

25 July 2003

**THE PROFITABILITY OF THE MAIL DIVISION OF DEUTSCHE POST**

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## TABLE OF CONTENTS

<b>1.</b>	<b>INTRODUCTION</b>	<b>1</b>
<b>2.</b>	<b>THE MAIL DIVISION OF DEUTSCHE POST</b>	<b>3</b>
2.1.	The Regulatory Framework	3
2.2.	Regulation of Postal Tariffs	4
2.3.	The Importance of Mail for Deutsche Post	5
<b>3.</b>	<b>THE APPROPRIATE PROFITABILITY MEASURE</b>	<b>8</b>
3.1.	“Return on Capital” versus “Return on Sales”	8
3.2.	Defining “Return on Capital”	9
<b>4.</b>	<b>THE COST OF CAPITAL OF DP’S MAIL DIVISION</b>	<b>11</b>
4.1.	Introduction	11
4.2.	Methodology	11
4.3.	The CAPM Methodology	12
4.4.	Summary of CAPM Estimates	15
4.5.	Risk-Free Rate	16
4.6.	DP Mail’s Beta	17
4.7.	Equity Risk Premium	25
4.8.	Inflation	28
4.9.	Taxation	28
4.10.	Summary of Cost of Capital Parameters - Excluding Gearing Effect	29
4.11.	Cost of Capital Including Gearing Effect	29
<b>5.</b>	<b>THE PROFITABILITY OF DP’S MAIL DIVISION</b>	<b>31</b>
5.1.	Introduction	31
5.2.	Return on Capital Employed in the Mail Division	31
5.3.	The Relationship Between Returns in the Mail Division and Returns in the Reserved Area	34
<b>6.</b>	<b>CONCLUSIONS</b>	<b>36</b>
	<b>APPENDIX A. DETAILED DATA</b>	<b>38</b>

## 1. INTRODUCTION

This report provides an analysis of the profitability of the Mail division of Deutsche Post.<sup>1</sup> The analysis focuses on the year 2002, though the profits of the Mail division are reported from 1998 onwards.

On the basis of our analysis, we believe that profits in the Mail division, measured in terms of return on capital employed and based on Deutsche Post's accounts, are substantially above the estimated cost of capital. This applies in particular during the years since 2000. For example, we estimate that in the year 2002, the return on capital employed in the Mail division was 50.4 per cent. By contrast, we estimate that the current cost of capital of the Mail division is between 9.0 and 10.6 per cent before tax.

Deutsche Post are protected from competition by means of their reserved sector so that they can meet their Universal Service Obligation to serve the whole of the domestic German mail market. However, this protection is only required so that they can earn sufficient revenue to cover the costs of serving this market. These costs include an adequate return on capital, but there is no need to earn more than this cost of capital – indeed, the evidence that NERA has found of excessive returns in the Mail Division implies that the company is afforded more protection than strictly necessary to meet their Universal Service Obligations – Article 7 of Directive 97/67/EC notes that postal services may be reserved “to the extent necessary to ensure the maintenance of universal service”.

We do not regard it as likely that the current profit levels in the Mail division will come under pressure in the next few years, other than through the impact of the decision by the German regulator RegTP on Deutsche Post's tariffs of July 2002. We expect that profits will remain substantially above our estimated cost of capital even when taking the impact of this decision into account.

The report is structured as follows:

- In Section 2, we describe the regulatory framework that applies to the Mail division of Deutsche Post; the importance of the Mail division for Deutsche Post and the importance of the reserved sector for the Mail division.
- Section 3 develops an appropriate measure to assess profitability. We argue that a return on capital measure should be used as opposed to a return on sales measure, and that return on capital employed is an appropriate indicator when assessing profits on the level of individual segments.

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<sup>1</sup> “Mail Division” refers to Deutsche Post's Mail Corporate Division. We note that the Global Mail Business Division is in fact allocated to the Express Corporate Division, and consequently not included in our analysis.

- Section 4 contains our estimates of the cost of capital of the Mail division of Deutsche Post. We conclude that the current cost of capital of the Mail division is between 9.0 and 10.6 per cent before tax.
- In Section 5, we discuss the profitability of DP's Mail division. We calculate the profitability of the Mail division in two ways; with and without an allocation of an "other/consolidation" segment. We also briefly discuss the profitability of the reserved sector of the Mail division.
- Section 6 provides a summary and discussion of our conclusions.

We have produced this report on the basis of the data that are available in the public domain, in particular the annual reports of Deutsche Post AG, and financial data on the cost of capital of comparator companies. We do not express an opinion on these accounts. In particular, we have in the context of the present study not been able to study Deutsche Post's accounting methodology and its treatment of, for example, the liabilities arising from it being a successor to the former Deutsche Bundespost. These issues would merit further consideration.

## **2. THE MAIL DIVISION OF DEUTSCHE POST**

### **2.1. The Regulatory Framework**

Key elements of the regulatory framework as it currently applies to postal services in Germany are the following:

- On the basis of Art. 5 of the Post Act (Postgesetz), a licence is required for the transport on behalf of others of all letters with a weight not exceeding 1000g. For the reserved area (see below), only Deutsche Post has been granted a licence. For the transport of letters outside the reserved area, an unlimited number of licences is available and every operator meeting the prerequisites has a legal right to obtain a licence.
- Until December 31<sup>st</sup>, 2002, Deutsche Post enjoyed an exclusive licence for the transport of all letters weighing less than 200g and with a price of less than five times the rate for the lowest weight class. On January 1<sup>st</sup>, 2003, the size of the reserved area was, following EC Directive 2002/39, reduced to letters weighing less than 100g and with a price less than three times the rate for the lowest weight class. In addition, Deutsche Post enjoys an exclusive licence for all bulk letter deliveries weighing less than 50g with identical content.
- The reserved area will be reduced again in 2006 and will be removed on January 1<sup>st</sup>, 2008.
- A universal service obligation (USO) exists for letters up to 2kg, parcels up to 20kg and the delivery of newspapers and magazines (as far as these are delivered by postal services). The details of the USO have been specified by separate order<sup>2</sup> and include details on the availability of letter boxes, post offices, frequency of emptying the letter boxes, delivery times and frequency of deliveries. Until 2002, the USO was regarded as a guideline for the regulator and would only be imposed on individual companies if the services provided in the marketplace failed to meet the standards specified in it. However, as a result of a legislative change, the USO has in February 2002 been imposed on Deutsche Post for the duration of its exclusive licence.
- Tariffs for postal services subject to a licence are on the basis of Art 19 of the Post Act subject to approval by the postal regulator, but only if a licensee enjoys a dominant position in the relevant market. The requirement for approval of tariffs does not apply to bulk deliveries of 50 letters or more.

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<sup>2</sup> Post-Universaldienstleistungsverordnung, 15 December 1999, as amended by the second amendment to the Post Act of 30 January 2002.

- Art 10 of the Post Act requires operators that have a dominant position in a market for postal services to have separate accounts for the services in which they have a dominant position, as well as separate accounts for the licensed (as opposed to reserved) and non-licensed area. In the European Commission investigation relating to Deutsche Post's acquisition of a 22.498 per cent interest in DHL,<sup>3</sup> Deutsche Post undertook to keep separate accounts for the reserved and non-reserved sectors, and to publish operating cash flow and profit&loss statements relating thereto in the annual reports of Deutsche Post AG.
- Deutsche Post is subject to a number of obligations that have been imposed on it in decisions by competition authorities. For example, in the decision of 20 March 2001 by the European Commission,<sup>4</sup> the company was required to submit to the Commission a statement of costs and revenues of its new commercial parcel services for a period of three years, as well as insight into transfer prices and rebates given.

## 2.2. Regulation of Postal Tariffs

In July 2002, the German post and telecoms regulator RegTP published its decision on the regulation of Deutsche Post's tariffs in the period until 2007.

The decision groups Deutsche Post's regulated tariffs into three categories:

- postal services in the reserved area;
- regulated postal services outside the reserved area; and
- charges for access to various parts of Deutsche Post's network.

On the basis of the decision, volume-weighted average tariffs in each of these categories will in the years 2003 to 2007 fall, in real terms, by the percentages shown in Table 2.1.

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<sup>3</sup> Case IV/M.1168 DHL/Deutsche Post

<sup>4</sup> Case COMP/35.141 - Deutsche Post AG

**Table 2.1**  
**Required Reductions in Deutsche Post's Regulated Tariffs, 2003-2007**  
**(% change in real terms)**

<b>Category</b>	<b>2003</b>	<b>2004 to 2007 (per year)</b>
Postal services in the reserved area	7.2	1.8
Regulated postal services outside the reserved area	1.8	1.8
Charges for access to various parts of Deutsche Post's network	6.5	1.8

*Source: RegTP (2002)<sup>5</sup>*

RegTP's decision makes clear that even after these reductions, Deutsche Post's tariffs will not be cost oriented.<sup>6</sup> In part, this is due to obligations resulting from Deutsche Post being a legal successor to the former Deutsche Bundespost, and to the costs of providing a universal service. However, it is noted that even after these additional costs have been taken into account, Deutsche Post's tariffs will not be cost oriented. The reason that RegTP has given for this is not to inhibit the development of competition in the German postal market. Lower Deutsche Post tariffs could make it more difficult for new entrants to compete with Deutsche Post.

