) economies of scale and scope to be exploited, with evidence suggesting that the cost efficiency of EU retail banking institutions has improved markedly since the SMP was introduced. These findings are particularly pertinent given the economies of scale and density characteristics of the airline sector, as identified in section 3.

A final cost that is worth noting is the impact that ownership restrictions may have on a company's cost of capital. As discussed in section 4, there are a number of theoretical reasons why the cost of capital may be expected to be higher when ownership restrictions are imposed, as opposed to when ownership is liberalised. These theoretical arguments appear to be corroborated by the experience of the Canadian telecoms sector, where the evidence suggests that restrictions limiting the access to equity markets (for some companies) was the most important concern. This led to the affected companies adopting inefficient financing structures, with an associated increase in the cost of capital/decrease in investment level. Although the airline sector is perhaps less capital-intensive than a 'pure' infrastructure sector such as telecoms, the industry does still make considerable use of capital inputs, implying a potentially important effect.

The only substantive caveat to these conclusions relates to the potential for companies to overestimate projected cost savings that would be delivered from M&A activity.

### **7.2.3 Impact on profitability**

The case study evidence suggests that the two processes of product and capital market liberalisation may have offsetting impacts. Greater product market liberalisation appears to strengthen competitive pressures and lower reported profitability. The changes in profitability of UK electricity generators over time provide one indication of this trend, as does the cross-sectional analysis of the profitability level of energy companies in different EU countries.

However, in response to this greater pressure of profitability, a main driver for M&A activity (facilitated by ownership liberalisation) is the pursuit of higher profitability and hence shareholder value. The evidence on the success of this from the case studies examined was largely positive. This is particularly clear in the case of the impact of the IBBEA in the US banking sector, which appears to have led to an increase in profitability levels, at all levels of bank size. Slightly more ambiguous is the impact that the SMP had on profitability levels in the EU banking sector. While in most countries there appears to have been an increase in profitability levels, the results are not unanimous. Nonetheless, the overall picture that emerges is one of ownership liberalisation leading to greater profitability.

This result is consistent with the finding that greater ownership liberalisation is likely to generate consolidation and capacity utilisation: the M&A activity facilitated by the lifting of ownership restrictions appears to lead to the retirement of inefficient capital and the consequent boosting of rates of return achieved on capital. This conclusion is of particular importance given the general perception that the airline sector is currently characterised by overcapacity and low profit margins.

A further way in which profitability might be expected to increase following ownership liberalisation is through the share price appreciation that is typically experienced by firms subject to a takeover threat. The recent interest in BAA from Ferrovial is symptomatic of this pattern.

Finally, there is the issue that greater product and capital market liberalisation may increase the opportunities for companies to disguise profitability performance such that, in the event of financial collapse, the consequences (the costs of financial distress) are significantly enhanced. Arguably, the cases of Enron and WorldCom in the energy and telecoms sector are indicative of such a problem. However, it is not clear that the reforms envisaged in the airline sector—especially the relaxation of ownership and control regulation—would exacerbate this risk. It does, however, indicate the more general need for an appropriate regulatory framework to be developed alongside any liberalisation measures—an issue that, in the context of safety regulation, has recently been considered by the UK's CAA.

#### **7.2.4 Strategic responses**

A final aspect considered was the way in which companies had strategically responded to the challenges created by liberalisation of both capital and product markets.

The evidence suggested that many firms had taken advantage of the liberalisation agenda to grow their international presence. This can be seen, for example, in the growth in activity of foreign-owned banks in the USA, or the growth of assets in foreign-owned (but EU) banks within the EU. It was also shown in how M&A activity—as opposed to organic growth—was a common driver of this internationalisation in the media, telecoms and EU banking sectors, corroborating the commentary from some airline industry observers that relaxing cabotage rules alone would be unlikely to stimulate the internationalisation of the sector.

However, a potentially important lesson for the airline sector is that this process of globalisation was not as seamless as might be expected. The delay in the cross-border M&A activity in the EU banking sector has already been discussed. In addition, the evidence collected suggests that the profitability of foreign-owned banks in the US banking sector tends to be lower than for domestic banks, while the Indian media sector case studies show how foreign entrants needed to adopt strategic alliances to successfully enter this market. Challenges such as these potentially indicate that fears regarding immediate and wholesale changes to the airline industry as a result of relaxing ownership restrictions may be overstated. Even more fundamentally, the case study of BT's expansion into, and subsequent withdrawal from, the US telecoms sector illustrates that not all international expansions are successful.

It is also interesting to note that not every successful company has responded to the challenges of globalisation by moving into foreign markets through acquisition. In some cases, such as Lloyds TSB, firms have followed a consciously national strategy, seemingly with some success. Evidence from the media sector provides further corroboration of the potential success of this strategy.

