

**Study of the
Consequences of
Further
Liberalisation of
the Postal Market
in Norway**

Final Report

to

**Ministry of Transport
and Communications
of Norway**

By

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Executive Summary

This Final Report is prepared for the Norwegian Ministry of Transport and Communications by London Economics. The report provides consultancy advice on the consequences of further liberalisation of the postal market in Norway. More specifically, the study evaluates the impact of a range of scenarios for postal liberalisation, based on qualitative analysis and modelling. The main findings of the study are discussed below.

Review of existing research and assessment of international postal markets

We review, present and interpret a broad survey of existing research in the field of postal liberalisation and look at the international experience of postal liberalisation to-date. Our review shows that:

- The crux of postal liberalisation policy lies with balancing the goals of maintaining universal service and limiting the monopoly power of the incumbent.
- Liberalisation, or the prospect of liberalisation, has generally had a positive effect on efficiency across a range of network industries internationally and has already had an impact on Norway Post.
- Postal liberalisation is normally a gradual process. Most countries have opted for a staged liberalisation process. For example, in the UK, 60% of mail volumes by value are expected to be opened to competition by 2005, with full liberalisation envisaged by 2007. However, in Sweden and Finland the liberalised process was not in stages. The results from a London Economics survey of the Norwegian postal market indicate that most of the stakeholders prefer a staged process.

Norwegian postal market

We provide a detailed review of the Norwegian postal market, by analysing Norway Post's postal business and mail products across various weight steps. Our analysis shows that:

- Among the main USO products:
 - The A-Priority mail products, daily letters prepaid by franking machine and daily letters prepaid by stamps, made up approximately half of the volume in 2002. Among the B-Economy mail products, pre-sorted and unsorted bulk letters account for most of total volume.
 - Across the weight steps, the 0-20g weight bracket is the most important from the point of view of mail volumes.

A PT (Norway Post and Telecommunication Authority) survey showed that Norway Post holds market share of more than 80% for most of the unregistered deliveries, except newspapers, and 90% for registered domestic deliveries. London Economics conducted a survey of major Norwegian postal market stakeholders (identified by the PT). Our survey results suggests that Norway Post is by far the principal supplier in the letters market, and most of the respondents believed that the reserved area would have to be substantially reduced if Norway Post's pre-eminence were to be curtailed.

Many of the respondents agreed that the market is ready for new entrants and were positive to introducing further competition.

Quantitative model and scenario assessment

To study the various liberalisation impacts, we use two models. These are:

- London Economics financial model; and
- An adaptation of a model developed by Crew and Kleindorfer (2001).

Under each of the models, we assess the impacts on liberation across various scenarios, ranging from preserving the *status quo* to abolishing the reserved area. The results of the analysis show that:

- The estimated impact on the profitability of Norway Post from full liberalisation is between NOK 200 million and NOK 400 million, in both the models confirm these estimates.
- The incremental impact of accelerated liberalisation is estimated to be about NOK 147 million.

The above results are long-run figures and assume that entry is not blocked by actions taken by the incumbent.

In addition to the above scenarios, we also assess the impacts of liberalisation in specific postal markets; express services, direct mail and outbound cross-border mail. Our analysis shows that there is likely to be significant pressure in certain segments of these markets under the current liberalisation programme.

Consequences and impacts of the liberalisation process

While there are certain limitations to the work undertaken due to a lack of data, we were nonetheless able to undertake a significant amount of quantitative analysis. Given below are the consequences across the various groups identified in the terms of reference:

Consequences for customers

Customers, especially large volume mailers and mailers of high value-added products will likely enjoy lower prices. This has occurred in general as a result of liberalisation internationally.

Consequences for businesses

Further liberalisation is likely to lead to increased competition. The principal expected effects would include lower prices and a greater variety of products. New operators are likely to compete on price, not initially benefiting from the brand recognition or reputation that the incumbent holds. In addition, one would expect to see additional product differentiation and the provision of tailor-made services to different segments of the market, which should be of benefit to households and businesses.

Consequences for Norway Post

We find that many financial and organisational changes are likely to occur within Norway Post without accelerated liberalisation. Norway Post has, to a certain extent, already come under pressure from liberalisation. Cost reducing programmes are currently being implemented. However, operating costs have in the recent past grown rapidly, and some cost rises have come in advance of revenue gains. It remains unclear whether the current extent of liberalisation will put sufficient pressure on Norway Post to see through its cost cutting programmes.

In our view, Norway Post's profitability problems stem mainly from costs rising too rapidly. This has little to do with liberalisation or market developments such as customers switching to e-mail. Norway Post's cost problems, along with low pricing of newspaper and periodical delivery services, appear to represent much bigger risks to Norway Post than the effect of liberalisation, let alone any *additional* liberalisation.

Full liberalisation is expected to have a limited incremental impact on Norway Post's revenues, relative to the liberalisation programme already envisaged under current law. This impact is estimated to be about NOK 78 million.

In spite of the apparent lack of broad-based market entry, Norway Post is vulnerable to competitive threats in certain product areas. The threat of entry may be sufficient to lower product prices (and costs) for certain key products. Detailed analysis of high margin products suggests that Norway Post could lose about NOK 250 million given the current levels of liberalisation, if either robust entry occurs or robust price reductions on key products are made to block entry.

Consequences for other operators

Accelerated liberalisation would allow other operators to gain critical mass and would promote the possibility of more significant entry and, as a result, more effective competition. There is a risk that too little liberalisation would limit the scope for effective entry. The Finland market arguably provides an

example of this outcome. The United States Postal Service may also provide a good example: early liberalisation of parcels and packages over \$2.00 and upstream pre-sortation led to great success, but productivity in the main mails business has lagged considerably and this segment now losing money.

With several notable exceptions, entrants internationally have not made significant inroads into basic postal services. Examples of exceptions are smaller sub-markets in Sweden, work sharing and pre-sortation in the US and higher value-added items such as parcels and express packages and confirmed signature, in other markets.

Consequences for rural areas

One of the major anticipated effects of further liberalisation on the rural areas is the closure of post offices. The viability of rural post offices tends to come under pressure post-liberalisation due to the erosion of the cross-subsidy provided by urban areas to rural areas. This occurs because 'cherry-picking' entrants undercut the incumbent and serve the most profitable urban routes.

However, whether liberalisation causes post offices to close *per se* is debatable. For example, rural post offices have been closing for many years in the UK and Ireland and may continue to do so – but not necessarily due to liberalisation. Should liberalisation cause the Universal Service Provider's (USP) revenue to fall, then this in turn might squeeze already tight profit margins and speed up the process.

Consequences for geographically uniform tariffs

Norway and Norway Post may be in an unusually favourable situation to take liberalisation forward, compared to other jurisdictions, because the Government pays a direct subsidy to the Post Office for the cost of the Universal Service Obligation (USO). This explicit USO funding mechanism may make it easier for Norway to balance preservation of universal service with augmentation of postal market competition. For example, there need not be any particular consequences for geographically uniform tariffs. We do not recommend any change to basic stamp tariffs, but the potential to liberalise higher-weight or odd sized items might make geographically non-uniform tariffs more feasible on higher value-added items.

Consequences for Government purchase

The consequences for Government purchase (i.e. USO funding or public purchases) need not be large, if one assumes there is no cross-subsidy between USO and non-USO products. Thus, an upper bound for the cost of the USO is its current fixed cost (there are likely some avoidable costs). So even with the maximum of cream-skimming, the size of the Government purchase should not be expected to increase.

Economies of scale and effective competition

Research suggests economies of scale exist primarily in delivery. The necessary economies of scale for sortation can be achieved with a small number of items (roughly 20,000 items per day). In contrast, entry conditions

are likely to be more difficult for end-to-end delivery. The means of achieving effective competition may be more a function of how quickly prices come down for newly liberalised mail items in the 350-1kg range, or for value-added/speedy delivery items.

Consequences for employment

The international experience and current research suggests that overall employment will be enhanced by liberalisation. There may be initial employment losses at the incumbent. This might be offset by increased employment at other operators, as total mail volumes can be expected to expand under liberalisation. It is also noteworthy that employment has been reduced at postal administrations around the world, while some posts that have undertaken advanced liberalisation/commercialisation (Germany and the Netherlands) have added labour.

Liberalisation and national goals

The way in which liberalisation is introduced need not have particular implications for how such national policy goals will have to be secured. Among the central national policy goals relating to post are:

- universal availability of postal services;
- satisfactory quality and frequency of delivery of basic services; and
- nationwide uniform prices for basic services.

These goals are primarily derived from notions of fairness and equality, not from economic efficiency concerns as such. While there are theoretical reasons to believe that in a completely de-regulated and market-based regime such goals would not be attained, evidence suggests that in practice these goals are not under threat.

Conclusion and recommendations

The fundamental conclusions of the study are that major impacts on Norway Post are likely to occur under the current liberalisation programme. The additional or incremental impacts from accelerated or additional liberalisation are likely to be relatively small, whereas the full benefits may not be achieved for all consumers if liberalisation is slow or fails to address inefficiencies. The risks to Norway Post from additional or accelerated liberalisation are small relative to the risks from failing to sort out inefficiencies and potentially unsustainable cross-subsidies *not* associated with standard USOs.

Our conclusions are summarised below:

- We expect the benefits of full liberalisation to outweigh the costs. Full liberalisation is expected to have a greater impact on areas such as cost reduction and the rationalisation of many of Norway Post's services and obligations.

- One of the main benefits of liberalisation is expected to be increased economic efficiency. For Norway Post, this means rationalisation of subsidies and cross-subsidies. While it is hard to accurately estimate the impact of this pricing structure, we estimate that the cost of these inefficient pricing structures are in the order of NOK 300 million to 500 million per annum.

We therefore recommend consideration of three possible approaches:

1. Do nothing - continue with the current programme:
 - a. Some cost pressures seem to be already causing Norway Post to increase efficiency.
 - b. Some limited entry on high price items might be expected.
 - c. Revenue impacts on Norway Post are likely to be partially made up by modest cost cuts.
2. Full liberalisation with rationalisation of pricing and USO:
 - a. The additional impact on profitability from the full liberalisation option vis-à-vis the current programme at Norway Post is not expected to be large.
 - b. There is considerable risk that little entry will occur, and that therefore pressures for cost efficiency enhancement will not turn into realised efficiency gains; the expected cost benefit of full liberalisation is therefore expected to be positive.
 - c. Rationalisation of Norway Post's pricing structure, especially newspapers and magazines is important; the current pricing structure probably costs Norway Post more than twice the level of public purchase. Holding prices below cost represents an inefficiency and barrier to entry on potentially profitable markets and products, while at the same time causes other prices to be inefficiently high in order to cross-subsidise the loss making products.
 - d. Small modifications to the USO can have big impacts on Norway Post's costs. These could ease the transition to liberalisation. We suggest consideration of the following options:
 - i. Allowing less than 6-day delivery to a limited number of addresses and perhaps a 5-day delivery during certain times of the year.
 - ii. As the reserved area is lowered, it may be appropriate to lower the maximum USO weight. We recommend that the USO weight not exceed 10 times the cut-off of the reserved area (i.e., 1000g for a reserved area below 100g).

3. Combination of (1) and (2) so that postal liberalisation process is an efficient staged process, with partial liberalisation of pricing and modifications to USO recommended under (2).

1 Introduction

This report has been prepared for the Norwegian Ministry of Transport and Communications (hereafter referred to as ‘the Ministry’). The report concerns a study of the consequences of further liberalisation of the postal market in Norway.

1.1 Structure of the report

The remainder of this report is structured as follows:

In this section, we present an introductory discussion of the goals of liberalisation of the postal sector in Norway, and details of the scope of the study. We then follow with some background information on the postal value chain process and a description of the current structure of the Norwegian postal market.

Section 2 reviews the existing research on postal liberalisation.

Section 3 and “confidential” Annex 3 describes Norway Post’s service offering, pricing and mail volumes and presents some initial observation on the implications of this analysis for the assessment of the impact of liberalisation. The Norway Post’s volume details are given in Annex 3 due to commercial sensitivity of the information.

Section 4 reviews the international experience in relation to postal sector liberalisation and presents a selection of case studies.

Section 5 discusses the results of market surveys. As part of the study, London Economics conducted a survey among the major Norwegian postal market stakeholders, as identified by the Norway Post and Telecommunication Authority (PT).

Section 6 and “confidential” Annex 5 provides a detailed breakdown of Norway Post’s revenue and profit, by using London Economics’ financial model of postal services. Due to commercial sensitivity of the revenue and profit analysis we provide these separately in Annex 5.

Section 7 and “partly confidential” Annex 6 details our modelling and methodologies that we use to analyse the impacts of postal liberalisation across various scenarios in Norway. The detailed analysis and the results of the scenarios are discussed in Annex 6 due to the commercial sensitivity of the information.

Section 8 presents the impacts of specific markets as case studies in competition to assess the impact of liberation. The postal markets reviewed are Express Services, Direct Mail and Outbound cross-border mail.

Section 9 discusses the goals, options, impacts and consequences of liberalisation and the likely policy implications.

Section 10 presents our conclusions for the study.

1.2 Introduction to Postal Liberalisation Policy Issues

The liberalisation of the postal sector is currently underway in the EU, and in other European countries, and internationally. The EU programme currently envisages full liberalisation of post by 2009, though some countries have moved faster. Within this context, Norway's Ministry is interested in studying the merits of various options for liberalisation of its postal sector.

In order to understand whether further, or accelerated, liberalisation is a preferred policy, it is necessary to first consider certain issues in postal liberalisation policy and indeed in relation to liberalisation policy in general. In this light, we first discuss the goals of liberalisation policies in general.

1.2.1 Goals of liberalisation

Liberalisation of network industries across the globe has one primary goal, namely the achievement of efficiency improvements. There is a whole range of efficiencies that may be improved, though some aspects are likely to be more important than others. A short discussion of efficiency types is therefore warranted, which we present below.

Dynamic efficiency

Probably the most important goal of liberalisation is the achievement of dynamic efficiency improvements. In other words, how efficiency improves over time. Dynamic efficiency is usually measured by statistics such as total factor productivity growth (TFP) but dynamic efficiency also flows from the introduction of new services, ideas and processes that branch off into other industries or other areas of business.

Dynamic efficiency gains in postal networks upon liberalisation will flow from a variety of sources. One source is the substitution of capital for labour. The optimal mix of capital and labour will depend on both the relative prices of these inputs and on their relative efficiencies. Technological advances have meant that the relative efficiencies of capital have been increasing steadily over time, while at the same time improvements in technology ultimately lead to increasing living standards and wages levels within Norway's workforce. Therefore, liberalisation can provide the flexibility for the postal sector to adapt over time to natural changes.

An element of dynamic efficiency is also made up of other factors. These include pure improvements in technology, cost reductions, as well as the elimination of slack or X-inefficiency. Other sources of dynamic efficiency are often more unexpected. Airline and trucking deregulation are obvious examples, and indeed the hub-and-spoke networking system is an

organisational and logistical phenomenon that has evolved over time. The hub-and-spoke system has generated substantial efficiency gains for many airlines globally, particularly where, in countries such as the US and Canada, most major routes were regulated prior to the 1980s.

Allocative efficiency

One of the other major benefits of liberalisation relates to allocative efficiency. Allocative efficiency is a measure of how closely prices equal marginal costs, and to what extent factors of production are paid their marginal value products. Allocative efficiency is a less tangible outcome from the liberalisation process, in that the benefits are not immediately apparent to the policy maker. Allocative efficiency can also entail aspects such as the adjustment of service quality levels to those demanded by the market. While customers, all else equal, will generally prefer better service, what level of service would they actually be willing to pay for? Re-adjusting service quality can improve allocative efficiency.

The benefits of allocative efficiency are often couched in terms of the benefits achieved for the economy as a whole. As prices become more cost reflective, an economy is better placed to maintain its competitiveness and fewer jobs are lost to foreign competition. These benefits might be small at the outset, but there may be multiplier effects on the economy as a whole. These benefits are not easily identified or attributable to the initial policy.

Other goals of liberalisation

The Ministry has stated that part of the goals of liberalisation include national goals of Governmental simplification and reduced administrative burdens. Liberalisation may or may not achieve these goals. The experience in other industries is that liberalisation has often been a contentious process, which has often entailed a shift of legal frameworks from one institution to another. For example, whereas previously a legislature or executive body might have set policy, an independent regulatory body might set policy under the new regime. This may be a preferred outcome or goal in and of itself, but it may not necessarily mean a reduction in the number of legal institutions required.

1.2.2 Key issues in postal liberalisation

Liberalisation of network industries has already taken place, at varying levels, both in Norway and internationally. Moreover, despite a tendency to often cite a particular sector as a 'special case', this should not preclude the reflection of past experiences in other industries and jurisdictions in relation to liberalisation.

Postal liberalisation particularly has three main features that distinguish it from other network industry liberalisations: the size of the USO (Universal Service Obligation), the monopoly power of the incumbent, and the structure of costs. Regarding the size of the USO, the percentage of costs that are made

up by cross-subsidy is probably larger than in say, electricity distribution, telephony, etc. In terms of the monopoly power of the incumbent, few industries, companies or countries have as extensive and as ubiquitous a business and network than the post office. The post office usually has boxes and branches in every town across the nation and postmen who visit residences almost daily, as well as huge throughput of volumes at large distribution centres, and large scale logistical operations that are not easily imitated. A final special feature of post is the cost structure; the majority of costs or at least the largest cost factor are made up by labour. This is as opposed to say, other network industries, where tangible physical capital usually makes up the largest cost factor.

Thus, successful postal liberalisation is likely to involve balancing these three factors: dealing with/funding the USO, the monopoly power of the incumbent, the cost structure/importance of labour. Policy decisions may or may not involve tradeoffs between these factors. For example, one way of ensuring the USO is to impose a USO excise tax on entrants, but not-surprisingly, this will tend to enhance the already significant barriers to entry in the sector. Similarly, funding a USO, say in fixed line telephony, has been less contentious, because costs can be smoothed over large network costs, which are properly spread over the entire system. Whereas in post, the cost savings from, say, reductions in the USO, likely imply labour force reductions.

1.3 Scope of the study

As per the Norwegian Ministry of Transport and Communications' terms of reference of 12 April 2003 and London Economics' proposal of June 2003, the study involves an economic analysis for the Ministry on the consequences of further or accelerated liberalisation of the postal market in Norway.

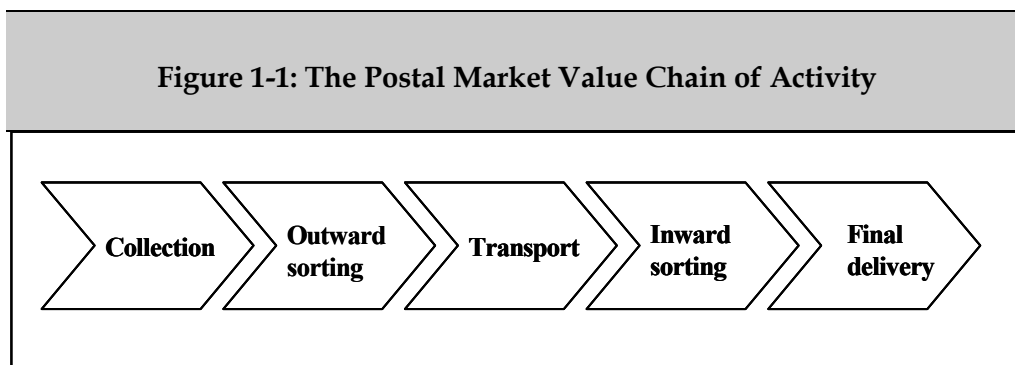
The study is focused on the following areas:

- Review of existing research on postal liberalisation;
- The experiences of other countries at different stages of the postal liberalisation process, i.e., those that have accelerated, or are considered accelerating the liberalisation process; and
- The economics of further liberalisation of the postal market in Norway, by examining the following issues:
 - Consequences for the customers (businesses and consumers)
 - Consequences for Norway Post
 - Consequences for other postal operators
 - Consequences for rural areas
 - Consequences for the requirement of a geographically uniform tariff according to the Postal Services Act Section 5

- Consequences for government purchase of universal services that are commercially unprofitable
- Advantages of scale in postal production and premises/ means to get a functional competition
- Consequences for the employment in the postal sector
- Consequences for national goals aiming at simplification of regulation and public administration

1.4 The Postal Market Value Chain

The postal sector can be divided into several complementary activities. The conventional postal chain of activities can be divided into five segments or activities, which include: collection, outward sorting, transportation, inward sorting and final delivery. Each activity displays different degrees of economies of scale, however, the greatest economies of scale are typically associated with delivery. A taxonomy of the postal market value chain of activities is displayed in **Figure 1-1** and is discussed further below.



Collection: Collection comprises the process of collecting postal items and ends by injecting the items into the sorting plant. Collecting postal items takes place at different points, including post offices, street letterboxes, and for bulk mail customers, collection by a postal vehicle or direct delivery to the sorting plant is also available. Intra-area transportation of postal items to the sorting plant is also included in the process of collection.

Outward sorting: Outward sorting comprises the sorting of all postal items collected in one area by destination area.

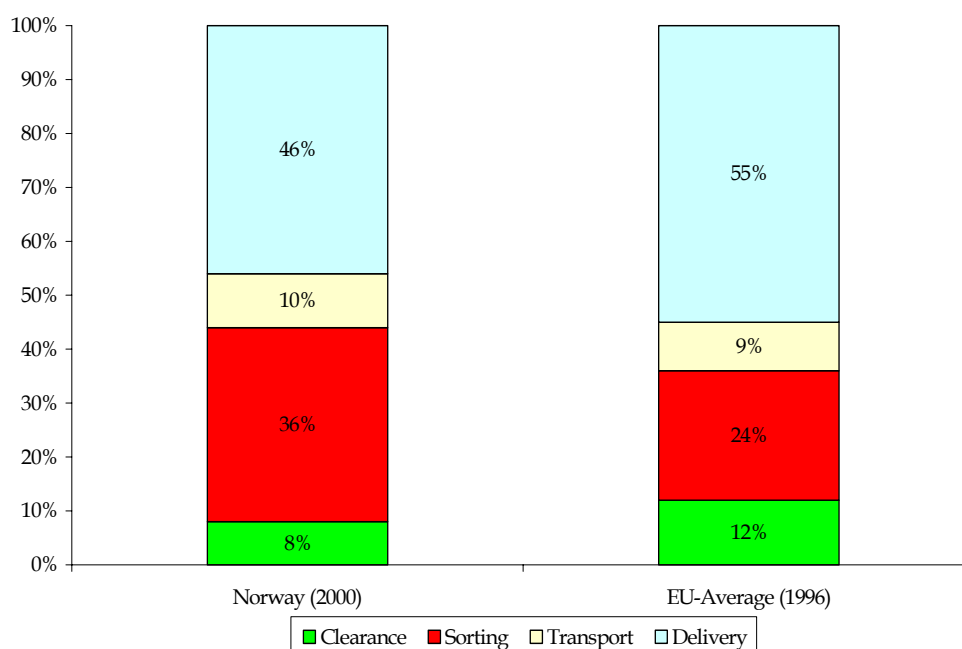
Transport: The transport process comprises the transport action between areas/sorting plants.

Inward sorting: Inward sorting comprises the sorting of all postal items incoming from other postal areas to be delivered in the area of the sorting plant.

Final delivery: The delivery process starts with the transport of mail items from the sorting plant to the delivery bases. Postal items are then handed over to the recipients at different points of delivery: post office boxes (generally used by larger business recipients), individual mail box (to-door delivery) or in some cases end-of-road delivery.

As Figure 1-2 illustrates, final delivery is the most significant fraction of the entire cost of handling a letter and accounts for around 46% of total costs for Norway, as compared to 55% in the EU. Delivery accounts for 10%, sorting for 36% and clearance 8% in Norway. The same figures for the EU are 9%, 24% and 12%, respectively.

Figure 1-2: Cost Distribution in the Postal Sector: Norway and EU-Average



Source: EU data and Lunde and Selte (2001)

In the postal sector, certain services may be able to sustain workable competition, particularly express mail and package services. The experiences of entry, such as by Federal Express in the US, suggest that promoting competition in some of these sectors is primarily a matter of reducing the size of the monopoly area that is reserved¹ to postal incumbents. While achieving

¹ Allowing express delivery was prohibited in the US until the late 1970s, when the USPS voluntarily removed express courier services from their reserved area after Congressional legislation to that effect became imminent.

competition in some areas and in certain markets has been relatively simple, achieving competition for other products and markets, such as the delivery of ordinary letter mail, is more complex.

Current research² suggests that there may in some cases be a natural monopoly³ in final delivery, although this depends on a number of factors including mail volumes and frequency of delivery. It is likely that the delivery of mail to businesses and corporations, especially in the centre of large cities, such as Oslo, may be an area of business that can sustain competition. However, it is less likely that a number of companies could compete effectively in the national delivery of letters to households, especially in rural areas (but this depends on the factors specific to each country including the density of delivery points). We discuss this further in Section 9 under impact on rural areas.

1.5 The Norwegian Postal Market

1.5.1 USO and its requirements

The incumbent postal operator in Norway is Norway Post. Norway Post is granted a concession and legal protection from entry on certain services, as issued by the Ministry relating to the provision of universal postal services (Postal Services Act, details given in Annex 2). This license is valid from 1 October 2001 until 31 December 2005

There are certain general conditions to the Norway Post licence, which we discuss below:

Norway Post and USO

Some of the general criteria set for the USO are given below:

- At least one permanent postal service facility must be located in each municipality – open every working day except Sundays and bank holidays – opening hours should be adapted to local needs;
- Letter boxes – ensure easy access to a sufficient number of letter boxes;
- Delivery – a postal delivery facility is available (not unregistered mail), otherwise closest permanent postal operator facility (disabled people by door if cannot access post box); and
- Service – has to deliver: priority letters up to 2kg, non-priority letters up to 2 kg, and Postal parcels up to 20kg. These are classified in the following table.

² There is considerable evidence to this effect, Rogerson and Takis (1993).

³ Natural Monopoly is defined as when cost is minimised when a single firm produces the output.

Table 1-1: USO and Reserved Areas

	USO	Non-USO	Reserved Area	Not Reserved
Letter Services: <i>A-Priority and B-Economy</i> <i>Bulk Mail</i> <i>Letter Parcels</i> <i>Fixed Price per kilo</i> <i>Individual price per kilo</i> <i>Franked or Postage stamp</i>	Up to 2kg	Over 2kg	Addressed Domestic letters up to 100g	Distribution of books, catalogues, Newspapers and Periodicals
Parcel Services	Up to 20kg	Over 20kg	None	
Direct Mail	None	X	None	

Source: Norway Post

The licence also requires Norway Post to:

- Charge geographically uniform prices
- Clear post daily Monday-Friday, and once on either Saturday or Sunday
- Deliver priority letters every working day
- Performance: Priority A Domestic 85% to be delivered at day after posting and 97% to be delivered three days after posting.⁴ Norway Post must report quarterly averages of these targets
- Cross-subsidisation is not lawful from reserved to non-reserved services. Surpluses are used only to finance deficits of products from the same product groups

⁴ The EU standard for Priority is that 85% is to be delivered within three days after posting, and 97% is to be delivered within five days after posting. For Economy B, 85% is to be delivered four days after posting and 97% is to be delivered within six days after posting.

1.5.2 The Norway postal network: new structure⁵

The new structure of Norwegian postal market consists of the following sales and service units:

- *Postal Sales*: Sales and service units owned and run by Norway Post. The Services provided have expanded outside priority postal services and (basic) banking services.
- *Postal Shop*: Service units owned and run by (co-operation) partners after agreement with Norway Post (chains of specialised shops covering all of Norway and petrol station chains).
- *Business Centres*: Service units for businesses. Offering postal services and logistics with added extra services.
- *Rural postal routes*: Mobile service units owned and run by Norway Post. In addition to ordinary postal distribution, it also offers postal services and bank services.

Norway Post, by the end of 2002 completed the restructuring of the distribution network in line with the main conclusions from (Parliamentary Memo)⁶. The changes have substantially improved access for Norway Post's customers. The number of regular distribution centres has increased and opening hours have substantially increased. The number of shops has increased dramatically as well. Evidence as to the increases in outlets can be found in Table 1-2.

Table 1-2: Number of Sales and Service Points - 2000-2002

Type of contact point	Dec 2000	Dec 2001	Dec 2002
Postal Sales	875	431	304
Postal Shop	378	897	1,146
Business Centres		5	24
Rural Postal Routes	2,220	2,100	2,006
Total	3,473	3,433	3,480

Source: Norway Post

⁵ Information provided by Norway Post.

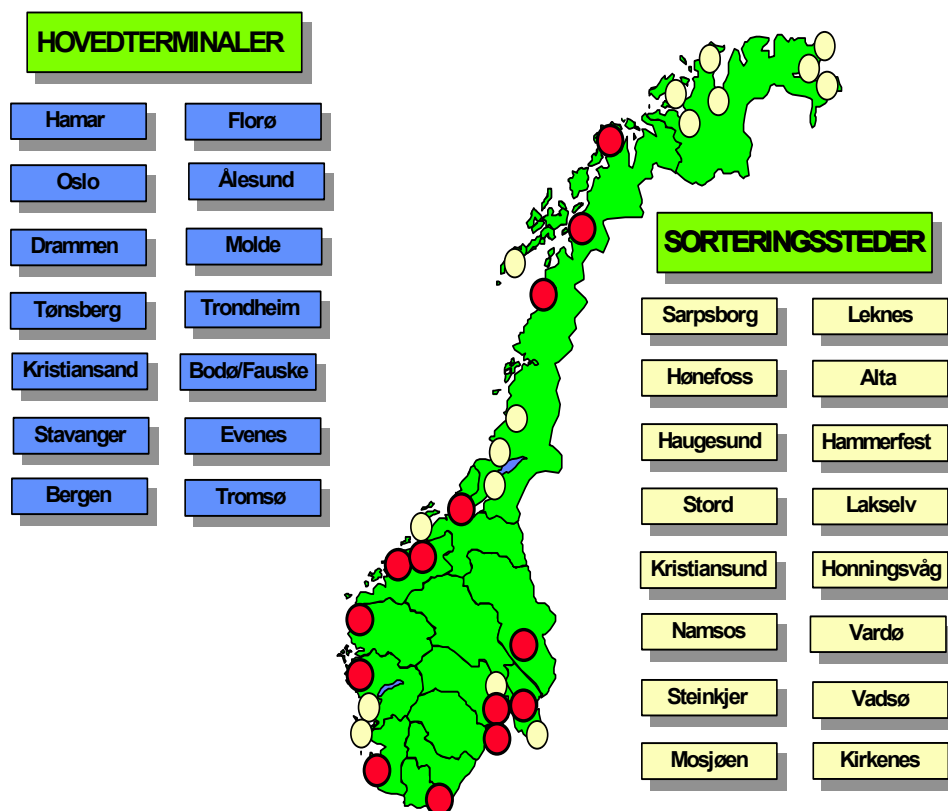
⁶ Parliamentary memo: St.meld. nr. 37 (1999-2000) Om omlegging av Postens ekspedisjonsnett

Postal services – terminal structure

For both letters and light freight (parcels), machines and automated processes are taking over more and more of the post sorting and production. This has been done to increase efficiency and the level of services, and to improve the profitability of Norway Post.

The number of terminals has been reduced in the last few years from 52, to today's 14 main terminals and 16 sorting points (see right in the following figure).

Figure 1-3: Postal Services – Terminal Structure



Source: Norway Post

The main terminals are responsible for the main part of production (letters and parcels).

The sorting points have limited functions; in particular, they maintain the level of service for priority mail in the Northern part of Norway.

Work is being carried out for further changes in the terminal structure based on additional automation and to accommodate expected demand for postal and parcel services. The development is towards a more industrial production with fewer, but larger units. By using new technology for the provision of postal services, the main parts of today manual sorting tasks could be automated from the point when a letter or parcel is dropped off to the point when the delivery is being handed to the customer.

Transport of Post

Transport of mail in Norway is done by air, rail, car and ship. Transport by air, rail and ship is with commercial transport, whilst transport by car is done partly by commercial transport, partly by special postal car routes. The special routes are partly done by Norway Post, partly by the purchase of services from external transport companies. In 2002, Norway Post spent NOK 389.8 million (excluding VAT) on the air, rail, ship and car transport.

Distribution/Postal restructuring

More than 11,500 postmen/drivers and 'rural' postmen, provide delivery of letters and parcels to all homes and companies across the country, six day a week. The 2,000 rural postal routes cover, 21% of homes and 7% of businesses in the country.

1.5.3 Norway postal statistics

This section provides information by PT regarding Norway's postal market over the last couple of years. According to the survey, in recent years the Norway market for postal services has been changing dramatically following reduction in reserved areas and a move towards market liberalisation. Nationally and internationally, a number of new agents have entered the market for special delivery services (e.g. express and messenger services). The changes can also be seen in connection with the increased use of electronic trade/communication, which requires appropriate solutions for the delivery of goods, etc. At the same time, electronic communication has lead to a reduction in physical communication (letters). Delivery of ordinary letters (written communication) to mail boxes is still the core of the postal service in Norway, but expectations are that the long-term trend will see increasing substitution of electronic mail for physical mail.

Competition in the postal market can be categorised as either internal or external competition. In the area of internal competition, one finds, in addition to registered and unregistered sorted post, a number of other services such as messenger services. These services require some form of physical transport and distribution. In the area of external competition, one finds the competition for communication services, whether physical or electronic. It is here that the traditional post service providers face the biggest competition. This external competition also influences the development of the internal competition. Thus, it also influences the development of purposeful regulation of the Norwegian postal market.

The following table indicates the number of deliveries, revenues associated with each type of delivery and the degree of competition, measured by the HHI index.