## **2.3. The Importance of Mail for Deutsche Post**

### **2.3.1. Importance of Mail division**

The share of the Mail Division in the overall revenue and EBIT of Deutsche Post is shown in Figure 2.1 and Figure 2.2.<sup>7</sup>

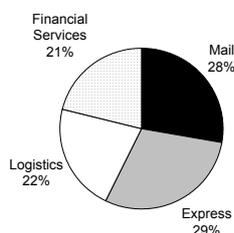
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<sup>5</sup> Regulierungsbehörde für Telekommunikation und Post, decision on Deutsche Post's regulated tariffs of 26 July 2002.

<sup>6</sup> See page 10 of the decision.

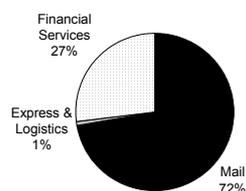
<sup>7</sup> The figures underlying these charts have been obtained by taking "total revenue" and "profit or loss from operating activities" (EBIT) for each segment. No account is taken here of the "other/consolidation" segment.

**Figure 2.1**  
**Importance of Mail Division for Deutsche Post in Revenue Terms**



Source: Deutsche Post AG annual report 2002

**Figure 2.2**  
**Importance of Mail Division for Deutsche Post in EBIT Terms**



Source: Deutsche Post AG annual report 2002

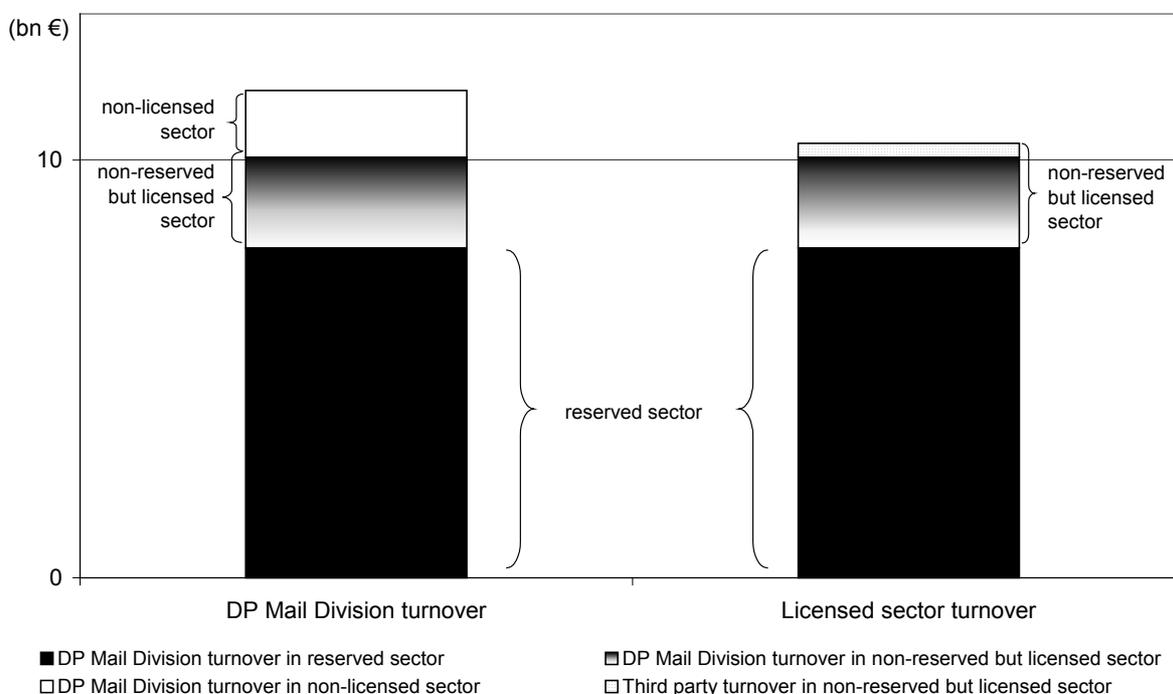
It can be seen in Figure 2.1 that the Mail division is one of the largest Deutsche Post divisions in revenue terms. Its revenue share is 28 per cent. Only the Express division is, after the acquisition of DHL, larger.

Figure 2.2 shows however that mail accounts for a very large share of Deutsche Post's profits, measured in earnings before interest and taxes (EBIT) terms. The EBIT share of the Mail division is 72 per cent. Financial services contributes 27 per cent, whereas express and logistics only have a total EBIT share of 1 per cent (consisting of a small loss within Express and a small profit within Logistics).

### 2.3.2. Importance of reserved sector

In its 2002 annual report, RegTP has analysed the importance of the reserved area for Deutsche Post and its share in the sector that is open to competition. The numbers are in part based on estimates and therefore need to be treated with caution. Indicative estimates on the basis of RegTP's numbers for 2002 are shown in Figure 2.3.

**Figure 2.3**  
**Importance of Licensed Sector for DP Mail and Share of DP Mail in Licensed Sector, 2002**  
**(indicative estimates)**



Source: Estimated from RegTP (2003)<sup>8</sup>

Key points to note from Figure 2.3 are the following:

- The left-hand column shows the total 2002 turnover of Deutsche Post’s Mail division, approximately €11.7bn. Of this, around 68 per cent is derived from the reserved sector (i.e. the area where Deutsche Post enjoys a statutory monopoly), around 19 per cent from the non-reserved but licensed sector, and around 14 per cent from the non-licensed sector.
- Deutsche Post accounts for some 97 per cent of the total estimated turnover in the licensed sector in 2002 of €10.4bn, shown in the right-hand column. In the area of the licensed sector which is open to competition (the non-reserved but licensed sector), Deutsche Post 2002 share was around 87 per cent.

<sup>8</sup> Regulierungsbehörde für Telekommunikation und Post (2003) *Jahresbericht 2002*

### 3. THE APPROPRIATE PROFITABILITY MEASURE

#### 3.1. “Return on Capital” versus “Return on Sales”

In the remainder of this report, we will assess the profitability of the Mail Division of Deutsche Post against an appropriate benchmark.

First, we need to determine how this benchmark should be defined. Two main approaches might be considered:

- assessing the **return on sales** of the Mail Division; and
- assessing the **return on capital** of the Mail Division.

In economic terms, only the second of these approaches is relevant. Ultimately, the role of “profits” (we discuss the appropriate definition of profits below) is to reward the capital that is invested in a firm. Investors will only invest in a firm if they expect their investment to be rewarded at an appropriate rate given the risks they incur. **This means that it is “return on capital” that is the appropriate measure to use in profitability assessments.**

Return on sales measures are widely used in management decisions, but do not have any meaning in the context of profitability assessments. The reason for this is that they do not relate the returns to the amount of capital invested in a firm, nor to the returns required by investors.

High returns on sales can be consistent with low returns on capital, and *vice versa*. At the most basic level, the return on sales and return on capital concepts relate to each other as follows:

$$\text{return on sales} = \frac{\text{profit}}{\text{sales}} = \frac{\text{capital}}{\text{sales}} \times \frac{\text{profit}}{\text{capital}} = \frac{\text{capital}}{\text{sales}} \times (\text{return on capital})$$

In other words, “return on sales” is related to “return on capital” via what might be regarded as an indicator of the *capital intensity* of the firm; the amount of capital required for each unit sold. If the capital intensity of a firm is high, a relatively low return on capital can translate into a relatively high return on sales. By contrast, if the capital intensity of a firm is low, a relatively low return on sales can translate into a relatively high return on capital. It is worth noting in this context that although the capital intensity of postal operators was traditionally regarded as low, it has now increased somewhat due to the introduction of automatic mail sorting.

The case of National Grid provides a good example of the divergence between return on capital and return on sales. National Grid is an operator of utility networks with as its main

activities the operation of the transmission network in England and Wales, and of transmission and distribution networks in the north-eastern US. Key financial indicators for the company for the year ending 31 March 2002 are shown in Table 3.1.<sup>9</sup>

**Table 3.1**  
**National Grid Key Financial Indicators, 2001/02**

<b>Indicator</b>	<b>Value (£m)</b>
Group turnover (i.e. sales)	4,401
Operating profit before exceptional items and goodwill amortisation	875
Total assets less current liabilities <sup>10</sup>	11,219
<b>Return on turnover (sales)</b>	<b>19.9%</b>
<b>Return on capital employed</b>	<b>7.8%</b>

*Source: National Grid Annual Report and Form 20-F 2001/02*

National Grid achieves a return on its turnover of close to 20 per cent. However, due to the high level of assets invested in National Grid's business (electricity networks), its return on capital employed is, at around 8 per cent, much lower than its return on sales. Thus, judging the company's profitability by the return on sales would give a misleading picture of the firm's profitability.

### **3.2. Defining "Return on Capital"**

Having determined that "return on capital" is the appropriate measure to use in profitability assessments, the question arises how exactly "return" and "capital" should be defined.

A number of standard approaches exist. Two commonly used measures are:

- Return on Capital Employed (ROCE), which is a ratio of earnings before interest and tax to debt plus shareholder funds; and
- Return on Equity, which is a ratio of earnings after interest, both post- and pre-tax, to shareholder funds.

Of these, the first focuses on the remuneration of the total capital invested in a firm, whereas the second is an indicator for the return on shareholder funds.

<sup>9</sup> On 21 October 2002, National Grid plc and Lattice Group plc merged to become National Grid Transco plc. The financial figures relate to the pre-merger situation.