A final aspect that was considered was whether, alongside any liberalisation reform, companies had tended to follow a policy of diversification or specialisation. The case studies indicated that, where economies of scope existed, successful firms tended to diversify—the growth in fee-based income in the EU banking sectors and the growth of cross-media ownership being particularly clear examples. However, there are also cases of companies

having potentially over-diversified and, in response, having shifted back in recent years to focus on a narrower range of activities. The UK energy supply market provides such an example. In addition, some firms have responded to the challenges of liberalisation by focusing on a narrower set of activities where they perceived their management had a comparative advantage. The cases of BT and KT selling off their mobile phone businesses are examples of this.

### **7.2.5 Unilateral or multilateral reform?**

A final consideration of any potential reforms to the airline sector is the question of whether the reform process should be multilateral (ie, undertaken by a number of countries concurrently) or unilateral (ie, reform introduced by individual countries in a more ad hoc, piecemeal fashion). This issue has not formed a central part of this research since it has not been a key focus in the case studies investigated. However, the implications of any reforms—which as seen above, would be largely expected to be positive—are likely to be more extensive the greater the proportion of the sector on which they impact. There is also likely to be an important political dimension to this issue: reform may well be more politically feasible if introduced through a multilateral approach rather than in a unilateral fashion.



## Appendix 1 Banking

### A1.1 The Single Market Programme in Europe

In the 1980s, the European banking sector was characterised by limited scope for competition, national differences in regulation, and substantial public and mutual ownership. Vives (1991) characterised the banking system prior to the SMP as a 'system of national oligopolies heavily regulated and with limited trade in financial services'.

The scope for competition was limited by a number of regulations such as:

- price regulation (limits on interest rates);
- prohibition on commercial banks undertaking securities and insurance activities;
- high reserve requirements;
- limitations on the number of branches.

Table A1.1 shows the range of regulations across the main European economies in 1986.

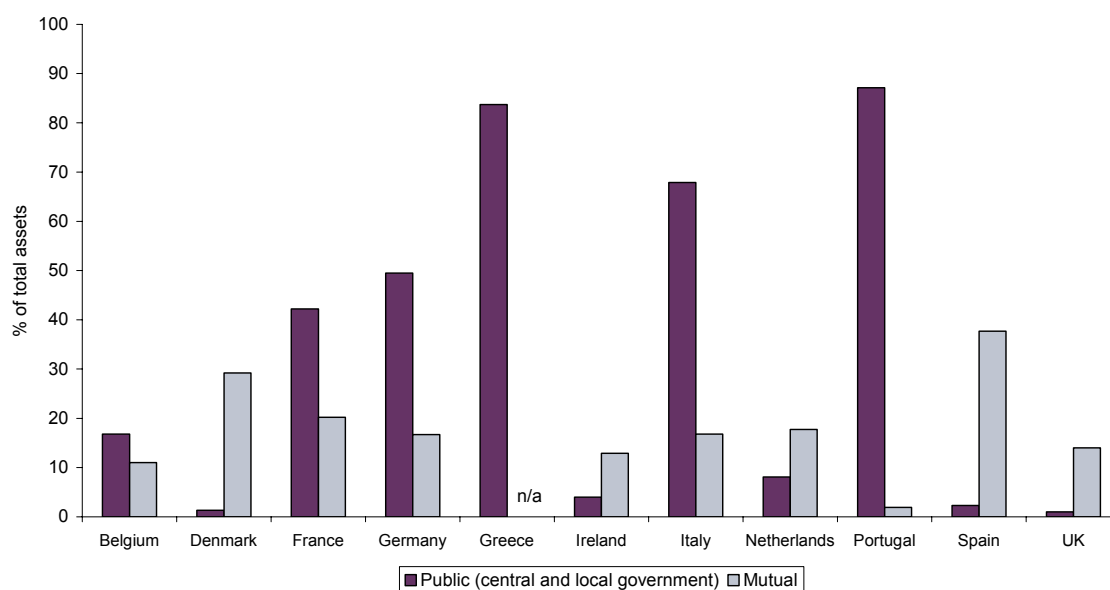
**Table A1.1 Differences in banking regulation, 1986**

	France	Spain	Italy	Germany	UK
Interest rate restrictions	✓	✓	✓		
Capital controls	✓	✓			✓
Bank access to stock exchange membership	✓	✓	✓		
Restrictions to bank ownership		✓			
Restrictions on number of branches	✓		✓		
Foreign bank entry		✓			
Mandatory investment requirements		✓			
Restrictions on insurance, underwriting and brokerage	✓	✓		✓	
Leasing and factoring		✓			

Source: European Commission (1997).