Table 1-3: Number of Sales and Service Points - 2000-2002

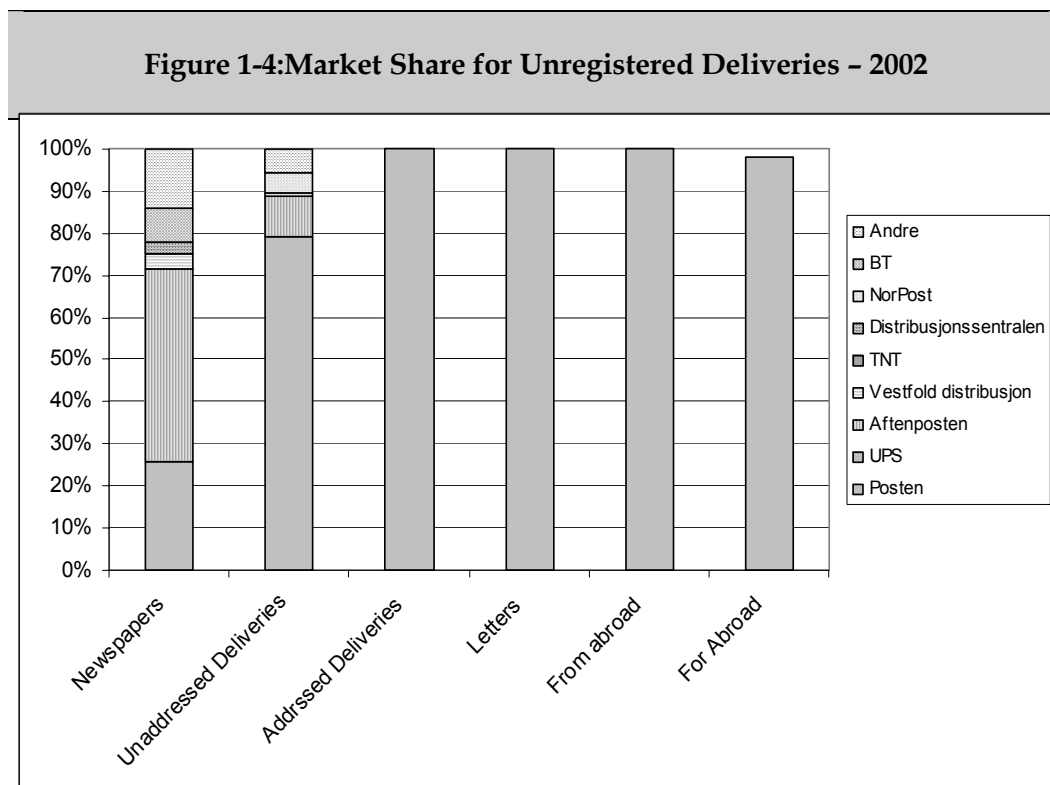
	Volume		Revenue		Degree of Competition	
	2001 (^{'000})	2002 (^{'000})	2001 (^{'000} NOK)	2002 (^{'000} NOK)	2001 HHI Index	2002 HHI Index
<i>Unregistered deliveries</i>						
<i>Domestic</i>						
Addressed letters	1,160,652	984,047	6,100,661	5,054,181	1.00	1.00
Newspaper subscriptions	411,334	441,608	957,848	1,056,418	0.34	0.29
Magazine subscription	136,280	285,524	343,658	840,447	1.00	1.00
Total domestic deliveries	1,287,879	1,355,790	901,429	969,691	0.65	0.64
For Abroad	40,052	36,727	444,654	451,981	0.95	0.95
From Abroad	86,402	80,212	401,670	433,799	1.00	1.00
<i>Addressed registered deliveries</i>						
Domestic	30,833	31,579	2,406,805	2,381,975	0.80	0.78
For Abroad	1,298	1,485	389,078	504,249	0.39	0.27
From abroad	4,315	5,059	391,473	640,809	0.32	0.27
Total	1,450,779	1,510,853	4,935,109	5,382,504		

Source: PT

There are several ways to determine the degree of competition in a market. One of the most common is the Herfindahl-Hirschman index of concentration (HHI). It is defined as the sum of the squared market shares of all service providers in a market and therefore is the index of competition in a market. If there are many competitors in the market with similar market share, the index is low. However, if there is low competition with one monopoly provider, the HHI index is high (HHI is 1.0), as is the case for all the products of unregistered deliveries, where Norway Post is the main service provider, except for subscription newspapers, given in Table 1-3.

However, in the case of registered deliveries there is more competition in the Norwegian postal market for products, 'For Abroad' and 'From Abroad', with HHI 0.27 for 2002, where the main competitors to Norway Post are USP, TNT and DHL. The market share by competitors is given in Figure 1-5.

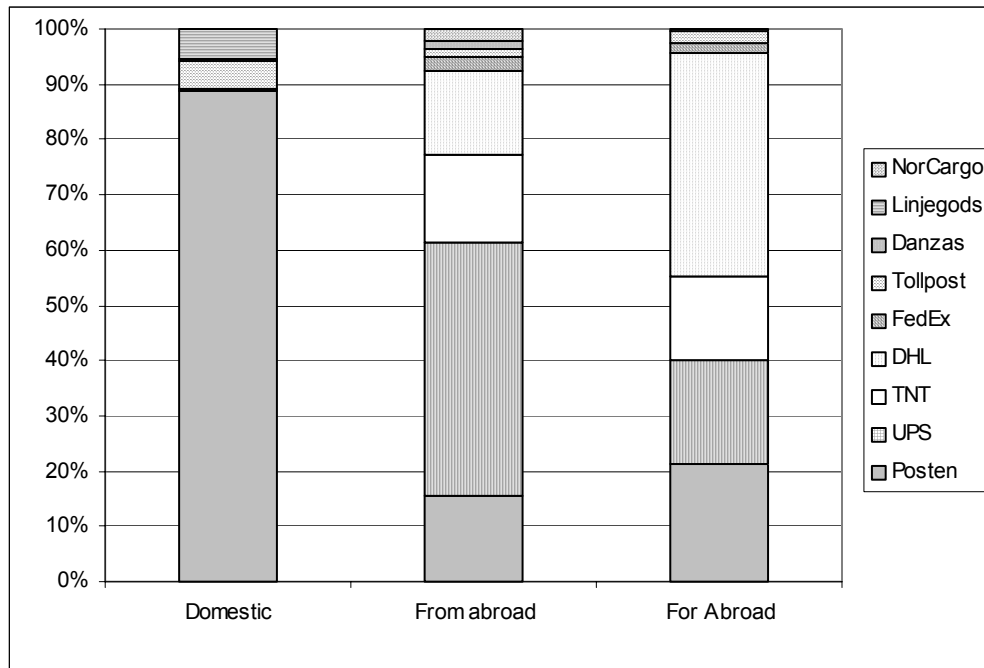
The following graphs indicate that Norway Post (Posten) holds a market share of more than 80% for most of the unregistered deliveries except for Newspapers where Aftenposten, has 45% of market share.



Source: PT

However, in the case of registered deliveries except for the domestic market where Norway Post has nearly 90% of the market UPS, DHL and TNT are the main competitors and dominate the market for external registered deliveries.

Figure 1-5: Market Share for Registered Deliveries - 2002



Source: PT

1.6 Conclusion to this section

In this section, we have discussed the goals and the key issues in postal liberalisation. We explain how a successful postal liberalisation will likely involve balancing the USO funding, the monopoly power of the incumbent, the cost structure and the importance of labour.

We also explain the scope of the study and the postal market chain. We then describe the Norwegian postal market structure, and present PT survey statistics, which show that Norway Post holds market share of more than 80% for most of the unregistered delivers, except newspapers, and 90% for registered domestic deliveries.

2 Review of Existing Research

In this section we review the existing research on postal liberalisation; including the history of postal liberalisation in the EU, USO and liberalisation, work sharing discounts in a liberalised market, access price regulation and the liberalisation effects on employment.

2.1 The History of Postal Liberalisation in the EU

The process of postal liberalisation in the EU was triggered in the late 1980's by two intertwined legal cases. In 1988, the private operators competing for *Remail*⁷ complained to the EC that the incumbent postal operators were collaborating to obstruct competition. The postal operators persuaded the EC to undertake a review of the European postal industry. Simultaneously, the largest postal operators from around the world joined forces to create an international cargo airline designed to carry express international mail.

Although the EC had delayed the *Remail Case*, it took on board the views of proponents of liberalisation (private operators, pro-liberalisation economists, and large mailers). The EU's 1992 Postal Green Paper advocated the liberalisation of cross-border mail, printed direct advertising mail, and collection and transportation of mail, in addition to the imposition of weight maximums on monopoly reserved mail products. The net effect of the green paper meant that most postal operator still maintained around 95% of revenues, but Intra-EU mail, key for EU integration, was open to competitive pressures. In addition, in 1993 the EC upheld the plaintiff's standpoint in the *Remail Case*.

The European Commission did not however pass a directive until 1997. In addition, the EC withdrew from the *Remail Case* verdict in 1995, and reduced the severity of the green paper's proposals. The directive (97/67/EC) stipulated that the monopoly area be restricted to under 350g (or up to five times the stamp price); further deregulations were delayed by a further five years.

Meanwhile, the EC continued its, albeit more slowly paced, programme of reform. In the late nineties, the EC commissioned consultancies to provide studies on the feasibility of deregulation⁸. The sixth and final study, by

⁷ *Remail* is mail that has been taken out of the source country's postal system, transported by non-postal means and then injected into the destination country's postal system where private operators in conjunction with post offices competed for distribution of international mail.

⁸ 'Liberalisation of direct mail' (1998) by Arthur Andersen, 'Liberalisation of Cross-Border Mail' (1998) by Pricewaterhouse Coopers, 'Liberalisation of Clearance, Sorting, and Transport' (1998) by CTcon, 'Study on Weight and Price Limits for the Reserved Area' (1998) by CTcon, 'Costing and Financing of the Universal Service' (1998) by NERA and 'Employment Trends in the European Postal Sector' (1997) by Pricewaterhouse Coopers.

MMD, attempted to unify the findings of the previous work and help provide a blueprint for future liberalisation proposals. However, this study noted that, due the lack of uniformity of across data used in each of the studies, they were forced to 'fill the gaps'⁹. The study examined three main scenarios: [1] Status Quo, [2] Full-Liberalisation without weight limits and [3] an Intermediate case.

- Under **Status Quo**, volumes grow significantly with market growth increasing even faster than volumes. Moreover, incumbent postal operators' profits, on aggregate, more than double over the next 10 years.
- The **Full-Liberalisation** scenario describes a more aggressive approach from postal operator to maintain market share. Consequently, mail revenue grows more slowly than volumes but falls in relation to the Status Quo scenario and the profit margin of the postal operator fall by 1% on average – as a result 7 out the 15 postal operator make a loss, compared to 3 in 1997.
- The **Intermediate Scenario** sees cross-border mail, direct mail and ordinary mail over 50g liberalised in 2003, further additions to model included all weight limits being removed in 2005. By 2007, this scenario converges on those results of the Full Liberalisation but is easier on the postal operator, since the time period is longer and deregulation is a two-stage process.

The Intermediate Scenario is not too different from that proposed in the most recent directive, 2002/39/EC. Under the new directive, by 1st January 2003 the reserved monopoly area is reduced to under 100g (or more than 3 times the price of a standard letter) and all cross-border mail is liberalised (unless the postal operator requires it to sustain the USO). By 1st January 2006, the reserved area is reduced to 50g (or 2.5 times the cost of the price of a standard letter). The intention is then to open up the postal market to full competition in 2009. However, this is conditional on a set of individual studies of the status of postal markets in the member countries, to be conducted after the second deregulation stage in 2006.

The liberalisation in Norway differs from the case detailed above for the EU. Currently, Norway Post has the exclusive right to deliver domestic and cross-border closed mail of weight lower than 100g, as of mid 2003, which is consistent with the EU Directive to reduce the reserved area below 100g and 3 times the basic 20g domestic tariff. Outbound cross-border was also completely liberalised in most countries at this time. By 2006, the reserved area will shrink to below 50g and 2.5 times the basic 20g domestic tariff.

⁹ MMD claim these holes were filled in a 'simple and transparent manner' whilst PostEurop (the Association of European Postal Operators) are less satisfied; they were concerned that the gaps were filled using 'speculation rather than supportable analysis'. The nature of their debate highlights some of the difficulties in postal reform and liberalisation, and the likely tactics of opponents of liberalisation.

2.2 Previous research

As noted earlier, there has been a great deal of interest in the deregulation of the postal industry since the early nineties, and this interest has included academics that study postal and regulated industry. However, with the liberalisation process now proceeding, much of the early research has been considered, and no doubt has influenced past policy decisions. We therefore at this stage focus on the more recent research on the issues which currently face the industry. It should be noted, though, that for the most part these issues have been omnipresent since the beginning of the reform process.

The most recent EC directives have clearly described the USO as highly beneficial for the consumer, consequently, the EC has emphasised the importance of upholding the USO in its present form. Academics, if their opinions could be generalised, seem to be split on whether the USO, with all of its current constraints, can be entirely funded in a liberalised market.

The rest of this subsection on academic research is structured as follows. The question of whether the USO can be funded under liberalisation is the subject of the first line of research reviewed. We also discuss the role of the regulator in the liberalisation process. With the structure of liberalisation governed by the EC directive the regulator faces implementation of the process. We then examine the research from key areas within the liberalisation programme, such as work sharing discounts, access pricing and welfare issues, detection and discouragement of anti-competitive practices, and transparency and equity to all market participants. We close the academic review of existing research by examining the effects of liberalisation on employment in the postal industry.

2.2.1 The USO and liberalisation

The USO can be defined by two words: uniformity and ubiquity. The USO confers the obligation to the postal operator to provide a ubiquitous service at uniform quality and uniform price. However, the postal operator does not face uniform costs on all routes; one can draw the distinction between the low-cost and high-cost delivery routes, where the former cross-subsidises the latter. If the postal operator is assumed to make zero economic profits, the existence of the cross-subsidy is true in this case by definition since prices are uniform and some routes cost more than others. The extent of the cross-subsidy, however, is in fact an empirical question that can be answered with detailed econometric analysis only. The reason the extent of the cross-subsidy is not easily calculated is that the existence of economies of scope and scale mean that average costs may be falling as volumes or products increase. Thus, the contribution to scale and scope economies may mean that, absent the USO high cost routes might still be economical to serve.

If significant cross-subsidies exist, entry by competitors unconstrained by the USO, is likely to lead to a 'cherry-picking' scenario. Entrants are able to cut

out some areas of the postal market (i.e. focus on delivery of pre-sorted mail to high density (low-cost areas)) and offer a discounted service, subsequently decreasing the volumes delivered to low cost routes by the postal operator and leaving it with a higher percentage of delivery to high cost areas. Therefore, the question arises – is the USO sustainable under competitive pressures? Academics and practitioners alike are seemingly split on this issue.

The contributions of Kolin (2000), Kolin and Smith (1999) and Rodriguez *et al.* (1999) are important contributions to the debate¹⁰. Their views argue strongly that the competitive advantages of the postal administration provided by the USO are insufficient to sustain the USO against cream-skimming in absence of legal monopoly or *Reserved Areas* in some segments of the market.

Kolin (2000) sought to estimate the degree of cross-subsidization in postal delivery services in the United States Residential postal delivery routes arising out of USO from a 1995 data set. The main findings were:

- The bulk of the contributions to costs come from relatively few postal routes. The financial basis of United States Postal Services (USPS) will be threatened should a share of the most lucrative mail be lost from these relatively few routes.
- Estimates suggest that liberalised entry into the USPS letter mail and advertising markets would inhibit the ability of the Postal Service to finance the USO in the present form.
- The lost contribution to costs from alternative delivery of residential Work Sharing First Class and Advertising mail in 1995 would have been \$1.3 to \$2.4 billion of contribution.
- The source of scale and scope economies in mail delivery is delivery volume per stop. What matters most is the density of mail pieces rather than geographic proximity of delivery points.
- The primary beneficiaries of the USO are households with low incomes. The highest proportion of such households live on Rural Postal Routes on which 100% of the households meet the United States Census Bureau definition of 'rural'.
- Negative contributions to costs come from 19% of both City and Rural Postal Routes.
- On routes with 100% rural residents by the Census definition, 31% make a negative contribution. On such routes, only the most lucrative 33% make a net positive contribution to the costs. On Rural

¹⁰ However, note that these studies by Kolin and Smith and Rodriguez *et al.* were either effectively or implicitly sponsored by the USPS or Royal Mail, respectively.

routes with 0% Census rural residents, 4% yield a negative contribution.

In a related paper, Kolin and Smith (1999) study the economic and demographic determinants of mail volume delivered on Rural Postal routes in the US with a 1995 dataset. They make the following conclusions:

- There is strong positive relationship between the volume of mail delivered on Rural Carrier Routes and the permanent, or life-cycle, income of residents on that route;
- The greater the 'permanent income' of residents on a route, the larger the volume of First Class and Third Class Regular (later renamed Standard A) mail delivered on the route;
- A surprisingly strong inverse relationship exists between the permanent income on a rural route and the length of the rural route; and
- With their measurements of contribution to institutional cost yields results, which they claim shows the financial dependence of the postal service on the Private Express Statutes and the Monopoly of the Mail Box Regulations, absent taxpayer financing of the USO.

Rodriguez et al. (1999) argue that previous methods of measuring the burden of the USO are misleading, and likely underestimate the USO's true cost, in that they fail to take into account the potential for losses from entry on only the most profitable routes. This focus on the burden of the USO in a liberalised setting has spawned a line of research on how to measure it.

In a later paper, Robinson and Rodriguez (2000) take data from the UK and apply an entry pricing (EP) approach to estimating the cost of the USO. They examine two scenarios of the reduction of the reserved area; firstly, from 350g to 150g and secondly, from 350g to 50g. In the first case they estimate that only 1.5% of total volume would be lost entrants, however, those customers lost would be high in value thereby disproportionately reducing profitability. In the latter case, they estimate that about 12% of all inland mail volumes would be lost, this translates into a 90% reduction in profitability. Moreover, numbers concerning profitability are base estimates – it is possible that in the latter case that funding the USO may impose losses on postal incumbents. The authors are cautious about their predictions and advise further study as liberalisation continues – with so much uncertainty they concur with the EU directive (97/67/EC); liberalisation should be a cautious and gradual process.

Likewise, Crew and Kleindorfer in their papers (2000-2002), emphasize the need for caution concerning deregulation as they too have concern over the financial sustainability of the USO under liberalisation.

Crew and Kleindorfer (2001) consider a microstructure model in studying the effects of entry on a postal operator with a USO under the assumption that the postal operator does not compete with entrants on prices. Market share loss has been analysed at a customer level. The approach relies on the idea

that the incumbent loses customers and not routes and products. The loss of customers begin with the most profitable customers, typically those that are the largest and have mail destined for the lowest delivery cost routes. The resultant loss of profit and the continuing need to fund the USO obligation can lead to very high prices on single piece mail.

This again triggers reduction in customers and Crew and Kleindorfer (2001) term this phenomenon as the 'death spiral' with rising tariffs and falling market share for the incumbent where it may never regain breakeven operations. Alternatively, the postal operator will have to shrink considerably and charge very high prices in certain markets. While the model does not incorporate dynamic efficiency features where the competitive pressures result in product innovation and higher productivity for the incumbent, it is possible that such dynamic efficiency features may actually increase efficiency, provided entry is slow enough not to make the USP unsustainable. Based on their model and dynamic efficiency considerations, Crew and Kleindorfer draw the following implications:

- The requirement of a meaningful USO restriction will be flawed in terms of sustainability of the USO if the incumbent does not compete (dynamic inefficiency). The main beneficiaries will be large customers and entrants;
- Maintain the current restrictions and USO for a few years until the process is studied more carefully;
- The government should decide if they want the USO at all, and if so, then in what form;
- If the USO were retained, direct subsidies or some form of entry restriction (reserved areas) would be required. Entry restriction will have fewer problems from rent seeking behaviour and transaction costs;
- If entry restrictions are chosen to support the USO, the level of restriction should be set as low as possible consistent with the funding of the USO. This could include lowering the weight limit or confining the restriction area to delivery only with a weight limit;
- Price flexibility is important – otherwise profitable routes will see customer erosion through price competition. Without price flexibility, cost advantages from economies of scale in delivery would actually work against the incumbent; and
- Price flexibility has to be accompanied by the need to develop a better understanding of how to compete. Many current profitable arrangements, like pre-sorting, for the main operator USPS in the US may become a reconnaissance exercise on the part of the entrant and a means to eliminate any advantage of USPS arising from asymmetric information.

In a later paper, Crew and Kleindorfer (2002) review the likely success of deregulation on the postal network industry. Centrally, they are concerned that a USO constraint combined with fewer possibilities for technological advance (relative to other network industries) and weak demand growth may make ill-conceived deregulation worse than other network industries' experience. Indeed, they suggest careless piecemeal deregulation could well lead to their so-called 'graveyard spiral' scenario (or 'death spiral') and leave the taxpayers with the bill. Their recommendations include commercialisation of the postal operator before liberalisation, limited entry, review reserved areas every 5 years, and a clearly defined USO.

De Donder *et al.* (2001)¹¹ constructed a theoretical model whose aim was to qualitatively understand how the postal market might develop if it were liberalised and the reserved area reduced significantly. The primary justification for the existence of a postal monopoly is the funding of the USO and this usually takes the form of the requirement of a universal postal service at a geographically averaged uniform price. In this model, De Donder *et al.* consider a pre-liberalised market where the incumbent with a USO constraint just covered its costs (including the fixed costs of maintaining USO as well as normal rate of return on assets). Next, the market was fully liberalised without the requirement of the USO provision and the question asked if universal services would continue to be provided at a uniform price.

The model predicts that liberalisation would lead to heavily differentiated prices and the breakdown of uniform tariffs. Under reasonable assumptions, incorporating a fixed cost for an entrant results in non-profitable entries in all rural markets and entries in urban markets for business customers will always be profitable.

In a related paper, De Donder *et al.* (2002)¹² extend the theoretical model to understand how best to fund the cost of continuing to meet the universal service obligation under liberalisation' (COMUSOUL). In a general equilibrium setting, they have calculated welfare gains and losses in the form of changes in consumer surplus to households and business customers and profits to entrants and the USP under a number of funding scenarios. The characteristics of the different scenarios are from three sources: price responses, compensation funds and reserved areas. In the case of full liberalisation, most of the funding mechanisms fail to fund the COMUSOUL in totality. Only in one of twelve considered scenarios is the incumbent able to break even after liberalisation. They suggest a number of alternative policies, such as requiring a compensation fund involving high excise duties on mail by entrants and full price flexibility on the part of the USP (note the latter violates uniform tariffs as well). They also predict reductions in

¹¹ The model is calibrated using stylised data of a typical European postal service. De Donder's co-author is Rodriguez, who is employed at Royal Mail.

¹² The calibration of the model is the same as the De Donder *et al.* (2001).

surpluses for both households and business customers under liberalisation; the only increases are in the profits of entrants.

As a result of the failure to fund the COMUSOUL fully in a liberalised setting in the above regimes, De Donder et al. (2002) incorporate a further instrument in a partially liberalised setting – changes to the traditional means of funding USOs through reserved areas. In other words, the regulator chooses the percentage of the market to be reserved. In the reserved part of the market, the incumbent is allowed to raise the uniform price just enough to compensate for the losses in the liberalised segments of the market. In this new regime, the authors report the extent of the optimal reserved areas for each funding mechanism. Full funding is assured only at the costs of reductions in consumer surpluses.

De Donder et al. (2002) also consider alternative patterns of entry: first, where entrants occupy a competitive fringe and have fixed costs, and second, where entrants are far more efficient than incumbents. In either case, where partial liberalisation occurs with full funding, entrants benefit while consumers suffer. They do not, however, consider any dynamic efficiency improvement for the incumbent as a result of competition.

Using NAC methodology, Bradley and Colvin (2001) examine the implications of partial entry by product; namely, non-monopoly and monopoly product in high- and low-density regions. The results indicate that much of the monopolist's revenue is generated on high-density routes whilst low-density routes are less profitable. The authors have doubts that the USO can be profitably maintained under liberalisation, as it is profitable routes that will be attacked by entrants thus breakeven prices for the incumbent would be unsustainable.

However, not all authors are as circumspect about the success of liberalisation. Cohen et al. (1999, 2000)¹³ are probably the most notable contributions from this angle. Their argument is that monopoly is not necessary because of the inherent competitive advantages deriving from scale and scope economies and that the incumbent operator probably derives a competitive advantage from providing universal service. They also argue that the benefits of competition are significant in promoting efficiency.

Cohen et al. (2003) provides empirical evidence based upon the US Postal Service, that the 'graveyard scenario' is not an inevitability of liberalisation, and can be avoided if per capita volume is sufficiently high and if the postal service is effectively managed. They report that the shape of the profit curve – which is similar in even the most disparate of postal services¹⁴ – means that the postal operator remains largely unaffected after the first iteration of

¹³ Note that Cohen et al. are from the US Postal Rate Commission, the regulator. They unsurprisingly find less onerous results regarding the sustainability of the USO. The battle lines of the USO debate are drawn largely along institutional lines.

¹⁴ Cohen *et al.* (2002) compare and find vast differences between the Italian and US Postal Services USO.

cream-skimming. Furthermore, they find that volume of mail transported, which is limited by upstream delivery costs, rather than efficiency of entrant, or the postal operator price had a greater impact on the results.

Burns, Carslake and Houpis (2002) evaluate the significance of brand value on entry into postal markets. They find that if the incumbent has a strong brand then it is possible that competition and sustainable funding of the USO can co-exist.

2.2.2 Work sharing discounts in a liberalised market

One method of introducing competition into postal systems is through what has been termed 'work sharing discounts'. The work sharing notion is that a discount should be offered to mailers or competitors who do portions of the postal work and then hand the mail over to the USP for completion of delivery. This is especially effective when mailers can do the work in a different way than the USP.

Work sharing is considered to have the properties of unbundling and is considered to be economically efficient and fair. A related view is that work sharing makes the USP more competitive and resists threats from competing carriers and electronic substitutes (Mitchell 1999). Technical efficiency also increases, as the lowest cost person who can do the work will do the work in a competitive market. Some believers in the Efficient Component Pricing (ECP) theory also believe that this method should be applied wherever feasible – work sharing allows this whenever somebody else can do the work more efficiently.

Mitchell (1999) classifies work-sharing opportunities to be of five types:

- Type 1 work sharing – the discount is given when the mailer (or competitor) does some of the postal work in a method similar to the operator. An example would be a discount given for the pre-sorting of mail into postcode bundles;
- Type 2 work sharing – the mailer achieves the work shared result in a different way than the operator. Pre-sort discounts is a good example of work that can be done manually or electronically. The mailer may be able to do the work at a considerably less cost than the operator;
- Type 3 work sharing – the mailer's work sharing is influenced by factors other than the discount and the cost of doing the work. The mailer typically considers the value of an improved service along with the cost of work sharing;
- Type 4 work sharing – the mailer reduces his work by changing his behaviour in efficient ways that were either not predicted or do not depend so much on the discount; and
- Type 5 work sharing – this is primarily aimed at making the postal system more competitive.

The USPS uses work sharing extensively with private mailers. If the price of the basic mail service is fixed and the discount for pre-sorting is variable, there is a powerful profit incentive for the postal operator to reduce pre-sort discounts.

2.2.3 Access pricing regulation

Under the EU approach to liberalisation, the task of implementation falls to the national regulators. The regulator faces the challenge of introducing welfare improving competition without jeopardising the sustainability of the USO supplied by the incumbent. The form of competition and its facilitation are effectively guided by the regulatory and antitrust legislation. The regulator must decide if there is enough justification for enforcing access arrangements on incumbents, and if so, how best to set the access price given an array of criteria. Further complications occur when trying to combine access arrangements with the chosen regulatory regime.

Panzar (2002) provides an overview of the challenges presented by access pricing to postal regulators. Whilst he acknowledges that liberalisation yields competitive and efficiency benefits he has grave concerns over the costs that are incurred.

'Essential services' are the theoretical cornerstone for regulatory intervention into access arrangements between the incumbent and competitors in network industries. The principle here is that since the existence of a sunk cost as a barrier to entry is precluding competitive entry as it is too costly, then, rather than reproduce these costs the regulator intervenes and sets a price at which the competitor can access the incumbents facilities. Panzar (2002) argues that the postal services contain few, if any, 'essential services'; upstream there are no sunk costs and returns to scale are constant. Downstream, the only sunk cost of any kind is the database of all addresses and routes built up over hundreds of years. Other assets, such as the post offices, have real estate value and the main cost component is labour; both are hard to justify as sunk costs of any sort. Thus, he claims the case for regulatory intervention is weak relative to other network industries such as telecommunications and electricity.

Panzar also believes that the USO's economic sustainability may be jeopardised by the uniform pricing constraint. He presents a series of cherry-picking scenarios where less efficient entrants could make a profit since they are not bound the USO. Moreover, this situation is not socially desirable¹⁵ and may leave the postal operator with only high cost routes thus eroding the profitability of the postal operator. His access price rule is: the maximum of postage price less, the costs saved and the incremental unit cost of the postal operator. Having examined a number of alternative outcomes, Panzar

¹⁵ The most socially desirable outcome is one where the most efficient postal operator provides the service.

concludes that even the most carefully designed access pricing rule will at best mitigate rather than eliminate this problem.

Crew and Kleindorfer (2002) review the case for the providing upstream and downstream access to incumbent's network. They report that upstream services are typified constant returns and low barriers to entry and that entry should only occur if the competitor could operate at lower costs thus conferring benefits on all parties. In this context, Crew and Kleindorfer would leave the market to negotiate contacts, as incentives are in place to ensure welfare improving access arrangements are pursued whereas regulation is likely to involve substantial transaction costs. However, this is not reciprocated for downstream access. The authors suggest that it would be best to regulate third party access downstream to help ensure the sustainability of the USO. The preferred access pricing methodology is Delivery-Zone Access Pricing (DAP). DAP fundamentally causes the entrant to pay for work yet to be completed, for example, under this method there would be higher access prices for access to the incumbents high cost delivery infrastructures. Moreover, DAP provides incentives for postal operator to set access prices correctly as over pricing would result in lost volumes.

Crew and Kleindorfer believe that DAP in combination with the regulatory tools and market knowledge at the disposal of the regulator provides the best opportunity for maintaining a financially robust USO – although they cannot guarantee it.

In a later paper, Crew and Kleindorfer (2003) build on the paper detailed above by combining the parcels market into their analysis. Although small, they believe that the parcels market may make an invaluable contribution towards funding the USO. In particular, they envisage three likely scenarios:

- Survival of the Fittest: the postal operator is able to maintain its service at roughly the same prices from the value it derives from its position, as a USP;
- The Small and High Cost postal operator: High price single piece mail enables the postal operator to survive despite the fact it is only serving high cost areas; and
- The Graveyard Spiral: the postal operator, constrained by the USO, continues to lose market share and loses financial viability.

Billette de Villemeur, Cremer, Roy and Toledano (2002) examine the appropriate structure of work sharing discounts and its decentralisation through price-cap regulation. They find a set of sufficient conditions where optimal work sharing discounts are greater than those under the efficient component-pricing rule (ECPR). However, they find that if the regulator places a sufficiently high weight on households' utility then the result is reversed; ECPR generates bigger discounts than under the ECPR pricing. Furthermore, they show that these prices can be implemented through global price-cap regulation but the suitable price-cap formula depends upon the regulator's objective – households' or firm's utility.

In a later paper, Billette de Villemeur, Cremer, Roy and Toledano (2003) modify Crew and Kleindorfer (2002) by separating the market into single piece mail and bulk mail, which they believe to more accurately reflect the true structure of the postal industry. This modification allows them to evaluate the impact that degree of substitutability between the entrant's and the postal operator's services have upon the welfare implications of entry. They conclude even without the uniform price constraint, that to improve welfare the entrants product must generate a significant amount of new demand; that is have low substitutability with the postal operator's product. The imposition of the uniform price constraint does not change this analysis but merely reduces the level of welfare under all scenarios.

De Donder, Cremer, Rodriguez (2002)¹⁶ focus on access pricing in the parcel sector for the USO and non-USO parcel firms. Primarily, the authors examine the effect that financial and pricing constraints of the USO and non-USO firms have on the access price. The idealised view that the users of the postal operator network should all face the same access price is found to be sub-optimal. Moreover, they find that it is not economically feasible to satisfy all of the financial and uniform pricing constraints. The set of access prices charged to users vary depending on which constraints are in operation; in some cases, constraints placed irreconcilable conditions upon each other. In such as a situation the authors recommend that either access prices preclude entry, a tax subsidy be used or indeed a cross-subsidy - through higher priced letter post - should be implemented. In short, entry into the parcel market by non-USO operators depends upon the set of pricing and financial constraints in place. Thus, they find that attainment of a set of optimal, simple and workable access prices is difficult given the financial and pricing constraints. Moreover, they state that any rule should be based on an understanding of the economic welfare implications. De Donder, Cremer, Rodriguez believe that their analysis of the parcel market holds wider implications for access pricing in letter mail and the sustainability of USO under such conditions.

2.2.4 The effects of liberalisation on employment

One of the most compelling arguments for liberalisation is that it brings efficiency gains. In the postal sector, labour costs represent the largest share of total costs. Thus, efficiency improvements that are significant in postal services often mean some degree of workforce streamlining and/or increased substitution of capital for labour, often as a result of technical innovations.

¹⁶ The model is calibrated using data from De Donder *et al.* (2002), the aforementioned paper is in turn based upon De Donder *et al.* (2001); namely, it is calibrated using the assumption of a typical European postal service.

The postal service is heavily labour intensive, and like other public services, the postal industry contains strong trade unions, Norway is no exception here. Therefore, liberalisation is likely a contentious issue for the trade unions.

However, private sector pressures may, *inter alia*, provide additional benefits for employees and may create new employment opportunities. Certain forms of liberalisation may enhance mail volumes, and increase value-added on the parts of the network, which are likely to exhibit increasing returns. This is evidenced by the work sharing arrangements in the USA. Pre-sorted mail now makes up a very large portion of delivered mail in the US, and at \$12billion in revenues in 2000 represents a very large industry in itself. This thus enhances value-added, and enhances the amount of surplus available for labour to capture as rents. Thus, the case against liberalisation on employment grounds is not clear-cut.

PLS Ramboll (2002) conducted the most recent EC study on employment¹⁷ in the postal sector. They found that in the period 1995-2000 there was only a moderate linkage between postal employment and changes in the regulatory framework. However, a survey of EU postal operators indicated that they expect this to change with the advent of increased liberalisation:

- Initial stage, 2003: The postal operators expect that it is not going to greatly influence employment in the postal sector – more than 66% of postal operators and 75% of competing postal operators thought employment would remain unchanged;
- Second stage, 2006: 44% of the postal operators expect a 'slight or significant' fall in employment, whilst more than 50% of postal operators thought it would have no impact.; and
- Final stage, (expected) 2009: In excess of half of the postal operators thought that employment would experience 'slight or significant' fall in employment, all postal operators envisaged some change in the employment level. About one-third of the postal operators expect an increase or significant increase in employment.

The results are unsurprising since the liberalisation stages one and two only open around an additional 16% of postal operator revenues to competition, whilst full liberalisation opens around an additional 54% of revenues. Thus, regulatory changes are expected to influence employment more in future than has been the case in the recent past.

¹⁷ Pricewaterhouse Coopers conducted the previous postal sector employment study in 1997.

This analysis is further backed by empirical forecasts. The study constructed three equally likely scenarios to try to estimate future employment changes in 2005 (see Table 2-1). Under the first scenario, 'Competitive Postal Sector', postal operator direct employment falls 4%, total direct employment increases 4% with total employment increasing 10.4%. In scenario two, 'Competitive Postal Sector Facing Accelerated Substitution', total direct employment and postal operator direct employment fall by 7% and nearly 20% respectively. In addition, the growth of indirect employment is more 'modest', employment induced by direct employment will fall and total employment will stagnate at around the 2000 level. In the final scenario, 'Stagnating Postal Sector', postal operator direct employment falls 23% with overall direct employment falling 9% and total employment also falls by around 2.1%.

Table 2-1: The Effects of Liberalisation on Employment

Scenario	Direct Postal Operator Employment	Total Direct Employment	Total Employment
Competitive Postal Sector	4%↓	4%↑	10.4%↑
Competitive Postal Sector Facing Accelerated Substitution	20%↓	7%↓	0%
Stagnating Postal Sector	23%↓	9%↓	2.1%↓

Source: PLS Ramboll (2002)

Elcano *et al.* (2002) review the effect on employment and trade unions that the experiences of postal reform and liberalisation have had in Australia, Canada, France, Germany, the Netherlands, New Zealand and the UK. They concluded that, far from being a *de facto* negative experience, reform in the postal sector has presented employees with new challenges and benefits. In the cases examined, she found that the employees enjoyed a new status and some were presented with favourable stock options. Workforces were cut down in four of the cases, in the other three, employment increased. Moreover, in all of the countries studied all of the employees remained unionised and retained the right to strike.

2.3 Conclusion to this section

In this section, we have reviewed some previous research on postal market liberalisation, including the USO and liberalisation, work sharing discounts in the liberalised market, the role of the regulator in the liberalised market, access pricing and finally the effects of liberalisation on employment. Our findings are summarised below.

The primary objective of the regulator is usually assumed to introduce sustainable welfare-improving competition without jeopardising the sustainability of the USO supplied by the incumbent. This task is complex; in particular, much of the academic research is divided on whether the ubiquity and uniformity, (especially the pricing constraint) of the USO are compatible with a competitive market. Crucially, the definition and flexibility of the USO as set out by the regulator may well govern the success of the liberalisation process.