<sup>10</sup> Average of 31 March 2001 and 31 March 2002.

In the present study, we are focusing on a single division of Deutsche Post (the Mail division). At the level of the individual division, it is not possible to identify shareholder funds separately, since financing decisions are taken at the level of the Group as a whole.

For this reason, we focus in the present report on the Return on Capital Employed (ROCE) and contrast this with the relevant benchmark. Since the ROCE focuses on the remuneration of the total capital invested in a firm, the relevant benchmark also needs to focus on the total capital invested in a firm, taking account of the relative importance of debt and equity. This benchmark is the cost of capital of the Mail Division.

Our profitability calculations are contained in Section 5, but first we turn to the derivation of the profitability benchmark, that is to the calculation of the cost of capital of Deutsche Post's Mail Division.

## 4. THE COST OF CAPITAL OF DP'S MAIL DIVISION

### 4.1. Introduction

In this Section we derive an estimate of the likely range for the cost of capital of DP's Mail division.

**Our overall conclusion in regard to the current nominal pre-tax cost of capital for Deutsche Post's Mail division is that it would lie in the region of 9.0% to 10.6%.**

The remainder of this chapter provides a detailed discussion of the way in which we have derived this overall conclusion. Some of the discussion is technical in nature. It is possible to proceed directly to Section 5.1 on page 31 without loss of continuity.

### 4.2. Methodology

Our procedure for estimating the cost of capital for DP's mail activities is based on the Adjusted Present Value (APV) approach. The approach uses the following two-step procedure to derive our cost of capital estimate:

- First the APV approach derives an estimate of the cost of equity for DP's Mail division using the capital asset pricing methodology (CAPM), based on the assumption that DP mail is 100% equity financed. Under this assumption the cost of equity is equal to the cost of capital of the activity;
- Second, the APV approach calculates the likely impact on the cost of capital of DP Mail under alternative gearing (debt:equity) ratios by estimating the value of the interest tax shield that results from the use of debt finance.

In the context of the present study, our analysis has focused on the first step, estimation of the cost of capital for DP Mail using the CAPM. We comment on the likely value of the interest tax shield that would result from the use of debt finance but do not investigate this second step in significant detail.

A more common approach to estimating the cost of capital of a company is the Weighted Average Cost of Capital (WACC) methodology. This approach estimates the cost of capital as a weighted average of the costs of equity and costs of debt based on an actual or assumed "optimal" gearing assumption. We chose not to use the WACC methodology in this paper as a result of complexities in estimating the market cost of debt and optimal gearing levels for DP mail. These complexities result from the fact that the German Government retains a significant ownership stake (50% plus 26 shares) of DP. Although we understand that the German Government does not formally extend a sovereign guarantee to DP's debt stock, the

company's credit rating, and hence its actual cost of debt, will to some extent reflect its government ownership status. For this reason, examination of the true market costs of debt for DP and DP's mail activities is complex and we have consequently not pursued this approach.

### 4.3. The CAPM Methodology

The standard Capital Asset Pricing Model determines required returns for investment in the equity capital of a firm as:

$$E[r] = E[r_f] + \beta_{equity}(E[r_m] - E[r_f]),$$

where  $E[r_f]$  is the current risk-free rate of return;  $\beta_{equity}$  is the equity beta, measured as the covariance between returns on the asset and the market portfolio, divided by the variance of the market portfolio; and  $E[r_m]$  is the expected rate of return for the market.

An underpinning of the CAPM is that an investor *diversifies* by combining risky securities into a portfolio. The effect of this diversification is to eliminate risks known as *specific* risks (also known as non-systematic risks). Specific risks arise from all those events that are unique to a particular share and have nothing to do with general market or economic factors. Because specific risks are not related, appropriate diversification can reduce the gains and losses resulting and is effectively risk neutral towards specific risks.

Complete diversification of risk is not possible since securities all move together to a certain extent, a result of the influence of economy wide factors such as interest rates, inflation, and macro economic demand. The risks that cannot be eliminated through diversification are described as "market" risks (or "systematic" risks).

A fundamental notion of the CAPM is that risk-averse investors demand higher returns for assuming additional risk and that higher risks securities are priced to yield higher returns than are lower risk securities. The CAPM quantifies the additional return required for bearing incremental risk, and provides a formal risk-return relationship based on the idea that only market risk matters, as measured by beta.

It is also important to stress that the CAPM is an *expectational* model while most of the available capital market data to match the theoretical input variables (expected risk free rate, beta, expected market return) are historical. These issues impact directly on the processes and methods that are used to estimate the key parameters in the CAPM model.

#### 4.3.1. Risk free rate

The real risk free interest rate is the price that investors charge to exchange certain current consumption for certain future consumption. In part, it is determined by investors'

subjective preferences and in part by the nature and availability of investment opportunities in the economy.

The risk free rate is generally estimated by examining yields on government debt issues debt. In the Eurozone, there are a wide number of government debt instruments, differentiated by the sovereign issuer, the maturity and other debt characteristics (such as the coupon rate). Our preferred methodology for estimating the risk free rate is as follows:

1. *The risk free rate should be estimated by considering yields on German government bonds:* NERA recommends using the eurozone market as the reference market against which to estimate the cost of capital for DP Mail. For consistency, therefore, the risk free rate should be estimated so as to reflect the risk free rate in the eurozone market. In the absence of a eurozone government bond, NERA has used German government bonds as proxies to estimate this parameter. German government debt has the lowest yields reflecting its strong economic fundamentals and the market's low expectations of sovereign default, and is usually used as a benchmark for euro denominated financial instruments. It enjoys the lowest sovereign risk premium of all eurozone country members.
2. *The risk free rate should be estimated using historic data over a 3 month period:* if capital markets are efficient, current yields will reflect all expectations of interest rates going forward and thus most closely approximate to the risk-free rate parameter in the CAPM model. However, since risk free rates can be volatile in the very short term, NERA considers it appropriate to calculate a 3-month short-term average of recent bond market yields. This method minimizes very short-term fluctuations in rates while capturing the most up to date information and inflation expectations incorporated in the current yields.
3. *The risk free rate should be estimated by considering 5 year maturity bonds:* the preferred theoretical position is to choose a maturity that is consistent with the investment horizon. However, the CAPM framework does not define the actual length of an investment horizon. We have adopted a period of five years as our proxy for the investor horizon, which reflects a typical business planning period.

#### **4.3.2. Beta**

Beta is a measurement of the "non-diversifiable" risk of an asset relative to the risk of the market portfolio. It is defined as the covariance over time between returns on an asset and returns on the market portfolio, divided by the variance of returns on the market portfolio. An estimate of beta is typically obtained through an analysis of historic rates of return on the stock and rates of return on an aggregate market index.

There are two "technical" adjustments that need to be made to the regression (or raw) betas to ensure they are comparable. First, the raw betas (or historical betas, i.e. those betas obtained from the regression of the company's stocks against the market index) have been adjusted according to a simple deterministic formula:

$$\beta_{\text{equity}} = (0.67) * \beta_{\text{asset}} + (0.33) * 1.0.$$

This is referred to as the “Blume Adjustment” – it is a standard adjustment to take account of sampling errors.<sup>11</sup>

A further adjustment is then required to convert equity betas to asset betas. This adjustment involves calculating the “unlevered” beta of the company, defined as the value of beta for the company on the assumption that the company holds no debt. The formula we use which relates the equity and asset beta (the leveraging formula) is:

$$\beta_{\text{equity}} = \beta_{\text{asset}} (1 + D/E)$$

where  $\beta_{\text{equity}}$  is the estimated equity beta,  $\beta_{\text{asset}}$  is the asset beta, and D/E is the average debt to market capitalisation ratio over the period.

Since DP Mail is not separately quoted, the main practical issue we face in estimating a beta for DP Mail is how much weight to place on estimates of DP's beta. Market-based evidence on DP's beta relates to the risk of the company's activities as a whole rather than specifically its mail operations. In addition to mail services, DP also undertakes express services, financial services and logistics.

Our approach to this issue is first to examine the contribution of DP Mail to DP's overall revenues. We then examine evidence on the relative riskiness of the activities DP undertakes. We also examine evidence on beta for “comparator” companies, such as TPG. On the basis of all of this evidence, we form a view on the likely range within which the beta for DP mail lies. In general, one would expect the true beta to lie within the range of estimates rather than be at the top or bottom of the range.

Since we are, at this stage of the analysis in the Adjusted Present Value approach, estimating the cost of equity of DP's Mail division assuming that it is 100% equity financed, the equity beta at this stage of the analysis is equal to the asset beta. Consequently, our beta estimation in Section 4.6 below focuses on the asset beta instead of the equity beta.

### 4.3.3. Equity risk premium

The Equity Risk Premium (ERP) is the difference between the expected return on the market portfolio and the expected return on a risk free asset, (formally stated as  $E[r_m] - E[r_f]$  in Section 4.3).

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<sup>11</sup> Blume (1974) tested to see if forecasting errors based on historical estimates were biased. Blume demonstrated that there is a tendency for estimated betas to regress towards their mean value of one. The adjustment formula above captures this tendency.

Our preferred approach for estimating the equity risk premium is to calculate the average differences between realised (i.e. historical) returns on (a proxy for) the market portfolio and realised returns on (a proxy for) the risk free asset. This approach (also referred to as the “arithmetic mean approach”) is consistent with the hypothesis that financial markets are efficient, with equity returns serially independent. We believe this is consistent with the majority academic viewpoint and current evidence regarding the efficiency of equity markets.