In several Member States, a large part of the banking sector was in public hands. Figure A1.1 shows that in Germany, Italy, Spain and Portugal, the public sector owned over half of the sector (in terms of assets). Mutually owned banks represented a significant portion of the market in several countries.

**Figure A1.1 Public and mutual ownership, 1988**



Source: European Commission (1997).

Banking represented only one part of the SMP, which was an economy-wide reform programme. The SMP was initiated by the European Commission to relaunch European market integration and reduce and harmonise national regulations. Differences in regulation were perceived as barriers to cross-border competition and market integration.

Table A1.2 presents the key dates of the SMP as it relates to the banking sector. The centrepiece of the SMP was the Single European Act 1986, complemented with a series of Directives aimed at the different sectors. For banking, the key piece of legislation was the Second Banking Directive of 1988. The SMP was completed in January 1993, the date by which Member States had to implement the Directives.

**Table A1.2 Key dates of the SMP**

<b>1985</b>	White Paper on completing the internal market List of measures to remove all physical and technical barriers by 1992
<b>1986</b>	Implementation of the Single European Act
<b>1988</b>	Second Banking Directive
<b>1993</b>	Completion of the SMP

The Second Banking Directive, adopted in 1989, is seen as the cornerstone of the SMP for banking services. Its main elements are the following.

- **Mutual recognition of a single banking licence**—allowing undertakings licensed in one Member State to operate in all other Member States without any further licensing requirements. The home country licence acts as a ‘passport’ for banking services.
- **Home country control**—bank branches from other Member States are supervised by the home country of the parent, reducing the potential for discrimination against foreign banks by local regulators.
- **Harmonisation of key supervisory standards, including capital requirements**—international banks therefore do not have to comply with different regulatory regimes.

- **Abolition of requirements for branches to maintain a minimum level of capital**—reducing the regulatory cost of opening new branches.
- In the interest of the ‘general good’, some provisions remain, granting the host country some power to restrict the establishment of new entrants.

Liberalisation was not driven exclusively by the initiative of the European Commission. In parallel with the SMP (and sometimes in anticipation of it), there was a domestic process of deregulation. In the UK and Germany, capital controls had been eliminated before the 1988 Directive on capital flows. Moreover, one of the main barriers to competition, interest rate regulation, was eliminated without specific EU legislation. Table A1.3 shows the timing of interest rate deregulation and liberalisation of capital flows in different European economies.

**Table A1.3 Liberalisation of interest rates and capital flows**

	Interest rate deregulation	Liberalisation of capital flows
France	1990	1990
Germany	1981	1967
Italy	1990	1990
Spain	1992	1992
UK	1979	1979

Source: European Commission (1997).

However, the drive towards banking deregulation did not end with the SMP—in part because European integration in the banking sector was developing at a slow pace. The EU adopted several Directives on banking between 1993 and 1999. In 1999, the European Commission launched the Financial Services Action Plan, which led to the adoption of 41 Directives on different aspects of financial markets. Furthermore, in 2005, the Commission announced that it is to launch an inquiry into competition in the banking sector (European Commission, 2005b). Moreover, in several countries, there is still scope for deregulation, highlighting the relevance of reforms at a national level. For example, in July 2006, the Italian government announced a plan to liberalise its banking sector.

## A1.2 US banking deregulation

In the 1980s and 1990s, the USA underwent important regulatory changes in the banking sector. The most important acts passed were the International Banking Act 1978, the Foreign Bank Supervision Enhancement Act 1991, and the IBBEA 1994.

Until 1978, while national banks had been subject to federal legislation, foreign banks had been subject to a patchwork of state laws. This had allowed foreign banks to develop competitive advantages as they did not have to comply with a number of federal laws. The International Banking Act required foreign banks to meet Federal Reserve-determined reserve requirements on liabilities and made them subject to federal laws restricting interstate banking and activity diversifications. However, for the first time, foreign banks were permitted to enter the retail banking market.

The 1991 Foreign Bank Supervision Enhancement Act was implemented as a response to the high rate of bank insolvencies in the 1980s. It increased the difficulty under which foreign banks could establish and maintain operations in the USA by adding another level of approval for banks seeking to establish offices. It also required foreign banks to be subject to comprehensive supervision or regulation on a consolidated basis by their own countries. Moreover, once a US office was established, it was subject to more extensive examination and monitoring by US regulation

The 1994 IBBEA allowed branching across state lines, which until then had been prohibited. The new legislation permitted both domestic and foreign banks to build a nationwide network. Moreover, the regulatory agencies were given the responsibility to ensure that foreign bank organisations have competitive opportunities equal to those available to domestic banks.