The properties of upstream and downstream postal services indicate that the regulatory treatment they receive will be different – but to what extent? Upstream services are typified by constant returns-to-scale; consequently few, if any, barriers to entry exist. Thus, the case for regulatory intervention is weak. Downstream services exhibit increasing returns-to-scale over many levels of output. However, not all academics are convinced that the ‘essential services’ that construct barriers to entry, as typified in other privatised network industries, are readily identifiable in the postal sector. Thus, in regards to vertical deregulation, the regulator must decide if there is enough justification for enforcing access arrangements on incumbents from ‘essential facilities’, and if so, how best to set the access price.

Favourable access prices for entrants may undermine the financial feasibility of the USO and provide incentives for the postal operator to act as predator. Conversely, if the access prices are too favourable for the postal operator, it may preclude entry altogether. The degree of differentiation between academics’ views, combined with the idiosyncrasies that influence each country’s postal industry, suggests that this balance will be hard to find – at least at the first attempt. Consequently, the regulator must assess the risks attached to erroneous access prices and decide from which side they wish to converge on the welfare enhancing equilibrium access price and the speed at which they wish to do it. It might be suggested that the effects of excessively favourable entry conditions are not reversible and would therefore represent a higher risk to the regulator, cautious and gradual piecemeal deregulation would, intuitively, seem less risky. At each stage, the regulator has better information on which to base its decision. Thus the speed and nature of deregulation, should this be the desired approach, will be governed by how well the regulator believes its information set describes the country’s postal sector and the emphasis it places on the welfare of the postal operator, entrants and consumers.

In any case, the regulator must actively monitor pricing and other strategies to detect anti-competitive practices, especially preclusion of entry by the postal operator; although predation is notoriously difficult to prove, and its effect impossible to reverse.

Another important element for the regulator to consider is how the liberalisation process affects employment. The empirical studies we review show that the impact on employment varies across the scenarios, ranging from 'Competitive Postal Sector' to 'Stagnating Postal Sector', resulting in a positive (10.4%) to negative (2.1%) impact on total employment, respectively.

3 Norway Post's Service Offering and Business Volume Structure

The overall impact of liberalisation, in terms of Norway Post's revenues and profitability, will be influenced critically by the incidence of liberalisation in relation to the existing structure of the business. In this section we describe Norway Post's service offering and assess the implications of the structure of services on offer and the volumes of activity in each area of business for the assessment of the likely impact of liberalisation of the postal sector.

3.1 Product description

Before describing the levels of business activity, it is important to set out the structure of Norway Post's postal services business. Norway Post's postal business can be divided into 3 main service areas, namely letter services, parcel services and direct mail services.

Norway Post's letter services are summarised in Table 3-1 overleaf. Letter services are the primary service offered for letters, postcards and roll-form mail and can be sub-divided into daily letter services, bulk letters, letter parcel services and international express mail. In respect of daily letter services, there is a wide range of products provided, including standard prepaid mail using stamps, franked mail (cash and pre-franked), price-per-kilogram mail and international daily mail. There are two classes of daily letter mail, namely A-Priority and B-Economy. In addition to this, value-added or supplementary services such as registered mail, insured mail and cash-on-delivery are also available.

Bulk letters are applicable when sending more than 200 identical domestic and international letters.

Letter parcel services are applicable when sending more than 200 books or small goods of variable weight, size and volume inland and abroad. Again, price is determined by speed of delivery, destination, size and weight and the degree of pre-sortation.

Table 3-1: Norway Post's Services – Letter Services

Service Area/Product Name	Description
Letter Products	
<u>Daily Letters</u>	
<i>Daily letters - prepaid with stamps</i>	A-Priority and B-Economy mail. Priced by size/weight category Includes letters and postcards Value-added services available, incl. registered, insured, cash-on-delivery
<i>Daily letters – franking by cash</i>	<ul style="list-style-type: none"> • Prepaid envelope • Credit based • Prepaid cash – discount provided
<i>Daily letters – pre-franked</i>	<ul style="list-style-type: none"> • Pre-franked ready-to-post envelopes • Forwarded in A-Priority mail stream
<i>Daily letters – price per kg</i>	<ul style="list-style-type: none"> • Fixed Price per Kilo -minimum of 20 letters or >350g • Individual Price per kilo - Includes annual fee and requires at least 200 items from the same sender
<i>Daily Letters abroad</i>	Priced according to: Nordic countries, Europe or rest of World
<u>Bulk Letters</u>	Applicable when sending more than 200 identical domestic and international letters.
<i>Pre-sorted mail</i>	At least 5000 per delivery
<i>Unsorted mail</i>	At least 200 identical
<i>Machinable mail</i>	At least 1000 on set format
<i>Bulk Letters abroad</i>	Priced according to: Nordic countries, Europe or rest of World
<u>Letter Parcel</u>	Applicable when sending more than 200 books or small goods of variable weight, size and volume inland and abroad.
<i>Pre-sorted</i>	Min of 1000 per delivery speed
<i>Unsorted</i>	Min of 200 per delivery speed
<i>Letter parcel abroad</i>	
<u>International Express</u>	
<i>EMS - Express Mail Service</i>	Express door-to-door worldwide

Source: Norway Post

International express mail, or EMS, is an express door-to-door worldwide service, with guaranteed delivery times. Price varies with zone of delivery, weight and whether the mail is document or merchandise-based.

In Table 3-2 we describe Norway Post's parcel services. Parcel services are comprised of standard parcel services and international parcel services. In relation to standard parcel services, the most common is business parcel and Norway parcel. There are also parcel express, post office, service and home delivery service options. Within the international parcel service area, there are four sub-services, namely CarryOn (for private customers), CarryOn Home Shopping (aimed at e-commerce and mail order businesses), CarryOn Business (which is a company-to-company service) and International Express. Parcel pricing is based on size, shape, weight, speed of delivery, and destination.

Table 3-2: Norway Post's Services - Parcel Services

Service Area/Product Name	Description
<u>Parcel Services</u>	
<i>Business Parcel Express</i>	Overnight delivery guaranteed
<i>Business Parcel</i>	Most comprehensive and efficient transportation and distribution service for parcels business-to-business. Door-to-door. Guaranteed delivery times.
<i>Business Parcel Post office</i>	Small Parcel volumes - handed in at postal operator
<i>Norway Parcel</i>	Standard Service
<i>Service Parcel</i>	Contractual service for businesses sending parcels to customers
<i>Home delivery</i>	Contractual Service
<u>International Parcel Services</u>	
<i>CarryOn</i>	For private customers, either packaged All-in-one or Customer wrapped
<i>CarryOn Home Shopping</i>	For e-commerce or mail order industries, contractual service
<i>CarryOn Business</i>	Company to company service.
<i>International Express</i>	Express door-to-door worldwide. Covers 158 countries worldwide. Guaranteed delivery times. Different prices for document and merchandise items. For document items weighing more than 5 kg, the prices are the same as for merchandise items.

Source: Norway Post

Table 3-3 overleaf describes Norway Post's direct mail services. There are two service areas applicable to direct mail, namely Customer Mail and Bulk Letters. Customer Mail is aimed at businesses that wish to advertise products to a large number of domestic addresses.

Table 3-3: Norway Post's Services – Direct Mail Services

Service Area/Product Name	Description
<u>Customer Mail</u>	For advertising products to a large number of domestic addresses. Advertising, Customer information, Marketing material. Price calculated according to postage per copy and weight price in grams
<u>Bulk Letters</u>	Applicable when sending more than 200 identical domestic and international letters. Supplementary services available.
<i>Pre-sorted mail</i>	At least 5000 per delivery
<i>Unsorted mail</i>	At least 200 identical
<i>Machinable mail</i>	At least 1000 on set format
<i>Bulk Letters abroad</i>	Priced according to: Nordic countries, Europe or rest of World

Source: Norway Post

3.2 Description of pricing

An important factor relevant to the assessment of the implications of postal liberalisation concerns the pricing of postal services, as the scenarios for liberalisation are likely to include a number of pricing elements (which we discuss in Section 7). It is important, therefore, to set out Norway Post's current pricing structure.

3.2.1 Daily letters

The pricing of daily letter services varies depending on a number of features, in particular:

- Speed of delivery
- Destination – Norway, Europe and World
- Size and weight
- Method of franking (stamps or franking machine)
- Cash prepayment

Table 3-4 sets out the price schedule for A-Priority and B-Economy products - daily letters prepaid using stamps, indicating the 2002 price structure by weight category, speed of delivery and destination. The figures indicate that prices vary between a minimum of NOK 5.50 and a maximum of NOK 260 depending in the A-Priority class depending on destination and weight. In the B-Economy class, prices range between a minimum of NOK 5 and a maximum of NOK 186.

Table 3-4: Description of Norway Post's Current Pricing Structure - Daily Letters - Prepaid with Stamps - 2002 Prices in NOK

A-PRIORITY (incl. VAT)						
Grams	20g	50g	100g	350g	1000g	2000g
Norway	5.5	8.5	11	22	55	120
Nordic countries ¹⁸	7	11	14	27	75	150
Europe	9	13.5	18	45	100	186
World	10	20	30	62	150	260

B-ECONOMY (incl. VAT)						
Grams	20g	50g	100g	350g	1000g	2000g
Norway	5	7.5	10	20	50	100
Nordic countries*	6.5	10	12	25	62	124
Europe	7.5	11	15	35	75	150
World	8.5	17	26	52	112	186

Source: Norway Post

Of importance in relation to liberalisation is the weight steps used by Norway Post. It can be seen in this regard that the primary weight steps are 20g, 50g and 100 grams, with a maximum weight applicable of 2,000 grams. In Annex 3, we also examine the volumes of mail by weight category delivered by Norway Post.

The pricing schedule for daily letter mail prepaid by means of a franking machine is shown in Table 3-5. It can be seen that this schedule is identical to that for prepaid stamped mail.

¹⁸ Nordic countries include Denmark, Faeroe Islands, Greenland, Finland, Iceland and Sweden.

Table 3-5: Description of Norway Post's Current Pricing Structure - Daily Letters - Prepaid by Means of Franking Machine - 2002 Prices in NOK

A-PRIORITY (incl. VAT)						
Grams	20g	50g	100g	350g	1000g	2000g
Norway	5.5	8.5	11	22	55	120
Nordic countries ¹⁹	7	11	14	27	75	150
Europe	9	13.5	18	45	100	186
World	10	20	30	62	150	260
B-ECONOMY (incl. VAT)						
Grams	20g	50g	100g	350g	1000g	2000g
Norway	5	7.5	10	20	50	100
Nordic countries*	6.5	10	12	25	62	124
Europe	7.5	11	15	35	75	150
World	8.5	17	26	52	112	186

Source: Norway Post

Table 3-6 indicates that daily letter mail may also be franked on a credit prepayment basis, but in this case a deposit is required as a guarantee, with payment due one month in arrears.

Table 3-6: Description of Norway Post's Current Pricing Structure - Daily Letters Prepaid by Means of Franking Machine - Credit Prepayment - 2002 Prices in NOK

Franking machine with postage payable in arrears once a month

Conditions	Price
Deposit to be paid as a guarantee	Letters to be prepaid according to the price list for franking machines

Source: Norway Post

¹⁹ Nordic countries include Denmark, Faeroe Islands, Greenland, Finland, Iceland and Sweden.

A cash prepayment option is also available in relation to franked daily letter mail (see Table 3-7). In this case, a discount of 3% on consumption is available where prepayment is made according to the price schedule shown in Table 3-5. An additional discount of 2% is available for franking machines that submit product statistics to Norway Post.

Table 3-7: Description of Norway Post's Current Pricing Structure - Daily Letters Prepaid by Means of Franking Machine - Cash Prepayment - 2002 Prices in NOK

Discounts for franking machines with payment in advance	
Conditions	Discount
Letters to be prepaid according to the price list applying to franking machines	3% discount on consumption
Franking machines submitting product statistics to Norway Post	Additional 2% discount

Source: Norway Post

Table 3-8 describes Norway Post's pricing policy in relation to kilo priced daily letters with an individual kilo price. Use of this service is based on an agreement with Norway Post and pricing is based on the schedule for franking machine mail set out in Table 3-5. Letters must be prepaid with a postage paid impression with the price fixed on the basis of statistical franking machine counting. Statistical counting and control counting are additional conditions and an annual fee of NOK 2,000 (excluding VAT) applies.

Table 3-8: Description of Norway Post's Current Pricing Structure - Daily Letters - Kilo Priced Letters with an Individual Kilo Price - 2002 Prices in NOK

Based on an agreement with Norway Post to use Daily letters - Kilo priced letters with an individual kilo price.	
Conditions	Based on price level for franking machines
Letters to be prepaid with postage paid impression	Price fixed on the basis of statistical countings
Statistical counting and control counting	Annual fee: NOK 2,000 (excl. VAT)

Source: Norway Post

The pricing schedule for daily kilo priced letters with a fixed kilo price is shown in Table 3-9 below. Prices vary between a minimum of NOK 90 per kg and a maximum of NOK 700 per kg depending on speed of delivery, weight and destination (domestic/international). It should also be noted that a weight-based surcharge applies to large domestic daily letter items weighing over 1 kg.

Table 3-9: Description of Norway Post's Current Pricing Structure - Daily Letters - Kilo Priced Letters with a Fixed Kilo Price - 2002 Prices in NOK

Speed of Delivery	Weight	Price per kilo domestic	Price per kilo international
A-Priority	Up to and incl.100 g	400	700
	Over 100 g	100	240
B-Economy	Up to and incl.100 g	360	600
	Over 100 g	90	180

Source: Norway Post

The pricing schedule for Norway Post's international express mail service is indicated in Table 3-10 below. Pricing for international express mail varies according to weight and destination, with weight steps of 100g, 350g, 1000g and a maximum of 2000g applying. The prices vary between a minimum of NOK 76 and a maximum of NOK 323.

Table 3-10: Description of Norway Post's Current Pricing Structure - Daily Letters - Swiftpost International Express (incl. VAT) - 2002 Prices in NOK

Weight up to	100 g	350 g	1000 g	2000 g
Nordic countries ²⁰	76	90	137	211
Europe	80	107	162	248
World	92	124	211	323

Source: Norway Post

²⁰ With the exception of Faeroe Islands and Greenland

3.2.2 Bulk letters

Bulk letters are applicable when sending more than 200 identical domestic and international letters. The pricing of bulk mail – which is also a direct mail service - depends on size and weight, delivery speed, the degree of pre-sortation, machinability and destination.

Table 3-11 describes Norway Post's current price schedule for unsorted bulk letters. It can be seen that price depends on the speed of delivery (A and B classes), destination and whether the bulk mail is priced on a per item basis or per kilo basis. For mail priced on a per item basis, prices vary between NOK 3.09 and NOK 6, whereas for mail priced on a per kilo basis prices range between NOK 27.8 and NOK 90.

Table 3-11: Description of Norway Post's Current Pricing Structure - Unsorted Bulk letters (excl. VAT) - 2002 Prices in NOK

Class	Norway		Nordic countries		Europe		World	
	Price per item	Price per kilo	Price per item	Price per kilo	Price per item	Price per kilo	Price per item	Price per kilo
A-Priority	3.8	41	4.5	50	5	70	6	90
B-Economy	3.09	27.8	3.6	45	4.4	55	5	70

Source: Norway Post

Table 3-12 indicates the pricing schedule in respect of machine suitable bulk letters. In this case, bulk mail can attract a discount for unsorted letters of between 5-7% depending on satisfaction of specific conditions and whether the mail consists of small or large items.

Table 3-12: Description of Norway Post's Current Pricing Structure - Machine Suitable Bulk Letters - 2002 Prices (excl. VAT)

A-Priority and B-Economy	
Conditions	Price
Agreed and pre-approved, see product conditions	Small letters: 7 % discount on unsorted bulk letters
	Large letters: 5 % discount on unsorted bulk letters

Source: Norway Post

The pricing schedule for Pre-sorted bulk letters is shown in Table 3-13 below. In this case, prices vary on the basis of speed of delivery, destination, the number of items per posting and whether pricing is based on a per item or per kg basis. It is notable that there are significant discounts available depending on the volume of mail being posted, with volumes of 100,000 pieces or more attracting a discount on A-Priority mail of up to 9.1% in the case of per item priced mail posted to other Nordic countries. It should also be noted that B-Economy classed pre-sorted bulk mail prices are 19.4% below A-Priority prices across all categories indicated. In all cases, a surcharge applies in relation to large items.

Table 3-13: Description of Norway Post's Current Pricing Structure - Pre-sorted Bulk Letters - 2002 Prices in NOK (excl. VAT)

A-Priority								
	Norway		Nordic countries		Europe		World	
Number of items	Price per item	Price per kilo	Price per item	Price per kilo	Price per item	Price per kilo	Price per item	Price per kilo
per posting								
5000 – 9999	3.45	40	4.4	39.5	4.9	59.5	5.9	79.5
10 000 - 24 999	3.4	39.5	4.3	39	4.8	59	5.8	79
25 000 - 49 999	3.35	39	4.2	38.5	4.7	58.5	5.7	78.5
50 000 - 100 000	3.25	38	4.1	38	4.6	58	5.6	78
100 000 -	3.2	37	4	37.5	4.5	57.5	5.5	77.5
B-Economy								
	Norway		Nordic countries		Europe		World	
Number of items	Price per item	Price per kilo	Price per item	Price per kilo	Price per item	Price per kilo	Price per item	Price per kilo
per posting								
5000 – 9999	2.78	27.1	3.5	39.5	4.3	49.5	4.9	64.5
10 000 - 24 999	2.73	26.8	3.4	39	4.2	49	4.8	64
25 000 - 49 999	2.68	26.5	3.3	38.5	4.1	48.5	4.7	63.5
50 000 - 100 000	2.6	25.9	3.2	38	4	48	4.6	63
100 000 -	2.55	25.4	3.1	37.5	3.9	47.5	4.5	62.5

Source: Norway Post

3.2.3 Letter-Parcels

Letter parcel services are applicable when sending more than 200 books or small goods of variable weight, size and volume inland and abroad. Again, price is determined by speed of delivery, destination, size and weight and the degree of pre-sortation.

Table 3-14 indicates Norway Post's pricing schedule in relation to its unsorted letter-parcel A-Priority service. Pricing in this case is based on the number of items being posted, weight (priced per kilo under or over 100gms) and destination. The volume steps start at 200-499, with the top step being 1,000 items and over. Pricing varies between a minimum of NOK 80 in the case of domestic letter-parcels numbering 1,000 or over and a maximum of NOK 230 in respect of international letter-parcels numbering between 200 and 499 items.

Table 3-14: Description of Norway Post's Current Pricing Structure - Unsorted Letter-Parcel A-Priority - 2002 Prices in NOK (excl. VAT)

Number of items	Price per kilo over 100 grams		Price per kilo under 100 grams	
	Domestic	International	Domestic	International
200 - 499	90	180	140	230
500 - 999	85	175	135	225
1000 -	80	170	130	220

Source: Norway Post

A separate pricing schedule applies to pre-sorted A-Priority letter-parcels, which is shown in Table 3-15 overleaf. Pricing in this case is also based on weight, destination and volumes. However, there is a greater number and range of volume steps applicable to pre-sorted letter-parcels. Discounts of up to 16.7% are available for volumes ranging between 50,000 and 99,999 items.

Table 3-15: Description of Norway Post's Current Pricing Structure - Pre-sorted Letter-Parcel A-Priority - 2002 Prices in NOK (excl. VAT)

Number of items	Price per kilo over 100 grams		Price per kilo under 100 grams	
	Domestic	International	Domestic	International
1000 - 4999	65	150	115	200
5000 - 9999	63	145	113	195
10 000 - 24 999	61	140	111	190
25 000 - 49 999	59	135	109	185
50 000 - 99 999	58	130	108	180
100 000 -	57	125	107	175

Source: Norway Post

The pricing schedule for B-Economy unsorted letter-parcels is described in Table 3-16 below. B-Economy unsorted letter-parcel prices are 16.7% lower than A-Priority prices across all categories indicated.

Table 3-16: Description of Norway Post's Current Pricing Structure - Unsorted Letter-Parcel B-Economy - 2002 Prices in NOK (excl. VAT)

Number of items	Price per kilo over 100 grams		Price per kilo under 100 grams	
	Domestic	International	Domestic	International
200 - 499	75	160	115	210
500 - 999	70	155	110	205
1000 -	65	150	105	200

Source: Norway Post

Table 3-17 overleaf indicates the pricing schedule for pre-sorted B-Economy letter-parcels. Pre-sorted B-Economy letter-parcel prices are 23.1% lower than pre-sorted A-Priority letter-parcels across all categories indicated.

Table 3-17: Description of Norway Post's Current Pricing Structure - Pre-sorted Letter-Parcel B-Economy - 2002 Prices in NOK (excl. VAT)

Number of items	Price per kilo over 100 grams		Price per kilo under 100 grams	
	Domestic	International	Domestic	International
1000 - 4999	50	130	90	180
5000 - 9999	48	125	88	175
10 000 - 24 999	46	120	86	170
25 000 - 49 999	44	115	84	165
50 000 - 99 999	43	110	83	160
100 000 -	42	105	82	155

Source: Norway Post

It should also be noted that a surcharge applies to all large item letter-parcels, dependent on size and weight. This surcharge is identical for A-Priority and B-Economy items and the weight steps applicable are based on items up to and including 1kg and items over 1kg, with prices of NOK 8 and NOK 30 applying, respectively.

3.2.4 Direct Mail

As noted earlier in this section, Norway Post's Direct Mail service is comprised of Customer Mail and Bulk Mail, which are aimed at businesses that wish to advertise products to a large number of domestic addresses. Pricing is based on postage per copy and weight. As noted under letter services, the bulk letter service is applicable when sending more than 200 identical domestic and international letters. Pricing is determined according to destination, the level of pre-sortation and machinability.

Table 3-18 overleaf describes the pricing schedule in respect of Norway Post's Customer Mail service. Pricing is either on the basis of postage per copy or postage by weight, with weight steps applying of NOK per gram up to and including 100g, 500g, 700g, 1,000g and 2,000g.

Table 3-18: Description of Norway Post's Current Pricing Structure - Direct Customer Mail - 2002 Prices in NOK (excl. VAT)

Details	NOK
Postage per copy (NOK per copy)	2.78
Postage based on weight, NOK per gram up to and incl.	
100 g	0.0132
500 g	0.0165
700 g	0.019
1000 g	0.021
2000 g	0.023
Volume discount:	
Number of items per posting:	Discount:
5000 - 9999	0%
10 000 - 24 999	3%
25 000 - 49 999	4%
50 000 - 99 999	5%
100 000 - 149 999	6%
150 000 - 199 999	7%
200 000 - 299 999	8%
300 000 - 499 999	11%
500 000 -	12%
Frequency discount:	Discount:
If 13 or more mailings are handed in per calendar year, a frequency discount is allowed provided that a mailing plan ("media plan") has been submitted.	5%

Source: Norway Post

It should be noted that volume and frequency discounts are also available for Customer Mail, based on the number of items per posting and the number of mailings handled in one calendar year.

3.3 Description of activities/volumes

Having described Norway Post's service offering and relevant pricing structure, we then turn to the important issue of business activity/volumes, which we provide in Annex 3, due to the confidential sensitivity of the information.

3.4 Conclusion to the section

In this section we presented a detailed description of Norway Post's service offering for A-Priority and B-Economy classes. We summarise the main findings from our analysis:

- Norway Post's postal business can be divided into 3 main service areas, namely letter services, parcel services and direct mail services.
- There are two classes of mail in Norway, namely A-Priority and B-Economy.
- A range of factors determine the pricing of Norway Post's services depending on the service category in question, including primarily:
 - Method of franking (stamps or franking machine)
 - Speed of delivery (A-Priority or B-Economy)
 - Destination – Norway, Europe, World
 - Size and weight
 - Volumes
 - Degree of pre-sortation and machinability
 - Frequency of bulk mailings
 - Cash prepayment
- The primary weight steps applied by Norway Post in respect of its daily letters services are 20g, 50g and 100g, with a maximum weight applicable of 2,000g.
- The pattern of distribution of mail volumes by service and weight categories is likely to have important implications for the assessment of the impact of scenarios for liberalisation of the postal sector in Norway.

4 International Experience and Evidence

In this section, we review the international experience in relation to postal sector liberalisation. We begin by presenting a number of detailed case studies describing the key developments in relation to postal sector liberalisation and privatisation in Sweden, Finland, Germany, the Netherlands and New Zealand. We then present an overview of the position in relation to liberalisation of postal markets in selected EU countries as a comparison with the proposals for liberalisation under consideration in Norway.

4.1 Case studies

It is instructive to review the experiences with postal sector reform in those countries where full liberalisation has taken place, in addition to those markets where privatisation of state-owned postal operators has occurred. In doing so, we draw from Campbell's (2002) review of modern postal reforms in which he rates the postal reform procedure in terms of commercial flexibility, separation of key functions and privatisation (where applicable). The results for the countries we are examining²¹ are displayed in Table 4-1.

Table 4-1: Rating of the ingredients of postal reform
(1 is the lowest, 5 is highest)

	Commercial flexibility	Separation of functions	Privatisation
Sweden	3	4	NA
Germany	4	2	2
New Zealand	5	5	NA
Netherlands	4	3	3

Source: *London Economics and Campbell (2002)*

Elcano *et al's* (2002) international survey of employment trends serves as a basis for our review of postal reform in New Zealand, Germany and the Netherlands. We begin with our review of liberalisation in the postal industry in Sweden.

²¹ With the exception of Finland.

4.1.1 Sweden

To-date, relatively few countries have fully liberalised their postal markets. Sweden was the first country that abolished (in 1993) the state postal operator's (Sweden Post's) monopoly and hence is an important example illustrating the medium term impacts of liberalisation on the USO of the main operator. In this sub-section, we present a case study of liberalisation developments in Sweden, which is based in part on Lundgren (2002). It is notable that USO obligations continued to be imposed on Sweden Post following liberalisation, as indeed was uniform tariff restriction on single piece items.

Liberalisation

- **Efficiency gains and benefits**

In Sweden, the number of post offices has decreased by almost 56% between 1990 and 2000. However, the number of service points has only decreased by about 15%, as Sweden Post has moved to less expensive ways of providing post office services through partnerships with food outlets and gas stations. Sweden Post is currently installing a new network of approximately 300 post offices with one post office for every municipality supplemented by approximately 3,000 outlets through the partnership approach. While much of this reduction in capacity has directly resulted from the impact of liberalisation on the profitability of outlets that have become very costly to maintain, the main reason has, however, been the rapid decrease in the demand for over-the-counter payments services. Strictly speaking, these payments services were never a part of the original USO although they had been extensively provided. There is also a sense that many customers have actually benefited from the alternative partnership service points as they have longer hours of service.

Other benefits attributable to liberalisation have been a more motivated workforce and Sweden Post's improved knowledge of cost and revenue data. Notably, the liberalisation period (1992-98) has also coincided with a productivity increase of 21.6%.

- **Price effects**

There have been significant price changes coinciding with liberalisation. Market segments with high price-cost margins have generally seen a decline in prices while segments that previously received cross-subsidies have seen an increase in prices. The standard postage has increased from SEK 2.90 (without VAT) in 1993 to SEK 5 (including VAT) in 1997 and has remained constant thereafter. Excluding VAT, the tariff increased by 38%. During the period, the consumer price index increased by only 5.8%.

- **Volumes**

Volumes have also changed after liberalisation, though unavailability of data means that it is difficult to separate the effects arising from competition with other operators and other media (like e-mail) and those impacts arising from changing customer preferences. Sweden Post is reluctant to publish demand data divided into products or customer groups. Nevertheless, estimates based on the National Post and Telecom Agency (PTS) indicates that annual household expenditure on postal services dropped from almost SEK 300 to 190 in recent years. There was an increase of 19.8% in the number of items delivered by Sweden Post's Letter Division between 1993 and 1999.

A case study was completed by PTS (1998) on the perceptions of five major mailers on prices and service levels in the 1990s. This study shows that the main influences are the change from unit tariffs to combined unit and weight prices for bulk mail; competitive prices from CityMail; and the effort made to negotiate lower prices. Customers in the study have seen lower costs of between 20% and 40% (depending on the structure of the mail service required) almost directly after competition was introduced.

- **Quality of service**

There has been a noticeable improvement in service quality over the last decade since liberalisation of Sweden's postal market. Sweden Post improved the service level for overnight delivery from 95.8% in 1992 to 97.3% in 1998. Flexibility to customer needs has also improved, with the 1998 PTS study indicating that large mailers were of the opinion that Sweden Post's flexibility has improved in pick-up times and allowed designs of postal items. In towns with competitors, the time of last clearance has also been extended.

In an unpublished study by PTS (2001), Swedish local authorities have indicated that flexibility ranked higher than pricing in their choice of a postal operator. Product differentiation has also increased to the extent that customers can now choose to buy components of previously bundled products.

- **Competition**

In terms of entry, two types of competition have emerged. Firstly, several small operators have made a low-tech, low-investment entry into small towns. The number of such operators increased dramatically between 1996 and 1997, following which there was a gradual decrease until 2000. Usually working in very limited geographical areas and offering services that are on average 34-47% (on weight) lower than Sweden Post, these operators have typically only captured a low share

(3%) of the local market. Serving low volumes and low tariffs has meant that few operators have actually managed to survive and prosper. While general barriers to entry appear to be small, there has been only one attempt to enter the market for single piece mail in Stockholm. One of the problems facing the small entrant has been the reluctance of customers to change to a new, untried operator.

The second type of entry to the market is exemplified by CityMail, which since 1993 has been the most profitable of new operators since liberalisation. Pre-sorted bulk mail destined for urban areas was the most lucrative market segment for Sweden Post in its monopoly days. Since 1992, CityMail has delivered twice-per-week pre-sorted bulk mail in Stockholm. In recent times, CityMail has expanded operations to cover Göteborg and Malmö.

Interestingly, serving only the three main city areas has not been the most profitable area for CityMail: postal code series do not follow the city borders and CityMail could not provide services in complete number series. Moreover, few customers were willing to split their volumes between two operators. In order to achieve profitability, in 2000 CityMail expanded the delivery area around Göteborg and Malmö to include both rural and urban households in the counties surrounding these cities.

Until recently, Sweden Post has managed to breakeven (although profits have shrunk) in the segment under threat from CityMail and is expected to remain profitable in the foreseeable future. It would appear that volumes have continued to remain profitable and efficiency enhancements have made it possible to withstand competitive threats, at least for a period of time.

It is notable, however, that Sweden Post has been able to survive nine years of competition despite large-scale entry and 'cream-skimming' attacks on its more profitable market segments. In this period, no large-scale competitor has emerged with the same service level as Sweden Post. Perhaps, it is a case of natural monopoly and entrants cannot provide delivery as efficiently as Sweden Post when focusing only on part of the overall market.

If the view on sustainability of the USO is that such services continue to be provided by the operator without needing a subsidy or losses to the provider, the case of Sweden Post certainly has shown sustainability. Neither access to universal postal services, nor quality of service has declined in Sweden and uniform tariff for single piece items still remain true.

More detailed market share estimates for Sweden Post in 1996 and 2001 are shown in Table 4-2 below. This reflects the fact that market shares in some parts of the market such as major cities may have somewhat lower barriers to entry.

Table 4-2: Letter Post in Sweden, Estimated Market Shares in 1996 and 2001

Operator	Market Shares 1996	Market Shares 2001
Sweden Post	97.9 %	95 %
CityMail	1.5 %	4.6 %
Others	0.6 %	0.4 %
Total	100 %	100 %

Sources: PTS, cited in Swedish Competition Authority, "Deregulated Markets in Sweden – a follow-up study", 1998. PTS, "The liberalised Swedish postal market and the situation nine years after the abolition of the monopoly", October 2002.

The USO

The USO can be attached to contracts issued by the postal regulator, National Post and Telecom Agency (PTS), to provide delivery services for letters up to 2kg. In practice, this means that Sweden Post are contracted to provide the USO. The components of the USO include:

- Uniform prices for single piece mail
- Price of letter under 500g is not allowed to increase at a rate in excess of inflation
- Delivery shall be made on every working day and at least five times per week
- There should be at least one clearance and one delivery (per working day)
- 85% of overnight mail must reach its destination by the following day if mailed before a designated time.
- 97% of all mail must reach the intended recipient within 3 working days.

The role of the regulator

PTS have the responsibility of ensuring the USO is met. As noted above, PTS has the power to attach the USO responsibility to one or more postal licenses (necessary to operate letter delivery). USO licensees must also provide annual reports, have a public procedure for complaints, provide services reflecting costs, respect postal price limits and some cases may have to comply with accounting and reporting obligations as prescribed by PTS.

PTS has the power not only to enforce legislation but also create it, thus giving them complete regulatory control of the industry without political interference.

Lessons from Swedish liberalisation

Before we can generalize the successful Swedish story of USO sustainability post-liberalisation to other settings, we have to check for the presence idiosyncratic factors in the Swedish experience. Competition did occur relatively slowly in Sweden primarily because of unusual geographic conditions of a very low population density and vast distances between the north and the south. Cost differences between different routes appear to be unusually high for Sweden. While this makes Sweden Post more vulnerable to cream-skimming, this also becomes a disadvantage for would be entrants in the form of low volumes. This would lead to less entry. The number of postal items per capita in Sweden is high relative to Europe (but low relative to the US). This might have made delivery less costly per item for Sweden Post.

As mentioned before, Sweden Post is achieving positive financial returns. However, the financial results of Sweden Post have worsened since liberalisation in spite of increasing volumes and productivity.

In the presence of electronic media, the legislated monopoly on a segment of the postal market may lose its importance as a way of financing the USO. Protection from liberalisation can then be a problem from the operator as summarized in this quote of Lennart Grabe, the CEO of Sweden Post: 'The fear that the universal postal service would be impossible to sustain under such circumstances (a liberalised market) is unfounded. Rather, the opposite holds – without renewal of postal markets, the universal service will eventually become threatened and the postal operators run the risk of stagnation.'

4.1.2 New Zealand

Liberalisation

Postal reform in New Zealand (NZ) began in 1987 as the postal service was reformed into a 'state-owned enterprise'. The 1987 act created a reserved area monopoly for mail under 500g or mail under NZ\$1.75 and abolished the government subsidy. In 1989, the government drew up a 'Deed of Understanding' contracting NZ Post to supply mail delivery services. One year later, the reserved area was reduced further; the 1990 postal act restricted the reserved area monopoly to under 200g or an upper mail delivery price of NZ\$0.90 to be enacted by 1991. In addition, this act required them to publish disseminated accounts especially regarding information on the cost and quality of services. The monopoly was fully repealed and certain obligations were conferred on some private operators under the Postal Services Act 1998 and a new Deed of Understanding was concluded.

The USO

NZ Post does not have a USO but is exposed to several contractual service measures under the revised Deed of Understanding. The main points are the following:

- Six-day per week delivery to over 95% of all delivery points
- Price limit of a single-piece mail stamp is NZ\$0.45
- No surplus rural service charge
- Maintain a specified number of post offices.

NZ Post does not hold a legal monopoly, has no regulatory agency and has no licensing constraints - other than to disclose certain information to help insure against anti-competitive practices. Although, NZ Post is still a wholly owned government subsidiary it does have commercial freedom and flexibility.

The company

Liberalisation has meant the employees have been given private sector status. However, the number of employees since postal reform in 1987 had shrunk to 27% by 1997, whilst, productivity (letters/employee) increased by 100% from 1988-1996. The unions have remained, but their role now focuses on the negotiation of employment terms and conditions, whereas pre-reform it has been suggested by some that they had a *de facto* control over promotion decisions and employee grievances²².