There is no right time period to use when analysing historic data to estimate the ERP. Using long-term historic averages is most likely to overcome the possibility of systematic bias between expectations and outturns. Long-term averages of returns are most appropriate if it is assumed that the equity risk premium is constant over the measurement period and will remain constant in the future.

We also take into account regulatory precedent with respect to estimates of the equity risk premium.

#### 4.4. Summary of CAPM Estimates

Table 4.1 summarises our estimates of DP Mail's cost of equity as measured using the CAPM.

**Table 4.1**  
**Summary of DP Mail's CAPM Estimates**

CAPM Parameter	Current Estimate	Basis for Estimates
Nominal risk free rate	3.4%	Average Yields on 5 year maturity government bonds ( <i>section 4.5</i> )
Equity risk premium	6.0%	Long run historic data on equity returns (for Germany, France, UK and US markets), and recent academic studies. ( <i>section 4.6</i> )
$\beta$	0.6-0.8	Regression analysis of historic returns on UPS and TPG stock against returns on aggregate market indices. ( <i>section 4.7</i> )
Nominal Post Tax Cost of Equity	7.0%-8.2%	Calculated as: Risk free rate + beta *equity risk premium ( <i>section 4.8</i> )

In the next sections we describe in more detail the evidence that we have considered in deriving these estimates.

#### 4.5. Risk-Free Rate

Table 4.2 presents a range of German government debt issues, with our preferred proxies for the risk-free rate in bold. Our preferred measures of the risk free rate are 3-month average spot rates for German government debt, with maturities corresponding to beginning of 2008.

**Table 4.2**  
**German Government Debt: Yield to Maturity (YTM)**

Issue Date	Maturity Date	Coupon	Current <sup>(1)</sup>	3 Month Average <sup>(2)</sup>		1 Year Average <sup>(3)</sup>	
			YTM	YTM	Standard Deviation	Value	Standard Deviation
07/05/93	22/04/03	6.75	2.64	2.778	0.08	3.32	0.43
21/05/99	17/02/04	3.25	2.41	2.66	0.16	3.41	0.60
17/11/99	18/02/05	4.25	2.46	2.79	0.21	3.62	0.66
16/02/96	16/02/06	6	2.73	3.11	0.24	3.91	0.64
10/01/97	04/01/07	6	2.95	3.34	0.24	4.08	0.59
<b>09/01/98</b>	<b>04/01/08</b>	<b>5.25</b>	<b>3.13</b>	<b>3.51</b>	<b>0.23</b>	<b>4.20</b>	<b>0.57</b>
<b>19/08/02</b>	<b>15/02/08</b>	<b>4.25</b>	<b>3.16</b>	<b>3.30</b>	<b>0.12</b>	-	-
08/01/99	04/01/09	3.75	3.36	3.73	0.22	4.37	0.53

Source: Bloomberg.

Note: (1) Mid yield to maturity as of 17/02/2003; (2) Mid yield to maturity averaged over 17/11/2002 to 17/02/2003; (3) Mid yield to maturity averaged over 17/02/2002 to 17/02/2003.

On the basis of this evidence, we therefore assume the appropriate risk-free rate is equal to 3.4 per cent, which is the mid-point of the two highlighted bonds<sup>12</sup>.

<sup>12</sup> 3-month average yields to maturity.

## 4.6. DP Mail's Beta

### 4.6.1. Evidence on beta for DP

DP has been listed on the Frankfurt Stock Exchange since November 2000. Table 4.3 presents estimates of DP's equity and associated asset betas on a yearly basis over the last two years. Equity betas have been adjusted in a standard manner<sup>13</sup>, to take into account of biases in the raw betas.

**Table 4.3**  
**Evidence on Beta for Deutsche Post**

Period	Adjusted Equity Beta <sup>(1)</sup>	Gearing <sup>(2)</sup>	Standard Error of Beta	Implied Asset Beta <sup>(3)</sup>
02/01-02/03	0.89	0.14	0.15	0.78

Source: NERA analysis of Bloomberg data.

Note: All calculations are based on weekly data. All equity betas are estimated against the Dow Jones European Stoxx Index.

(1) Raw betas have been adjusted according to  $\beta_{equity-adjusted} = (0.67) * \beta_{equity-raw} + (0.33) * 1.0$ .

(2) Gearing is estimated as the debt to market capitalisation ratios, and are based on average value during the period over which the beta is measured, calculated using most recent figures for 2001/2 taken from interim releases.

(3) Betas have been unlevered using the following formula:  $\beta_{equity} = \beta_{asset}(1+(Debt/Equity))$ .

Table 4.3 shows that the average asset beta for DP over the whole period is 0.78.<sup>14</sup> In Figure 2.2 on page 6, we have seen the importance of the Mail Division for Deutsche Post. We have seen that in 2002, the Mail division contributed 72 per cent to DP's profit in EBIT terms.

Since beta is a measure of volatility of returns, and the mail sector currently provides the largest contribution to DP's profit, the Mail division can be considered to be the most important influence on DP's overall beta.

<sup>13</sup> The raw historical equity betas derived from the regression have been adjusted according to a simple deterministic formula:  $\beta_{adjusted} = (0.67) * \beta_{raw} + (0.33) * 1.0$ . These adjusted betas are reported in the table. This adjustment has been made to reflect the assumption that a security's true beta will move towards the market average of 1 over time.

<sup>14</sup> The betas have been estimated on the basis of an assumed gearing (debt to market capitalisation) ratio of 0.14 over the period. As financial year information is not yet available for 2002, we have used 2001 data. Deutsche Post issued two bonds worth €1.5bn in 2002. However, DP has stated that the proceeds from the bonds will be used "to convert short-term financing liabilities into long-term debt without increasing the Group's level of debt" (Deutsche Post (2002) "Interim Report: January 1 to September 30, 2002", p.6). Assuming a gearing of 0.14 over 2002 does therefore not appear to be unreasonable.

#### 4.6.2. Relative riskiness of DP's activities

As part of this study we have also analysed, in a largely qualitative manner, the relative riskiness of DP's activities. Our general conclusion is that DP's mail services are likely to be perceived as less exposed to general macro-economic risks than DP's other activities. This reflects the fact that the Mail division operates largely in a statutory monopoly with regulated tariffs, and low income and price elasticities of demand, whereas the other three divisions are exposed to more competition. We would also expect demand for express, logistics and financial services to be more price and income elastic than demand for mail services, meaning that revenues would be more sensitive to changes in economic conditions than the traditional letter mail business.

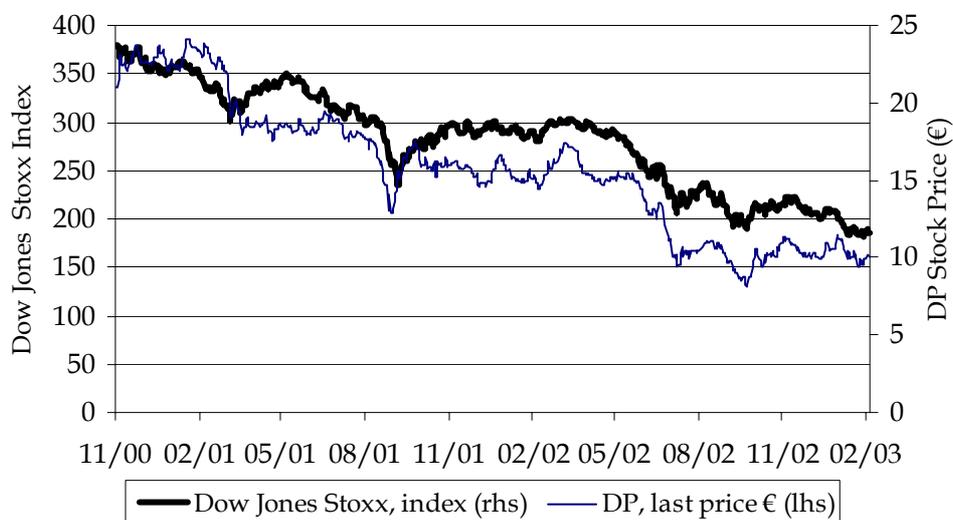
Although the Mail division of DP is currently less exposed to macro-economic risks than the other activities, it is exposed to regulatory risk. This has two aspects. First, the regulatory framework is currently subject to transition, with full liberalisation of the Mail division set to occur in 2008, as part of a process that has seen the reserved licence area reduced in stages. As the mail sector becomes more competitive, and the non-reserved sectors provide initial access for increasing numbers of entrants preparing for full access in 2006/8, we would expect to see increasing measured market risk for the Mail division, relative to DP's other more mature unregulated and competitive sectors.

The second aspect of regulatory risk is the impact of price reviews on returns. An examination of DP's share price movements around the time of the price review in July 2002 suggests that the price review impacted negatively and permanently on DP's share price.<sup>15</sup> DP's share price movements are shown in Figure 4.4 below, along with movements in the Dow Jones European Stoxx Index.