## Appendix 2 Media

### A2.1 Germany

The German media sector was liberalised in 1984, opening the sector to private participation. Germany undertook a ‘big bang’ approach to liberalisation—ie, no restrictions on private firms (including foreign-owned firms) were imposed. In general, the foreign firms were subjected to the same laws and requirements as the domestic firms.

However, to prevent concentration of ownership, the German regulator imposed restrictions on maximum ownership in the broadcasting sector. This meant that, at the national level, one company was allowed to own up to two channels including only one full-service channel or one channel specialising in news. Moreover, the maximum ownership share of a full service channel or a news channel was set at 49.9%, which made a minimum number of three owners necessary per channel. However, in 1997, the German broadcasting rules were changed with respect to ownership concentration. Under the new regulation, one company was allowed to own up to 100% of a channel, but was restricted to a maximum of 30% of the audience market.<sup>22</sup> However, even if a company reached the 30% threshold of audience shares, it would not necessarily be forced to sell part of its shares of the channel. Instead, the company would be obliged to grant access to its programming time to another broadcasting firm. The overall purpose of this regulation was to ensure plurality of opinion.

Prior to liberalisation, the German media sector consisted of two PSBs—ARD and ZDF—which together provided three television channels. After liberalisation, the PSBs were made responsible for the ‘fundamental supply’ of programmes, which comprised information, news, and cultural content.

Moreover, different regulations were put in place relating to the sources of revenues of the PSBs and the private channels. While the former could charge licence fees, which comprised their main source of revenue, the latter could only raise revenue through advertising.

### A2.2 New Zealand

#### A2.2.1 Liberalisation of the television sector

Prior to liberalisation, the New Zealand television sector consisted of two channels that were both state-owned and run by the Broadcasting Corporation of New Zealand (BCNZ). In 1989, the New Zealand broadcasting sector was liberalised and opened to the private sector. The main features of the liberalisation process were as follows.

- Opening up the airwaves to competition: broadcasting frequencies were to be auctioned off to the highest bidder and could be traded. This enabled any firm that was willing to pay the market price for a licence to enter and operate in the industry. Moreover, there were no programming requirements or conditions attached to such licences.
- BCNZ was restructured into two separate state-owned enterprises—Television New Zealand (TVNZ) and Radio New Zealand (RNZ)—which were required to operate as commercial enterprises, with profit making as the primary objective.

<sup>22</sup> The combined audience share was calculated according to the audience shares of all the channels where the company owned more than 25% of the share capital.

- Subsequently in 1991, all restrictions relating to foreign ownership were abolished, which gave foreign firms equal rights to national firms. This was done mainly with the intention of reviving the third channel, TV3, and improving its performance.

### **A2.2.2 Liberalisation of the radio sector**

The New Zealand radio sector was liberalised in 1989, with the passing of the Radio Communications Act and the Broadcasting Act. With liberalisation, the New Zealand radio spectrum became a tradeable commodity. The main features of the reform were:

- radio spectrum was put out to tender;
- all restrictions on ownership were removed (including foreign ownership restrictions);
- the restrictions on programme form and content were also removed;
- commercial broadcasters could use new technologies, which was not permitted prior to deregulation.

## **A2.3 India**

The Indian media and broadcasting sector was liberalised in 1991 and the private sector was allowed to enter the sector. Prior to 1991, the Indian media sector was a state-owned monopoly.