²² Elcano *et al.* (2002)

4.1.3 Germany

Liberalisation

Germany's postal reform has taken place in three stages over eight years. In 1989, 'Postreform I' saw the break up of post, postal banking and telecommunications services. In 1994, 'Postreform II' created Deutsche Post AG from Deutsche Bundespost Postdienst. The newly formed company is governed by private company law but wholly owned by the government. The final stage of the process was 'Postreform III' in 1997. This appointed RegTP, the telecommunications regulator, as the regulatory body charged with the responsibility of ensuring that the USO is met and conducting the sector's regulation. In addition, the original plan was to abolish the monopoly by the end of 2002, however, this no longer seems to be the intention as its plans have been harmonised in line with the recent EC directive.

The USO

The USO's main components are the following:

- The maximum price of a stamp is the real price in 1987
- 80% of mail must reach its final destination the day after delivery
- A minimum number of post offices be maintained
- Letter boxes must not be more than one kilometre from an urban resident
- One delivery per day
- Maintain a uniform price for non-bulk mail

The role of the regulator

The regulator, RegTP, has three main functions; ensure the USO obligation is met, issue licenses for mail delivery services for items up to 1kg and review rates under certain circumstances.

Should the regulator deem that the USO is not being met in any area by the market, it may order the licensee in the dominant position to provide the USO. If this is not financially feasible, then RegTP can contract for the service – the cost of the USO is then met using a fund contributed to all licensees with a turnover in excess of 1 million DM.

The second responsibility of the mail is to provide licences up to 1kg as without it an entrant is not able to operate. These licenses are awarded unless there is 'a reason for denial', although, the regulator may attach 'collateral clauses' if it deems it to be in the public interest to do so.

The freedom of RegTP to determine and administer rates are somewhat restricted by the Postal Rates Regulation Ordinance. The authority of RegTP to publish data, the components and content of price-caps, the structure of the cost statement the licensee must submit, and the obligation of the licensee to submit documents is covered by the Ordinance. Moreover, it stipulates that the majority of non-bulk services be subject to price-cap regulation. The time period for rate determination must be no longer than two months. In addition, and somewhat intriguingly, Deutsche Post is not obliged to produce information necessary for rate analysis upon demand from RegTP.

The company

Deutsche Post was partially privatised in November 2000 when it sold around one third of their shares, thus compelling the company to act more like a private company in the face of shareholder scrutiny. Moreover, since its creation, Deutsche Post has been acquiring many parcel and logistics companies throughout Europe, consequently creating an extensive European parcel services network.

The employees of Deutsche Post increased by 14% from 1998 to 1999, largely attributable to the aggressive acquisition strategy noted above. Productivity has also increased due to falling work hours and rising postal volumes. The trade unions, now in the private sector post-reform, renegotiated pay contracts in early 2000 so that pay is more closely related to competitors', there is also a performance remuneration component and lay-off protection until 2004.

The 'Postreform' in Germany has been criticised for failing to sufficiently separate government and commercial interests. The taxpayer has footed the bill for a wave of acquisitions and the regulator has limited power when governing the postal sector.

4.1.4 The Netherlands

Liberalisation

The Postal Act 1988 transformed the Dutch Post and Telecommunications operator into a private limited liability company called Royal Nederland BV (KPN). In addition, the act created a reserve area for the monopoly under 500 grams and a set price and conferred the USO on KPN subsidiary PTT Post. Following a series of equity offerings to the public, in 1998 KPN de-merged into the two main divisions telecommunications, KPN, and postal services, TNT Post Group (TPG). Furthermore, the 1998 Postal Act was modified to reduce the reserved monopoly area further; it is now mail weighing up to 100g or a specified regulated tariff.

The USO

The amendment to the act required TPG to fulfil the USO. In the Netherlands, the USO applies to only letters or printed matter up to 1kg and parcels weighing up to 10kg. The difference here to other USO is that bulk commercial mail is seen as competitive and is provided by the market.

The role of the regulator

The regulatory situation mirrors the German system to some extent. The Minister has regulatory control and ownership of the postal service, whilst enforcement is left to an independent regulator, Independent Post and Telecommunications Authority (OPTA). OPTA has the power to enforce regulatory decree and is responsible for handling disputes over access arrangements to postal boxes.

The company

As part of a consortium of postal operator, TPG bought stakes in GD Net, and as a result TNT Express Worldwide, a leading private international express company. In 1996, KPN and Sweden Post bought the other postal operator shares and KPN became majority shareholder. Following the de-merger of KPN, TPG held a controlling share of TNT Express. In 2003, they have acquired German distribution companies specialising in un-addressed mail services, Blitzpunkt in April and Werbeagentur Fischer in January.

TPG is now the largest private sector employer in the Netherlands and employee numbers have increased since reform. Moreover, employees are unionised and have the right to strike but TPG has encountered few stoppages and holds an open relationship with the unions.

4.1.5 Finland

The Finnish postal market was fully liberalised in 1994. The postal operator, The Post, existed initially as part of a 'state-owned public enterprise' called Posts and Telecommunications of Finland. In 1998, it de-merged and renamed as 'the Post' it continues in its capacity as an independent group under full-state ownership. All postal operators that want to participate in the delivery market weighing up to 2kg must have a license issued by a council consisting of the Ministry and the postal operator, but not the regulator, FICORA²³.

In practice, there has been little competition largely due to a 20% of turnover subsidy to the Post from the Finnish government²⁴. The Post is, in reality, the only mainland operator; a local operator has a licence to serve Åland Island and has the responsibility of providing the USO (one delivery and collection every week day).

4.2 An overview of liberalisation developments to-date

It is useful to consider what impact liberalisation has had on the position in selected countries. Table 4-3 overleaf presents estimates of postal incumbent market shares from a selection of countries. These market shares serve to emphasise the potential incumbency advantages of postal administrations and the existence of barriers to entry. Even Sweden Post, which experienced full liberalisation in 1993, is estimated to have a market share of 94% of the letters market.²⁵

²³ Finland Post Website and Ficora website

²⁴ Aices report

²⁵ This estimate is confirmed in PTS, "The liberalised Swedish postal market and the situation nine years after the abolition of the monopoly", October 2002.

Table 4-3: Effect of Liberalisation Summary – Letters Market

	Sweden	New Zealand	Netherlands	Germany	Australia
Date and Extent of Liberalisation	1993: full	1998: full	2000: partial	1998: partial	1994: partial
Incumbent's share of letters market	94%	98%	100% <100g	98%	100%

Source: Postcomm, 2002

There are also data available to London Economics on specific sub-markets internationally. For example, Table 4-4 below provides estimates of USP market shares in national direct mail markets. This reflects London Economics' experience that barriers to entry may be lower in direct mail markets compared to national letters business.

Table 4-4: Estimated Market Share of USP in Direct Mail Market, 1998

Administration	Market share of USP
Belgium	85-87 %
Germany	95 %
Spain	80-85 %
Finland	98 %
Luxembourg	85-87 %
Netherlands	80-90 %
Sweden	77 %

In Table 4-5 overleaf, we set out some estimates of incumbents' outbound international mail market shares in 1999 produced by the Association of International Courier and Express Services (AICES). Again, this reflects the fact that certain segments of the market may be more amenable to new entry.

Table 4-5: Estimates of USPs Outbound International Market Shares in 1999, Association of International Courier and Express Services

Country	Market Share of Universal Service Provider
Austria	80-85%
Belgium	80-85%
Denmark	90-95%
Finland	95%+
France	90-95%
Germany	80-85%
Greece	95%+
Ireland	95%+
Italy	80%
Luxemburg	95%+
Netherlands	80-85%
Portugal	95%+
Spain	65-70%
Sweden	95%+
United Kingdom	80-85%

Source: Association of International Courier and Express Services, "The impact of competition in the postal sector", June 2001

4.3 Conclusion to this section

In Table 4-6 overleaf we summarise the stages of liberalisation in the postal sector in the countries under review. This describes both the past changes in each country and the current developments. It can be seen that postal liberalisation takes various stages of completion across the regions and countries under review. In the EU, the intended date for full liberalisation is 2009, with the second phase of liberalisation to start by 2006, when it is expected that the reserved area will be reduced to under 50g or less than 2.5 times the price of a stamp. The 2006 date has also been set as target in the case of Norway. In the UK, 60% of mail volumes by value are expected to be opened to competition by 2005, with full liberalisation envisaged by 2007. It is notable that in Sweden and Finland, full liberalisation process was not in stages. The postal sector in New Zealand was fully liberalised by 1998.

Table 4-6: Stages of Liberalisation: Past and Present

Phase	EU	Norway	UK	Sweden	New Zealand	Finland
Phase 1	2003: Reserved area reduced to mail weighing less than 100g or less than 3 times the price of a stamp.	2003: Reserved area to be reduced to under 100g or less than 3 times the price of a 20g letter. Cross border mail is liberalised.	2003: Bulk Mail over 4000 items (from a single site), 30% of the incumbent's revenue, is liberalised.	1994: Complete liberalisation. Sweden Post becomes a limited liability company. The regulator PTS formed.	1987: Reserved area is set to under 500g under NZ\$1.75.	1994: Fully Liberalised
Phase 2	2006: Reserved area reduced to under 50g or less than 2.5 times the price of a stamp.	2006: Reserved area below 50g or less than 2.5 times the basic 20g tariff.	2005: Opening of 60% of mail services by value.		1990: Reserved area reduced to 250g or NZ\$0.90.	
Phase 3	2009: Intended date for full liberalisation.		2007: Complete Liberalisation		1998: Complete liberalisation.	

5 Norwegian Postal Market Survey

This chapter discusses the results of the postal market surveys. As part of the study, London Economics conducted a survey among the major Norwegian postal market stakeholders, as identified by PT. Two sets of questions were prepared. One was given to consumer associations, the other to postal operators.

The survey was concerned with the future liberalisation of the Norwegian postal market and how those interviewed felt this process should proceed. The questionnaires sent to both groups are given in Annex 3. Below we provide the questions and the responses to these questions.

5.1 Postal survey analysis

How would you rate the current status of competition in the Norwegian postal market?

Questions 1, and 7-11 were related to market competition and asked how stakeholders view the degree of competition in the postal market in Norway generally, as well as for separate segments of the market: subscription newspapers and magazines, domestic letters and cross border registered deliveries. Four possible answers were given: poor, medium, fair and good. To many, medium and fair seemed interchangeable and the results appear to reflect this. Table 5-1 provides an overview of the results of the thirteen respondents. For each question, the results only show the view of the majority.

Table 5-1: How do you view the status of competition?

Question	Majority of			
	Newspapers	Postal Operators	Consumer Associations	All
How would you rate the status of competition in:				
The postal market in Norway	Poor (67%)	Medium/fair (75%)	Medium/Fair (100%)	Medium/fair (62%)
The postal market for subscription newspapers	Medium/fair (67%)	Medium/fair (100%)	N/A	Medium/fair (80%)
The postal market for subscription magazines	Medium/fair (67%)	Medium/fair (75%)	N/A	Medium/fair (70%)
The domestic postal market for letters	Poor (100%)	Poor (75%)	N/A	Poor (90%)
The postal registered delivery for abroad	Medium/fair (50%)	Good (50%)	N/A	Medium/fair (40%)
The postal registered delivery from abroad	Medium/fair (67%)	Medium/fair (75%)	N/A	Medium/fair (70%)

Source: London Economics Postal Survey

Ninety per cent of those interviewed agreed that the level of competition was poor in the domestic letter market, making it the least competitive in respondents' views. For most segments of the market, however, the majority thought that competition was medium or fair. In all markets, newspapers' view of competition was worse than that of postal operators. For the postal market in general, 67% of newspapers rated competition as poor, whereas 75% of postal operators described it as medium/fair.

How would you trade quality with price changes for Priority and Economy mail?²⁶

Questions 5 and 6 were concerned with the trade-off between quality and price. Responses are summarised in Table 5-2 below. The majority, 62% of

²⁶ We naturally ignore the cases of faster service at lower price and slower service at higher price, as they are uninteresting; of course consumers would prefer the former and dislike the latter, while producers would dislike the former and prefer the latter.

respondents, were satisfied with the current service ('OK as it is') for Priority mail. For Economy mail, only 46% preferred the present Economy mail service, in fact 67% of newspapers would prefer a cheaper service. Being in the business of distributing news, they are more dependent on Priority mail and less on Economy mail. On the other hand, close to one-third of consumer associations and postal operators prefer a faster, more expensive Economy mail service.

Table 5-2: How would you trade quality with price?

	Priority Mail	Economy Mail
10% price reduction - extra day delay	31%	31%
5% price reduction - extra day delay	0%	0%
OK as it is	61%	46%
5% price increase - 1 day faster delivery	N/A	0%
10% price increase - 1 day faster delivery	N/A	15%
N/A	8%	8%

Source: London Economics Postal Survey

What is perhaps most interesting about these results is that they suggest that there may be opportunity for product innovation within the letter post market segment. Certain consumers' groups would prefer a service somewhere between the current economy and priority, in other words, either a faster economy at a slightly higher price or a slower priority at a somewhat cheaper price. Some potential entrants seem to agree. However, it is also important not to overlook the fact that the majority of respondents, at least in the priority case, believe the current level of price and service is the best.

Should postal liberalisation be a gradual or quicker process?

The next question was on the postal liberalisation process and the pace of the process. The respondents were asked if the process should be a gradual one, as currently envisaged by the EU, or a quicker process, such as in Sweden. The results are shown in Table 5-3.

Table 5-3: Should postal liberalisation be a gradual or quicker process?

	Gradual	Quicker	Total
Postal operators	50%	50%	100%
Newspapers	67%	33%	100%
Consumer Associations	100%	0%	100%
All	69%	31%	100%

Source: London Economics Postal Survey

The response showed that postal operators were split on the issue, 50% said it should be gradual, 50% said it should be quicker. The majority (67%) of newspapers preferred a gradual process, to facilitate planning. One responded that establishing competition without jeopardising quality takes time. All consumer associations preferred a gradual process.

How would you rank the different roles of the regulator in the context of postal reform?

Question 13 asked stakeholders to rank the different roles of the regulator. Both postal operators and consumer associations were asked to rate the following in order of importance:

- Protecting the USO
- Maintaining quality standards
- Opening access to the incumbent's network
- Promoting competition.

The results, in Table 5-4, show that overall, promoting competition and maintaining quality standards were considered the most important roles of the regulator. 75% of postal operators thought protecting the USO was the most important role of the regulator, opening access the least. All newspapers interviewed thought it was most important to promote competition; maintaining quality standards and protecting the USO were a close second and third. Again, opening access was relatively less important as compared to the others roles of the regulator.

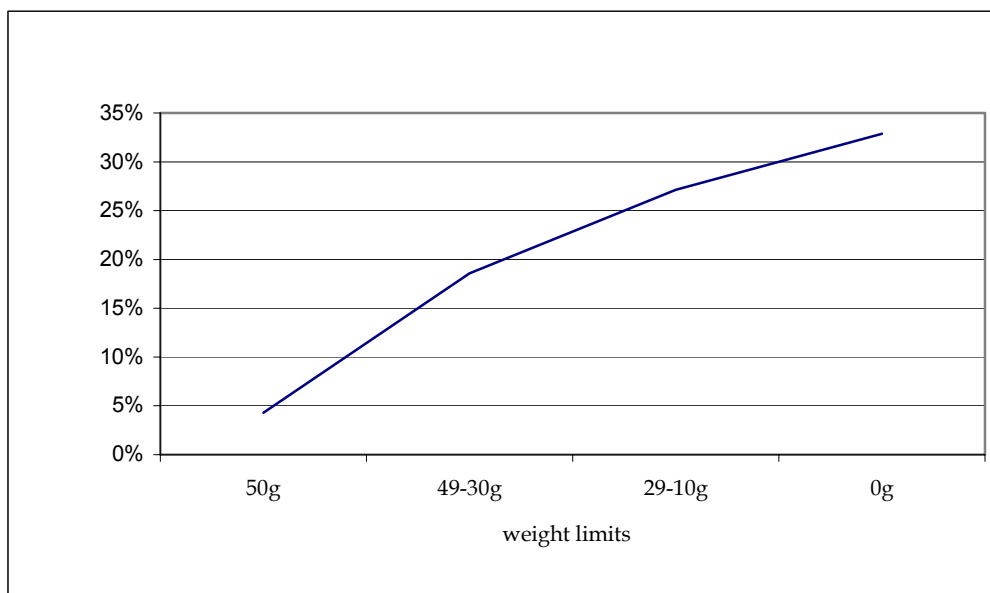
Table 5-4: Role of the regulator

Priority	Protecting the USO	Maintaining quality standards	Opening access to the incumbent's network	Promoting competition
High (1-2)	50%	50%	25%	67%
Medium (3)	0%	34%	33%	8%
Low (4-5)	25%	8%	17%	17%
Incomplete	25%	8%	25%	8%
Total	100%	100%	100%	100%

Source: London Economics Postal Survey

Estimate Norway Post's market share lost

Question 14 obtained views on the possible estimate of the market share Norway Post would lose if the reserved area were reduced. Estimates were received from seven respondents. The results are illustrated in the following figure. From estimates received, Norway Post's market share is expected to fall with the size of the reserved area. The average estimate show an expected loss at 50g of 5 per cent, to 18 per cent up to 30g, 27 per cent up to 10g and towards 35 per cent at 0g.

Figure 5-1: Estimate of lost market share

Source: London Economics Postal Survey

The biggest loss is expected to come when the limit goes below 50g. If the reserved area is reduced further, market share is expected to continue falling, but at a slower rate. Therefore, most of the respondents believed that Norway Post would only lose most of the market share if the market were completely open for competition.

Most of those asked pointed out that the extent of market share lost, will depend on the time frame. Many customers may continue to use Norway Post out of habit or because of lack of information about other operators and it will take time before the market can be described as competitive. A few postal operators mentioned the similarity to the deregulation of the telecommunications industry in the mid 1990s. According to the Norwegian Post and Telecommunications authority, the incumbent still retains over 70% of the fixed landlines market²⁷, 5 years after the complete opening of the market. Some thought it could take as long as 8-10 years before Norway Post would lose a significant share of the market.

General

Many of the operators agreed that the market was ready for new entrants and were positive to introducing competition. A few stressed the point that in

²⁷

http://www.npt.no/pt_internet/venstremeny/publikasjoner/telestatistikk/statistikk2002/norsk/no/markedet/markedsand/fasttel/index.html#tabell_3_12

order to compete with Norway Post, it could be necessary to provide delivery to the whole country.

5.2 Conclusion and summary of comments given in the survey

The following subsection concludes and summarises more detailed commentary provided by some of the respondents in the survey.

Process of liberalisation

- Preference to quicker process than EU pace – more preferably at the same pace as German postal liberalisation. Since Deutsche Post wants to invest in the Norwegian postal market and as markets open in Denmark and Norway, it would be good for the postal liberalisation plans in Norway to coincide with those of the other countries that are opening the postal markets for competition.
- Quicker likely to be painful and ‘messy’, therefore gradual is better but can have the disadvantage of uncertainty as it takes longer, but allows planning.
- Trade-off between price and quality – establishing competition without jeopardising quality provision takes time.
- The process must be transparent and allow both consumers and suppliers to adapt.

The Norwegian postal market

Some comments from respondents on the Norwegian Postal market could be summarised via the following points:

- Access pricing: One respondent felt the access pricing regime that is being implemented in the UK is not right. Deregulated prices should be cost reflective, but this is very difficult to estimate.
- Deutsche Post can encourage network competition and it could encourage geographical differential pricing, which is not politically desirable.
- More competition is required to maintain quality.
- Monopoly should be abolished; competition would mean that Norway Post would have to supply a better service. The market is ready for new entrants.
- There are several companies who would like to have a share of the domestic markets and have both the resources and willingness to invest in them. Deregulate and open up competition between Norway Post and other postal operators.

- We need new operators in the market.
- In order to become a realistic alternative, new entrants must offer a 'complete' service, including delivery across the entire country.
- Norway is special. Norway Post has good quality with respect to distribution and regularity and they are good at finding the correct address even when this is incompletely specified by sender.

Benefits of liberalisation

Respondents' detailed comments on the benefits of liberalisation are summarised in the following points:

- In the short term, the picture is mixed; in the longer term liberalisation may be good, although there are many uncertainties, especially for households. Maintaining quality is very important, such as proximity to point of delivery (mailbox) in rural areas.
- The geography of Norway and the dispersed location of consumers imply that consumers in urban areas may benefit, whilst consumers in rural areas may be hurt.

6 Impacts on Norway Post: Revenue and Profit modelling

In this section, we present a breakdown of Norway Post's revenue and profit. We use London Economics' financial model of postal services, which develops prices, quantities, variable costs and fixed costs for each product and each weight step.

The distribution of revenues and costs is important for a number of reasons. For example, does Norway Post achieve higher margins on some products than on other areas of its business? First, one concern of regulators during the liberalisation process is to ensure that cross-subsidisation does not occur across product categories or from the reserved to the non-reserved areas. Second, even though cross-subsidisation might not occur, there may be benefits to the incumbent in providing services jointly. These benefits could be either cost benefits or demand benefits. Cost benefits would represent economies of scope. Demand benefits would represent cross-product selling opportunities when cross-price elasticities of demand²⁸ that are non-zero between USO and non-USO products (or reserved and non-reserved products).

In the following section, we first provide a description of the financial model followed by the general description of the data. We then analyse the costs and revenue of various postal products to achieve the desired level of profitability in Annex 5.

6.1 London Economics' Financial Model

The analysis of this section employs a version of London Economics' financial model of post. The standard model allows inclusion of detailed estimates of elasticities. It includes own price elasticity estimates for each product in the postal system as well as unit cost elasticities. It also includes cross price elasticity effects.

The model used in this study has been simplified from its standard version due to limited availability of data for the Norway market. The model is populated by Norway Post's 2002 product specific accounting data on volumes and prices. This is then merged with the regulatory cost accounting data set. The result is a volume and unit cost for each product by weight, class/speed, franking type, destination, etc.

In effect, we have assumed that price and cost elasticities are zero. While we would have preferred to have included estimates of elasticities appropriate to

²⁸ The cross price elasticity being positive means that the products are complementary. Selling complementary products can enable the seller to earn margins on some products.

Norway, we note that price and cost elasticities in postal products are generally thought to be low.

In addition, the result of the assumptions about price and cost elasticities is likely to be, at least in part, to cancel each other out.²⁹ A more general description of the specific modelling and data that were used follows.

6.2 Model general description of data

6.2.1 Volumes and margins

It is interesting to take a more detailed look at Norway Post's volumes data to determine which are their most important products in terms of sheer numbers.

From the model, we generate the top 26 products by volume by sorting the dataset on volumes. Then, based on average variable cost data from the regulatory accounts and the product volumes data, we generate variable margins for each product. This is the relevant and most important piece of data for the analysis of profitability; for margins above variable cost times volume can be counted as contribution to institutional costs, or total fixed costs. Further details of the data and analysis are given in Annex 5, due to the commercial sensitivity of the information.

6.3 Costs

We also conduct a detailed cost analysis for the postal products of Norway Post these are given in Annex 5, due to the commercial sensitivity of the information. However, we discuss below the cost change over time.

6.3.1 Cost change over time

One of the areas that we have not looked at in detail is the area of cost change over time. This was at the specific request of the Ministry. We were asked to apply our analysis only to the 2002 price data, and the 2002 regulatory accounting data, and to discuss the 2003 data qualitatively.

Norway Post's strategy document³⁰ stresses that many cost reducing programmes will be implemented in the next few years. Among these, they identify cost savings including:

²⁹ Assuming that price elasticities are zero will tend to understate the likely volumes that would result in cases where prices are reduced, while overstating them in cases where prices are increased. The net effect of this, given a net rise in prices, is likely to be overestimation of profits. On the other hand, assuming that cost elasticities are zero will tend to underestimate profits, since the model will omit some of the cost savings associated with lower volumes brought about by net price increases. Thus, the two effects work in opposite directions. These assumptions should be adequate to give us a general understanding of the impacts of current and further liberalisation on Norway Post.

- NOK 80 million from co-location and optimising use of current space and rents
- A 15% reduction in IT costs over three years compared with the base year
- A total of “costs reductions which are worth at least MNOK 1,000 more” are anticipated
- Some costs will rise, due to price and payroll increases

Norway Post identifies the following areas for cost savings in their strategic plan. Their plan claims that in order to achieve the desired level of profitability, they will be focusing on cost rationalisation and increasing income in the following areas:

- Increasing efficiency of sorting, transport and distribution, as well as administrative functions
- Improve the utilisation of economies of scale/benefits of synergies
- Optimisation of workforce in the sales network within the existing structure
- Income growth through new business concepts, service development and growth in new, profitable markets
- Increasing the efficiency of floor space use by, among other things, co-locating administrative functions with depots in separate Posthus’
- Increasing cost effectiveness of IT costs through transfer of system ownership to ErgoGroup
- Increased automation
- Efficient work processes

Norway Post’s own cost projections for 2003 – 2005 were contained in the Appendix 1 of the strategy document, however, the copy received by London Economics has had this information removed. Therefore, we cannot comment particularly on Norway Post’s expected cost changes over the next few years.

We understand that Norway Post is undergoing a major cost restructuring. Norway Post estimates that they will reduce total costs in the order of approximately 20% over the next few accounting years due to their cost cutting and restructuring measures. At the same time, Norway Post’s operating costs increased by almost NOK 1 million from 2001 to 2002, while revenues remained flat. Over the period 1998-2002, revenues grew by about 15%, while operating costs grew by about 21%. Therefore, it would seem that

³⁰ “Plan for Posten: 2003-2005” English version.

cost control has been one of the major sources of Norway Post's profitability problems.

6.4 Conclusions to this section

In this section (and Annex 5), we have discussed Norway Post's revenue, average cost and profit distribution across its products. The analysis included specific product and price level. This was very important, because it enabled us to analyse the specific impacts of various liberalisation measure in terms of the specific products that had particularly high margins, within various weight steps. It was found, that a few products that are already noted for liberalisation had high margins. Some of these products also may have high enough volumes to make them likely to be very important in terms of Norway Post's exposure to future competitive pressures.

To analyse these numbers, we focused on 'average variable profit' – (price minus the average variable cost) times the volume. This measure is also sometimes called 'contribution to institutional costs'. This is a measure of the degree to which any particular product is contributing to the covering of fixed costs, including USO costs, wage premia, etc. It is relatively unimportant whether a particular product is making a profit or loss in terms of price minus average total cost, if it is making a large contribution to covering fixed costs already.

We assume that higher margin products will come under competitive pressure when they are liberalised. It is assumed that Norway Post will likely reduce price, rather than lose market share in most cases. This is what has been observed in other jurisdictions such as Sweden. It is, however, not necessary for specific analysis to know whether Norway Post's profits are lost through price reductions or market share losses – either way the firm will come under competitive threat.

Finally, it is important to emphasise the size of the problem with items such as newspapers and magazines³¹. These losses occur on both an average variable profit basis, and then of course on an average total profit basis. In other words, these products are not covering their variable costs—at least according to the data with which we have been supplied. It was estimated that these products alone incur losses that more than make up for the entire cost of the current USO. Thus, these product losses are likely in excess of any losses that could occur from cream-skimming.

³¹ Other large losses occur in banking, but we do not analyse these as they are outside the scope of this report.

7 Assessment of Further Liberalisation Impacts

7.1 Introduction

In this section, we describe in detail our modelling and methodologies that have informed our analysis of the impacts of postal liberalisation options in Norway. Our approach has been twofold: one part of the approach is driven by quantitative models of postal reform; the second part is a qualitative approach based on our experience, professional opinion, and review of the current issues.

7.2 Quantitative Methods

Our terms of reference are to test the impacts of various options for liberalisation for Norway's Postal market(s). London Economics prefers when possible to use quantitative models and approaches, and this subsection describes the models we are currently implementing.

The models have been selected based on our experience in using them with other postal projects, the models' records in terms of published results used in other studies of postal sector reform, and, above all, the models' ability to relate particular policy options and give reasonable predictions of outcomes, in terms of the impacts identified in the terms of reference.

The two models that we use to evaluate the liberalisation impact are:

- London Economics financial model detailed in Section 6; and
- A model developed by Crew and Kleindorfer (2001).

We have already discussed the merits of the first model, however it is worth describing how the latter model is useful in terms of answering the questions involved in the terms of reference. First, the model allows us to estimate different degrees of market entry, and the impacts of that entry, for different levels of the USO costs as a percentage of total costs. Second, the model gives predictions about what the equilibrium USO stamp price would have to be, given the cost parameters and inputs. Further, the model gives us a prediction as to the financial impact of the changes and entry on the incumbent postal operator. This is also particularly useful, as with this, the results of this model can be checked and recalibrated against the more detailed profit calculations from the previous model (London Economics financial model). From the outputs of the model, estimates of impacts on consumer surplus and other policy relevant outputs will be calculated.

7.3 Quantitative approach-liberalisation scenarios

As indicated above, our assessment involves an analysis of a number of liberalisation scenarios. We discuss some of the options and scenarios in the following section. These are:

- Status Quo or Current situation
- Further liberalisation scenarios, these are;
 - Further reduction of the reserved area to below 50g
 - Full abolition of the reserved area
 - Reduction of reserved area to X times the basic tariff

7.3.1 Status Quo or Current situation

Before going into additional detail, it is worth looking at the current situation. Norway's postal markets saw significant market opening steps taken in the middle of this year. This means that a large class of mail, 100-350g, is now open to competition. Therefore, since our current data do not reflect this, we should estimate this first in terms of an estimated impact on Norway Post. Therefore, the current status quo is as follows:

- Norway Post has the exclusive right to deliver domestic and cross-border closed mail of weight lower than 100g

Further reduction of the reserved area to below 100g

Reducing the reserved area to below 100g will mean that Norway Post's products above 100g will be subject to competition. To estimate the potential impact of this, it is necessary to look at the margins, and the amount of total variable profit generated by product for this category of mail. The high margin products will be likely to be affected by competition. The degree to which Norway Post has total variable profits for each product will be the degree to which to calculated the impact from a further reduction of the reserved area, we sort the data from the model based on reserved and non-reserved. Then within the non-reserved area, we then sort the data based on weight step, and then finally sort the data based on total variable profits. By doing these steps, what we are able to do it to determine which products within the next weight step contribute the most to the institutional costs at Norway Post. The rest of the details are given in Annex 6, due to the commercial sensitivity of the information.

7.3.2 Further liberalisation scenarios

The options for liberalisation are delineated along the lines of weight steps or other product definitions. It is important to recall, however, that these product definitions are arbitrarily defined boundaries, and there is likely

overlap and interactions across products in terms of weight steps, destination, speed, etc. The primary class of scenarios deals with incremental adjustments to the weight steps of the reserved area; these could involve:

- Further reduction of the reserved area to below 50g
- Full abolition of the reserved area

There are of course other possibilities, and we undertake to study a number of these. These include:

- Reduction of reserved area to X times the basic tariff

Scenario 1 – Further reduction of the reserved area to below 50g

Reducing the reserved area to below 50g will mean that Norway Post's products above 50g will be subject to competition. This includes now two weight steps below the currently just introduced reserved area. Our method of analysis continues in the same way as before when considering the reduction of the reserved area to below 100g. To estimate the potential impact of this, it is necessary to look at the margins, and the amount of total variable profit generated by product for this category of mail. The mail category now includes items from 100 to 350g and from 50 to 100g. The high margin products will be likely to be impacted by competition. The degree to which Norway Post has total variable profits for each product will be the degree to which to calculate the impact from a further reduction of the reserved area. We sort the data from the model based on reserved and non-reserved. Then within the non-reserved area, we then sort the data based on weight step, and then finally sort the data based on total variable profits. Then, within the reserved area, we sorted again the class of mail from 50g to 350g by total variable profits.

By doing these steps, what we are able to determine which products within the next weight step contribute the most to the institutional costs at Norway Post. The rest of the details are given in Annex 6, due to the commercial sensitivity of the information.

Scenario 2 - Abolish reserved areas altogether

Full abolition of the reserved area will mean that Norway Post's products from 0g to 350g will additionally be subject to competition vis-à-vis the current rules. This includes now four weight steps below the currently just introduced reserved area, 0-20g, 20- 50g, 50-100g, in addition to the current 100-350g. Our method of analysis continues in the same way as for before when considering the reduction of the reserved areas to lower weight steps. To estimate the potential impact of this, it is necessary to look at the margins, and the amount of total variable profit generated by product for this category of mail. The mail category now includes items from 0 to 350g. The high margin products will be likely to be impacted by competition. Although the product margins are low for these additional weight steps, it is possible that

some products have higher margins due to geographical dispersion in costs—which are not reflected in the cost data used by Norway Post. The degree to which Norway Post has total variable profits for each product will be the degree to which their profitability will be impacted by changes in competition and competitive entry.

To calculate the impact from a further reduction of the reserved area, we sort the data from the model based on reserved and non-reserved. Then within the non-reserved area, we then sort the data based on weight step, and then finally sort the data based on total variable profits. Then, within the reserved area, we sorted again the class of mail from 0g to 50g by total variable profits. By doing these steps, what we are able to determine which products within the next weight step contribute the most to the institutional costs at Norway Post. The rest of the details are given in Annex 6, due to the commercial sensitivity of the information.

Scenario 3 – Reduction of reserved area to X times the basic tariff

Reduction of the reserved area to a certain level with reference to the basic stamp rate will do little more than what has been already discussed vis-à-vis the potential liberalisation based on weight steps. This is because the pricing within weight step is generally very close – in other words, the price for a 15g letter has only small variations across different product categories, such as economy, priority, sorted, franked, etc. The only area where this may have an impact that is different to what we have already discussed in the context of the weight-step-based liberalisation scenarios is in mails that are international, or non-domestic. We therefore focus our attention on these mail items where the prices are in the range of 3 times the price of the standard letter. The rest of the details are given in Annex 6, due to the commercial sensitivity of the information.

7.4 C&K model

So far, we have been analysing the potential impacts of various incremental steps in liberalisation for Norway Post in terms of sorting their products on various criteria, by using London Economics financial model. The fundamental methodology was to identify which products could be associated with a particular option for further liberalisation—such as an incremental weight step. We then looked at which products had both high margins *and* high total variable profits. This enabled us to estimate to a reasonable approximation the amounts by which Norway Post profits might fall if a reasonably robust competition was able to develop.

However given the limitations of some of the available data from Norway Post, it is desirable to cross check the previous modelling with an additional modelling framework. For this reason, we implemented the model developed by Professors Crew and Kleindorfer.

7.4.1 Discussion of the model

The model of Crew and Kleindorfer (C&K)³² starts with the idea that the incumbent post office must finance a certain amount of USO costs with stamp prices. It posits some demand structures (linear) and cost structure (linear in the type of routes). It also incorporates the objectives of the regulator or Government, one of maximising the total social welfare from the total postal sector.

The model itself has both benefits and drawbacks vis-à-vis other potential models or modelling strategies. The benefit of the model is that it is able to take key parameters that can be estimated from the data and return predictions about such quantities as the market share of entrants, the % of routes served end to end by entrants, and the profitability impacts on the incumbent postal operator. These are given via equations that can be calculated in a programme such as a spreadsheet.