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<sup>15</sup> "The RegTP's intended decision to reduce postal rates, announced on July 10, then saw our share price fall by more than 10% within 24 hours..." Report by the Board of Management: Outlook Capital Markets, p6 DP Interim Report, 2002

**Figure 4.4**  
**Changes in DP Share Price versus Changes in the Dow Jones European Stoxx Index.**



Source: Bloomberg

The relationship between the Stoxx market index and DP's share price appears to have fundamentally changed during the early/mid-point of 2001, with DP's share price tracking the market index more closely after this point, resulting in a higher beta.

This is in all likelihood due to several influences:

- Firstly the effects of the admission of DP stock to the DAX, on March 19<sup>th</sup> 2001. Although this does not represent a fundamental change in relative sector risk, it does imply greater exposure to trend investor movements in the reference market.
- Secondly, the impact of acquisitions by DP of logistics and express companies during this period may have increased systematic risk relative to the European Stoxx Index.

In terms of the price review in July 2002, this may not have been solely responsible for the downward shift in DP's share price in mid-2002 but it is increasingly recognised that investors demand compensation for uncertainty regarding the outcomes of periodic price reviews<sup>16</sup>.

The difference in risk between DP's mail and non-mail activities can be further examined by looking at "comparator companies" for logistics and express activities. We have estimated the betas for two US postal operators, UPS and Federal Express. These companies both

<sup>16</sup> See for example Antoniou A. and Pescetto G., "The effect of regulatory announcements on the cost of equity capital of British Telecom", Journal of Business Finance & Accounting, 1997.

operate mainly in the express sector (with some activity in the logistics sector). Beta estimates for these two companies are shown in Table 4.5 below. As Federal Express and UPS are quoted on the US stock exchange, in order to ensure comparability, we have estimated all companies' betas against the FTSE World Index.

**Table 4.5**  
**Betas 2 Year Weekly World Indices**

Company Name	Index	Adjusted Equity Beta <sup>(1)</sup>	Debt to Market Capitalisation <sup>(1)</sup>	Standard Error of Beta	Implied Asset Beta <sup>(1)</sup>
Deutsche Post	FTSE World € <sup>(2)</sup>	0.85	0.14	0.17	<b>0.75</b>
UPS	FTSE World \$ <sup>(3)</sup>	0.62	0.07	0.08	<b>0.58</b>
Federal Express	FTSE World \$ <sup>(3)</sup>	0.89	0.12	0.13	<b>0.77</b>

Source: NERA analysis of Bloomberg data. All calculations are for the period 17/02/02-17/02/03

(1) See notes to Table 4.9

(2) FTSE World Index in Euros

(3) FTSE World Index in US Dollars

The beta for Federal Express is slightly higher than the asset beta for DP, while the beta for UPS is somewhat lower. Activity concentration in differing markets (US for Federal Express and UPS, versus Europe for DP) makes the comparison a useful guideline, but should not be wholly relied upon due to differing market country-characteristics. Nevertheless, the analysis does not suggest that there is a significant difference between DP's overall riskiness and the implied relative riskiness of "pure play" predominantly express operators such as UPS and Federal Express.

In terms of the Financial Services component of DP's overall beta, the use of comparators in order to pinpoint an accurate beta estimate for this sector is more complicated, due to the need for an organisation of similar national standing, but with the same private-to-corporate client ratio. Deutsche Bank, perhaps the most appropriate comparator, has an equity beta of 1.4. For similar gearing to DP as a whole, this would give an asset beta of 1.23. However, Postbank's beta should be lower than this. Deutsche Bank relies much more heavily on global and corporate investment than Postbank, which in September 2002 had 10 times as many smaller private checking accounts than corporate checking accounts<sup>17</sup>. Postbank's beta therefore, whilst likely to be higher than that of mail, due to greater market exposure in revenue earnings terms, is not likely to represent as much of a margin as suggested by more corporate and international comparators.

<sup>17</sup> p14 DP Interim Report 2002

In conclusion, a brief qualitative assessment of the relative risks suggests that whilst non-mail sectors exhibit higher beta risk than the mail sector,<sup>18</sup> the combination of the domination of profits (over 70% over 2002) by DP's Mail division and the likely size of risk mark-up on the mail risk for non-mail sectors, suggests that DP's overall beta can reliably be considered an upper bound for mail beta risk.

#### 4.6.3. Evidence on beta for comparator companies

Because of concerns about the robustness of a single regression result, it is also common to compare a beta estimate with beta estimates for "comparator" companies who operate in the same economic sector and are likely to face similar business risks (and therefore have similar betas). TPG was selected as a main comparator as it is a major quoted European mail operator, and mail is the business activity from which it derives the majority of its earnings. Like DP, it also undertakes express and logistics services. A brief description of TPG is given in Table 4.6.

**Table 4.6**  
**TPG: Description of Operations**

Company	Company Description
TPG	TPG NV collects, transports, stores, sorts, and distributes letters, printed matter, parcels, documents, and freight items. The Company provides mail and logistics services domestically and internationally.

*Source: Bloomberg.*

Table 4.7 sets out the key financial indicators of TPG compared to DP. Table 4.8 contains a breakdown of its revenues and earnings before interest, taxation and goodwill amortisation (EBITA) by business activity.

**Table 4.7**  
**Financial Indicators for TPG Compared to DP**

Company	Current market cap, €m	Debt/market cap	Moody's issuer rating	Sovereign ownership	Main equity listing
DP	11.28	0.14	Aa3	50%	Frankfurt (DAX)
TPG	6.83	0.19	A1	35%	Amsterdam (AEX)

*Source: Bloomberg*

<sup>18</sup> Principally due to higher income and price sensitivity of demand, greater corporate reliance and greater competition.

**Table 4.8**  
**TPG Product Segmentation: Sales Revenue and EBITA (Q1-Q3; 2001-2002)**

	2001		2002	
	€m	%	€m	%
Mail	541	64.79	557	68.09
Express	97	11.62	148	18.09
Logistics	127	15.21	120	14.67
Financial Services	na	na	na	na
Other/Consolidation	70	8.38	-7	-0.86
<b>Total</b>	<b>835</b>	<b>100</b>	<b>818</b>	<b>100</b>

Source: TPG "Highlights of Third Quarter 2002 Results"

Like DP, TPG derives the majority of its earnings from mail services. The remainder is made up by logistics and express activities. Table 4.9 presents TPG's equity and asset beta estimates for the same time periods used for DP's estimates.

**Table 4.9**  
**TPG's Beta Estimates**

Period	Adjusted Equity Beta <sup>(1)</sup>	Gearing <sup>(2)</sup>	Standard Error of Beta	Implied Asset Beta <sup>(3)</sup>
02/01-02/03	0.94	0.20	0.12	0.78

Source: NERA analysis of Bloomberg data.

Notes: The calculation is based on weekly data. The equity beta is estimated against the Dow Jones European Stoxx Index. (1) Raw betas have been adjusted according to  $\beta_{\text{equity-adjusted}} = (0.67) * \beta_{\text{equity-raw}} + (0.33) * 1.0$ . (2) Gearing is estimated as the debt to market capitalisation ratios, and are based on average value during the period over which the beta is measured, calculated using most recent figures for 2001/2 taken from interim releases. (3) Betas have been unlevered using the following unlevering formula:  $\beta_{\text{equity}} = \beta_{\text{asset}}(1 + (\text{Debt}/\text{Equity}))$ .

Table 4.9 shows that TPG's two year weekly asset beta is also equal to 0.78, exactly the same as DP's asset beta over the same period 02/01 to 02/03.

#### 4.6.4. Further evidence on beta: UK regulatory precedent

We have also examined regulatory precedent on beta from UK regulators' decisions. Our analysis is presented in Table 4.10 below.

**Table 4.10**  
**UK Regulatory Precedent on Beta**

	<b>Allowed Asset Beta</b>	<b>Allowed Equity Beta</b>	<b>Gearing</b>	<b>Implied Asset Beta</b>
Water (1999)	-	0.7-0.8	50	0.38
Public Electricity Suppliers (PES) (1999)	-	1	50	0.5
National Grid Company (NGC) (2000)	0.4	1	60	0.4
Transco (2001)	0.45	1	62.5	0.38
British Telecommunications (BT) (2001)	-	1.29	30	0.90
British Airports Authority (BAA) (2002)	-	0.8-1.0	25	0.68

*Source: Various regulatory decisions, UK*

The Table shows that asset betas for UK utilities range from around 0.4 for gas, electricity and water, to 0.9 for telecoms. We have not examined in detail the relative riskiness of regulated mail services versus the industries listed above, although we would suggest that mail services would be likely to be perceived to be of higher risk than the natural monopoly utilities industries of water, electricity and gas, but less risky than the competitive industries of telecoms. Transport industries such as BAA may represent better comparators for the mail industry than the other industries, although BAA operates in a more naturally monopolistic market with less competition than the mail industry.

As a check on these numbers we have also examined the betas of two key German utilities, RWE and E.ON. These two companies have respective asset betas of 0.52 and 0.54.<sup>19</sup>

<sup>19</sup> Despite differing operating environments (with RWE and E.ON operating in an environment more similar to DP's operating environment than the UK comparators), these betas are of a comparable magnitude to similar UK utilities, reflecting natural monopoly elements of market structure. This confirms the suitability of examining UK utilities as a scale against which to examine the DP mail beta.