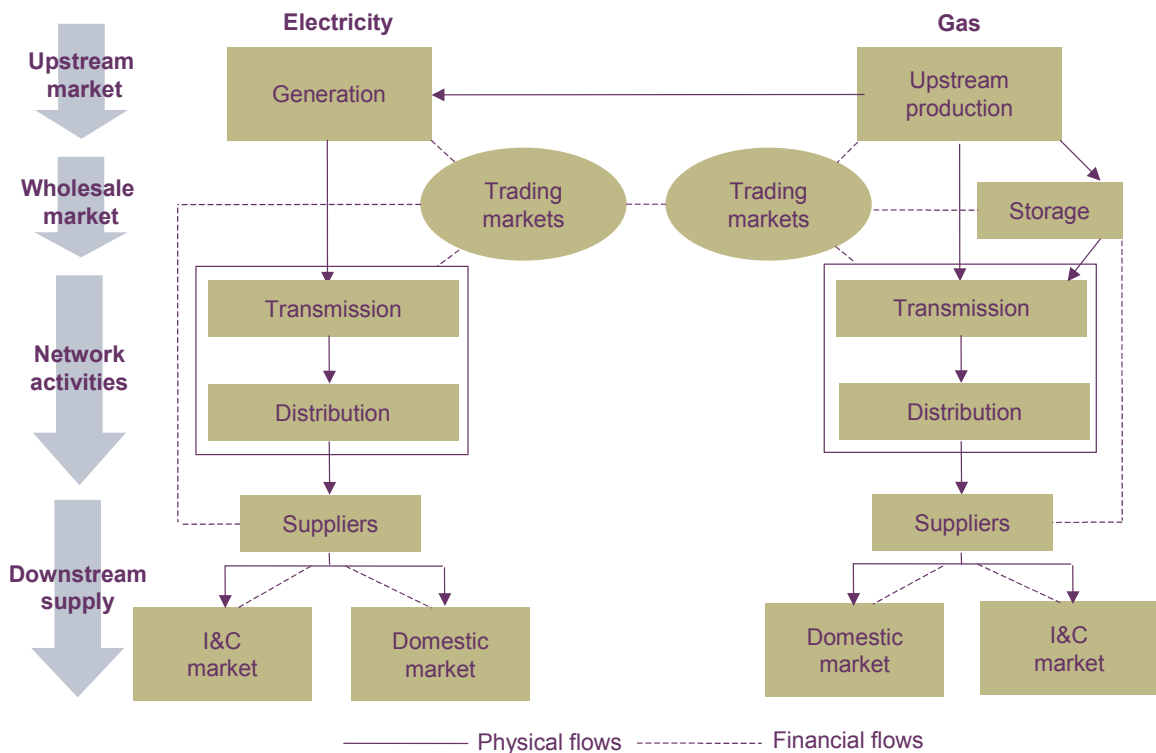
However, the allowed levels of foreign ownership vary within the broadcasting sector:

- television distribution: 49% (includes cable TV distribution);
- programme content (non-news): 100% allowed for print and TV, but only 20% for radio;
- programme content (news): 26% for television and print, but nil for the radio sector;
- advertising: 100% foreign equity is allowed.

## Appendix 3 Energy markets

The energy markets have four main stages of operation—production, transmission, distribution and supply (see Figure A3.1). The liberalisation process for each stage is dependent on its economic characteristics. While production and supply are both potentially competitive, transmission and distribution are characterised as natural monopolies. Liberalisation of production and supply, therefore, aims at the introduction of competition, whereas that of transmission and distribution aims at unbundling them from production and supply and ensuring that third parties can access them on non-discriminatory terms.

**Figure A3.1 Generic structure of energy markets**



Source: Oxera.

### A3.1 European energy sector liberalisation

Developments in liberalising energy markets in the EU have resulted from a combination of European Commission and national legislation. This section details legislation at the European level, along with steps towards liberalisation in Great Britain, Germany and France—three EU Member States that have taken very different approaches towards liberalising their markets. The focus of this study is on supply market opening rather than production and network issues.



### A3.1.1 European Commission Directives

The European Commission's drive towards liberalising national energy markets began with its Electricity Directive (1996),<sup>23</sup> which had to be implemented into national law by February 1999, and the Gas Directive (1998),<sup>24</sup> implemented into national law by August 2000. (European Commission, 2001).

The supply market opening requirements of the Directives were as set out in Tables A3.1 and A3.2.

**Table A3.1 Timetable for electricity supply market opening, First Electricity Directive**

	Degree of market opening required (%)
February 1999	26.48
February 2000	30
February 2003	34.5 (sites consuming more than 9GWh per annum)

Source: CRE (2003).

**Table A3.2 Timetable for gas supply market opening, First Gas Directive**

	Degree of market opening required (%)
2000	20
2003	28
2008	33

Source: CRE (2003).

Liberalisation of the markets was however accelerated with the introduction of a second package of Directives in 2003. The Second Electricity and Gas Directives<sup>25</sup> place the following key requirements on Member States:

- full supply market opening for non-household customers by July 1st 2004 and for all customers by July 1st 2007;
- legal and functional unbundling of transmission networks by July 1st 2004;
- functional unbundling of distribution by July 1st 2004 and legal unbundling by July 1st 2007. Distribution system operators with fewer than 100,000 customers are exempt from unbundling;
- setting up an independent regulator responsible for ensuring regulated third-party access to transmission and distribution networks;
- regulated or negotiated third-party access to gas storage by July 1st 2004.

### A3.1.2 Liberalisation of the Great Britain energy markets

Liberalisation of the GB energy markets preceded the requirements of European Commission Directives. Tables A3.3 and A3.4 set out the stages of privatisation, network unbundling and the introduction of supply competition in the electricity and gas markets.

<sup>23</sup> Directive 96/92/EC.

<sup>24</sup> Directive 98/30/EC.

<sup>25</sup> Directive 2003/55/EC.