The model takes as inputs a number of key parameters. A comparison of our parameter inputs and the C&K model inputs is found below:

Table 7-1: Comparison of C&K parameter inputs and London Economics parameter inputs									
AFCi	AVCi	AFCe	AVCe	Presort AVC	Fixed Cost of USO	Fixed Cost of Entry	Demand Parameter 1	Demand Parameter 2	Demand Parameter 3
a0	a1	b0	b1	c0	F	f	d0	d1	gamma
20	20	30	60	5	4,000	400	4,000	2,000	5
2.49	2.27	3.73	7.46	0.62	373,000,000	37,300,000	10,266,666,667	5,133,333,333	6

Source: London Economics calculations

The first set of parameters is the average fixed costs for the postal operators, AFCi in our table, or a0 in the C&K model. Average variable cost with respect to route is the a1 parameter, or AVCi. These are estimated for the incumbent using volumes data and the regulatory cost accounts. The average fixed cost and average variable cost (b0 and b1) for the entrant is assumed to be proportional to the incumbent's estimated data. The factor of proportionality is 1.5 and 2 for the b0 and b1 parameters each. These values were taken from the C&K paper. The model also takes the total demand or volumes of mail items implicitly as data. The demand structure is based on two parameters, and we calibrated the model such that the actual demand of Norway Post is reflected by the two parameters. The model also takes as an estimate the fixed cost of the USO to the postal operators – we use the estimates of this number from the actual amount paid by the Government to the postal operators in 2002 for this parameter. The fixed cost of entry is also

³² Further details in Annex 6.

a key parameter. This was estimated to be 10% of the fixed cost of the USO, based on C&K model. A final parameter is the gamma parameter, which reflects the 'peakiness' of volumes as related to customers. Thus, a gamma of 5 implies that the top 10 customers account for 50% of all mail volume. We were unable to estimate this from Norway Post data, but our experience from other EU postal markets suggests that this should be even higher. In other words, the top 2.5 to 5% of customers are more likely to represent 50% of all mail volumes. We therefore set this parameter to 6 as opposed to C&K's 5.

7.4.2 Results

The results of a number of modelling scenarios are found below in Table 7-2.

Table 7-2: Comparison of C&K parameter inputs and London Economics parameter inputs

Headline Price/Average Revenue	Entrant % Routes Served End to End	Entrant % Customers Served	Incumbent % Customers Served	Postal Operator Profit (millions NOK)
5.0	8.6%	33%	67%	386
4.6	3.3%	8.4%	91.6%	123
4.45	-	0	100%	85

Source: London Economics calculations

The table shows scenarios for a number of basic prices. We start with an average revenue from mail of approximately 5 NOK, which is the case with Norway Post. At this level of pricing by the incumbent, the entrant is predicted to serve 8.6% of routes end-to-end, and serve 33% of customers. Note that an entrant can serve a customer by providing some portion of the value chain in mail, so a relatively large figure here is not surprising as a large percentage of customers will receive *some* mail that has been either pre-sorted or somehow handled by the entrant. The percentage of customers served by the incumbent is 67%.

At this level of pricing and entry, and given the parameter inputs used above in Table 7-2, the incumbent postal operator is predicted to make profit of NOK 386 million. This assumption takes account of the fact that Norway Post appears to be effectively losing more than NOK 500 million on local and regional newspaper delivery. In terms of total variable profit (i.e. excluding fixed costs), newspapers on the whole are estimated to lose about NOK 360 million. Holding the current pricing structure fixed, while correcting this implicit subsidy, would suggest potential profits of the order of NOK 300-400 million. Note also, that it is the existence of such subsidies built into the pricing structure makes Norway Post vulnerable to entry, and even allows for the possibility of inefficient entry. Nonetheless, the main focus of our

modelling exercise is not the levels, but the changes given a particular policy action/pricing response.

What impact on entry and profitability would occur if prices were lowered? We first consider the case of prices lowered to NOK 4.6 (again, consider this the average revenue or headline rate). The degree of entry now falls dramatically. Only 3.3% of routes are served end-to-end and only 8.4% of customers are served. If the stamp price is lowered further, to NOK 4.45, then entry is effectively blockaded. The profits of the post fall significantly, to NOK 85 million, as they have lowered price but not costs—representing a net impact of NOK 301 million. These results are sensitive to the parameter inputs.

What this shows, however, is that, given some reasonable assumptions and estimates, the balance is rather delicate. If prices remain too high (perhaps due to the keeping of inefficient subsidies) then Norway Post can face significant loss of market share, and significant cream-skimming. At the same time, Norway Post is predicted to be able to effectively blockade entry, mainly by lowering price.

7.5 Conclusions to this section

We find the results from the C&K model to be similar to our results obtained by using sorting routines to analyse the important aspects of Norway Post's pricing structure. The degree of profits predicted is in line with the degree of losses that can be attributed to inefficient pricing structures already in place.

C&K model attempts to get at the essence of entry and cream-skimming, the two most important features of the postal system liberalisation decision. We feel that the C&K model provides a useful cross check to the previous modelling results, and that the results of this model largely confirm the results of before.

8 Liberalise Specific Services

In the case studies presented, we assess the impact of specific markets as case studies in competition to assess the impact of liberalisation. We consider the following specific markets, as we had suggested in the proposal as an additional scenario to evaluate the process of liberation in the given markets. The postal markets that we analyse are given below:

- Express services
- Direct mail
- Outbound cross-border mail³³

8.1 Express services

Express services have been liberalised since early 1990's and therefore provide a very good example of how liberalised market can develop.

With increasing globalisation and customer demand for guaranteed delivery of post, express services of goods and documents worldwide and domestically are now a recognised service. Various companies across the globe provide this service, with fierce competition on prices and quality of service. Due to competition in this area, the benefits to the industry have been enormous, with customers benefiting from competitive prices and the industry benefiting with the creation of indirect and direct jobs created, as new companies enter the express services market.

8.1.1 Liberalisation of express services

Express services market in Europe has many express operators but 5 major players known as 'the integrators' hold around 40% of the market³⁴, they are Consignia, La Poste, UPS, DHL (owned by DPAG) and TNT (owned by Dutch USP TPG). In each country, there are some national express operators who compete with the integrators i.e. Lynx in the UK, Tollpost globe in Norway.

Growth of the Express Industry

Express services' growth has been rapid over the last decade and this is expected to continue, Oxford Economic Forecasting (OEF & A&TC) (2002)

³³ In the proposal we had proposed Domestic Mail but Outbound cross-border mail took preference due to competition in and recent liberalisation.

³⁴ European Commission (2002)

suggested that the express service industry in the UK is expected to grow 7% in the coming decade – three times faster than GDP. The express services industry is a good example of how liberalisation can facilitate rapid expansion. OEF & A&TC outline the drivers that fuel the industry's growth as:

- Globalisation and world trade
- Internet and e-commerce developments
- Lean inventory strategies and global sourcing
- Quality of Service
- Competition

Of those five key drivers, the top three are inextricably linked. The rise of technology not only allows more sophisticated order and process tracking but it also enables more business to have multinational presence. Combined with a rapid per annum growth, this has encouraged firms to operate across nations and continents. This trend has, in turn, meant that businesses now demand express services postal sources across international borders as they seek to employ advanced inventory management and take full advantage of global sourcing opportunities. Even within the national boundaries, demand has increased for express service products, now many smaller firms are looking to use more express products.

Liberalisation: innovation, quality and efficiency

Liberalisation of express services has been associated with strong competition amongst many operators has fuelled product and process innovation and has raised the quality of service to new levels. AICES (2001) provide this list as an illustration of advanced features that are now commonplace in the industry.

- Guaranteed delivery by 9am or 12 noon the following day (international consignments)
- Same day delivery domestically and even internationally
- A wide range of delivery options and prices
- Track and trace permitting customers to have real time information on the status of their consignment accessible via the internet; phone or EDI link
- Compensation for loss, damage and delay
- Detailed performance reporting
- Detailed reporting on shipment profiles
- Strategic stock locations enabling guaranteed delivery within a number of hours to any location in a country
- Payment by the receiver or a third party
- Periodic performance reviews
- Global pricing for multinational customers

- Customer software enabling the customer to select the most appropriate service
- Software for label printing compatible with the operator's tracking and tracing and billing systems
- Payment in arrears following invoice
- Delivery of dangerous goods (under strict safety conditions)

OEF & A&TC (2002) also report that after adjusting for inflation, the cost of express services has 'generally declined' in the UK over the past 20 years, and it is suggested that this reflects the increasing efficiency of express operators.

Future for express services

The growth prospects for the express industry continue to look strong, in a survey of express industry users PLS Ramboll (2002) found that 67% users expected to increase their use of express services. In OEF & A&TC's (2002) survey of UK users, 49% of respondents expected their use of express products to increase. As noted earlier, OEF & A&TC (2002) expect the express industry to grow at 7% per annum in the UK.

Developments in the European express market

Following liberalisation there have been many strategic alliances formed and acquisitions conducted in courier and express services. Major express operators, such as TNT and DHL, are now owned or controlled by Dutch and German USPs respectively. In general, the postal market operators are investing across the postal supply chain to position themselves for full liberalisation in 2009. We take three examples from European Commission (2002) to further illustrate this point:

- In **Germany**, DPAG consolidated its status as the domestic market leader for express and courier services with a market share of 22% - twice that of its nearest competitor - in an increasingly concentrated market.
- **Sweden Post** has positioned itself as market leader through acquisition and alliances, although other major USPs from the UK, Germany, Denmark and Norway are becoming more prominent.
- In **Spain**, Correos aims to become the market leader but it currently has only 6% of the market which is mostly in the hands of national operators.

The Norwegian Express Services Industry

Norway Post operates in the express market through its subsidiary Box delivery. However, the four integrators dominate the Norwegian express market, Box delivery has relatively little market share. Competition amongst DHL, FedEx, TNT and UPS is very strong. There is no exact data of the

market share for express services. However, after consultation with Norway Post it has been suggested that the registered (parcels) cross-border mail market is a suitable proxy to assess competition in express services. Table 8-1 indicates that the degree of concentration in registered cross border mail services is quite low. We interpret as evidence that there is substantial competition in the express market in Norway. Moreover, falling HHI for both outbound and inbound registered cross-border mail in 2002 suggests that competition is becoming more intense.

Table 8-1: Proxy HHI for competition in the Norwegian express services market

	HHI 2001	HHI 2002
Registered Outbound Mail	0.39	0.27
Registered Inbound Mail	0.32	0.28

Source: PT (2002)

Summary and lessons from liberalisation of express services

Liberalisation has raised the level of quality and competition in the express industry and has enabled increasing levels of volumes and service demands to be met. A few large operators control a large portion of the market post-privatisation. Notably, as other areas of postal products are more liberalised, such as direct mail and some letter services, there are strategic alliances and consolidation occurring across product definitions across Europe. If the postal supply chain mirrors the experience of the express industry, then it is possible that a few large operators will control most of the market for European postal delivery.

8.2 Direct Mail

Previous research has shown that in those markets where direct mail is open to competition, such as in the case of Germany when direct mail over 50g was liberalised from January 1998, a considerable number of licences were granted to local providers of direct mail services. With competition and after removing barriers to entry in this specific market the customers are expected to further benefit from lower prices, with no adverse impact on the universal service provision.

In addition to Germany, other countries have also opened their markets, including Sweden, Finland, Netherlands, UK and Spain.

8.2.1 Liberalisation of Direct Mail

Direct mail is mail of similar content that is sent in bulk both addressed and unaddressed. In this section, we evaluate the liberalisation of direct mail in Europe. First, we present an overview of the European situation before reviewing selected countries in more detail.

8.2.2 Overview of the liberalisation of Direct Mail in EU15

Finland, Sweden, Spain, Austria and the Netherlands have no reserved area, however, Spain and the Netherlands have not recently been under state control and cannot be directly perceived as 'liberalised'. Denmark, Germany and Italy have also undergone greater liberalisation than is required by the European directive. Table 8-2 presents an overview of the liberalisation of direct mail in European countries and categorises the stage it has reached.

Table 8-2: Overview of market opening for direct mail for EU15

Country	Incumbent	Reserved Area for Direct Mail	Stage of Lib.
Austria	Österreichische Post AG	None	Full
Belgium	La Post/De Poste	< 350g or < 5 times standard letter price	EU directive
Denmark	Post Danmark	< 250g or < 5 times standard letter price	Semi-liberalised
Germany	Deutsche Post AG	< 50g	Semi-liberalised
Finland	Finland Post	None	Full
France	La Poste	< 350g or < 5 times standard letter price	EU directive
Greece	ELTA	< 350g or < 5 times standard letter price	EU directive
Ireland	An Post	< 350g or < 5 times standard letter price	EU directive
Italy	Post Italiane SpA.	>10,000	Semi-liberalised
Luxembourg	P&T Luxembourg	< 350g or < 5 times standard letter price	EU directive
Netherlands	TPG-TNT Post	None	Full
Portugal	CTT Correios de Portugal	< 350g or < 5 times standard letter price	EU directive
Sweden	Sweden Post	None	Full
Spain	Correos y Telegrafos	Unsealed Envelopes	Semi-liberalised
UK	Consignia Plc	< 350g or < £1	Approximately EU directive

Source: Federal Ministry of Economics and Technology, Germany, July (2002)

The above table is based on data drawn from PLS Ramboll's (2002) survey of universal service providers, it shows volumes and real values of direct mail per capita in each country³⁵. From the table we are able to assess the overall

³⁵ Data is stated per capita to aid comparison, particularly for the 2000 cross-section on the right hand side of the table. Nonetheless we also stress that geographical properties, as well as numbers of population served, can impact on services and therefore it impacts on the overall analysis.

trends in the direct mail industry and compare countries' different stages of liberalisation.

8.2.3 Demand growth: 1995-2000

Overall, demand growth in the direct mail industry was strong in the latter half of the 1990's. From 1995-2000 aggregate volumes per capita and real values per capita for addressed mail increased by 25.7% and 38.6% respectively. Unaddressed mail volumes per capita increased a little less, 17.7%, given in Table 8-3. However, the data is less comprehensive for unaddressed mail than for addressed mail, so we focus on the latter.

Intriguingly, growth in real values was superior to that of volumes – there are a few ideas that might help explain this finding:

- Prices for direct mail services rose faster than inflation, this might be because cross-subsidies were eradicated in favour of cost-reflective pricing.
- Greater product innovation provided a larger proportion of higher value-added products to the direct mail product mix.
- Greater price differentiation and market power enabled postal operators to extract more consumer surplus by offering tailored pricing arrangements.

In reality, it is likely that both of these, no doubt combined with many idiosyncratic factors, help explain value's superior growth over volumes. The trend is seen in virtually all countries suggesting that small market opening in line with the EU directive has facilitated price and innovation effects to some degree. However, the trend is more noticeable in some countries than others. In particular, Sweden, Spain and Germany have a pronounced positive difference between percentage value increases and percentage volume increases. With the exception of the UK, each of these countries has conducted greater liberalisation reform than that prescribed by the EU directive (see Table 8-3). Consequently, it seems that facilitating market entry has generated substantial increases in value over volume growth. In some countries where greater liberalisation has occurred, this effect is more pronounced.

Table 8-3: Volume and real values for direct mail in the EU, 1995-2000*(real values are 1994 prices)*

	% Change per capita 95-00: addressed		% Change per capita 95-00: unaddressed
	Volume	Real Value	Volume
Austria	33.6	37.8	32.3
Belgium	N/A	N/A	N/A
Denmark	6.6	-13.0	N/A
Finland	17.2	18.1	2.1
France	15.6	21.4	6.5
Germany	5.5	45.9	29.2
Ireland	49.6	-58.3	132.0
Italy	N/A	N/A	N/A
Netherlands	25.6	28.3	41.9
Portugal	44.0	52.5	N/A
Spain	-35.1	30.6	N/A
Sweden	9.0	75.3	33.1
UK	57.6	111.0	N/A
Total	25.7	38.6	17.7

Source: LE calculations using UN online population database (2003), PLS Ramboll (2002), Federal Ministry of Economics and Technology, Germany, July (2002)

Cross-sectional analysis: 2000

Our cross-sectional analysis enables us to compare the volumes and values per capita and better inform us about the effects of liberalisation of direct mail, see **Table 8-4**. Scaling by the population increases the comparability of volume and value. However, we stress that direct comparison must still be made with caution since other features, such as geographical properties, consumer tastes for direct marketing and other idiosyncratic factors, may affect both volume and value in different countries.

Physical properties of European countries affecting postal services

The following table shows that Sweden, Austria and Finland have very low population densities yet they have (relatively) high direct mail volumes. We attribute this to the fact that the population to live in a condensed area. In reality, the relevant population density for Sweden, Finland and Austria is closer to that of the UK and Germany. With this in mind, we compare and contrast countries' features in the following table.

Table 8-4: Percentage of urban population, population density and direct mail volume per capita

Countries	%in Urban Pop	Pop. Density	Volume DM per capita	Value DM per capita	Liberalisation stage
Belgium	97.3	336	106.4	63.4	EU directive
Finland	59.0	15	97.3	82.7	Full
Netherlands	89.5	389	96.3	130.7	Full
Austria	67.3	97	90	132	Full
United Kingdom	89.5	240	78.4	48.2	EU directive
Germany	87.5	231	78.4	103	Semi
Sweden	83.3	20	74.2	110.2	Full
France	75.4	108	72.2	102	EU directive
Denmark	85.1	124	44.4	88.7	Semi
Ireland	59.0	54	29.8	9.8	EU directive
Italy	66.9	191	26	26.9	Semi
Spain	77.6	81	19.9	54.5	Semi
Portugal	64.4	108	19.5	3.7	EU directive
	indicates high				
	indicates intermediate				
	indicates low				

Source: London Economics calculations using UN online population database (2003), PLS Ramboll (2002), RegTP (2002)

Belgium and the Netherlands are very alike as they both have high urban habitation. However, the populations are so uniformly dense that potentially profitable routes may be difficult to identify. As a result, entry into direct mail is not likely to concern the USP.

The UK and Germany are also very similar, they too have high urban habitation but have lower population densities – thus making profitable entry routes easier to identify. As noted above, conditions in Sweden, Austria and Finland are not too dissimilar to the UK and Germany. Countries like these may have small reserved areas for direct mail to give them time to adjust to potential competition and filter out any related problems in the USO overall (i.e. problems with pricing structures and cross-subsidy). USPs in these countries may lose profitable routes and experience decreasing market shares if there are no barriers to entry in place and the market is fully liberalised. In turn, this could endanger the financial viability of the USO. This may be especially true in Finland and Austria where USPs face higher delivery costs as a larger number of the population live in rural areas. Although lower urbanisation presents fewer opportunities for entrants, routes are more easily identifiable because the population is highly concentrated. When combined, high concentration of population density and low urbanisation may

jeopardise the financial viability of the USO. We return to this point in a later case study.

Ireland and Spain³⁶ are similar, as are Italy and Portugal, though we might group them all together because of their very low direct mail per capita. This fact alone makes competition in high revenue markets, such as direct mail, dangerous as it may jeopardise the provision of the USO. However, the high population density and high rural habitation may make Italy less susceptible because there may be fewer profitable routes that are harder for entrants to spot.

France and Denmark are similar in terms of urbanisation and population density but France has much higher direct mail volume per capita. In both countries, it is likely that potential routes are easy to recognize, but in Denmark, the loss of valuable volumes may severely damage the USPs financial viability. Consequently, a reserved area is needed - albeit a larger one than in the UK and Germany.

Having assessed the various countries by their properties we notice that the grouping by population attributes largely follows the size of volumes per capita. Highly urban countries with even population densities tend to have high volumes, highly urban countries with regionally concentrated population densities tend to have slightly lower volumes, whilst countries with less urban habitation and relatively concentrated or low population densities have lower volumes. With this in mind, we evaluate the relationship between liberalisation stages, value and volume.

Liberalisation, value and volume

From **Table 8-4** it appears that at higher volumes per capita the value per capita generated depends largely on the stage or degree of liberalisation that has occurred in that country. Notably, both the UK and Belgium do not generate high value per capita and both do not go any further than the liberalisation measure proposed by the EU. In contrast, countries with fully liberalised direct mail markets, with the exception of Finland³⁷, have generated higher values per capita. Generally, low volumes per capita are correlated with low values per capita.

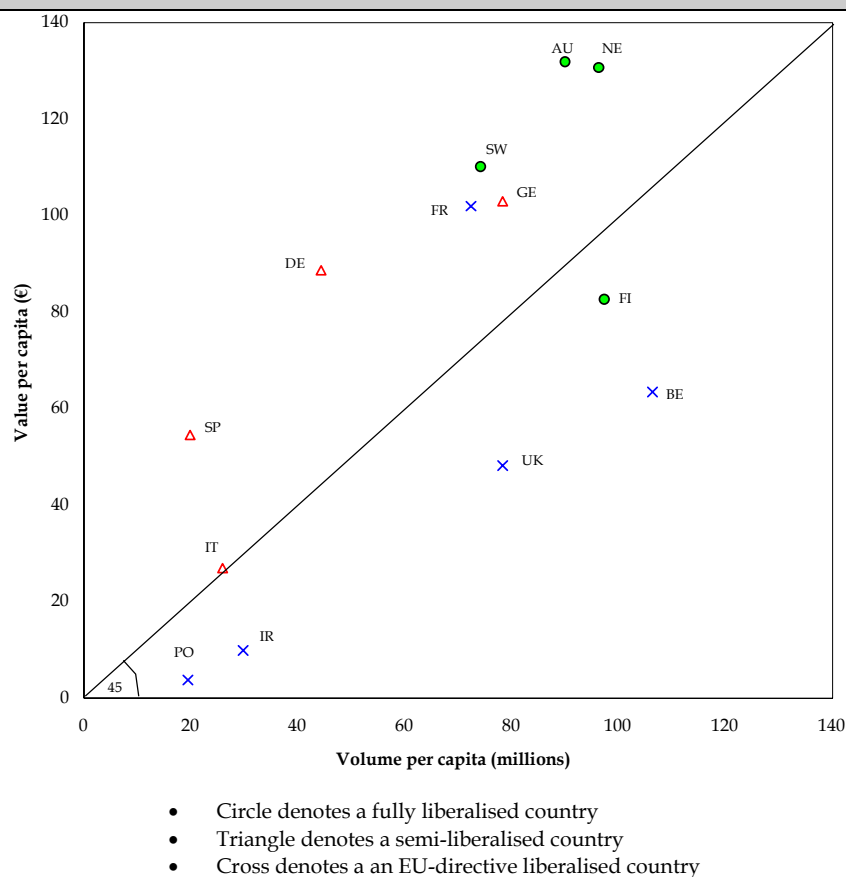
Figure 8-1 provides a graphical representation of the rightmost columns in **Table 8-4**; it depicts the relationship between value and volume per capita for European countries at different stages of liberalisation in 2000. From the diagram we can see evidence for the assertion that higher degrees of

³⁶ In Spain direct Mail has been in its present form since 1965. As a result Spain should be less concerned about the USO as it has developed around a semi-liberalised market.

³⁷ Finland has a significant barrier to entry and competition is virtually non-existent. We discuss in more detail in the case study.

liberalisation tend to create greater value per unit volume; in other words, prices are generally higher in liberalised countries.

Figure 8-1: Direct mail value and volume per capita in Europe, 2000



Source: London Economics calculations using PLS Ramboll (2002, US Census Bureau data and IMF (Sept. 2003), 'World Economic Outlook: public debt in emerging markets'.

There might a number of factors that contribute to this finding.

- **Reduction of cross-subsidy in favour of cost reflective pricing.** In many semi/full-liberalised countries, pricing structures have been changed to reflect costs and eliminate inefficient cross-subsidies. Combined with cream-skimming, prices may appear higher because USPs may be forced to conduct higher cost services in the face of competition.
- **Product innovation** – another way of interpreting the point above is to say that competition has forced USPs to offer more differentiated products to consumers. High volume low cost services are the most attractive to entrants as they are potentially the most profitable. Consequently, USPs in liberalised countries may try to create

innovative new products to recover the lost income if they are not able to compete with entrants. These products may involve high levels of service and incur higher costs; prices might rise if they are set in a cost-reflective way.

- **Data considerations** – USPs facing competition are, according to many academics³⁸, most likely to face cream-skimming on low cost high volume services i.e. cheap direct mail services. As a result, it might be that there is less or ‘missing’ data on low cost services provided by the private sector in semi/fully-liberalised countries. In countries liberalised to the EU-directive level USPs may continue to serve the low cost market thus mitigating ‘missing’ data issues. However, data considerations are unlikely to have a great effect since a complete data set³⁹ would not reverse the value volume relationship in semi/fully-liberalised countries – if anything it would fortify it.
- **Market Power** – Its possible that the USP may have retained some market power post-liberalisation and is able to raise prices. However, many academics agree that postal markets, in particular direct mail, have few local barriers to entry. Potentially, brand value of the incumbent may facilitate short run power but again over time is not rational to expect this to persist. Higher profits (resulting from higher prices and inelastic demand) are likely to lead to reduce market share over time as they will attract entrants to the industry until profits are competed away – thus making this explanation implausible. In fact there have some cases (especially in Sweden) accusing USPs of predating against entrants by using other reserved areas to cross-subsidise direct mail service discounts.

In conclusion, it seems when volume per capita is reasonably high the amount of value per capita generated is governed by the degree of liberalisation in that country. That is, in high volume per capita countries the increased potential for competition has encouraged USPs to generate higher value through product innovation and may have triggered a move towards cost reflective pricing. In low volume countries, low values tend to persist. Nonetheless, even within this group of countries, semi-liberalised countries generate relatively higher values.

The combination of little economic rationale and multiple competition cases suggests that the market power explanation is unlikely. Indeed quite the opposite is true – USPs are lowering costs to compete or even predating.

³⁸ See section 2.2 Previous Research.

³⁹ A complete data set would include values and volumes for private operators as well.

These findings along with other population issues in direct mail are discussed in more detail for Germany, Sweden, Finland and Norway, in the following section. In the other countries with advanced liberalisation, competition is in its early stages or there is little information, consequently they are not disseminated in greater detail.

8.2.4 Case studies

We first review the experiences of direct mail liberalisation in Germany, followed by Sweden, Finland and Norway.

Germany

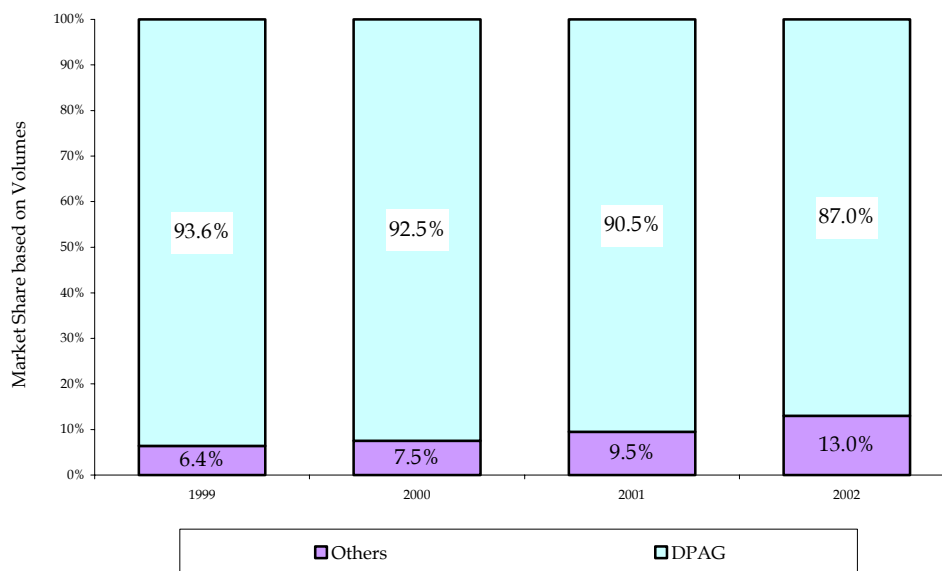
As noted earlier, Germany has low USO costs but is quite regionally concentrated, therefore localised competition is likely to exist and will erode the USPs market share. Consequently, on 1st January 1998 only direct mail services above 50g have been liberalised, to give time for the USP to prepare itself for full liberalisation.

By the end of 2002, the regulator (RegTP) had granted 790 licences to direct mail operators. Overall, growth in direct mail revenues has been strong for new operators; RegTP expect revenues for new operators to increase by around 31% in 2002; in 2001 they increased by about 28%. These figures suggest that Deutsche Post AG (DPAG) is facing increasing competition.

Competition:

The increasing competition is evidenced by DPAG's eroding market share in the direct mail market. Figure 8-2 shows that since liberalisation new operators have continually taken market share from DPAG. Since 1999, new operators have approximately doubled their portion of the market to 13% of direct mail volumes – the rate at which they ascertain market share each year is also increasing.

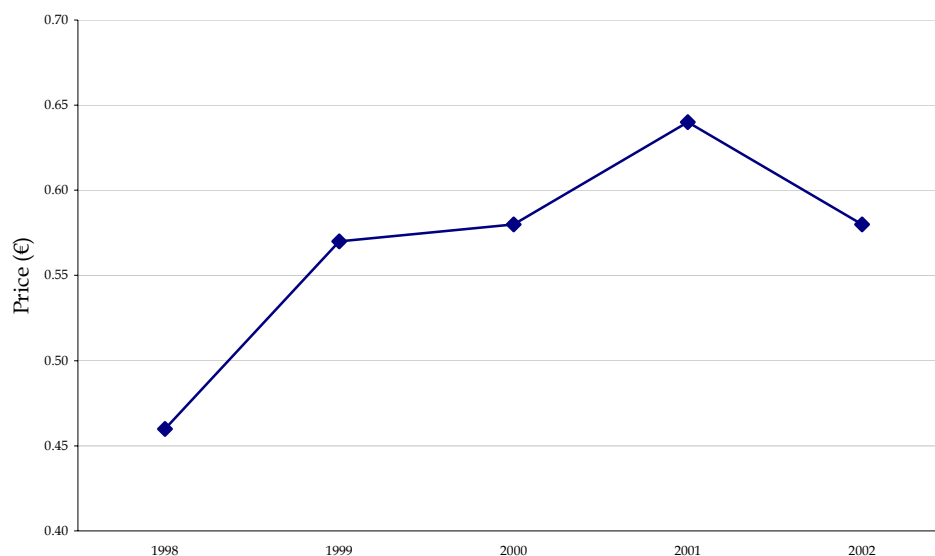
Figure 8-2: Market Share for services > 50g in Germany



Source: RegTP annual report (2002)

Prices

Post-1998 prices for direct mail have risen, this may have occurred for reasons already stated (i.e. product innovation etc.). Over time, the direct mail industry is finally showing the effects of competitive forces on prices. Figure 8-3 indicates the effect of a vast rise in the number of postal operators in direct mail – prices are expected to fall by around 10% in 2002.

Figure 8-3: Average Prices for services > 50g in Germany

NB: The figure for 2002 is an estimate

Source: RegTP website, www.regtp.de

Germany's potential vulnerability has meant that a small reserved area has been maintained for DPAG. Despite the fact that the direct mail market is not yet fully liberalised, the impact of competition is beginning to be felt; average prices are expected to fall and competitors market share is growing.

Sweden

Sweden fully liberalised its postal industry in 1993, it was the first European country to do so. However, liberalisation has not been without its problems.

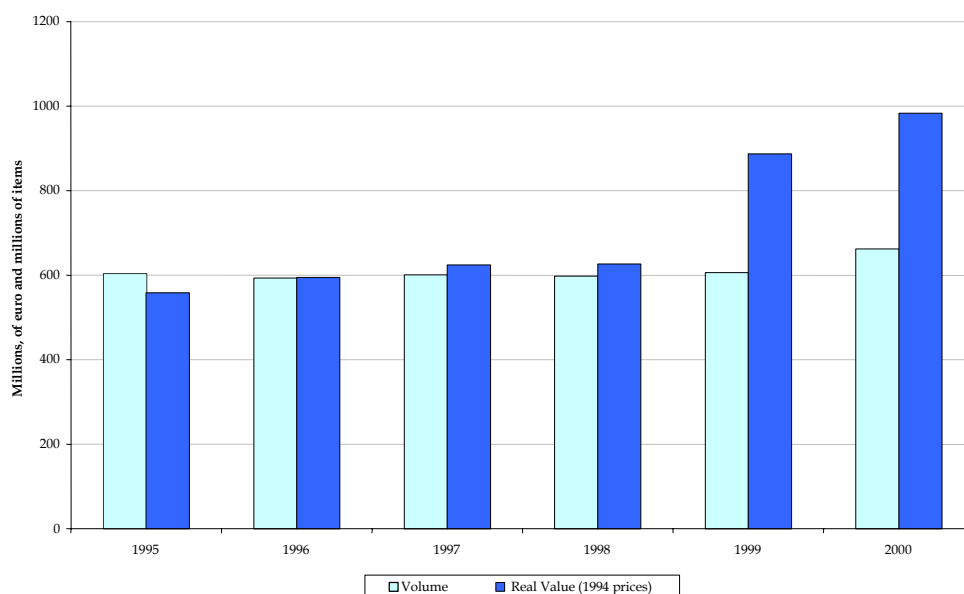
Sweden has very high regional concentration of population densities, the three densest regions (Stockholm, Skåne and Västra Götaland) are widely spread. With these demographic features and intermediate direct mail volumes per capita, it appears that Sweden, especially Stockholm⁴⁰, is vulnerable to cherry-picking entrants. Consequently, one might expect to see a competitive market in direct mail services, evidenced by lower market shares for Sweden Post. However, Sweden Post still held around 77% of the market five years after full liberalisation⁴¹. Sweden Post's main competition is

⁴⁰ Around 20% of the entire population live there (Source: Sweden statistical office, www.scb.se)

⁴¹ Arthur Andersen (1998)

from CityMail, who focus their activities on the densely populated Stockholm area. There are other smaller direct mailers that exist as local competition but they are not considered major competitors.

Figure 8-4: Sweden Post real value and volumes for addressed direct mail, 1995-2000



Source: London Economics calculations using PLS Ramboll (2002, US Census Bureau data and IMF (Sept. 2003), 'World Economic Outlook: public debt in emerging markets'.

Finland

Finland was the second European country to open its postal market to competition; in 1994, the industry was fully liberalised.

Finland and Sweden have similar geographical and demographic properties, however the Finnish population has a higher percentage of rural inhabitants thus, raising the cost of servicing the USO. South-West Finland has a dense population and is a prime candidate for 'cherry-picking' entrants. Taken together these facts suggest that the Finland should be more suited to the development of local competition in direct mail than Sweden.

However, in 1998 Finland still had 98% of the market for direct mail.⁴² In Finland, even four years after liberalisation, competition in direct mail was limited.

⁴² Arthur Andersen (1998)

Norway

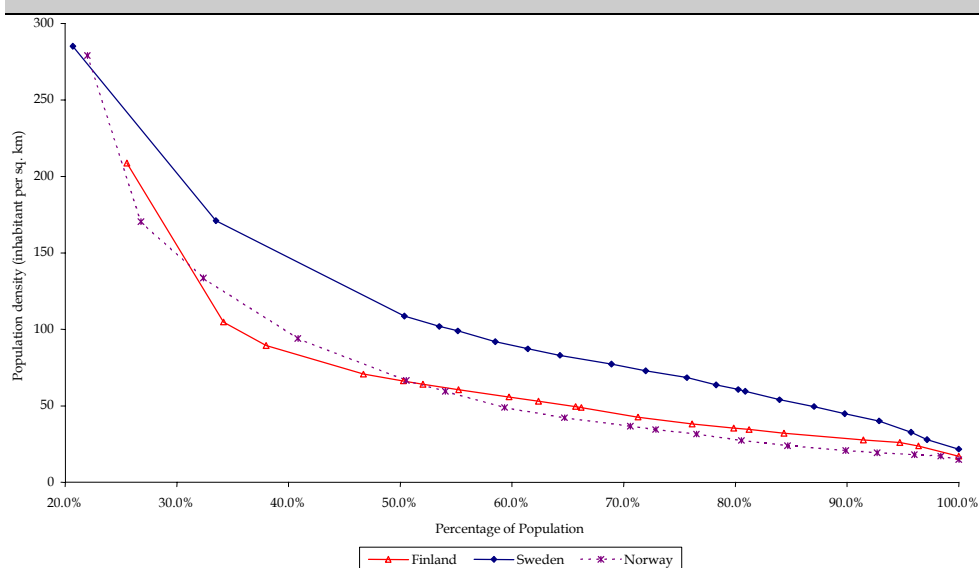
Direct mail is partially liberalised in Norway; unaddressed (post advertising) mail is open to competition but addressed mail falls within the reserved area.