#### 4.6.5. Conclusions on DP's beta

We have examined evidence on the asset beta for DP's mail activities from a number of sources. We summarise the evidence as follows:

- Evidence on DP's asset beta over the whole two-year period 02/01 to 02/03 shows a central estimate of 0.78.
- Our analysis shows that DP's mail service provides over 70% of DP's profit for 2002 and can therefore be considered to be the most important influence on DP's overall beta.
- We have examined evidence on the relative riskiness of DP's mail activities with DP's other activities:
  - Our qualitative analysis suggests that DP's mail service is likely to be perceived as less exposed to macro-economic demand and competition risks than DP's other activities. Against this, we note that DP's mail service is exposed to regulatory risk from price reviews and changes to the regulation framework.
  - Evidence on beta for US companies UPS and Federal Express that operate in express and logistics markets suggests an asset beta estimate for these companies in the range of 0.58-0.77. This evidence does not therefore suggest that there is a significant difference between DP's overall riskiness and the relative riskiness of its logistics and express operations.
- We have examined evidence on asset beta for TPG that similarly derives the majority of its earnings from mail services. This evidence shows that TPG's beta is also equal to 0.78 over the period 02/01 to 02/03, the same as DP's beta estimate over this time period.
- We have also examined UK regulatory precedent on beta for utility industries. Our analysis shows beta estimates in the range from around 0.4 for low risk monopolistic industries such as electricity, water and gas to 0.9 for higher risk more competitive industries such as telecoms. We would expect the beta for mail services to lie towards the middle to upper end of this range.

Overall, we conclude that the beta for DP's mail activities is likely to lie in the range of 0.6-0.8. The upper end of this range is based on the evidence on beta for DP and TPG as a whole. Whilst there is no strong empirical evidence to suggest that DP's mail services are significantly less risky than DP's other activities, we consider that this is likely to be the case. Based on an examination of asset betas for other industries we consider it very unlikely, however, that DP's mail services asset beta would lie below 0.6.

## 4.7. Equity Risk Premium

### 4.7.1. Introduction

Table 4.11 presents estimates of long-run (1900-2000) estimates of the ERP for a selection of eurozone countries, as well as UK, US and a world average.

This Table shows that the country with the highest ERP is Germany, with an ERP between 9.9 and 10.3 depending on whether it is calculated with respect to bonds or bills. This might be related to the relative small size and diversity (relative to UK and US) of the German stock market indices (the DAX).

The ERP is a function of investor preferences and the standard deviation of the market portfolio. Assuming that investors' risk preferences are relatively consistent across countries, well-diversified markets outside of the eurozone reference market are also relevant in determining the ERP.

Thus, in addition to evidence from eurozone members, we also present evidence from the UK and US, which represent well-diversified equity capital markets. Their respective ERP's lie in the range of 6.5% to 5.6% (UK) and 7.5% to 6.9% (US), in line with a world average of 7.5% to 6.9%.

**Table 4.11**  
**Long Run Ex Post Equity Risk Premia**

	ERP relative to Bills		ERP relative to Bonds	
	Arithmetic	Std. dev.	Arithmetic	Std. dev.
<b>Eurozone</b>				
Ireland	6.7	23.2	6.0	20.4
France	9.9	23.8	7.1	21.6
Germany	10.3	35.3	9.9	28.4
<b>Other</b>				
UK	6.5%	19.9%	5.6%	16.7%
USA	7.5%	19.8%	6.9%	19.9%
<b>World average<sup>1</sup></b>	<b>7.5%</b>	<b>N/a</b>	<b>6.7%</b>	<b>N/a</b>

Source: LBS / ABN AMRO (2001) "Millennium Book II, 101 years of investment returns". The estimates are based on 100 years of data, with 1922/3 excluded for Germany where hyperinflation had a major impact on the risk premia and bills returned. (1) The countries included in this average are: Australia, Belgium, Canada, Denmark (from 1915), France, Germany, Ireland, Italy, Japan, Netherlands, Spain, Sweden, Switzerland (from 1911), UK and USA.

However, there is an important issue of consistency here. Our preferred risk-free rate measure is a bond proxy (see section 4.5). Therefore, we should also look at historic ERP's measured with respect to bonds. This suggests, in conclusion, an ERP in the range of 6-7% for a eurozone investor opportunity set in relation to a bond measured ERP.

#### 4.7.2. Regulatory precedent

Recent UK regulatory estimates by Oftel, Ofgem, the ORR and Ofwat of the UK equity risk premium are in the range of 3.5% -- 5%. In the most recent draft price review for Transco, Ofgem<sup>20</sup> has set the equity risk premium at 3.5%, based on recent surveys and previous Competition Commission decisions. The Competition Commission (2000)<sup>21</sup> used an equity risk premium of 4% in its review of the price limits for Mid Kent Water and Sutton and East Surrey Water. In February 2001, Oftel published its proposals for network charge and retail price controls from 2001 for BT using an assumed equity risk premium of 5%. These estimates of the equity risk premium rely heavily on small sample survey evidence of the equity risk premia by CLSE (1999)<sup>22</sup>, NERA (1998)<sup>23</sup> and other evidence from Investment Bank analysts.

Apart from the problem of small sample sizes, we have some doubts about the methodology used in these sample surveys. We also believe that the results of the sample surveys have been misinterpreted. In view of that, we do not use UK regulatory precedent in drawing conclusions on the equity risk premium for DP Mail. Instead, we prefer to look at more robust results in other European regulatory domains, as well as Australia and US. In particular, the US decisions are subject to intense legal scrutiny and we believe their rate-case evidence is more reliable.

In the Netherlands, the electricity regulator DTe published its guidelines for price cap regulation in the period from 2000 to 2003 whereby it "*considers it reasonable to fix the market risk premium between 4% and 7%*"<sup>24</sup>. This was derived on the basis of the available data and responses from the sector. This is in line with the decision of OPTA Commission in assessing the telephone tariffs. More recently, the telecommunications regulator OPTA published its decisions for KPN, using an ERP estimate of 6.0%.

In the US, although the CAPM is not widely used to estimate the cost of equity, the most widely quoted source used in the rate of return cases of the equity risk premium is the Ibbotson data. The method recommended by Ibbotson is to compute, for each year, the excess of the stock market return over the long-term Treasury bond yield prevailing at the beginning of that year, and then arithmetically average them over the years.

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<sup>20</sup> "Review of Transco's price control from 2002, Draft Proposals", June 2001, Ofgem

<sup>21</sup> Competition Commission (2000), Mid-Kent Water plc.

<sup>22</sup> Credit Lyonnais Securities Europe (1998), "Risk and Return in the UK water sector: An independent survey of institutional investors", Credit Lyonnais Securities, London

<sup>23</sup> NERA (1998) Survey of Financial Markets on Cost of Capital Issues

<sup>24</sup> "Guidelines for price cap regulation of the Dutch electricity sector in the period from 2000 to 2003", Netherlands Electricity Regulatory Service, February 2000

Using the Ibbotson method we derive an ERP of 8.0%. The final adopted figures following the rate-cap review are generally in the range of 6% - 7%. Such estimates are based on detailed and robust survey data from the IBES database, and historical evidence. Table 4.12 shows an example of the ranges accepted.

**Table 4.12**  
**Recent Decisions Regarding the Equity Risk Premium in the US**

Decision	ERP estimate	Comments
Connecticut Department of Public Utility Control Decision 98-01-02 (February 1999) for Connecticut Power & Light Company	6.52%, 5.89%	Different witnesses performed the CAPM calculation with different ERPs. These are the ERPs used in the CAPM calculations that the Commission approved of.
Maine Public Utilities Commission, Decision 97-580 (March 1999) for Central Maine Power Company	7.40% - 8.90%	The Commission uses CAPM analysis as a check on the DCF method, and employs this range of ERPs, based on witnesses' recommendations.
Public Service Commission of Utah, Decision 97-035-01 (March 1999) for PacifiCorp, dba Utah Power and Light	7.8%	Use CAPM as check to DCF model.
Connecticut Department of Public Utility Control Decision 99-04-18 (January 2000) for Southern Connecticut Gas Company	6.13%	The Commission used a Risk Premium Method to check DCF. The ERP is the arithmetic average from 1974-1998.
Public Utility Commission of Oregon Order 99-697 (November 1999) for Northwest Natural Gas	8.5%	Commission chose the ERP for use in CAPM.

In recent decisions, Australian regulators have concluded that the market risk premium is most likely to lie in the range of 5.0% to 6.0%. The most recent regulatory decision by the ACCC in the price review of Sydney Airports used an equity risk premium of 6%. Australian gas and electricity regulators have chosen to set the equity risk premium in the range of 5% - 6%.

#### 4.7.3. Conclusions on the equity risk premium

Our estimate of the appropriate ERP for estimating a cost of capital for DP mail is based on:

- A survey of long run historic ERP in eurozone and other equity capital markets. This suggests an ERP of between 6 to 7 per cent, on the basis of ERP's measured with respect to bonds.

- A survey of regulatory decisions in Europe, Australian and ERP. Excluding UK regulatory precedent, which we believe is largely unsound, regulatory decisions worldwide support an ERP in the range of 5 to 7 per cent.

We believe that greater weight should be placed on our long-term estimates as calculated by LBS/ ABN AMRO and from robust US regulatory precedent, based on Ibbotson data, and which is subject to intensive rate case review procedures.

On this basis our best estimate of the ERP for the eurozone "market portfolio" is 6 per cent.