**Table A3.3 Timeline of electricity liberalisation, Great Britain**

<b>Liberalisation activity</b>	
1990–95	The transmission and generation incumbent, Central Electricity Generation Board (CEGB), was broken up, with generation capacity split between two private companies and one public company, and the transmission network run by a fourth company, the National Grid Company
1990	12 Area Boards in England and Wales were privatised into 12 regional electricity companies responsible for distribution and supply
1990	Competition for suppliers introduced for those consuming more than 1MW
1990	The two vertically integrated (generation, transmission, distribution and supply) Area Boards in Scotland were privatised retaining their vertical integration
1990	A market for trade between generators and suppliers was created in England and Wales
1994	Competition for suppliers introduced for those consuming more than 100kW
Sept 1998– May 1999	Competition for domestic consumers introduced in stages
2000	Separation of distribution and supply licences
April 2000	Regulation of regional electricity companies' in-area electricity prices removed
April 2002	Regulation of all tariffs removed, as the regulator was satisfied with the development of competition

**Table A3.4 Timeline of gas liberalisation, Great Britain**

<b>Liberalisation activity</b>	
1972	British Gas Corporation (BGC) created as a state-owned monopoly for gas transmission, distribution and supply
1982	Supply market for consumers with consumption greater than 25,000 therms opened to competition
1986	BGC privatised and provided a 25-year monopoly to supply consumers with consumption below 25,000 therms (ie, consumers in the tariff market)
1992	Threshold for tariff market reduced to 2,500 therms
1994	Regulated third-party access to BGC's network enabled
By March 1994	Internal separation of storage and transportation activities required
By 1997	Divestment of BGC's supply business required
1995	Gas transporters not allowed to hold gas supply licences
April 1996– May 1998	Competition for domestic consumers introduced in stages
April 2000	Regulation of British Gas' tariffs for domestic direct debit consumers removed
April 2002	Regulation of all tariffs removed, as the regulator was satisfied with the development of competition

**A3.1.3 Liberalisation of the German energy markets**

The European Commission's Electricity Directive was transposed into German legislation with the amended Energy Act 1998. The Energy Act mandated immediate and full customer liberalisation, so that all end-users could choose their supplier. However, only the minimal requirements on unbundling were implemented, with requirements to separate network services from the potentially competitive retailing and generation activities at first limited to accounting separation, with the exception of electricity transmission, where legal and managerial unbundling was required. No measures were taken to limit vertical integration in the industry. Furthermore, Germany opted for negotiated third party access to the network

instead of regulated third party access. In addition, the European Commission Gas Directive was transposed into German law only in 2003.

The Second Energy Statutes Reorganisation Act, which entered into force on July 7th 2005, transposed the Second Electricity and Gas Directives into German law. This marked Germany's transition from negotiated to regulated third-party access and accelerated plans for network unbundling (see Table A3.5).

**Table A3.5 Timeline of unbundling requirements, Germany**

	Legal unbundling	Functional unbundling	Accounting unbundling
Transmission	July 2005	July 2005	July 2005
Distribution (>100,000 customers)	July 2007	July 2005	July 2005
Distribution (<100,000 customers)			July 2005

Source: European Commission (2005b) and Brunekreeft and Twelemaan (2005).

### A3.1.4 Liberalisation of the French energy markets

Market opening in France has been more recent than that in the UK and Germany, as set out in Tables A3.6 and A3.7.

**Table A3.6 Timeline of electricity supply market opening, France**

Supply market opening date	Eligibility threshold (GWh)
June 2000	16
February 2003	7
July 2004	All companies and local governments
July 2007	All consumers

Source: CRE (2006).

**Table A3.7 Timeline of gas supply market opening, France**

Supply market opening date	Eligibility threshold
August 2000	All sites with consumption over 237GWh and all electricity generators or simultaneous electricity and heat generators regardless of their annual consumption level
August 2003	83GWh
July 2004	All non-residential end-users
July 2007	All customers

Source: CRE (2006).

In addition, vertical integration and state ownership of the national electricity and gas utilities—Electricité de France (EDF) and Gaz de France (GDF)—were retained at liberalisation, in contrast to the UK's liberalisation process of privatisation and explicit unbundling.

However, legislation passed on January 3rd 2003 required all grid operators to provide regulated third-party access to their transportation, distribution and LNG facilities, and also required that vertically integrated companies unbundle their accounts.

With regard to network access, EDF created a separate transmission system operator (Réseau de Transport d'Electricité) in June 2000. It is owned by EDF but with accounting and management separation. Law Number 2004-803 of August 9th 2004 imposed legal separation in line with European Directives by making RTE a subsidiary.

While EDF's distribution units and local distributors were not required to create specific entities, they were required to enforce management separation between the network and supply units. Legal separation is expected by the European Commission's July 2007 deadline (Finon, 2002 and OECD, 2006).