Figure 8-5 shows the cumulative population density for the percentage of the population. We constructed this using primary data obtained from the national statistical agencies, ordered regions by population density and calculated the cumulative population density for the percentage of the population it covered. The combination of high population density at low percentages and low population density at higher levels of the population indicates that the population is concentrated in small areas. As noted above, this feature may make 'cherry-picking' easier to and more profitable to conduct.

With a population density of 14 inhabitants per square kilometre, overall Norway is most similar to Finland rather than Sweden, see Figure 8-6. However, Norway has only 25.3%⁴³ of inhabitants living in rural areas compared to Finland's 41.1%. Moreover, at its densest point Norway is comparable to Sweden – this is particularly relevant for direct mail services that focus on local markets in very densely populated areas. We consider Norway to be 'between' Sweden and Finland in terms of population attributes. In other words, Norway's financial sustainability of the USO is less vulnerable to 'cherry-picking' than Finland but possibly more so than Sweden based upon distribution of population density.

Although both Sweden and Finland are fully liberalised, the reality of entry into direct mail is very different, this is not surprising given their differing vulnerability to 'cherry-picking'. Since Norway is assumed to be in the intermediate case of vulnerability, we would expect to see a stage liberalisation of direct mail.

⁴³ UN (2003), 'World population prospects: the 2002 revision population database'. <http://esa.un.org/unpp/>

Figure 8-5: Cumulative population density for Nordic Countries

Note: Each line represents cumulative population density where areas were put in descending order by population density.

Source: National statistical offices of Finland, Sweden and Norway

Market shares and concentration in direct mail

We understand that Norway Post has 100% of the addressed direct mail market because it falls under the reserved area, however, the unaddressed direct mail market is open to competition. A report by the regulator, PT (2002), puts Norway post with a market share of around 79%, however they note that if missing data were included the market share for unaddressed mail is closer to 60% - Norway Post concur with this viewpoint.

Table 8-5: Norwegian direct mail market shares measured by revenue in 2002

	Unaddressed Mail	Addressed Mail
Norway Post	79.1%	100.0%
Aftenposten	9.7%	-
Vestfold distribusjon	0.7%	-
NorPost	4.7%	-
Other	5.8%	-

Source: PT (2002)

Either way Norway Post still holds a very high market share and the market is far from competitive. HHIs for both volume and value are high at around 0.65. Since 2001, volumes of unaddressed mail have been more concentrated, however revenues have become slightly less concentrated. This might indicate that competitors have gained revenues of smaller firms that have exited the market.

Table 8-6: Concentration measures (HHI) for unaddressed mail

	2001	2002
Volume	0.65	0.68
Value	0.65	0.64

Source: PT (2002)

Price and volumes

Unaddressed Mail

The pricing structure for unaddressed direct mail is related to the delivery area, the weight per item and some additional charge depending delivery dates, type of recipient etc. In 2001, the pricing structure was rebalanced; the main changes were to charges applicable to different delivery areas, costs per item per gram, and the introduction of prices related to additional costs.

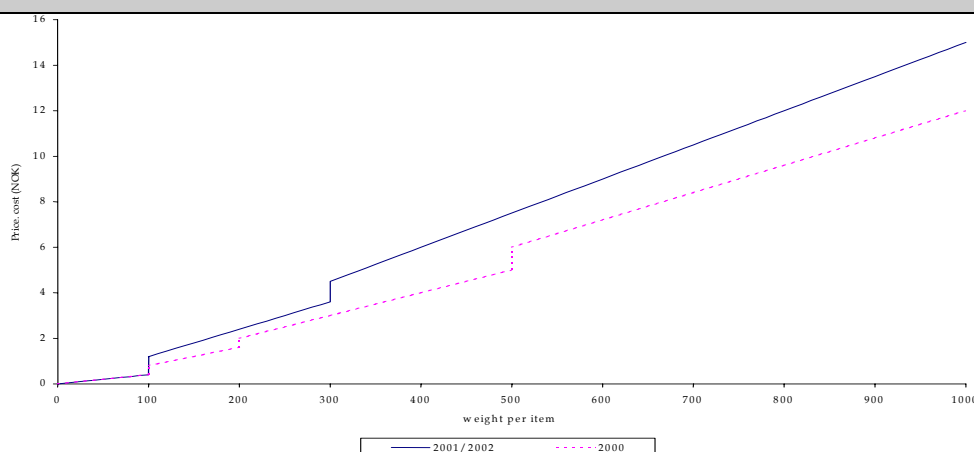
The delivery areas are classified into zone 1 and zone 2 by postcodes; Norway Post have indicated to us that zone 1 relates to urban areas whilst zone 2 relates to rural areas. In line with the theoretical posits on where direct mail competition will exist, Norway Post has informed us that they face competition only in zone 1 - in rural areas, they hold almost 100% of the market. In 2000, zone 1 and 2 delivery prices per item were NOK 0.66 and NOK 0.76, respectively. Following price rebalancing in 2001 the price per item fell 6 øre in zone 1 to NOK 0.58, whilst in zone 2 they increased 2 øre to NOK 0.78. Two potential reasons behind these changes are:

- Increased competition for zone 1 delivery compared to little competition for zone 2 delivery; or
- These prices more closely reflect the cost of delivery to the different zones.

According to Norway Post the pricing schedule for weight per item has been simplified, Figure 8-6 shows both the old and new pricing schedule. The new prices are simpler; where there were previously four weight bands (0-100g, 100-200g, 200-500g and > 500g) there are now three (0-100g, 200-500g and > 500g). Notably, the two are similar at lower weights, but as items get heavier the new prices rise more steeply than the old ones. To assess the price changes we might look at the impact on the levels of the volumes of

unaddressed mail for different weight categories. However, we do not have this level of detail for volume data.

Figure 8-6: Linear pricing schedule for 2000, 2001/2002 based on the weight per item



Source: Norway Post

In 2000, there were minimum price restrictions; these floor prices differed if mail was intended for households or other types of recipient i.e. rural businesses. Under the new pricing schedule, there is a uniform minimum price and cost related additional surcharges, such as manual handling costs, specific delivery dates and delivery to special groups (i.e. farmers).

The pricing schedule relates to standard postal advertising services, these are for medium to low volume customers. High volume customers negotiate prices with Norway Post according to a set of predetermined volume-discount guidelines. Whereas weekend postal advertising, offered by Norway Post's subsidiary Consumer Contact, are contractually priced.

Addressed Mail

In March 2002, Norway Post altered its pricing schedule for addressed direct mail. In its original form, Norway Post charged a basic tariff of NOK 2,500 and added to that a basic price per item plus a cost for the weight per item. Differing levels of discounts were offered depending on the volume to be delivered and the number of repeat delivery orders. There is also a minimum price per item and surcharges relating to specific delivery days and delivery areas.

Our consultation with Norway Post indicates that they desired to simplify the weight based pricing structure and apply it symmetrically to all letter

products – that included addressed direct mail. As a result, the basic tariff and minimum price has been eliminated and an additional weight category has been added. In addition, Norway Post reports that the rebalanced structure is more cost-reflective than the old price structure. Data on direct mail volumes for Norway Post are not available.

Norway is similar in some respects to other Nordic countries (particularly Finland) and like them its USP is vulnerable to potential ‘cherry-picking’ entrants. However, each country’s USP has protected most of its market share with some legal restrictions in Finland and in Sweden the incumbent has maintained high market shares. In Norway only the unaddressed mail market is fully liberalised and addressed market falls under the reserved area, and the full effects of competition in direct mail have been limited in this way.

There is evidence of price competition in the liberalised unaddressed mail area. The HHI for volume and value indicate that some competition exists. Moreover, falling prices suggest the market is far from competitive – especially in urban areas (zone 1).

8.2.5 Lessons and Conclusions

From the discussions above, we summarise our main findings and lessons from the liberalisation of direct mail below.

- Direct mail tends to be cheaper and more profitable in densely populated, easily identifiable areas; therefore, competition is local in nature. The geographic and demographic features of a country will tend to govern whether they liberalise or not – or dictate the exact nature of liberalisation i.e. Finland is fully liberalised but still has barriers to entry that secures Finland Post’s market share for direct mail.
- Liberalised countries on the whole are better able to generate greater value per unit volume (overall prices are higher). This might be due to (potential) competitive forces trigger a move to economically desirable cost-reflective pricing structures, or even because it encourages product innovation, or perhaps other idiosyncratic factors, such as consumer tastes, play a significant role. Market power is unlikely to be the reason for higher prices.
- Some countries have not reaped full benefits of competition.
- Some countries have maintained reserved areas, have lower value per unit volume but do so to enable their postal service to fully prepare for a fully integrated postal chain liberalisation across Europe. It is true that pan-European liberalisation in other network industries has facilitated cross-border mergers i.e. European electricity industry is

dominated by a few firms. Therefore, solid finances and a strong strategic position in postal product markets might be another major goal for some countries – this appears to be the case in Germany as DPAG have already begun buying other operators but are not subject to full competition.

8.3 Liberalisation of outbound cross-border mail

Under the 2002 EU directive, outbound cross border mail markets should be fully liberalised on 1st January 2003⁴⁴. However, prior to this directive, few countries had undertaken full *de jure* liberalisation of their outbound international postal markets – nonetheless, many countries were considered *de facto* liberalised. We review the effects of effective competition on average international mail delivery performance and examine the likely outcomes of Norway's July 2003 *de jure* liberalisation of their cross-border mail services. First, however, we set out some information on the impact of postal liberalisation in a wider set of jurisdictions.

8.3.1 Market Share Estimates

In Table 4-5 in Section 4 on our review of international experience and evidence set out some estimates of international outbound market shares produced by the Association of International Courier and Express Services (AICES) for 1999. The authors clearly felt that some entry had occurred in outbound international markets, despite the fact that in 1999 the bulk of such traffic was reserved to the USP in almost all countries on the list.

In 2002, Postcomm in the UK published estimates of postal incumbent market shares from a selection of countries. These market shares related to the letters market, not just the outbound international component, but they serve to emphasise the potential incumbency advantages of postal administrations. Even Sweden Post, which experienced full liberalisation in 1993, is estimated to have a market share of 94% of the letters market.⁴⁵

⁴⁴ However, they do not have to be fully liberalised if this action jeopardises the provision of the universal service.

⁴⁵ This estimate is confirmed in PTS, "The liberalised Swedish postal market and the situation nine years after the abolition of the monopoly", October 2002.

Table 8-7: Effect of Liberalisation Summary – Letters Market

	Sweden	New Zealand	Netherlands	Germany	Australia
Date and Extent of Liberalisation	1993: full	1998: full	2000: partial	1998: partial	1994: partial
Incumbent's share of letters market	94%	98%	100% <100g	98%	100%

Source: Postcomm, 2002

8.3.2 Possible Features of Outbound International Competitive Entry

The AICES report cited above sets out a list of typical service features provided by firms that enter in competition with the USP's outbound international services:⁴⁶

- Competitive prices to those offered by the universal service provider
- Provision of customised routing depending on the destination and price : service level requirements of the customer
- Provision of customised rates to customers
- Offering of a variety of delivery options and service levels to customers
- Pick up of mail from address specified by the customer
- Express transportation out of the country of origin
- Delivery abroad by the chosen delivery subcontractor
- Invoicing to the customer with settlement in arrear
- Management of reverse mail flows in response to customers' mailings
- Where requested by the customer, provision of fulfilment services (such as database management, addressing mail items, polythene wrapping of items, franking items with local indicia of destination country)
- Compensation for loss, damage or delay
- Ability to re-route the mailing prior to postage (or prior to final delivery where delivery is by a private delivery company)
- Track and trace up to the point of mailing
- Proof of date of posting of bulk shipments

⁴⁶ AICES (2001)

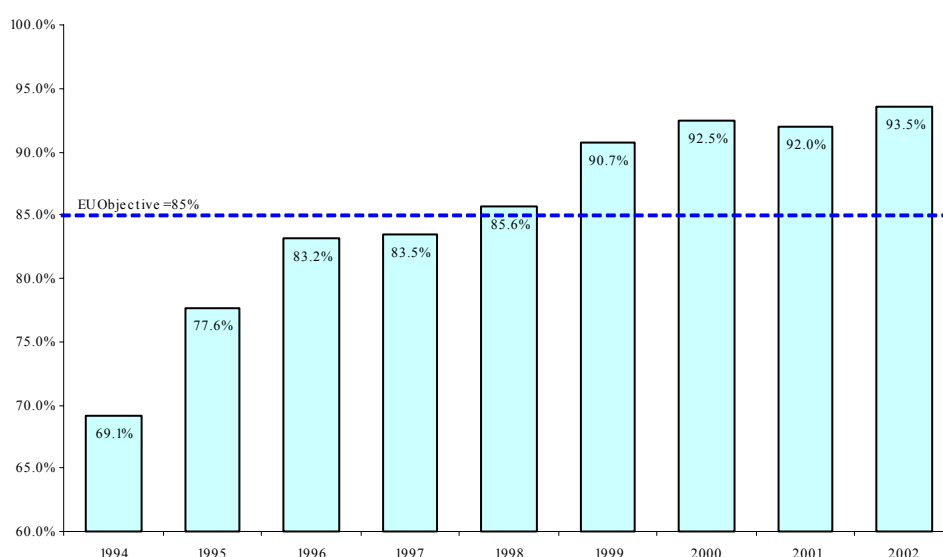
It is interesting that only a few of these features relate to competitive pricing behaviour; the majority are quality or value-added features. It should be possible in many cases for a USP to compete effectively against entry based on the latter type of feature by expanding and differentiating its service offerings to meet competition. Only if entrants are more efficient in offering differentiated quality packages or value-added services should such features be a significant threat to incumbent administrations.

However, there will inevitably be opportunities for new entrants to cherry-pick more profitable customer segments, particularly with more pricing flexibility. There is also the possibility that, as was the case in the telecoms sector, new entrants will seek to purchase market share.

8.3.3 Performance in cross-border mail services

The International Post Corporation (IPC) continuously conducts delivery performance measurement for cross-border mail services using the UNEX system. The standard performance measure for delivery speed/performance under UNEX is the percentage of letters delivered 3 days after delivery (J+3). Figure 8-7 demonstrates that since 1994 performance improved markedly. By 1998, the EU target of 85% of mail had been met, since then performance has exceeded this target.

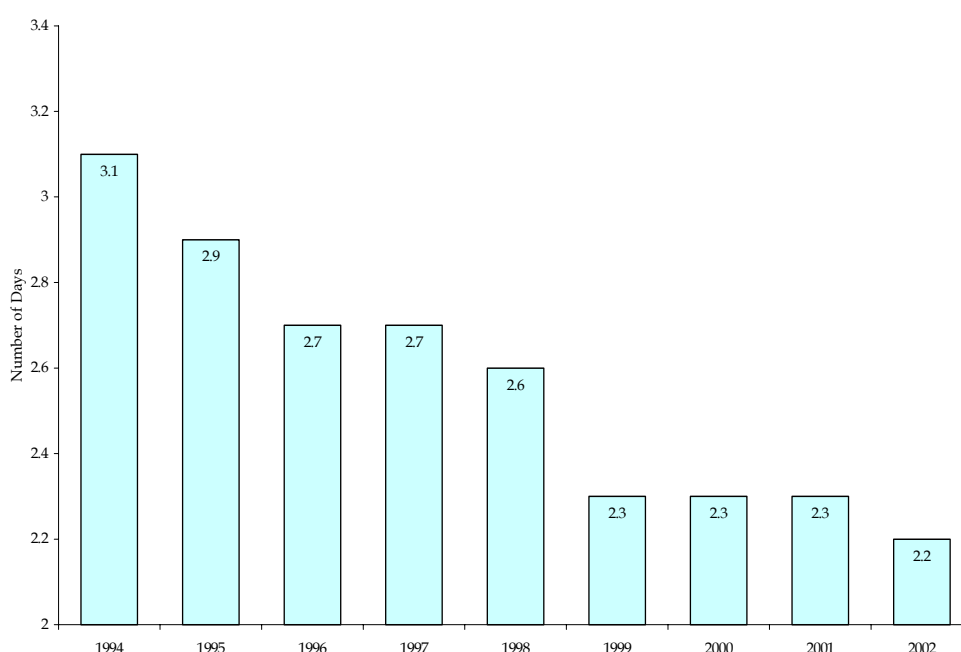
Figure 8-7: Average percentage of mail reaching its destination in J+3 delivery days



Source: UNEX, IPC (2002, 1998)

To further illustrate the improved performance, Figure 8-8 shows that the average number of delivery days has decreased. After the initial improvement in average delivery days from 3.1 to 2.7 (1994-1996) it remained roughly constant until 1998. However, in 1999 average delivery days fell to 2.3 where it remained until 2001, last year this figure fell to its lowest level yet, 2.2.

Figure 8-8: Average number of delivery days



Source: UNEX, IPC (2002, 1998)

Factors affecting performance improvement of cross-border mail

Next we consider the major factors that might help explain the improved performance, in particular we look at the effect of the EU directives of 1997 and 2002 and look at the relationship between liberalisation and performance from 1999-2002.

The European Commission (2002) attribute this performance improvement to the 85% target set under the 1997 postal directive and the REIMS terminal dues agreement⁴⁷.

⁴⁷ This agreement relates to the directive's requirement that the remuneration provided to the USP from delivering inbound cross-border mail be related to their overall level of performance.

Another potential incentive for USPs to improve performance is the increasing presence of competition in (outbound) cross-border mail⁴⁸. To investigate this further we analysed the average across countries of outbound J+3 delivery performance for each country from 1999-2002. We then regressed these averages on the following variables:

- Dummy for *de facto* liberalisation
- Dummy for *de jure* liberalisation
- Population density (inhabitants per sq km)
- Fixed effects for countries
- Fixed effects for years

Ideally, we would also have liked to include other important variables, like international mail volumes per capita or per USP employee. However, the volume data for many countries was not complete and not available for the most recent years. We also looked at domestic letter volumes per capita as a proxy for international data. However, again the data was incomplete and many of the liberalised countries did not have data for 1999-2002.

A country is considered *de facto* liberalised when the USP in the destination country is actually collecting the mail in the origin country directly or through a local partner. Typically these organisations target large volume customers as they are the most profitable; consequently a country considered as *de facto* liberalised are likely to have high international mail volumes. The *de facto* liberalisation variable serves as a proxy to the volume measure.

De jure liberalisation indicated whether a country had gone further by law than the 350grams and 5 times the basic price reserved area as prescribed by the EU directive. Population densities were taken for 2000 from the UN population database and are defined as the number of inhabitants per square kilometre.

Table 8-8 shows the status of the variables used in each country.

⁴⁸ There is little competition for inbound cross-border mail services.

Table 8-8: Summary of factors affecting performance

Country	<i>De Facto lib.</i>	<i>De jure lib.</i>	Pop. density
Austria	Lib	EU	97
Belgium	Lib	EU	336
Denmark	Lib	Lib	124
Finland	Lib	Lib	15
France	Lib	EU	108
Germany	Lib	Lib	231
Greece	EU	EU	83
Ireland	Lib	EU	54
Italy	EU	EU	191
Luxembourg	Lib	EU	168
Netherlands	Lib	Lib	389
Norway	Lib	EU	14
Portugal	EU	EU	108
Spain	EU	EU	81
Sweden	Lib	Lib	20
United Kingdom	Lib	Lib (00-02)	240

Source: UN population database, AICES (1999), Federal

Results

We found that on average *de facto* liberalised countries perform 3.4% better than non *de facto* liberalised countries. This might also reflect that countries with higher volumes, and therefore higher levels of competition, have superior performance. Both *de jure* liberalisation and population density were not significant. The former is not surprising as most benefits from competition can be realised under *de facto* liberalisation and population density is more relevant for inbound delivery services.

Norway

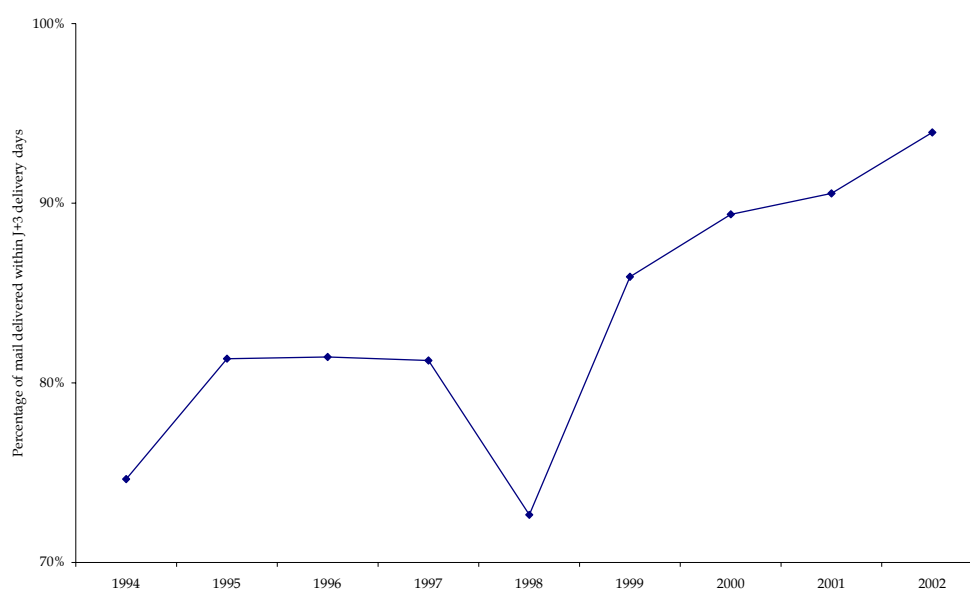
Norway does have high mail volumes and was considered *de facto* liberalised prior to *de jure* liberalisation in July 2003. Our results indicate that the performance enhancements attributable to *de facto* liberalisation combined with high mail volumes should place Norway amongst the highest performers.

From Figure 8-9 we can see that the performance of cross-border mail services in Norway has risen steadily since 1994, with the exception of 1998. Between 28 May to 15 June 1998 three to six thousand workers in the public communications and transport sector went on strike. For Norway Post the

sorting process came to a complete standstill, made worse by air traffic controllers going on strike from 12 June cancelling all domestic and international flights. This delayed Priority post 2-5 days.

From 1996-2002, Norway Post's network was subject to major restructuring. Not only has the number of and type of post offices changed, the sorting and production processes have also undergone major changes. Sorting points have become fewer and larger, and Norway Post has invested in new mail-sorting technology. Machine-sorted volumes are greater than before, giving faster and more precise sorting, and hence faster delivery. This has been part a general drive for increased efficiency and profitability in preparation for future competition. By 2002, Norway post had achieved higher performance levels than most EU countries.

Figure 8-9: Percentage of cross-border mail letters reaching their destination in three days originating from Norway



Source: UNEX IPC (1996, 1998, 2003)

The market for cross border mail delivery is (one of) the most competitive in Norway. Several domestic and international companies operate in the market for parcels and express services and are keen to enter the market for cross border letter-mail once the reserved area has been abolished.

In 1999, DHL's 'worldmail' product targeted companies sending large volumes of cross border mail. Although the reserved area covered individual items, DHL offered to collect and send several items as one, thereby avoiding

the weight limits of the reserved area. On 20th August 1999, PT declared that DHL were illegally operating in the reserved area. Earlier that year, a similar decision was reached on TNT's similar international mail delivery service. PT's decision was based on the fact that prices were quoted for individual items, not for the collected mail being sent.

A survey conducted among postal operators in Norway, discussed in Section 5, supports this view. From discussions with these firms, it is clear that several postal operators are planning to enter the market once the market becomes liberalised. They already have extensive networks for collecting and transporting express and parcel items and have previously tried to expand into other letter products.

Summary

Since the late 1980's many outbound cross-border mail markets in Europe have been *de facto* liberalised, by the mid to late nineties several countries had legally opened cross-border mail markets to competition. Combined with the REIMS agreement and the 1997 Postal directive, increased competition/liberalisation generated improvements in service quality both in terms of delivery times and product innovation. Our results indicate that those *de facto* liberalised countries outperform non-liberalised countries by 3.4% on average. This might indicate that high volumes international mailers have attracted new operators who have provided competition for the USPs; this may have contributed to improved levels of delivery performance.

As prescribed by the 2002 EU Postal Directive, cross-border mail services were *de jure* liberalised on 1st January 2003. Arguably, the elimination of reserved areas may encourage operators with pan European postal networks (i.e. DHL, UPS etc) to enter the (outbound) cross-border mail market and provide increased competition for domestic USPs – however we must wait to see its full effects as the market develops.

8.4 Conclusion to this section

In this section, we have reviewed three postal markets at different stages of liberalisation. The express services market has been open to competition since for over a decade, the cross-border mail has been *de facto* liberalised in most EU countries at least since the mid-nineties whilst direct mail services has liberalised a little, although they still remain (partially) under the reserved area in many countries.

We witnessed that for direct mail services the exact degree of liberalisation and nature of entry depended on the size of the volumes and the ease of detection of profitable routes. Competition on a national scale was not evident – localised entry, especially where high population density areas were condensed and volumes were high was the norm. We found that competitive

pressures had encouraged USPs to generate higher value per unit volume and may have introduced greater product differentiation.

Many USPs had maintained market shares although it appeared to be falling where competition was emerging. However, some the more 'vulnerable' liberalised Scandinavian countries had maintained market share i.e. Finland and Sweden.

Competition via *de facto* liberalisation combined with the REIMS agreement conferred many benefits on consumers. According to the UNEX performance data, being a *de facto* liberalised country had on average improved performance. With the full *de jure* opening of the market in 2003, pan-European consolidation is a possibility and may be particularly attractive for operators looking to build a European delivery network ready for full liberalisation in years to come.

The express industry provides an excellent example of the benefits of liberalisation. Consumers have benefited through the provision of high quality differentiated products and fierce competition amongst competitors. Intriguingly, like other liberalised network industries, the express services market has experienced vast consolidation and a number of strategic alliances have occurred. As postal markets are further liberalised this trend may continue. Like the electricity industry, the European postal industry may be fiercely competed by a few large pan-European integrated postal firms. However, for liberalisation to have its full benefits realised, postal markets must be carefully regulated, so that there are no barrier to competition.

9 Liberalisation Options and Impacts

This section discusses a number of points that appear to be of major importance for policy decisions for the Norwegian government on further liberalisation of the postal market. We discuss the EC liberalisation context, and the tools for enhancing competition in the context of liberalisation, what they might be, and how they might be implemented. Next, we discuss the impact and consequences of liberalisation on various stakeholders.

9.1 The EC liberalisation framework

As part of our study, we are considering how any recommendations might fit within the standards inherent in the EC postal liberalisation directives, in the event that Norway chooses to maintain consistency with this model.

However, maintaining consistency with the EC model would not only require adherence to the standards of the directives. It has to be noted that the standards of the directives are minimum standards in a double sense. Liberalisation can go beyond the minimum requirements of the directive, as it is the case in Sweden, but beyond the Directive, the primary law gives member states the additional option to reserve services under specific conditions necessary for the performance of public services. So far, there has been no conflict between secondary liberalisation rules and national market reservations on the basis of this (Art. 86 Para 2 EC).

The European Court of First Instance has held that secondary liberalisation rules have to be compatible with the primary law standards of Art. 86 Para 2 EC. This means that liberalisation rules might not lead to economic conditions that make it impossible to economically perform universal services as they have been defined by the national authorities in accordance with EC law.

If there is a strong national tendency for the conservation of a high USO-level, the creation of competitive structures may lead to a situation in which it would be impossible to perform the universal service under economically acceptable conditions.

Finally, it should be noted, that full liberalisation of postal markets by 2009 is a goal shared by quite a number of EU-member states, but the final decision will be taken by the enlarged EU and will have to take the position of the new member states into account.

9.2 Discussion of some Policy Options

Policy decisions for Norway surrounding postal market liberalisation involve balancing the need to fund the USO versus the need to limit monopoly power.

Tariff rebalancing

In postal networks and other network industries in the EU and elsewhere, liberalisation is occurring at various speeds. One of the objectives of the liberalisation policies has been achieving greater economic efficiency. Economic efficiency involves a number of types of efficiency, including *allocative efficiency*, or the efficiency that is achieved when prices equal marginal costs. Achieving allocative efficiency has frequently required tariff rebalancing.

The structure of network industry pricing in postal services, has in a number of instances involved cross-subsidies from large users to small users⁴⁹. Thus, liberalisation has required tariff rebalancing in many instances, as tariffs are reduced for large users (reflective of their lower marginal costs) while tariffs have been raised for small users (again, usually reflective of higher costs).

Tariff rebalancing may be incongruous with goals or legal requirements of the USO in postal services. Nonetheless, options for policy could involve tariff rebalancing. It is noteworthy that several private providers of mail services, such as UPS and FedEx provide essentially universal service in the US and much of Canada, but at differentiated prices. Such options could require large senders to pay a surcharge to certain addresses, rather than require senders *from* rural, or high cost addresses to pay a higher cost.

It is noteworthy how tariff rebalancing increases competition. Tariff rebalancing *increases* competition *from* the incumbent for large customers, as the large customers are potentially offered a keener price. To some extent, large customer discounts, and pre-sortation discounts, are already being implemented at Norway Post, as well as at a number of other European incumbent postal operators. Tariff rebalancing increases competition for small customers *from* entrants, who do not find the price of the USO product below true cost for these customers.

Access rules and pricing

In order to avoid liberalisation results where only very small market shares are achieved by entrants, such as in Sweden and in New Zealand, it might seem necessary to propose the introduction of 'slim' rules, easily granting third-party access to incumbents' essential facilities. The German experience is interesting in this respect. Practical problems arise in particular, because

⁴⁹ See discussion in Crew and Kleindorfer (2002).

the judicial procedures to review the decisions of the regulatory authority granting third-party access takes significant time and resources. On a case-by-case procedure, third-party access is granted very effectively, but the financial conditions remain in question until judicial proceedings have come to an end.

In the case of UK, as part of the postal liberalisation process Postcomm has initiated the process of downstream access to Royal Mail postal network. Postcomm published its proposal in mid 2003, requesting comments from the stakeholders and various industry groups, by September 2002. Royal Mail welcomed Postcomm initiative but was highly critical of Postcomm proposal of opening the downstream postal services to competition by proposing an access price of just 11.45p, which Royal Mail claimed was much lower than the cost of the service, of 12.7p.⁵⁰ Royal Mail also did not agree with Postcomm's use of an access pricing methodology based on cost-plus, which Royal Mail recommended should be a retail-minus. Royal Mail also claimed that proposed access price to their network was going to be highly detrimental to its future revenue base, with £650m decline in profit over the next three years⁵¹. In addition to this, most of the responses from the industry group also requested that Postcomm should further investigate the claims made by Royal Mail before they make a final determination on the access price, including Postwatch, the consumer watchdog association.

Incentive or performance-based regulation

Another area that merits discussion at this stage as a means to potentially either enhance competition or improve efficiency is to move away from more traditional means of postal price setting toward a more performance-based or price-cap style approach. To what extent this might contribute to competition is due to a number of legal, political and administrative conditions. While a full examination of price-cap regulation and its application to the Postal Market liberalisation in Norway is outside the scope of the current study, nonetheless, this is an important element for consideration.

Price-caps are seen as one of the means by which efficiency gains are to be extracted out of portions of network industry that are not amenable to competition or where a competitive framework is to be put into place until workable competition can be achieved. Price-caps have been successfully employed in the UK, the US, Canada, Australia and other jurisdictions for almost all network industry. Price-cap style regulation has been notably absent, however, from postal price setting.

The absence of price-cap style regulation from postal price setting is most likely due to a number of factors. First, price-cap regulation is often about

⁵⁰ Royal presentation to Postcomm, 12 September 2003.

⁵¹ Royal Mail response, August 2003.

balancing incentives for efficiency improvement, and in spite of the benefits of this, traditionally state-owned enterprise has been less keen for efficiency improvements. Similarly, network industries with growing demands and output have typically been reasonably assured of efficiency improvements, partly due to economies of scale and scope. While economies of scale and scope likely exist in post, the expected pattern of demand may be negative, thus *increasing* unit cost. This could make incentive regulation more difficult to start. We nonetheless feel that some further investigation of the efficiency potential for post and the possibilities of implementing some sort of price-cap style regulation would be fruitful at this time.

9.3 Discussion of impacts and consequences of postal liberalisation

In this section, we discuss the impact and consequences of postal liberalisation across various groups.

Impact on consumers

The promotion of effective competition in the postal services can be expected to offer a range of impacts on consumers in Norway.

In analysing likely effects on consumers, it is useful to consider the distribution of expenditures on post by households. The table below shows the distribution of household expenditures in Norway. As is demonstrated by the table, expenditures on postal service represent a very small portion of total household expenditures, about 0.1%. The average total expenditure is about NOK 290,000. Very roughly speaking then, if stamp prices were to rise say, 10%, then this would represent about a NOK 29 increase on average to households.

Table 9-1: Norway 1999-2001 HHBS Expenditure distribution

01 Food and non-alcoholic beverages	11.4%
02 Alcoholic beverages and tobacco	2.9%
03 Clothing and footwear	5.9%
04 Housing, water, electricity, gas and other fuels	25.1%
05 Furnishings, household equipment and routine maintenance	6.6%
06 Health	2.9%
07 Transport	19.5%
08 Communication	2.2%
081 Postal services	0.1%
082 Telephone and telefax equipment	0.2%
083 Telephone and telefax services	1.9%
09 Recreation and culture	12.5%
10 Education	0.3%
11 Restaurants and hotels	4.0%
12 Miscellaneous goods and services	6.6%

Source: Statistics Norway, London Economics calculations

We also obtained data on the distribution of postal expenditures across regions in Norway. From the table below, it is evident that expenditures on post in Norway vary somewhat, particularly by region. The most rural and the most urban regions spend the most on post, spending about 25% more than the average.

Table 9-2: Regional Distribution of Postal Expenditures

Commodity and service group	All households ⁵²	Oslo and Akershus	Hedmark and Oppland	Sørøstlandet	Agder and Rogaland	Vestlandet	Trøndelag	Northern Norway
081 Postal services	204	256	163	175	194	185	153	251
Postal services	0.07%	0.09%	0.06%	0.06%	0.07%	0.06%	0.05%	0.09%
By density		Sparsely populated	Dense areas	Oslo, Bergen and Trondheim				
081 Postal services		227	195	202				
Postal services		0.08%	0.07%	0.07%				

Source: London Economics calculations, Statistics Norway data

The table also shows the breakdown of postal services expenditures by households' location in dense or non-densely populated area. Expenditures are fairly flat by this measure, with only a 0.01% difference across the three population density categories.

Consumer impacts may arise through a range of channels, including potential changes in service levels. One policy option for reducing the burden of the USO is to reduce either the minimum service levels defined by Norway's USO or to allow differential service levels across different types of users. It is of note that the Norwegian service standards exceed the current EU minimum standards and also exceed the standards in many EU countries (e.g., six day per week delivery).