#### 4.8. Inflation

Table 4.13 sets out our forecast for inflation over the period of analysis as provided by Consensus Forecasts, which compiles inflation forecasts on the basis of a survey of private sector and public sector entities. This suggests an inflation forecast of approximately 1.9% over a five-year period for the eurozone.

**Table 4.13**  
**Eurozone Inflation Forecasts**

Year	2003	2004	2005	2006	2007-2011
Eurozone Inflation	1.9	1.9	2.0	1.9	1.9

Source: Consensus Forecasts 2002-2012, page 14.

#### 4.9. Taxation

The statutory corporate tax rate in Germany is estimated to be 38.4%, based on KPMG's 2002 corporate tax survey, which assumes a corporate tax rate of 25%, combined with a solidarity surcharge of 5.5% and an average trade tax of 16.3%.<sup>25</sup>

However, the effective tax rate paid by a company is likely to differ from the statutory rate. Table 4.14 presents the effective tax rate of DP over the last three years. On this basis we have used an assumed effective tax rate of 25% in deriving a pre-tax cost of capital from our observed post-tax figure.<sup>26</sup>

<sup>25</sup> The trade tax is applied to profits prior to corporate taxation.

<sup>26</sup> Preliminary (January 1 –30<sup>th</sup> September 2002) evidence suggests an effective tax rate of 17.2%. However, due to the fact that end of year profits are key in determining final effective tax rates, and due to fairly constant effective tax rates over previous years, 25% has been used as the effective tax rate to calculate net cost of capital.

**Table 4.14**  
**DP's Effective Tax Rate (2000-2002)**

	Effective Tax Rate (%)
2000 <sup>(1)</sup>	25.07
2001 <sup>(1)</sup>	26.01

(1) Source: Bloomberg.

#### 4.10. Summary of Cost of Capital Parameters – Excluding Gearing Effect

Table 4.15 summarises our range estimate for the current cost of capital for DP Mail, assuming 100% equity financing and 0% gearing.

The Table assumes that DP Mail is entirely equity financed. We turn to the impact of debt financing on DP Mail's cost of capital in Section 4.11.

**Table 4.15**  
**Conclusions on DP Mail's Cost of Capital**

	Estimate
Risk Free Rate	3.4%
Equity Risk Premium	6.0%
Beta	0.6-0.8
Gearing	0%
<b>Nominal Post Tax Cost of Capital</b>	<b>7.0%-8.2%</b>
Assumed Tax Rate	25%
<b>Nominal Pre Tax Cost of Capital</b>	<b>9.3%-10.9%</b>
Inflation	1.9%
<b>Real Pre Tax Cost of Capital</b>	<b>7.3%-8.9%</b>

#### 4.11. Cost of Capital Including Gearing Effect

So far, we have calculated a cost of capital based on 0% gearing, i.e. we have assumed that DP Mail is entirely equity financed. Assuming a zero gearing avoids the difficulty of having to estimate debt premia when good empirical on the costs of debt data does not exist. Since DP has a significant government ownership stake, its costs of debt cannot be assumed to be representative of market rates.

At higher levels of debt than 0%, we would expect the cost of capital to reduce slightly as the company makes use of corporate tax shields available on debt. At a certain point, however, the expected value added by the interest tax shield is offset by the expected present value of the increased costs of financial distress. These include direct bankruptcy costs, but also

indirect costs associated with high levels of gearing such as monitoring of restrictive covenants, low liquidity of trade credits etc.

A rough estimate of the maximum impact of increased levels of debt on the cost of capital can be calculated using the following formula:

$$\text{Value of interest tax shield on cost of capital} = \text{Debt Costs} * \text{Tax Rate} * \text{Proportion of Debt Finance}$$

Based on this formula, the maximum amount we would expect the cost of capital to reduce through the use of debt finance would be in the region of 0.3%. This is based on the assumption that DP Mail faces market debt costs in the region of 4% real, that all debt is tax deductible at an effective tax rate of around 25% and that DP Mail would be able to sustain a level of gearing of around 30% without a significant increase in debt costs.

On the assumption that the cost of capital would reduce by a maximum of 0.3% through increased leverage, the current real pre tax cost of capital for DP Mail is likely to lie in the region of 7.0 and 8.6%. Given inflation of 1.9%; this implies a nominal pre-tax cost of capital of between 9.0 and 10.6%.

**Our overall conclusion in regard to the current nominal pre-tax cost of capital for Deutsche Post's Mail division is that it would lie in the region of 9.0% to 10.6%.**

## 5. THE PROFITABILITY OF DP'S MAIL DIVISION

### 5.1. Introduction

In the previous Section, we analysed the cost of capital of DP's Mail division. We concluded that the current pre-tax cost of capital of the Mail division is likely to be in the range of 9.0 and 10.6 per cent. We also argued that the cost of capital is a measure of the return required by investors, given the systematic risks involved in investing in the Mail division, and that the cost of capital is therefore an appropriate profitability benchmark.

In this Section, we compare the actual profitability of the Mail division with the cost of capital benchmark. We analyse the Return on Capital Employed (ROCE) in the Mail division in Section 5.2, and discuss the possible relationship between returns in the Mail division and those in the reserved sector in Section 5.3.

### 5.2. Return on Capital Employed in the Mail Division

Since 1999, Deutsche Post has provided a segmental breakdown of its accounts in accordance with the International Accounting Standards (IAS 14). Since the 1999 report also contained the segmental breakdown for 1998 for comparison purposes, we are able to assess the profitability of the Mail division during five consecutive years.

We are, as discussed in Section 3, primarily concerned with the Return on Capital Employed (ROCE) in the Mail division. ROCE is defined as follows:

$$ROCE = \frac{\text{Earnings before interest and taxes (EBIT)}}{\text{Capital employed}} = \frac{\text{Earnings before interest and taxes (EBIT)}}{\text{Total assets - current liabilities}}$$

In the segmental reporting according to IAS 14, EBIT is disclosed by segment. In addition, segment assets and segment liabilities are reported. We believe that the difference between segment assets and segment liabilities appropriately measures, on an accounting basis, the capital employed in the Mail division.<sup>27</sup>

Although Deutsche Post's accounts provide a breakdown by business segment, it is not possible to allocate all revenues, costs, assets and liabilities to individual segments. This for

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<sup>27</sup> Deutsche Post indicates that segment reporting was prepared in accordance with IAS 14 (Segment Reporting). It is indicated that segment assets are composed of noncurrent assets and current assets, excluding income tax receivables. Segment liabilities relate to non-interest bearing liabilities, excluding income tax liabilities. Since Return on Capital Employed (ROCE) is defined as earnings before interest and taxes (EBIT) divided by (total assets minus current liabilities), the difference between segment assets and segment liabilities in DP's account appropriately measures, on an accounting basis, the capital employed in DP's Mail Division.

example applies to certain intra-Group transactions that need to be eliminated when consolidating the segment accounts, and to certain overhead activities. To this end, an additional "other/consolidation" segment is included.

It could be argued that when assessing the profitability of individual segments, the other/consolidation segment should be allocated to the individual segments even if there is no clear method for doing so. For example, corporate overhead costs (e.g. investor relations) do not relate in a clear way to individual segments but do ultimately benefit them. On the other hand, as far as eliminating intra-Group transactions is concerned, the case for allocating the "other/consolidation" segment is less clear.

We therefore analyse the profitability of the Mail division in two ways:

- on the basis of the segmental figures provided in the accounts without allocating the "other/consolidation" segment; and
- on the basis of the segmental figures provided in the accounts plus an allocation of the "other/consolidation" segment.

In 2002, Deutsche Post made a change to its accounting methodology. Retail outlet operations, which were previously allocated to the Other/Consolidation segment, are now part of the Financial Services segment. As a result, the 2001 figures have been restated. A consequence of the change in accounting methodology is that the return on capital employed (ROCE) in the Mail segment is now higher than previously reported. The Tables below provide both the original and the restated 2001 figures.

Table 5.1 below contains the ROCE calculation without allocation of the "other/consolidation" segment.

**Table 5.1**  
**Key Financial Indicators for Deutsche Post's Mail Division, 1998-2002 (€m)<sup>28</sup>**

(€m)	1998	1999	2000	2001	2001	2002
Total revenue	11,272	11,671	11,733	11,707	11,707	11,666
Earnings before interest and taxes (EBIT)	944	1,008	2,003	1,958	1,958	1,656
Segment assets	5,484	5,925	5,586	5,049	4,414	4,311
Segment liabilities	1,084	1,341	1,405	1,246	1,020	1,027
<b>Return on capital employed (ROCE)</b>	<b>21.5%</b>	<b>22.0%</b>	<b>47.9%</b>	<b>51.5%</b>	<b>57.7%</b>	<b>50.4%</b>

*Source: Calculated from Deutsche Post AG annual reports 1999-2002*

<sup>28</sup> As a result of a change in accounting methodology, the 2001 figures have in the 2002 annual report been restated. The figure shows both the original and the restated 2001 figures.

In 1998 and 1999, the ROCE in the Mail division of Deutsche Post was around 22 per cent on this basis. In 2000, earnings before interest and taxes increased substantially and as a result, ROCE increased to almost 48 per cent. The 2000 annual report mentions that the main reason for this increase is a decrease in contributions to the pension fund for employed civil servants. In 2001, ROCE was about 58 per cent, with the apparent increase from 2000 largely due to the change in accounting methodology noted above. Between 2001 and 2002, ROCE fell from about 58 to just over 50 per cent. The 2002 annual report notes that this fall was due to cost increases in the Mail division.