## **A3.2 Liberalisation of the US electricity market**

The Public Utility Holding Company Act (PUHCA) of 1935 ensured that most utilities either operated predominantly in one state or in contiguous states. It effectively precluded non-utilities from entering the generation business; restricted the ability of independently owned utilities from entering the generation business outside their regions; and effectively barred foreign acquisitions by US utilities.

Competition in the market was introduced with the implementation of the Public Utilities Regulatory Policy Act of 1978 (PURPA) and the Energy Policy Act of 1992 (EPA).

PURPA required investor-owned utilities to buy electricity from cogenerators and renewable plants, thus encouraging long-term contracts between vertically integrated utilities and certain types of independent generating companies. Initiatives to increase demand-side management also led to competitive procurement processes in several states (Wolfram, 2003, p. 1). PURPA played an important role in stimulating the entry of independent power producers into the electricity supply industry (Joskow, 2000, p. 17).

The EPA gave the Federal Electricity Regulatory Commission the authority to order vertically integrated investor-owned utilities to allow non-utility power producers access to the transmission grid to sell power in an open market. It required utilities to meet additional generation needs through competitive bidding. Beginning with California in 1996, nearly half of the US states have passed legislation to introduce complete retail access.

The EPA included provisions that removed PUHCA's barriers to utilities and non-utilities having ownership interests in independent power producers; removed PUHCA's restrictions on US utilities owning electricity utility assets in other countries; and expanded the Federal Electricity Regulatory Commission's authority to order utilities to provide transmission or wheeling service support to wholesale power transactions.

The 2005 Energy Act repealed the remaining provisions of PUHCA.

## Appendix 4 Background on telecoms case study

### A4.1 Canada

Although Canada has a liberalised telecoms sector, there are restrictions on the level of ownership that could be held by foreigners. The process of the imposition of the foreign ownership restrictions was initialised in 1984, with the introduction of a 20% limit on foreign equity (on the voting stock) when the national cellular radio licence was granted to Rogers Cantel Inc. Subsequently in 1987, the Teleglobe Canada Act placed similar restrictions on Teleglobe Canada. Also in 1987, a comprehensive policy detailing the foreign ownership restrictions was issued. The stated purpose of these restrictions was that it was essential for national security and sovereignty reasons to have domestic ownership of telecoms infrastructure. Although the rules restricting foreign ownership came into effect by 1987, they were formally incorporated into law in 1993, when the Telecommunications Act of 1993 was passed. Section 16 of the Act requires the following:

- 80% of board of directors are to be Canadians;
- 80% of the voting stock to be owned by Canadians;
- the corporation is not to be controlled by foreign nationals.

In 1994, the domestic ownership requirement was supplemented by an indirect ownership rule, with the introduction of the Canadian Telecommunications Common Carrier Ownership and Control Regulations, which set the minimum Canadian ownership level for ownership at the holding company level at 66.67% of the voting shares. This meant that, under the new regulations, a foreign company that held 20% of the voting stock of a Canadian telephone operating company could now also have a 33.3% stake in a company that held the remaining 80% voting stock of the Canadian telephone operating company. This gave foreigners the right to hold 46.67% aggregate direct and indirect ownership rights.

However, it should be noted that foreign ownership restrictions do not apply to resellers and value-added service providers. Moreover, in exceptional circumstances, these restrictions can be over-ridden. Examples of cases when these restrictions have been overridden are Quebec Tel and BC Tel.

### A4.2 South Korea

The process of liberalisation of the Korean telecoms sector started in 1990, and was carried out in three distinct stages:

- stage 1 represented the reforms from mid-1990 to mid-1994;
- stage 2, from mid-1994 to mid-1997; and
- stage 3, from mid-1997 to 2001.

One of the primary motivations of the liberalisation of the Korean telecoms sector was the increasing pressure from international trade agreements (WTO negotiations on basic telecoms). The specific features of the Korean reform process are discussed below.

#### A4.2.1 Description of stage 1 reforms

Prior to liberalisation, the Korean telecoms sector was a state-owned monopoly with KT as the single provider. One of the features of the first stage of reforms was to change the sector from having only one service category of 'public telecommunications operators' into having three types of service providers—general service providers (wire-line services), specific

service provider (wireless services), and value-added service providers. General and specific service providers were distinguished from value-added service providers in having their own facilities. Moreover, the requirements for market entry were different for each of the three categories—the government’s designation was required for general service providers, licensing for special service providers, and registration for value-added service providers.

The first stage of reforms allowed 100% foreign ownership in the value-added services sector, 33% in specific services, and completely restricted foreign ownership in general services.