Service level options that could be changed include:

- Delivery speed for either economy or priority
- Allowing delivery speed derogations during seasonal peaks, say Christmas time.
- Number of days per week delivery occurs
- Location where mail is dropped at the premises
- Location where mail is picked up from the premises

⁵² The difference between this number and the previous table is due to rounding error.

- Location of nearest post office/service centre
- Delivery surety i.e., percentage mail delivered
- Other value-added services:
 - Tracking
 - Signature
 - Registered

We believe that changes in service quality standards could be a significant and, potentially, cost minimising approach to liberalisation and to reducing the burden of the USO on Norway Post. For example, current thinking is that the number of items per delivery stop is one of the main sources of scale economies in the postal system. This would suggest that the *required* number of days could be reduced, with significant impact on costs, i.e., costly routes could be travelled with a greater throughput. The impact of this on consumers might be relatively small. Alternative service arrangements could be offered in exchange for a reduced delivery schedule, as well, such as simultaneous pick-up from the household, or delivery to the doorstep.

Innovative approaches could be developed, and these could flow from either the Ministry or from Norway Post or suggestions from consultants.

Innovation may form one of the benefits of liberalisation. Consider, for example, the possibility of seasonal derogations or changes in quality standards. It is well known for many other EU postal operators that the Christmas period represents a huge peak delivery period problem, as capacity simply strains to meet demand; summer volumes are, however, often very low. One option would be to allow say, 4 day delivery in summer months, 5 day delivery in spring and autumn, and 6 or even 7 day delivery around Christmas. Similarly, quality standards for certain products at Christmas could be relaxed, as long as consumers were aware that they should allow an extra day to delivery such products around Christmas.

It is also important to recognise that some changes in service levels have already either been implemented by Norway Post, or are in the process of implementation. These include enhanced delivery to the doorway or premises of households, as opposed to mailbox banks, and addition of other services. While this could be looked on as a means of *increasing the cost of the USO*, it is also important to recognise that liberalisation policy could set minimum standards, and then if competitive forces compel operators to exceed them, then this would achieve enhanced economic efficiency, as the market would decide the proper level of service for the given prices.

It is also important to mention that while the need and regulatory rationale for service standards is usually associated with the USO, regulation of service standards has an economic rationale as long as the regulated incumbent has monopoly power and faces regulated prices.

The next area of impacts and options involves prices. This includes:

- Lower prices for a range of customers, particularly business users: This will lower businesses' operating costs generally, thus increasing the competitiveness of the business sector. It should also help export competitiveness, and increase economic growth on the whole.
- Possibility of some higher prices: Prices on the whole may have to rise to allow for effective liberalisation. This may seem a bit of anomalous at first, but consider the following schematic table.

Table 9-3: Schematic Table of postal operator Pricing Options

Entry impact	If cross-subsidies exist, cream-skimming can occur								
postal operator status	postal operator profit zero or < 0			postal operator profit >0					
Pricing option	Price rise	Cost reduction	Change USO	Revenue loss exceeds profit			Revenue loss less than profit		
				Price rise	Cost reduction	Change USO	Hold price	Cost reduction	USO sustainable

The table above describes some options for Norway Post. If there is a cross-subsidy that is required by the USO or other law, then cream-skimming can occur with liberalisation. If this happens, then there are only two possibilities for profit: profit less than or equal to zero, or positive profit. If profit is less than or equal to zero, then the need to maintain the financial viability of the post leaves only three options: a price rise, a cost reduction, or some change in the USO. Similarly, if profits are positive, unless the profits are sufficient to cover profit losses from profitable routes, then the same three options hold: a price rise, cost reductions, or some change in the USO. Of course, some blend of the three options could be possible, i.e., cost reductions could make up some of the shortfall, the USO could be slightly modified, and a modest price rise could be implemented.

We have noted before in this section that there is a possibility that promotion of competition could mean some prices would have to increase further improved performance and efficiency for incumbent postal operator. Increased competition should provide a spur to achieving greater efficiency and responsiveness to consumers, with increased consumer choice.

Impact on business

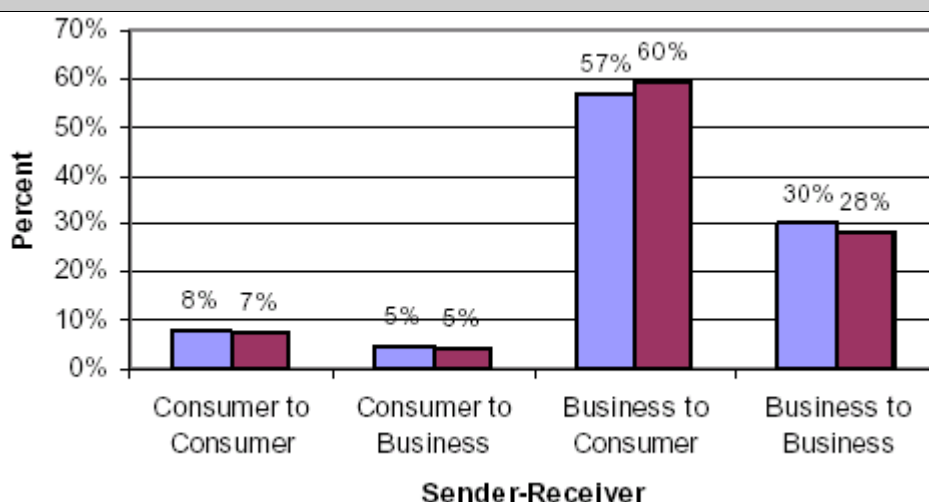
In this section, we examine the effects of liberalisation on households and businesses. Generally, liberalisation is expected to lead to increased competition. The resultant effects might include, falling prices and a greater variety of products.

New operators are likely to compete on price, not initially benefiting from the brand recognition or reputation that the incumbent holds. In addition, one might see product differentiation and the provision of tailor made services to different segments of the market. If the above is true, liberalisation may well confer benefits on households and businesses.

Characteristics of demand

Mail sent from businesses provides the majority of mail volume and revenue in most countries. Figure 9-1 illustrates that mail volume is mostly by businesses; over the period 1995-2000, its share of volumes had increased marginally from 87% to 88%. However, the mail recipient has slightly changed. Mail from business to consumer has increased 3% whilst business-to-business mail has fallen 2%. Consumers (households) accounted for 13% and 12% in 1995 and 2000; the share of mail sent to different recipients has remained roughly constant.

Figure 9-1: Letter-post volume by receiver-sender relationship, 1995-2000



Source: PLS Ramboll (2002)

Businesses are more responsive to price changes than households - this is indicated by higher price elasticity of demand⁵³. Burns *et al.* (2003) follow the work of Cazal and Florens (2002) and Nankervis, Richard, Soteri, Rodriguez (2001) to assign price elasticity of - 0.11 and - 0.44 for households and businesses, respectively.

⁵³ Price elasticity of demand indicates the degree of responsiveness of quantity to a 1% change in price. They are usually reported as a negative number due to the negative slope of the demand curve. The larger the negative value the greater the quantity/volume response to a 1% change in prices.

As business use higher volumes, they are more responsive to price changes and there are economies of scale in delivery, it is most likely that entrants would seek to gain market share of business volumes from the USP. Consequently, one would expect fierce competition for businesses' mail volumes.

Burns *et al.* (2003) note that, following liberalisation many USPs may wish to 'competitively' re-balance tariffs towards costs and eliminate inefficient cross-subsidies (this has occurred in many countries, like Sweden and is currently under consultation in the UK). Based upon the above, we might expect USPs to increase tariffs for the less price elastic and less profitable households and decrease them for the more lucrative business clients.

Effects of price re-balancing for households and business

The potentially detrimental effect that price re-balancing has on households in the UK is the subject of Burns *et al.* (2003). This paper focuses on the direct effects of tariff re-balancing for households and businesses, as well as the indirect effect on households⁵⁴. Using data from the UK Expenditure and Food survey and Input-output tables from the UK Office of National Statistics, they conclude that re-balancing – as a result of liberalisation – does increase postal expenditures for households but it will not be likely to affect them greatly, even for 'relatively large' price increases. This is because postal products account for a low percentage of household expenditure. When the indirect effect is also considered, the negative impact is further reduced. From these results, Burns *et al.* (2003) recommend that policymakers and regulators focus on creating effective sustainable competition in line with the provision of the universal service obligation, and worry less about the distributional impacts on tariff re-balancing.

International evidence

Sweden has been fully liberalised since 10 years, yet Sweden Post has retained about 93% market share. Since 1993, over 30 postal operators have entered the market, but most are local and operate in niche markets.

The most successful competitor, CityMail, offer traditional letter post delivery services, in direct competition with Sweden Post. CityMail competes on price, targeting the business market for delivery of pre-sorted business correspondence with a minimum of 500 items between and within cities in Southern Sweden. To date, CityMail has gained about 30 per cent share of this market. Uniform tariffs for bulk mail has been abandoned, Sweden Post now charges different rates for bulk mail according to geographical area. Geographical differential pricing across regions has become acceptable practice.

⁵⁴ The indirect effect is when households face lower prices for goods purchased as a result of lower costs due to postal price reductions.

Entrants focus on local business mail whilst incumbents look to re-balance tariffs in response to competitive pressure. Furthermore, households now face higher prices, whilst tariffs for businesses have fallen.

The US experience in Figure 9-2 is a summary of pre-sortation and work sharing in the US. Work sharing is at a very advanced stage in the US because this part of the mail network has been liberalised for some time now based on work sharing arrangements between customers and USPS. Work sharing discounts are done in the US on an avoided cost basis, as estimated by the US Postal Rate Commission (PRC). Work sharing is seen as highly efficiency improving, because often there are large economies, i.e., cost savings, if mail can be sorted upstream as it is produced by computerized equipment, rather than being generated, shipped, and then virtually resorted at the post. The impacts on business are likely large. Cohen (2003) of the PRC estimated that the cost to the USPS of 'not' doing work sharing would have been about \$7 billion, or about 10% of the 1999 budget. While not all the \$7 billion was saved by business, it is likely that the savings to business have been substantial, perhaps in the range of \$ 1-3 billion.

Figure 9-2: Savings from Work sharing in the US

Presorted and Barcoded Mail^a

	Volume (billions)	Percent of Total Mail	Cost Savings to the USPS (\$ millions)
First-Class			
Single-Piece	57	28	N/A
Non-barcoded Presort	5	2	43
Barcoded Presort			
Basic	5	3	409
3-Digit	22	11	1,918
5-Digit	12	6	1,248
Carrier Route	1	1	138
Total First-Class	102	51	3,755
Publications			
Basic ^b	1		8
3-Digit	2	1	125
5-Digit	3	2	380
Carrier Route	5	2	923
Total Publications	10	5	1,436
Advertising Mail			
Basic ^b	9	4	272
3/5-Digit	41	20	2,679
Carrier Route	36	18	4,613
Total Advertising Mail	86	42	7,564
Package Services			
Single-Piece			
Barcoded Presort	1		136
Total Package Services	1	1	136
Other Mail	3	1	
Total All Mail	202	100	12,891

a: FY 1999 volumes; cost savings from PRC Docket No. R2000-1.

b: Savings from barcode only.

Source: Cohen testimony to PRC (February 2003)

Norway

Business correspondence accounts for the great majority of revenue and volume. According to Norway Post close to 90% of its revenue from postage comes from businesses and public administration. In addition, a few, large-volume customers make up the majority of the market. SNF (2000) report claims that the 10 biggest priority post customers accounted for 55% of revenue from this service in 1998. The loss of a few large individual clients could therefore have considerable impact on revenue. Business customer demand is already more price elastic, meaning that price will be an important factor in the liberalised market.

Households on the other hand, account for only small volumes. As a proportion of household expenditure, postal services are very small. The average household in Norway spends NOK 204 per year on postal services, or 0.07% of expenditure.⁵⁵

Potential impact of liberalisation on business vs. households

With similar features to the Swedish market we might expect locally focused competition for business volumes by entrants and for Norway Post to attempt to introduce a similar pricing strategy to Sweden Post and eliminate cross-subsidies in favour of more cost reflective pricing (if permitted by the regulator). Potentially, households may face price rises to maintain USP revenues, though this is not likely to greatly impact their overall welfare and should not be a major policy concern.

Impact on Norway Post

We have already extensively discussed in the quantitative models the impact of postal liberalisation on Norway Post in Section 6 and Section 7.

As discussed, the size of the impacts will depend on the size, degree, speed, and type of entry. We have provided estimates of impact on profits due to variation in cost under the liberalisation scenarios. Also, there is the possibility, that, although revenues are lost, Norway Post may still prefer to provide the USO, as there are likely to be cross product benefits from operation of the USO, as was showed by London Economics in our report to Postwatch (London Economics 2002), which showed a modest net benefit to Royal Mail from the operation of the USO. Likewise, other operators such as UPS in the United States effectively *prefer* to provide universal service, although with some price differentiation.

Impact for other postal operators

Impacts from liberalisation on other operators can be assessed in a variety of ways. From our market survey information (in Section 5), naturally other operators support the idea of full or accelerated liberalisation.

We concluded that significant financial pressures on Norway Post may occur even with the current liberalisation programme; this is because a relatively small number of high margin products account for very large portions of Norway Post's profits/covering of fixed costs. These were primarily domestic letters in the 350-1000g range, where prices were 55 NOK for standard stamped products. We thus concluded (see Section 6 and Section 7) that incremental improvements in liberalisation might have a smaller impact on Norway Post, as these products already have low margins, and are likely to be less attractive to entrants.

⁵⁵ SSB – Norway Statistics

Incrementally increasing or accelerating liberalisation might have significant impacts on new or potential entrants, in spite of the fact that we expect this to have a smaller relative impact on Norway Post. This is because of several reasons. For one, Norway Post could reduce prices rapidly on certain products, thus effectively blocking entry. The impact on Norway Post might be large. Second, there may be different cost structures at different operators. Thus, it may be that economies of scale are exhausted for large operators like the incumbent, but it may be that economies of scale are still present for entrants of a certain size. Therefore, additional increments of liberalisation might allow economies of scale for more profitable entry, whereas the relative cost impacts on the incumbent might be lower.

There is limited data available on liberalisation and other operators. Part of the reason is that liberalised countries often do not provide data to the UPU. We present some selected country data from the UPU database, and discuss the outcomes below in Table 9-4.

Table 9-4: Other operators in selected countries

	Germany	ND	UK	Iceland	USA	Norway
There are other postal operators active in the letter-post sector (1=yes, 0=no)	1	1	1	1	0	1
Number of other postal operators in the letter-post sector	3	3	1	1	0	3
There are other postal operators active in the parcel-post sector (1=yes, 0=no)	1	1	1	1	1	1
Number of other postal operators in the parcel-post sector	3	2	3	1	2	3
Partnership agreements have been signed with international private couriers for ordinary mail (1=yes, 0=no)	na	1	1	0	0	0
Partnership agreements have been signed with international private couriers for express mail (1=yes, 0=no)	na	1	1	1	1	0

Source: London Economics/UPU data

From the table it is interesting that there seem to be a number of other operators already present in the letter post sector in Germany, the Netherlands, and Norway. This is perhaps surprising because there is limited competition in letter post in these countries. Conversely, there are no operators in letter post in the USA. This is partially a definition of the sector. In the USA, the monopoly on final delivery of letter post is still legally airtight. However, large amounts of upstream pre-sortation occur, with up to 25-35% of mail receiving some amount of upstream work sharing done by companies other than the USPS. As well, the USPS monopoly is only for letter post below \$2; so by these standards, what many are likely calling

competition in letter post in the EU/EEA, is classified as 'outside' letter post in the USA.

It seems that Norway, at least in terms of numbers from the UPU, has more operators present in a number of sectors, than countries like the Netherlands and the USA – all of whom might otherwise be presumed to be ahead of Norway in terms of Postal liberalisation. Norway has more operators in letter post than the UK, and more operators in parcel post than the Netherlands.

Impact on rural areas

Rural area impacts are naturally an area of concern in such a study. The options for rural areas need not engender price rises. One option is say, reduction of the number of deliveries per week. It is clear that some countries allow less than 6 day/week delivery in rural areas (see Table 9-5).

Table 9-5: Rural Postal Deliveries Per Week – Selected Countries

Country	Day/Week
Austria	5
Belgium	5
Canada	5
Denmark	6
Finland (1998)	5
Germany	6
Iceland	4
Ireland	5
Norway	6
Sweden (1996)	5
USA	6

Source: London Economics analysis – UPU data

It is interesting to consider how reductions in service quality, in terms of their cost to the local users can be quantified against the cost savings to the postal operators. London Economics has undertaken such work recently. In a recent study in a European country London Economics analysed the production and volume impacts on quality⁵⁶ and differentiate out the effects

⁵⁶ Swinand, Gregory, (2003) paper had its genesis in a much larger body of research that London Economics has done for An Post.

between the urban mail sorting facilities and rural (Provincial) facilities. The results of the survey work showed that it was in fact *urban* users who were more likely to be opposed to changes in service quality.

An important area of analysis in terms of rural areas will be specifying quantity impacts from liberalisation; will services as a whole, or service quality change, or have to change to remain sustainable? The assumptions made here will be based on the estimated costs of provision of these services. The level of analysis will depend on the level of detail for the network and the delivery services provided by Norway Post.

It is useful to review the population statistics and distribution of Norway. The data presented in the table below are from Statistics Norway.

Table 9-6: Population distribution in Norway

Size class. Population	Number of urban settlements	Population	Residents per km ²	Total urban settlement area	% of Population
The whole country	929	3,474,623	1,584	2193	100%
200-499	353	119,113	721	165	3%
500-999	226	155,722	839	184	4%
1 000-1 999	143	199,165	1,000	202	6%
2 000-19 999	188	981,591	1,352	730	28%
20 000-99 999	15	716,234	1,716	421	21%
> 100,000	4	1,302,798	2,653	491	37%

Source: Statistics Norway

From the table, perhaps a few observations emerge as notable. First, it appears a logical grouping would break Norway into three groups, Large urban, or inhabitants of cities >100,000 inhabitants (37%), and then sub-urban or town dwellers, in the next two size categories, on down to 2000 town inhabitants. Notice that the *density* of these town dwellers is still fairly high with roughly 1,300 to 1,700 inhabitants per sq. Km. These two categories make up 49% of the population. Thus, 86.4% of the population lives in urban, suburban or towns; the remaining population of 13% thus lives in small towns or rural areas.

As an example, if we consider Norway's cost of the USO in light of these data, assuming that all of the three most rural categories represent money losing routes under the USO. It is not obvious whether this tells us anything about the cost of the USO relative to total costs. If all other unit costs were the same, with USO route costs 20% higher, then this would estimate that the USO adds about 2.6% onto the total cost bill of the incumbent postal operator. Next,

consider that perhaps, an additional 12% of routes, or 25% of total routes would be money losing, and USO cost represented a 30% premium (very large), then USO costs would represent 7.5% of total costs. This means that, all else equal, other revenues from other sources must be about 2.5% to 7.5% greater than they otherwise would be, in the absence of the USO.

While these estimates are approximations, they serve as opening points for further research. These estimates suggest that if the USO is primarily associated with rural residential delivery, then even if they represent a large premium on deliver costs, then the USO will not be more than 10% of total costs.

In regard to Svalbard and Spitsbergen and the other Islands in these northern territories it should be noted that in the UK Postcomm has recently granted certain derogations to Royal Mail with regard to their USO requirements for several remote islands and areas of Northern Scotland, and the environs. (We understand there are appropriate 1,500⁵⁷, inhabitants at Svalbard).

London Economics has developed advanced models of rural delivery costs and economics. We estimated the cost savings impacts of changes in levels of service to rural addresses in some EU countries based on changes to the location of letterboxes to the edge of the premises. We also incorporated things such as average walking speed for rural and urban letter carriers, customer density, and 'hit rates' for different routes, where the hit rate is the probability the postman will have to stop at any particular address along the route. In addition, we incorporated estimates of changes in demand based on changes in service quality and willingness to pay for maintaining the same service levels. These models were based on detailed quantitative analysis of consumer surveys. We present some of the size distribution data to demonstrate how estimates of the cost of the USO, or the cost savings from service quality changes, might be sensitive to the size distribution of important factors such as driveway distances.

The following table indicates some interesting data, it shows that the distribution of driveway distances is by far skewed towards shorter distances. There also seems to be little difference in the distances by urban rural split, or by type of road split. The implications of this are that the cost of the USO is less likely to be all identified with say, rural users.

⁵⁷ http://www.svalbard.com/SvalbardFAQ.html#how_many

Table 9-7: Distribution of Driveway Distances in an EU Country Facing Postal Reform

Delivery Points -	Urban	Rural	Total
Main roads			
Distance (mtr.)			
10 - 15 (50% of 10-20)	16%	22%	39%
15 - 20 (50% of 10-20)	16%	22%	39%
20 - 30	5%	10%	15%
> 30	3%	5%	8%
TOTAL	40%	60%	100%
Cul-de sacs and private roads			
Distance (mtr.)	Urban	Rural	Total
<10	33%	41%	74%
10 - 15 (50% of 10-20)	3%	6%	8%
15 - 20 (50% of 10-20)	3%	6%	8%
20 - 30	1%	6%	7%
> 30	0%	2%	3%
TOTAL	40%	60%	100%

Source: London Economics confidential

The effect of liberalisation on rural postal services

The existence of post offices in rural and deprived urban areas allows the most vulnerable customers (e.g. disabled and the elderly) to have easy access to postal services. In the UK, private individuals, Sub Postmasters, run 97% of post offices. Often they provide postal services in conjunction with some other retail business and operate on low profit margins⁵⁸. The national federation of Sub Postmasters (NFSP) note that many of these

⁵⁸ National Federation of SubPostmasters (2000)

businesses are crucial to sustaining the vitality and viability of communities' and their closure may lead to greater isolation for vulnerable consumers. Many post offices have been forced to close over the past 20 years or so, NFSP report that additional pressures on profits margins may force more to close. Nonetheless, they do support the overall move towards a liberalised postal service, albeit a gradual one.

A study for Postwatch (2002), evaluates the effects of closure of postal offices on rural communities. They found that different characteristics of postal users were key determinants of the effects closure of a local post office had on them. People without transport were most likely to be affected by the closure of rural post offices; other vulnerable groups included the disabled, the elderly, the retired and those from the lower social classes (see Table 9-8). The use of postal offices by inhabitants not falling into the vulnerable categories tended to fit in around their lifestyle i.e. trips to the post office were combined with other trips like shopping etc.

Table 9-8: Index of vulnerability for the most affected groups

Group	Index
Those with no transport	1.83 times more likely to be affected
Disabled and mobility affected	1.58 times more likely to be affected
Elderly (75+)	1.56 times more likely to be affected
Retired	1.28 times more likely to be affected
Lower Social Class (C2DE)	1.14 times more likely to be affected

Source: Triangle, HI Europe (November 2002)

The other major finding of the study is that a post office gives independence to rural inhabitants and is social centre/meeting place for a rural community. Over 50% of respondents used it to read community messages and felt that it was 'essential to their way of life'. They found that the presence of post office strongly contributed to 'community spirit'.

Patricia Hewitt (Head of the DTI) supports this view of rural post offices, "Post offices play a vital role in many rural communities. They are much more than simply providers of mail services. In many places the post office is also the village shop, the local community centre, the business exchange and the bank." In December 2002, the Department for Trade and Industry (DTI) announced it was going to invest £450 million to keep open many rural post offices⁵⁹.

⁵⁹ Source: http://www.dti.gov.uk/postalservices/2_dec_2002.htm

The closure of postal offices presents a challenge to USPs and rural inhabitants to innovate a financially sustainable postal service. In some small rural communities, inhabitants running the post offices businesses co-operatively have kept these facilities open, other suggestions such as a mobile post office and a doorstep replacement service have been welcomed in the UK⁶⁰ and have been successfully implemented in fully liberalised Sweden⁶¹.

One of the major reasons rural post offices' faces increasing closure pressures post-liberalisation is the erosion of the cost subsidy provided by urban areas to rural areas. This occurs because 'cherry-picking' entrants undercut the incumbent and serve the most profitable urban routes. However, in his testimony to the President's Commission on the Postal Service, Cohen (February 2003) reports that this cross-subsidy does not exist in the US. He reports that the proportion of unprofitable routes for urban and rural⁶² is about the same, and it is volumes rather than density or urban characteristics that are the major determinants of profitability for delivery routes.

Table 9-9 further backs this assertion. It shows that degree of liberalisation is not directly related to the population density. Some countries with low population density, such as Finland and Sweden, have fully liberalised postal markets, whereas others, such as Norway and Australia, are more cautious about liberalisation. Similarly, for high-density countries, the Netherlands and Germany are at advanced levels of liberalisation, whereas Belgium and the UK have not ventured much further than the EU directive. Indeed, in our review of the direct mail industry we saw that the value extracted from volumes was closely related to the combination of volumes per capita and the extent of liberalisation.

Table 9-9: Liberalisation and population density

	USA	Norway	UK	Sweden	Australia	Finland	Neth's	Belgium
Population Density	30	14	240	20	3	15	389	336
Liberalisation Status	advanced upstream and courier	EU	+EU	Full	Some	Full	EU++	EU

In summary, it seems that the closure of postal office in rural areas has detrimental effects to the surrounding communities. A combination of

⁶⁰ PostComm (April 2002)

⁶¹ Lundgren (2002)

⁶² Unlike some European countries rural delivery points are placed on the edge of the road on the main delivery route, this is similar to the requirements of the Norwegian USO in this way.

determination of local inhabitants, innovation on behalf of postal operators and gradual liberalisation should enable these communities to enjoy the benefits of local postal services. In fact, the evidence suggests that it is only those communities with large numbers of 'vulnerable' consumer groups that are adversely affected – this might hold for rural or even some deprived urban areas.

Whether liberalisation causes post offices to close *per se* is debatable. Rural post offices have been closing for many years in the UK and Ireland and may continue to do so – but not necessarily due to liberalisation. Should liberalisation cause the USPs' revenue to fall then this, in turn, might squeeze already tight profit margins and speed up the process. However, there is evidence indicating that liberalisation is not directly related to population density. Rather, the decision to liberalise appears to be governed by many idiosyncratic factors.

The evidence from the US suggests that high volume routes exist both in rural and urban areas and are profitable due to this feature. The delivery conditions of the USO will affect this judgement. For example, roadside delivery tends to be less expensive than door-to-door delivery. In many EU countries, roadside delivery is commonplace.

It is low volume routes in both urban and rural areas, that are cross-subsidised by high volume routes, rather than urban routes financing rural routes in many countries.

The challenge presented to the USPs by liberalisation is not how to maintain quality rural services but to maintain quality services on low volume routes in both rural and urban areas. Novel ideas such a satellite service, or mobile postal office appear to be welcome in the UK and have even been implemented fully in Sweden. Such innovations are the result of market pressures and might save USPs money with little detriment to even the most vulnerable consumers.

Consequence for geographically uniform tariffs

The sustainability issue of certain USO services under liberalisation is of fundamental importance to any study of postal liberalisation. We have described some of the basic starting points for our discussion in the background to this section. One of the starting points was that the USO was a binding constraint.

A number of points are worth bearing in mind.

- As there is a variety of options for funding the USO independent of imposing non-uniform tariffs, the consequences for uniform tariffs are not necessarily significant. In other words, the USO can be wholly funded while maintaining uniform stamp prices.

Therefore, the consequences for stamp prices depend on the other options pursued.⁶³

- There is a variety of options within the category of pricing. For example, basic stamped mail prices could be kept geographically uniform, while tariffs *paid by bulk mailers* could be altered to charge a higher tariff for mail dropped with the postal operator *destined* for high cost routes.
- To a certain extent, price variation and liberalisation is already occurring. Norway Post has zone 1 and zone 2 tariffs for direct mail that is unaddressed. There are also substantial discounts to large or bulk mailers, reflecting the fact that there are lower costs associated with these products, but also reflecting the possibility of competition on these sub-markets.
- Part of the programme for liberalisation could include only the minimum of limits on Norway Post, for example, Norway Post could be given the *option to either* keep stamp prices uniform *and* maintain the USO and some reserved area, *or* to allow stamp price differentials, allow the USO to change, *but* then eliminate reserved areas.
- A final consequence could be that market forces would be allowed to set geographical price differentiation on certain products. For example, this is the case for parcel services and express mail services in the USA and Canada—i.e., Parcel service companies such as United Parcel Service (UPS) provide universal service to the USA and Canada, but small variations in prices by region. Just because the Ministry might allow Norway Post to set non-uniform tariffs on some products, does not mean that the resulting differentials will be wide.

Consequences for Government purchases of universal services that are commercially unprofitable

The fact that the Government compensates Norway Post for essentially what are Norway Post's estimates of the USO cost on a net avoided cost basis, makes Norway an interestingly unique⁶⁴ country when it faces the prospect of liberalisation.

⁶³ Although under stringent assumptions, such as no productivity growth by the incumbent, there is the possibility that no uniform tariff exists that can keep the post office financially viable. See Crew and Kleindorfer (2001). Even under this scenario, other factors such as maintaining a minimum reserved area or allowing changes in service levels could be enacted to ensure the viability of the postal operator and uniform tariffs.

⁶⁴ Evidently, Correos of Spain is also compensated by the Government for the cost of the USO, but the exact extent of this compensation and the method of USO cost calculation is unknown to London Economics at this time. Part of the reason for this is that this compensation for Correos only started

Liberalisation involves the possibility of cream-skimming, while at the same time the incumbent postal operators has its hands tied due to uniform tariff and quality standards, and the USO. At the same time, balance must be maintained to allow entry on markets that are potentially competitive.

When the USO is funded separately by the Government, however, then this balancing becomes less critical. The reason is that the USO is usually considered to be a fixed cost⁶⁵. That is to say, that the vast majority of costs associated with the USO do not vary with volume. This is only logical, as pure USO costs involve delivering to addresses that one would not otherwise go to. Thus the USP cannot expect to claim that they are going to incur 'higher' USO costs, as market share is lost on some markets – if anything USO costs will fall slightly, as some USO cost components may be variable and not fixed and so fall as volume falls. However, these components are likely to be relatively small, assuming a fixed USO cost is in general believed to be a good approximation.

If the USO cost is in general fixed with respect to volume, then it follows logically that the cost of the USO is *not* dependent on the status of liberalisation, degree of entry or the reserved area. It then follows that there is no *necessary* impact on the size of the Government purchase from liberalisation or accelerated liberalisation.

In some sense, the fixed cost nature of the USO likely is or has been the economic rationale behind such a purchase – it avoids distorting the product market. By avoiding such distortions in the pricing structure, then the current pricing structure is closer to the competitive or efficient pricing structure. Thus, the possibility of excessive cream-skimming and inefficient entry is reduced.

Notice that the estimated fixed nature of the total cost of the USO, and the estimate that then the Government purchase need not increase, is not to say that cream-skimming is not likely to occur – because the fixed tariff structure means that some areas are still likely to be cross-subsidised by others based on cost. It is, however, to say that (assuming the USO cost estimates are accurate) inefficient entry is unlikely to occur, because the total tariffs are not necessarily too high (needed to fund the USO).

The reason the postal operators may still be vulnerable is that it may be covering large proportions of other fixed costs with certain products. These fixed costs may not necessarily be attributable to any particular product (but these are the fixed costs by definition *not* associated with the USO). Therefore, the margins on some products may be rather high relative to variable costs, and it is via these margins that the incumbent covers its fixed costs. If an entrant with lower fixed costs can enter on these product markets, then the incumbent will suffer because they will either have to lower prices or

with a law passed in 2001.

⁶⁵ See Crew and Kleindorfer 2001, 2002

lose market share on these particular high margin products. However, notice that we have assumed that these fixed costs are not particularly USO costs, as these are paid for separately. Here, then, the threat of entry is what puts efficient pressure on the incumbent to reduce costs in general or lose money or market share.

Finally, it should be noted that there is also a risk here, if the size of the USO is underestimated. If the size of the USO is overestimated, then the USP simply gets some subsidy that they do not deserve. However, if the USO size is underestimated, then there is a risk because there are USO costs imbedded in the cost structure that are not compensated for by the Government purchase.

Economies of scale and barriers to entry

There are two important levels of analysis for economies of scale and scope in the postal sector in Norway. One is the impact on scale and scope economies from liberalisation. If liberalisation is to occur *de facto*, then there necessarily must be some switching from Norway Post to alternative carriers (business stealing effect), along with some expansion of quantity demanded (movement along the demand curve) as prices are reduced (market expansion effect) – i.e., customers buy a bit more when prices fall.

However, in general, we conclude that the major concern of scale economies lies not with the impact on scale economies with the incumbent due to loss of market share. This is because for the most part any existing scale economies for the incumbent are likely to be slight, and for the most part incumbents operations are expected to be constant returns to scale. If there were large-scale economies in post in general at the incumbent size, then one would expect to find costs related to size say, internationally. This is not in general the case, with for example, New Zealand having both the lowest costs and the lowest prices internationally. Therefore, the focus of our discussion of scale economies lies with the minimum efficient scale needed for entrants.

Whether entrants can capture enough of the market to realise a minimum efficient scale is another question. Norway Post is assumed to have some economies of scale and scope within its delivery network, but much of the large-scale sorting centres are assumed to operate under constant returns. However, just because Norway Post has exhausted its economies of scale does not mean that a new entrant will not face a situation where it fails to obtain minimum efficient scale.

Part of the evidence on economies of scale in postal services comes from the large body of international research on the subject. The following table, reproduced from London Economics' report to Postwatch in the UK, details and summarises some of that research.

The results of the table present a broadly uniform theme: economies of scale in post are moderate to nil upstream, there are constant returns midstream, and that economies of scale are significant in delivery.

Table 9-10: Economies of scale research

Author(s)	Focus of Study	Results
Gupta and Gupta (1985)	Entire US Postal Service	Postal operations exhibit diseconomies of scale but postal technology exhibits economies of scope.
Estrin and De Meza (1990)	Entire UK postal service	Tabor (1987) Letters business (UK) Substantial economies of scale in the letters business.
Panzar (1991)	Substantial economies of scale in the letters business	Letters business (US) Demonstrates that economies of scale in delivery are sufficient to give rise to overall scale economies
Tabor (1991)	Letters business (UK)	Moderate economies of scale in collection, low economies of scale in sorting and high economies of scale in delivery
Waterson (1992)	Letters business (UK)	Royal Mail is not a natural monopoly when not restricted to universal service
Christensen et al (1993)	All postal products of the US Postal Service	Constant returns to scale in the USPS for letters, parcels and packages. They found a 0.788 cost elasticity for volume-related workload and a 0.212 cost elasticity for delivery points
Rogerson and Takis (1993)	All postal products of the US Postal Service	Economies of scale and scope in the delivery of most postal products, although these economies are weak for large parcels and express mail. Long-haul transportation and mail processing do not exhibit strong economies of scale for most postal products.
Bradley and Baron (1993)	"Operating efficiency" of USPS	Operating efficiency improves with volume (implying economies of scale)
Aligon, et. al. (1998)	Sorting (France)	Overall cost elasticity of 0.89, comprising a cost elasticity of 0.69 on first class mail and 0.20 on second class mail.
Bradley and Colvin (1999)	Sorting (USPS)	Returns to scale in the range of 1.3-1.7 in sorting
Cohen and Chu (1997)	Delivery (USPS)	Important economies of scale in mail delivery.

Source: London Economics, Postwatch report

The main source of scale economies in the postal sector for entrants will be related to sunk costs associated with sorting equipment. Economic research⁶⁶ has showed that costs that are sunk are the most likely impediments to investment. General equipment such as buildings and vehicles will not have entirely sunk costs, and can be leased, for example. For example, the technology of advanced optical character read and video sorting machines is fairly uniform internationally. Only a few companies, such as Pitney-Bowes or Siemens make such machines, so their capacities can be ascertained internationally with a fair degree of certainty.

⁶⁶ See Dixit, A., and R. Pindyck, (1996).

The top of the range letter sorting machines sort between 20,000 to 40,000 items per hour. The new Pitney Bowes Mailcode Olympus II MT sorts outgoing mail at a rate of 36,000 items per hour⁶⁷. From this, combined with our study of mail volumes at Norway Post, we can begin to make judgements about the minimum efficient scale of entry, while the Olympus I MT sorts up to 24,000 items per hour.

In other confidential project work, London Economics has estimated the cost of setting up a fully automated line with a modern integrated mail processor (IMP) along with the other costs. An IMP that sorts more than 20,000 items per hour is likely to cost about €1 million. Additional outfitting costs, labour costs, and land and rental costs could total between €1-2 million per annum. Therefore, a low estimate of required revenues for an efficient carrier to enter is probably in the €1-2 million range, or about NOK 8-24 million. Additional costs of setting up the company could be on the order of NOK 10-50 million. Thus, we conclude that the costs of entry of sufficient scale likely lie in the range of NOK 18 to 74 million.

To investigate whether this is possible, consider some of the major product categories where entry may be possible. Consider first, currently liberalised 350-1000g domestic mail. This category has very high margins (priority), and significant volumes. The total revenue from this category is about NOK 498 million in 2002, according to the Norway Post accounts data. Market share loss in fully liberalised countries has been approximately 5%. We presume that Norway Post would rather cut price than lose market share. Nonetheless, with 5% market share, the entrant would have captured significant revenues. 5% of this market represents about NOK 24 million. Thus, without set-up costs, an entrant may have enough scale to enter.

The problem of set up costs makes the predictability of entry more difficult however. Set up costs could possibly raise the price of entry as high as NOK 74 million. Consider now the possibility of an additional liberalisation of 100-350g mail. The total value of this for only domestic priority stamped, sorted and franked mail is NOK 583 million. 5% of this market represents an additional NOK 29 million. Thus, the prospects of entry with this weight step added are much better, as entrants now have a portion of higher value-added mail with more than double the revenues, and almost 3 times the volumes. The annual capacity of the sorting machine is likely to be in excess of 50m pieces. The total mail volumes for 100-1000g in Norway was 37 million pieces. It is not clear, however, how much slower the sorting would go with the bulkier items of this class of mails. Some of these heavier items will be easily machine sorted, while some will be not be machine sortable. This is perhaps then a source of inefficiency in the pricing structure at Norway Post. In other words, machine sortable prices should reflect the lower cost while non-machineable products should be priced higher. It may be the case that there is a cross-subsidy from machineable items to non-machinable items. It

⁶⁷ See www.pb.com.

is likely, in some cases, that if prices were higher for these latter items, then one could see significant entry in a few areas. Concerns such as this have led Postcomm, for example, to ask Royal Mail to introduce format based pricing⁶⁸.

Part of the story with economies of scale comes from end-to-end delivery. The economies of scale associated with fixed set up costs are estimated to be exhausted at a fairly low level of output relative to the market. This means that sortation and other functions are likely to be constant returns to scale after modest market share gains. This points to robust entry possibility on certain parts of the value chain. End-to-end delivery, however, may exhibit scale economies over wide ranges of volumes, particularly with respect to different routes and route configurations.

If competition is to develop on end-to-end delivery, this may be more difficult for low value-added products, because of economies of scale at Norway Post. These products are already priced low, but due to economies of scale at the delivery end they can be profitable for Norway Post, but not for an entrant. An entrant would need to develop 'routes' where they had significant enough volume densities to make delivery to the route economic. We have not been able to quantify this rigorously, but it is perhaps obvious that there is very limited scope for entrants to develop sufficient volume density to enter on either a route basis, or in products that are already priced with low margins.

As an additional analysis looking at economies of scale, we investigated to what extent volumes might expand as prices fell. This would mean that as prices fell, overall mail volumes might be expected to increase. This is due to the price elasticity of demand. London Economics looked into the price elasticity of demand in the UK for our Postwatch study. Along with other studies, it is safe to say that various estimates of the price elasticity of demand on average is estimated to be about -0.1 to -0.3%. That is to say, a 1% cut in price leads to a 0.1% increase in volumes.

We also undertook new analysis to investigate this using our UPU database. The first test was to see whether lower prices seemed to lead to higher volumes. The dependent variable was total mail volumes per capita (in natural logs and the coefficients are interpretable as elasticities). The main explanatory variables are the log of average revenues, year, staff, and a set of country-specific dummy variables for the fixed effects model (not shown). The coefficients and statistics are found in the table below.

⁶⁸ London Economics is currently evaluating the format-based pricing scheme of Royal Mail's for Postwatch.

Table 9-11: Volume versus average revenue relationship

Total mail volumes per capita	Coef.	Std. Err	t-ratio	P> t	95% LCL	95% UCL
Average Revenue	-0.06	0.04	-1.59	0.11	-0.14	0.01
Year	0.03	0.02	1.46	0.15	-0.01	0.06
Staff	0.00	0.00	1.24	0.22	0.00	0.00
Intercep	-39.32	34.60	-1.14	0.26	-107.61	28.97

Source: London Economics/UPUI data

The main coefficient of interest is the elasticity with respect to average revenue. The coefficient is -0.06, and so is of the correct sign, and of an order of magnitude that one might expect. However, it is borderline statistically insignificant, giving a t-ratio of -1.59. There is perhaps scope for more detailed research on this subject. We however, conclude, that there is weak evidence using international data that total mail volumes should expand on the order of 0.1% for price cuts of 1%. Thus in certain mail item categories, where price might fall rapidly and by as much as 30-40%, a lower bound is perhaps that mail volumes might expand by about 3-4%, based on these estimates. There is thus likely limited additional scope for achieving scale economies for new entrants by cutting prices. With the exception of some selected products where price elasticity is high (and we have not been able to particularly analyse these), volumes from entry will have to come from Norway Post.

Still others such as Cohen and Chu (1997)⁶⁹ have attempted to measure scale economies in postal systems. Their study is in our table above, but the work of Cohen and co-authors associated with the US Postal Rate Commission (USPRC) is probably worth going into more detail.

First, Cohen and the USPRC believe that for the most part, new entrants will not be able to achieve end-to-end delivery entry due to scale economies as barriers to entry. They therefore see work sharing, and entry on value-added parts of the postal service value chain as much more viable. They base their analysis on the percentages of total USPS mail that is pre-sorted and at what levels. Upstream mailers can pre-sort mail and receive discounts based on USPS's estimated average avoided costs. Within the US, these mailers can sort to different 'levels' of the zip code, with each level or digit representing a different degree of aggregation. Thus, the two-digit level would largely be a

⁶⁹ Cohen, R. and C. Chu (1997),

state-wide basis, and the 3-digit level, large urban or other area, down to 5 digit, locality, or even to the exact mail carrier route. Data are presented from their study in the table below.

From the table, it can be seen that a very small proportion of the total of US mail is sorted to the carrier route level, with the exception of advertising: 0.5% of first class mail, 2.2% of publications mail, but 18% of advertising. This means that for most mail items, it was not profitable to sort the mail down to the carrier route, otherwise upstream mailers would have done this. Note that this does not mean that the upstream mailer actually delivers anything – this is still reserved to USPS under US law. However, it is clearly more profitable for upstream mailers to do only a portion of the pre-sortation process in most cases. Notice that only 25% of the mail is single piece mail, and only about 30% is not pre-sorted to some degree.

Table 9-12: Pre-sortation of Levels of mail (2002)

	Volume (billions)	Percent of Total Mail
First-Class		
Single Piece	51.9	25.6
Presort (without barcodes)	3.7	1.8
Barcoded Mail		
Basic	6.1	3.0
3-Digit	23.7	11.7
5-Digit	15.8	7.8
Carrier Route	1.1	0.5
Publications		
Basic	0.7	0.4
3-Digit	1.6	0.8
5-Digit	2.9	1.4
Carrier Route	4.4	2.2
Advertising Mail		
Basic	7.9	3.9
3/5-Digit	42.4	20.9
Carrier Route	36.9	18.2
Other Mail	<u>3.5</u>	<u>1.7</u>
TOTAL	202.8	100.0

Source: USPS 2002 RPW & Billing Determinants

In another paper, Cohen *et al.* (2003)⁷⁰ estimate the degree to which economies of scale will affect the postal incumbent if service volumes are lost. They posit a way to control for a variety of factors, and then say that they can largely predict the viability of the USO due to unit cost increases for the incumbent based on a single variable: volumes of mail per capita. This is relatively useful because it is something we can compare for Norway versus other posts.

Fortunately, we have items per capita data for standard mail items from the UPU database. The USPS has over 700 mail items per capita population (2001), while some other countries have very low items per capita – Italy, for example, had 115 items per capita population in 1999 (Cohen *et al.* 2002)⁷¹. This is likely reflective of Poste Italiane's high costs and high prices.

Interestingly, Norway has a very high number of items per capita, at about 562, which puts it second only to the United States in 2001, according to the UPU data. The upshot is that Norway seems to be at lower risk for losses of volumes to cover fixed costs than many other countries because it already has a very high level of mail volumes per capita.

Consequences for employment in the postal sector

Comprehensive studies of employment impacts from liberalisation have been carried out by the EU Commission. We base much of our findings on these studies, data from the UPU, and other evaluations.

Our primary findings are that there are likely to be negative impacts on Norway Post in terms of employment, but that these are already a risk as mail in general is under threat from other forms of communication such as e-mail. The net effect of liberalisation in the postal sector overall, however, is likely to be positive. This is because under liberalisation prices will fall more rapidly on value-added services, such as speedy delivery, signature, track and trace, insurance, and heavy or bulky items. Thus, as prices fall for these services, the output demanded expands, and so does employment.

We examine some of the data from the European Commission study (PTS Ramboll 2002) already discussed previously. Estimates of employment impacts in the EU from liberalisation are presented below.

⁷⁰ A Robert Cohen, Matthew Robinson, Renee Sheehy, John Waller, Spyros Xenakis (2003.)

⁷¹ Cohen, Robert, *et al.* (2002).

Table 9-13: Actual change in EU postal and related employment

Impact type	variable	1995	2000	% change
Direct	employment	1,563,110	1,575,947	0.80%
Indirect	employment	1,560,047	1,736,233	11.29%
Induced	employment	1,969,519	1,985,693	0.80%

Source: PTS Ramboll/EC 2002.

From the table, it is clear that the recent past has engendered rather stable employment figures at mail operators. On the other hand, much of the engine for growth in the sector has come from the indirect impact on employment – the sum of all the effects on employment due to better service or lower prices. There is also a further induced effect. This is the multiplier impact as lower prices and higher economic activity are circulated through the economy. This impact has been estimated to be small in the past too.

However, the relatively stable *direct* employment situation in the mail sector in the EU shows significant subsectoral underlying variation. USPs have been shedding workers while new operators have been adding workers rapidly. This is presented in the table below. From the table, it can be seen that employment has grown substantially at new entrants, in fact 15% in total over the period, while the opposite is true at the EU's USPs.

Table 9-14: USP employment in the EU

Year	1995	1996	1997	1998	1999	2000
USPs						
Total	1,147,110	1,123,750	1,087,123	1,085,233	1,078,914	1,077,947
Change		-2.04%	-3.26%	-0.17%	-0.58%	-0.09%
New operators						
%Change*	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%

Source: PTS Ramboll/EC 2002, *PWC

To put these data into the context of Norway, we can start to approximate some similarities by looking at some of the data on employment broken down by mail types, and then compare with mail types and volumes growth in Norway.

From Table 9-15 below, it is clear where the new entry has occurred in the EU postal markets. Almost none of the new entrants' employees are involved in addressed letter mail. This is partially due to reserved areas, but this is also

the most labour intensive part of the mails value chain. Unaddressed letter mail has the largest proportion. Advertising would account for this category. It is noteworthy that advertising is a fast growing volume area for Norway Post. Newspapers and periodicals also have a substantial employment share at 22% for competitive operators. Obviously, since Norway Post is selling below cost on these items, there is likely to be little entry in this area until this is sorted out. However, the service can be competitively supplied in other EU countries it seems. Parcels and express courier services together account for 42% of employment in competitive operators. Again, as prices fall in Norway, these are expected to grow rapidly. Also, these are areas where volumes have been growing⁷². Even more importantly, parcels and other items may be items that are *complementary* to e-commerce.

Table 9-15: Employment at competitive postal operators

item	% employment
Addressed letter mail	2%
Unaddressed mail	34%
Newspapers and periodicals	22%
Daily parcels	25%
Express/courier	17%

Source: PTS Ramboll/EC 2002

To undertake a more detailed analysis of employment trends in the worldwide postal sector, we assembled data from the UPU database on staff levels for all member countries, and other explanatory variables such as volumes per capita, year, and average revenues. The data consisted then of years 1990-2001, and 206 observations on 27 countries (not every country had a full time period, but this was accounted for).

We then posited an econometric (log-log) model of staff levels with fixed effects that were associated with country-specific dummy variables. The coefficients are thus interpretable as elasticities. The results are found in Table 9-16 below. The results show significant positive correlations between average revenue and staff levels. This could be because more staff are needed for higher value-added services or it could be due to the fact that higher revenues allow for more staff. The other significant variable is the year

⁷² UPU data show strong growth in various types of parcels and value-added services for Norway from 1995 to 2000. There seems to be a significant drop in volumes as of 2001, however. We do not have the data to sufficiently test this further, as Norway Post did not provide historical breakdowns of volumes by value-added services. We also only had detailed parcel product data for 2002.

variable. Staff levels have been falling on average by about 0.7% per year across the sample.

Table 9-16: UPU employment regression results

Staff	Coef.	Std. Err	t-ratio	P> t	95% LCL	95% UCL
Volumes per capita	0.009	0.007	1.340	0.183	-0.004	0.022
Average revenues	0.007	0.003	2.070	0.040	0.000	0.014
Year	-0.007	0.002	-4.260	0.000	-0.010	-0.004
Intercept	23.889	3.130	7.630	0.000	17.712	30.065

Source: London Economics/UPU data

Volumes per capital seem to have an insignificant impact on staffing levels (low t-ratio). This is probably indicative of economies of scale in terms of volumes per capita, but a more detailed model would need to be developed to test this hypothesis more rigorously.

In spite of the fact that labour levels across many posts have been falling, and that on average staffing levels have been falling, many posts have nonetheless been increasing labour levels. We present some selected countries from the UPU database in the following table.

Table 9-17: Staffing levels in selected countries

	Italy	Finland	USA	Germany	UK	Netherlands	Norway
1990	237,159	NA	843,263	277,691	235,168	59,906	32,100
1991	230,636	29,000	831,393	279,990	197,000	NA	32,533
1992	226,643	26,800	819,074	333,407	190,000	NA	31,800
1993	221,534	25,521	817,879	362,716	187,972	56,000	30,875
1994	215,655	24,497	852,045	342,413	189,000	53,560	31,025
1995	190,404	24,600	874,972	307,000	208,810	55,263	29,757
1996	181,379	23,221	885,874	285,000	209,079	54,427	29,407
1997	181,262	24,184	892,873	267,000	213,259	57,260	29,956
1998	178,649	26,448	904,636	253,000	212,500	58,209	NA
1999	173,722	25,347	905,766	240,000	213,414	60,285	29,240
2000	NA	24,763	901,238	276,348	210,267	63,255	32,365
2001	153,176	NA	891,005	321,400	207,847	65,957	29,563

Source: London Economics/UPI data

What is interesting about the data in the table are the different patterns that appear. Italy has had massive cuts in its labour force, throughout the period. Italy is far from liberalisation, and the largest cuts occurred in the early 1990s. Finland appears to have had large staff reductions in the early 1990s. Then apparently, more staff reductions occurred in the mid 1990s, but since then levels have been stable. Finland is of course a fully liberalised country. On the other hand, the US is a good example of partial liberalisation. In the US early in the 1990s, parcels and express items and a number of other areas were all liberalised, with additional liberalisation of pre-sortation and access. The basic monopoly for letters, however, remains rock solid in the US. The staff levels fell initially in the 1990s, but then recovered substantially to still higher levels. Germany followed a similar pattern, in that recent staff levels have recovered almost to pre-liberalisation levels. The Netherlands is

perhaps the most interesting case, where staff levels have increased dramatically in the last few years, again, well in excess of pre-liberalisation levels. Norway, on the other hand, shows almost continually declining labour levels. Notice that this is well in advance of any liberalisation.

The conclusion from the tables and regressions is that on average, staff levels have been falling at all USPs. For some, though, the major staff cuts came well in advance of liberalisation; for others that liberalised early, staff cuts were later matched by staff increases—some of which outpaced the earlier staff cuts.

While the likelihood of future reductions in staff levels at Norway Post will depend on Norway Post's current level of efficiency, the impact of liberalisation on employment could be positive in the long run. The exact impact on staffing levels of further liberalisation will depend on market shares and revenues for Norway Post and the extent to which Norway Post currently uses more labour than is needed (generally believed to be one of the sources of inefficiency in the postal sector). Thus, one tends to assume that liberalisation will *reduce* employment. While many postal administrations reduced labour inputs in the 1990s and early 2000s, there are some examples of posts that liberalised early and subsequently showed recovery in labour levels, sometimes to an extent that reversed earlier losses (e.g. USA, Netherlands).

Liberalisation and National Policy Goals

There is no real reason why the speed or extent of liberalisation of the postal market should affect the opportunity for reaching national policy goals, in particular those related to universal service obligations. (An entirely different question is, of course, the overall desirability of these goals. We do not pursue this issue here.) However, the way in which liberalisation is introduced may have implications for how such national policy goals will have to be secured.

Among the central national policy goals are

- Universal availability of postal services;
- Satisfactory quality and frequency of delivery of basic services; and
- Nationwide uniform prices for basic services.

These goals are primarily derived from notions of fairness and equality, not from economic efficiency concerns as such. There are good reasons to believe that in a completely de-regulated and market-based regime such goals would not be attained. Profit-maximising operators would refuse to provide universal services at high quality unless consumers were willing to pay prices that reflected the associated costs. Typically, such prices would differ with respect to area, type of delivery and so on. Therefore, absent regulation, either prices would differ or some services would not be made available to certain parts of the country or certain consumer groups.

To achieve national policy goals that are inconsistent with individual economic rationality therefore requires direct regulation.

Under the current legislative framework, these goals are achieved by regulations imposed on Norway Post. Norway Post is required to make a certain set of services available nationwide at certain standards with respect to quality and frequency of delivery and at regulated prices. Norway Post is remunerated for these services via a specific payment from the government.

In addition to the direct payments received from the government, Norway Post has to a certain extent been able to practice cross-subsidisation whereby non-profitable services have been financed by above-normal margins on other services. Price discrimination will however become increasingly difficult as new service areas are opened up for competition. Successful entrants will take business away from the incumbent in the profitable markets, leaving the incumbent in the unsustainable position of servicing only the unprofitable markets. As competition intensifies, prices will consequently have to be brought in line with underlying costs, except where regulation does not permit complete rebalancing. Consequently, as the liberalisation process is brought forward Norway Post will gradually lose its ability to finance universal service obligations with cross-subsidies.

Liberalisation therefore raises two central questions: the first concerns the financing of universal services and the second concerns who should be obliged to make services universally available.

As competition erodes opportunities for cross-subsidisation the question about financing of universal service obligations is becoming not so much a question of whether funds should be made available by the government as to how those funds should be financed. There are essentially two options: financing may be raised via the general tax system or a specific tax on postal services may be ear-marked for financing of universal service obligations. The idea of a specific tax on postal services may seem natural, as it places the financial obligation on the users of these services. However, closer inspection will reveal that those paying a tax on a postal service are typically not the same as those benefiting from the obligation that the service has to be universal. Furthermore, there may be substantial administrative costs involved in collecting a new tax that could be avoided if one relied instead on the existing tax system. One would expect, therefore, that overall efficiency concerns will lead to the funding of universal service obligations being financed by the general tax system.

The second important question concerns who should be responsible for making services universally available. One possibility would be to impose a universal service obligation on all postal operators licensed for the services in question. This solution has the benefit that operators are treated symmetrically and hence avoids differential treatment and the risk of creating competitive advantages or disadvantages by regulation. At the same time, however, this solution requires duplication of costs as all operators will be forced to establish nationwide service networks.

A more cost-efficient solution, therefore, may be to place the universal service obligation with a single operator. From the outset, this would most likely have to be the incumbent operator as this is the only operator with the facilities required to undertake such an obligation. As the market develops and other operators become more established, one may usefully consider whether to transfer the obligation to some other operator. This could be done, for example, by soliciting bids from operators at which they would be willing to provide universal services.

A system of competitive bidding could in principle be introduced immediately. However, unless one is certain that a sufficient number of effective competitors would come forward, a bidding contest may allow the incumbent operator to win a bid that considerably exceeds the actual costs of the universal service obligation. In such circumstances, the government may be better served by determining payments based on independent assessments of what would be a reasonable cost level, possibly including negotiations with Norway Post. The aim should be to ensure that subsidies are provided efficiently, to minimise the size of the subsidy and to ensure that the incumbent does not receive compensation in excess of the minimum required.

The time until effective competition for universal service obligations can be ensured may lie well into the future. Indeed, there is evidence that suggests that there may in some cases be a natural monopoly in important parts of the services, notably final delivery, although this depends on a number of factors including mail volumes and frequency of mail delivery. It is likely that the delivery of mail to businesses and corporations, especially in the centre of large cities such as Oslo may be an area of business that can sustain competition. However, it is less likely that a number of companies could compete effectively in the national delivery of letters to households, especially in rural areas. Consequently, regulations may have to be based on the premise that Norway Post will be the only operator that possesses the facilities required to provide services universally.

9.4 Conclusion to this section

In this section, we have discussed various issues. We first discussed the liberalisations goals, so that the liberalisation proposal is compatible with the EU directive. We then discussed some policy options for the Ministry to consider and finally the impact of the policy options on various groups. We summarise our findings below:

- The expenditures on postal service represent a very small portion of total household expenditures, about 0.1%. Very roughly speaking then, if stamp prices were to rise, say 10%, then this would represent about a NOK 29 increase on average to households.
- We then considered different pricing options and provided a schematic table of how profit will be effected with the given pricing options.

- The analysis looked at the impacts of accelerated liberalisation on other operators. The discussion suggested that accelerated liberalisation might have significant impacts on other operators as it would enable them to build sufficient scale, and would not limit them to entry on products where Norway Post could merely drop price to limit entry.
- We also provided some preliminary cost analysis on the USO of rural residential deliveries. Based on the given information, we found that the USO burden may not be excessive.
- We then analysed the consequences for uniform tariffs, such as:
 - a rise in the stamp rate to wholly fund the USO;
 - Norway Post to keep the stamp prices uniform (charge differential stamp prices), while keeping some reserved area (no reserved area); or
 - to charge geographical price differentiation across certain products.
- We analysed the impacts of accelerated or enhanced liberalisation on Norway Post extensively in another whole chapter. The general conclusion was that the incremental impacts of additional liberalisation would be relatively smaller than the impacts of the current programme.
- We also analysed economies of scale and discuss the UK experience and other evidence internationally - where economies of scale were estimated to exist in UK postal service. The results show economies of scale are exhausted in all parts of the postal network at fairly low levels of volume, with the exception of the delivery function.
- We analysed expected impacts on employment in the sector. The net effect of liberalisation is expected to be positive for the sector. This is because of several reasons. First, USPs have been shedding labour for 15 years, irrespective of the exact speed of liberalisation. Second, large employment increases have occurred and are expected to occur in value-added services and products, and these are expected to be slightly larger than the losses at the incumbent. Finally, the indirect impacts on businesses from lower costs are also expected to boost employment overall.
- Finally, we analysed some of the impacts on national goals and some of the practical implementation concerns with liberalisation.

10 Conclusions and Findings

We have undertaken a detailed analysis of whether Norway should consider advancing or accelerating its postal liberalisation programme. The current programme adheres to the norms of the EU programme, which could be described as relatively modest in its ambitions.

Assessing liberalisation scenarios involves balancing competing goals and risks. There is a risk that too rapid liberalisation will place undue financial pressure on the incumbent postal operator; this must be balanced against the risk that too slow liberalisation will either allow the incumbent to solidify monopoly power and block entry.

Norway's postal market is unique in some respects, while very similar to other posts around the world in other respects. A particular source of uniqueness is Norway's Government purchase of the USO. This means that USO costs are met through a direct subsidy. As a result the risk of cream-skimming is likely significantly less⁷³ of a problem upon liberalisation, than in most other markets.

Norway has more in common with other jurisdictions when one looks at the drivers of postal costs. Norway has more extremes of climate, terrain, geographical dispersion, than most countries. However, other posts like the USPS, Canada Post, Australia Post, all also face a USO with low population densities, and extremes in terms of climate and geography. Labour agreements, delivery density, and volume per capita, that have been found to be the primary unit cost drivers for posts worldwide (Cohen et al. 2003). Norway has relatively high labour costs, but also relatively high volumes per capita.

Norway's postal markets share some of the characteristics and problems of other posts. Above all, posts have high labour costs; Norway Post is no exception⁷⁴. Norway Post is starting to face, and will increasingly face, accelerating pressure from substitution towards other forms of communications. In addition, similar to other posts, Norway Post faces constraints in terms of acting in a commercial manner, because of the USO, requirement to provide banking services, and pricing constraints that may be non-commercial.

We undertook very detailed analysis of Norway Post's product, price and cost accounts. Primarily, what we found was that the *incremental* pressures on Norway Post, from additional liberalisation, should be much smaller than

⁷³ There could of course still be some cross-subsidies from low cost routes to high cost routes in the current pricing structure, so potential cream-skimming is not ruled out altogether.

⁷⁴ Although certain aspects, like 20% labour absences, would be exceptional in comparison to other postal administrations.

the pressures from both the current liberalisation programme, as well as the pressures from technological substitution away from mail in general.

Norway Post, and the postal market in general in Norway, face many risks. Some of these risks arise under a business, as well as in accelerated liberalisation cases. The risks are due to both policy and market based reasons. Norway Post may face pressure from potential entrants on key market segments, and it will face continued pressure from substitute communications.

The incremental risks to Norway Post of accelerating liberalisation are small, relative to the current situation. This is because a few products already liberalised appear to be high margin, but there is one main caveat. Obviously, one would not contemplate piecemeal liberalisation, i.e., to liberalise entry, but not to liberalise some of the constraints on Norway Post. Allowing full entry, but not allowing flexibility to Norway Post to rationalise prices and service levels (at least on almost all products for the former and at least on a few routes for the later), might exacerbate Norway Post's already difficult financial situation.

Finally, it is important to go through on a point-by-point basis the expected impacts on various groups of stakeholders from liberalisation. These follow the structure of the report.

Consequences and impacts of the liberalisation process

Consequences for customers

Customers, especially large volume mailers and mailers of high value-added products will likely enjoy lower prices. This has occurred in general as a result of liberalisation internationally.

Consequences for businesses

Further liberalisation is likely to lead to increased competition. The principal expected effects would include lower prices and a greater variety of products. New operators are likely to compete on price, not initially benefiting from the brand recognition or reputation that the incumbent holds. In addition, one would expect to see additional product differentiation and the provision of tailor-made services to different segments of the market, which should be of benefit to households and businesses.

Consequences for Norway Post

We find that many financial and organisational changes are likely to occur within Norway Post without accelerated liberalisation. Norway Post has, to a certain extent, already come under pressure from liberalisation. Cost reducing programmes are currently being implemented. However, operating costs have in the recent past grown rapidly, and some cost rises have come in advance of revenue gains. It remains unclear whether the current extent of liberalisation will put sufficient pressure on Norway Post to see through its cost cutting programmes.

In our view, Norway Post's profitability problems stem mainly from costs rising too rapidly. This has little to do with liberalisation or market developments such as customers switching to e-mail. Norway Post's cost problems, along with low pricing of newspaper and periodical delivery services, appear to represent much bigger risks to Norway Post than the effect of liberalisation, let alone any *additional* liberalisation.

Full liberalisation is expected to have a limited incremental impact on Norway Post's revenues, relative to the liberalisation programme already envisaged under current law. This impact is estimated to be about NOK 78 million.

In spite of the apparent lack of broad-based market entry, Norway Post is vulnerable to competitive threats in certain product areas. The threat of entry may be sufficient to lower product prices (and costs) for certain key products. Detailed analysis of high margin products suggests that Norway Post could lose about NOK 250 million given the current levels of liberalisation, if either robust entry occurs or robust price reductions on key products are made to block entry.

Consequences for other operators

Accelerated liberalisation would allow other operators to gain critical mass and would promote the possibility of more significant entry and, as a result, more effective competition. There is a risk that too little liberalisation would limit the scope for effective entry. The Finland market arguably provides an example of this outcome. The USPS may also provide a good example: early liberalisation of parcels and packages over \$2.00 and upstream pre-sortation led to initial success, but productivity in the main mails business has lagged considerably and this segment now losing money.

With several notable exceptions, entrants internationally have not made significant inroads into basic postal services. Examples of exceptions are smaller sub-markets in Sweden, work sharing and pre-sortation in the US and higher value-added items such as parcels and express packages and confirmed signature, in other markets.

Consequences for rural areas

One of the major anticipated effects of further liberalisation on the rural areas is the closure of post offices. The viability of rural post offices tends to come under pressure post-liberalisation due to the erosion of the cost subsidy provided by urban areas to rural areas. This occurs because 'cherry-picking' entrants undercut the incumbent and serve the most profitable urban routes.

However, whether liberalisation causes post offices to close *per se* is debatable. For example, rural post offices have been closing for many years in the UK and Ireland and may continue to do so – but not necessarily due to liberalisation. Should liberalisation cause the USP's revenue to fall then this, in turn, might squeeze already tight profit margins and speed up the process.

Consequences for geographically uniform tariffs

Norway and Norway Post may be in an unusually favourable situation to take liberalisation forward, compared to other jurisdictions, because the Government pays a direct subsidy to the Post Office for the cost of the USO. This explicit USO funding mechanism may make it easier for Norway to balance preservation of universal service with augmentation of postal market competition. For example, there need not be any particular consequences for geographically uniform tariffs. We do not recommend any change to basic stamp tariffs, but the potential to liberalise higher-weight or odd sized items might make geographically non-uniform tariffs more feasible on higher value-added items.

Consequences for Government purchase

The consequences for Government purchase (i.e. USO funding or public purchases) need not be large, if one assumes there is no cross-subsidy between USO and non-USO products. Thus, an upper bound for the cost of the USO is its current fixed cost (there are likely some avoidable costs). So even with the maximum of cream-skimming, the size of the Government purchase should not be expected to increase.

Economies of scale and effective competition

Research suggests economies of scale exist primarily in delivery. The necessary economies of scale for sortation can be achieved with a small number of items (roughly 20,000 items per day). In contrast, entry conditions are likely to be more difficult for end-to-end delivery. The means of achieving effective competition may be more a function of how quickly prices come down for newly liberalised mail items in the 350-1kg range, or for value-added/speedy delivery items.

Consequences for employment

The international experience and current research suggests that overall employment will be enhanced by liberalisation. There may be initial employment losses at the incumbent. This may be offset by increased employment at other operators, as total mail volumes can be expected to expand under liberalisation. It is also noteworthy that employment has been being reduced at postal administrations around the world, while some posts that have undertaken advanced liberalisation/commercialisation (Germany and the Netherlands) have added labour.

Liberalisation and national goals

The way in which liberalisation is introduced need not have particular implications for how such national policy goals will have to be secured. Among the central national policy goals relating to post are:

- universal availability of postal services;
- satisfactory quality and frequency of delivery of basic services; and
- nationwide uniform prices for basic services.

These goals are primarily derived from notions of fairness and equality, not from economic efficiency concerns as such. While there are theoretical reasons to believe that in a completely de-regulated and market-based regime such goals would not be attained, evidence suggests that in practice these goals are not under threat.

Conclusion and recommendations

The fundamental conclusions of the study are that major impacts on Norway Post are likely to occur under the current liberalisation programme. The additional or incremental impacts from accelerated or additional liberalisation are likely to be relatively small, whereas the full benefits may not be achieved for all consumers if liberalisation is slow or fails to address inefficiencies. The risks to Norway Post from additional or accelerated liberalisation are small relative to the risks from failing to sort out inefficiencies and potentially unsustainable cross-subsidies *not* associated with standard USOs.

Our conclusions are summarised below:

- We expect the benefits of full liberalisation to outweigh the costs. Full liberalisation is expected to have a greater impact on areas such as cost reduction, and the rationalisation of many of Norway Post's services and obligations.
- One of the main benefits of liberalisation is expected to be increased economic efficiency. For Norway Post, this means rationalisation of subsidies and cross-subsidies. While it is hard to accurately estimate the impact of this pricing structure, we estimate that the cost of these inefficient pricing structures are in the order of NOK 300 million to 500 million per annum.

We therefore recommend consideration of three possible approaches:

1. Do nothing - continue with the current programme:
 - a. Some cost pressures seem to be already causing Norway Post to increase efficiency.
 - b. Some limited entry on high price items might be expected.
 - c. Revenue impacts on Norway Post are likely to be partially made up by modest cost cuts.
2. Full liberalisation with rationalisation of pricing and USO:

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- a. The additional impact on profitability from the full liberalisation option vis-à-vis the current programme at Norway Post is not expected to be large.
 - b. There is considerable risk that little entry will occur, and that therefore pressures for cost efficiency enhancement will not turn into realised efficiency gains; the expected cost benefit of full liberalisation is therefore expected to be positive.
 - c. Rationalisation of Norway Post's pricing structure, especially newspapers and magazines is important; the current pricing structure probably costs Norway Post more than twice the level of public purchase. Holding prices below cost represents an inefficiency and barrier to entry on potentially profitable markets and products, while at the same time causes other prices to be inefficiently high in order to cross-subsidise the loss making products.
 - d. Small modifications to the USO can have big impacts on Norway Post's costs. These could ease the transition to liberalisation. We suggest consideration of the following options:
 - i. Allowing less than 6-day delivery to a limited number of addresses and perhaps a 5-day delivery during certain times of the year.
 - ii. As the reserved area is lowered, it may be appropriate to lower the maximum USO weight. We recommend that the USO weight not exceed 10 times the cut-off of the reserved area (i.e., 1000g for a reserved area below 100g).
3. Combination of (1) and (2) so that postal liberalisation process is an efficient staged process, with partial liberalisation of pricing and modifications to USO recommended under (2). The international postal markets review shows that the pace of postal liberalisation can be either a more gradual-staged process or can occur all at once. Many of the countries have preferred a staged liberalisation process, including the UK. In the UK, 60% of mail volumes by value is expected to be opened to competition by 2005, with full liberalisation envisaged by 2007. However, in Sweden and Finland, the liberalisation process was all-at-once. However, results from London Economics survey of the Norwegian postal market also showed that most of stakeholders preferred a stage process.

We have thus reviewed the situation in Norway and feel that in the most general terms evidence from other jurisdictions supports the idea that the USO, in its fundamental sense, is sustainable under liberalisation. Many of the risks to Norway and Norway Post are in fact, much greater, and in fact have little to do with accelerated liberalisation. Perhaps this view is best

summed up by the quote of Lennart Grab⁷⁵ (CEO of Sweden Post 2001) in Anna Lundgren (2002), "The fear that the universal postal service would be impossible to sustain under such circumstances (a liberalised market) is unfounded. Rather, the opposite holds - without renewal of the postal markets, the universal service will eventually become threatened and the postal operators run the risk of stagnation."

⁷⁵ Sweden Post's electronic newsletter", 5/2001, April, 2001.