However, the government introduced two systems—the ‘positive listing system’ and the ‘request for proposal (RFP) system’. Under the positive listing system, only services listed in the Telecommunications Business Act could be provided; and under the RFP system, a company could only make a request for a licence on the condition that the government made a public notification prior to licensing. Moreover, the government introduced a ‘tariff approval system’, under which tariffs set by the new entrants had to be approved by the government, and the price differentials between KT and the new entrants were kept constant. These systems together led to ‘controlled entry’ and ‘managed competition’ in the sector.

#### **A4.2.2 Description of stage 2 reforms**

In the second stage of reforms, the distinction between general and specific service providers was abolished, and they were integrated into one category—the facilities-based service providers (FSPs). Moreover, the government adopted the negative listing system, which meant that services other than those mentioned in the Telecommunications Business Act could be provided. However, no changes were made in the permitted levels of foreign ownership. The existence of asymmetric ownership rules in wire-line and wireless services, led to the creation of artificial entry barriers, as the service providers in wire-line services could enter the wireless sector without a change in their ownership structure, the wireless providers could not enter the wire-line sector, if they had any foreign ownership. Moreover, towards the end of the stage 2 reforms, the government abolished the tariff approval system, which meant that most service providers could decide on the tariffs, after simply notifying the change in tariffs to the government.

#### **A4.2.3 Description of stage 3 reforms**

The reforms in stage 3 of the liberalisation process were marked by an abolition of the RFP system. The elimination of the RFP system implied that the market was made open to free entry. These reforms also introduced symmetric regulations relating to foreign ownership in the wire-line services by allowing foreigners to hold up to 33% of the shares in the wire-line services. These allowed levels of foreign ownership were further increased to 49% by 2001 for all FSPs. Foreigners were also allowed to own 20% of the shares in KT, which was increased to 33% by 2001. Moreover, the conditions for market entry were changed—requiring licensing for FSPs, registration for the special service providers, and notification for value-added service providers.

### **A4.3 Japan**

Although the Japanese telecoms sector was formally liberalised in 1984, the intentions to liberalise were announced in 1982. The main features of the reform involved the introduction of competition by allowing entry of private players into the sector, and the privatisation of NTT, which was the incumbent state-owned firm. Prior to liberalisation, NTT provided domestic telecoms services, and the international telecoms services were provided by KDD, which was a quasi-private corporation. It appears that the main motivation behind the liberalisation process was the poor performance of NTT, and the aim of liberalisation was to boost its performance by subjecting NTT to competition from the private sector.

The main features of the 1985 reform process were as follows.

- Prior to the reforms, NTT was both the operator and the regulator. However, the reforms created a separate entity as the regulator.
- These reforms ended the monopoly of NTT and allowed the private sector to operate in the telecoms sector. However, the conditions of entry varied by the type of service provider—permits granted by the regulator for the providers with their own network facilities; registration for the special service providers that leased their facilities; and notification for the general service providers that leased their facilities;
- prior to the reforms, the prices were set by law, and could be set by the operators under the new regime. They only required the approval of the regulator.

#### A4.4 USA

The Radio Act of 1912 introduced foreign ownership restrictions into the US communications sector. The stated purpose of these restrictions related to ‘national security’ concerns. The foreign ownership restrictions introduced through the Radio Act 1912 were made explicit in the Radio Act of 1927. Specifically, the Act of 1927 determined that no licence was to be granted to any foreign national, a company organised under foreign law, a company that had foreigners as its officers, or a company that had 20% or more of its shares owned by foreigners. However, the Act of 1927 had a loophole as there were no restrictions on the holding company, which meant that foreign-owned companies organised under the US law with directors of US origin, could operate in the USA.

To address this issue, the Communications Act of 1934 was passed, which also clarified and re-stated all the requirements of the previous legislations. Section 310 (b) of the Communications Act addressed the issue of foreign ownership. The Act stated that no licence would be granted to any company that had more than 20% of its shares owned by foreign nationals, or any holding company that had 25% of capital stock owned by foreign nationals. Along with regulating ownership, the Act also prohibited control by foreigners, by regulating the amount of voting that foreigners could hold.

However, in 1996, the Telecommunications Act was introduced. This Act repealed the restrictions in section 310 (b) (3) and (4) on foreign officers and directors. Thus foreign management restrictions have been abolished, but foreign ownership restrictions have been retained. Moreover, this Act gives the right to the Federal Communications Commission to grant waivers on foreign ownership if they are deemed to be in the public interest.



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Park Central  
40/41 Park End Street  
Oxford OX1 1JD  
United Kingdom

Tel: +44 (0) 1865 253 000  
Fax: +44 (0) 1865 251 172

Stephanie Square Centre  
Avenue Louise 65, Box 11  
1050 Brussels  
Belgium

Tel: +32 (0) 2 535 7878  
Fax: +32 (0) 2 535 7770