The results of the second approach, allocating the "other/consolidation" segment to the individual segments, are shown in Table 5.2. We have allocated the "other/consolidation" segment on the basis of revenue shares of the individual segments. Details of the allocation can be found in Appendix A.

**Table 5.2**  
**Key Financial Indicators: Mail with Other/Consolidation Allocation, 1998-2002<sup>29</sup>**

(€m)	1998	1999	2000	2001	2001	2002
Total revenue	10,900	11,029	11,276	11,202	10,808	10,857
Earnings before interest and taxes (EBIT)	869	920	1,893	1,869	1,871	1,566
Segment assets	8,098	5,248	5,763	5,176	4,491	4,245
Segment liabilities	1,955	702	1,527	1,420	1,172	1,312
<b>Return on capital employed (ROCE)</b>	<b>14.1%</b>	<b>20.2%</b>	<b>44.7%</b>	<b>49.8%</b>	<b>56.4%</b>	<b>53.4%</b>

*Source: Calculated from Deutsche Post AG annual reports 1999-2002*

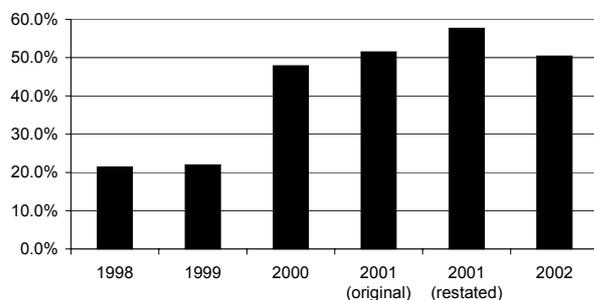
Table 5.2 shows that the result of the allocation of the "other/consolidation" segment is to somewhat reduce the ROCE compared to the situation where no such allocation takes place, except in 2002 where the reported assets for the "other/consolidation" segment are negative.

The ROCE in the Mail division after the allocation of the "other/consolidation" segment was almost 15 per cent in 1998, increasing to just over 20 per cent in 1999. In the year 2000, ROCE after the "other/consolidation" allocation jumped to a level of almost 45 per cent. After the change in accounting methodology, ROCE was over 56 per cent in 2001, falling to 53 per cent in 2002.

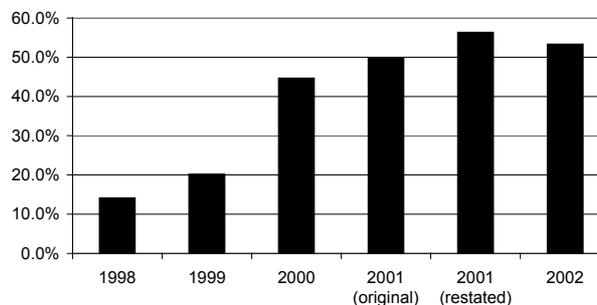
The ROCE figures according to both approaches are shown graphically in Figure 5.1 and Figure 5.2.

<sup>29</sup> As a result of a change in accounting methodology, the 2001 figures have in the 2002 annual report been restated. The figure shows both the original and the restated 2001 figures.

**Figure 5.1**  
**ROCE in Mail Division without**  
**Other/Consolidation Allocation, 1998-2002<sup>30</sup>**



**Figure 5.2**  
**ROCE in Mail Division with**  
**Other/Consolidation Allocation, 1998-2002<sup>31</sup>**



Source: Calculated from Deutsche Post AG annual reports 1999-2002

### 5.3. The Relationship Between Returns in the Mail Division and Returns in the Reserved Area

In the previous Section, we have provided estimates of the profitability of the Mail Division of Deutsche Post. A relevant question is also what the profitability in the reserved area is. Since no separate accounts for the reserved sector are currently available, this question cannot be answered at the present time.

It is however worth repeating the importance of the reserved sector for the Mail division of Deutsche Post. As we have seen in Section 2.3.2, the reserved sector accounts for around 68 per cent of turnover in the Mail division.

The question is whether the fact that the reserved sector is protected from competition might suggest that returns in the reserved sector are higher than in the remainder of the Mail division, which faces some competition. Again, no data are available to us that can provide indications of this.

The only comparisons that can be made are between the profitability of the Mail division and other divisions of Deutsche Post that operate in a competitive market. The return on capital employed in the various sectors of Deutsche Post (excluding "other/overhead" allocation) is shown in Table 5.3.

<sup>30</sup> As a result of a change in accounting methodology, the 2001 figures have in the 2002 annual report been restated. The figure shows both the original and the restated 2001 figures.

<sup>31</sup> As a result of a change in accounting methodology, the 2001 figures have in the 2002 annual report been restated. The figure shows both the original and the restated 2001 figures.

**Table 5.3**  
**Return on Capital Employed in Various DP Sectors**  
**(Excluding Other/Overhead Allocation, 1998-2002)<sup>32</sup>**

<b>(€m)</b>	<b>1998</b>	<b>1999</b>	<b>2000</b>	<b>2001</b>	<b>2001</b>	<b>2002</b>
Mail	21.5%	22.0%	47.9%	51.5%	57.7%	50.4%
Express	-0.5%	1.0%	1.0%	4.0%	4.1%	-1.2%
Logistics	n/a	1.1%	0.4%	1.3%	1.3%	3.3%
Mail+Express+Logistics	14.2%	11.9%	19.2%	20.9%	22.0%	13.0%

*Source: Calculated from Deutsche Post AG annual reports 1999-2002*

Table 5.4 shows the return on capital employed in the various sectors of Deutsche Post including "other/overhead" allocation.

**Table 5.4**  
**Return on Capital Employed in Various DP Sectors**  
**(Including Other/Overhead Allocation, 1998-2002)<sup>33</sup>**

<b>(€m)</b>	<b>1998</b>	<b>1999</b>	<b>2000</b>	<b>2001</b>	<b>2001</b>	<b>2002</b>
Mail	14.1%	20.2%	44.7%	49.8%	56.4%	53.4%
Express	-1.3%	-0.1%	-0.7%	2.5%	2.6%	-2.8%
Logistics	n/a	-2.5%	-2.0%	-0.9%	-0.8%	1.1%
Mail+Express+Logistics	9.3%	10.2%	16.7%	19.0%	20.2%	11.9%

*Source: Calculated from Deutsche Post AG annual reports 1999-2002*

Since the various divisions operate in different markets, the comparisons in Table 5.3 and Table 5.4 need to be interpreted with caution. Nevertheless, they show that Deutsche Post makes substantially higher returns on capital employed in the Mail division, where the majority of revenue is derived from their statutory monopoly, than in the other divisions, which operate in a competitive market.

<sup>32</sup> As a result of a change in accounting methodology, the 2001 figures have in the 2002 annual report been restated. The figure shows both the original and the restated 2001 figures.

<sup>33</sup> As a result of a change in accounting methodology, the 2001 figures have in the 2002 annual report been restated. The figure shows both the original and the restated 2001 figures.

## 6. CONCLUSIONS

In this report, we have analysed the profitability of the Mail division of Deutsche Post. We have argued that the relevant profitability measure is a return on capital measure as opposed to a return on sales measure. When analysing profits in an individual segment, as we do in the present report, Return on Capital Employed (ROCE) is an appropriate measure to use. This is to be compared with the cost of capital of the Mail division.

We estimate that the current cost of capital of the Mail division is between 9.0 and 10.6 per cent before tax.

Our most conservative profitability calculation (with an allocation of the “other/overhead” segment) shows that ROCE in the Mail division has since 1999 been 20 per cent or more. Between 2000 and 2002, the returns were in the order of 45 to 55 per cent respectively.

Based on our estimates, we conclude that profits in the Mail division, measured in terms of ROCE and based on Deutsche Post’s accounts, are substantially above the estimated cost of capital. This applies in particular to the years between 2000 and 2002.

It is also worth noting some general points in regard to the nature of these profits:

- First, we point out that the Mail division of Deutsche Post operates in a stable market. While volumes are no longer growing due to the development of new communication technologies, there are no signs of decline either. In 2002, revenue in the Mail division was only 0.4 per cent down on the equivalent period a year earlier, in spite of difficult economic conditions and increased competition.
- Second, the Mail division derives over 65 per cent of its revenue from a reserved sector where it is protected from competition. Even in the areas where the company does face competition, Deutsche Post’s share is still above 85 per cent as it benefits from the existence of its national network, something its competitors do not have. The reserved sector will be reduced in 2006, but not abolished until 2008.
- Third, the price cut that was imposed by the German regulator RegTP will, as RegTP itself admits, not reduce prices to cost oriented levels.<sup>34</sup>

In the 2002 annual report, Deutsche Post indicates that the price cuts will lead to an estimated 2003 revenue shortfall of €300m.

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<sup>34</sup> Regulierungsbehörde für Telekommunikation und Post, decision on Deutsche Post’s regulated tariffs of 26 July 2002, p.10

If the price cut had been implemented in 2002 and had directly fed through into profits, EBIT in the Mail division would have been in the order of €1,250m (as opposed to the actual level of around €1,550m).<sup>35</sup> Assuming a constant level of capital employed, this would still have resulted in a ROCE of just over 40 per cent.

On the basis of these factors, we do not regard it as likely that the current profit levels in the Mail division will come under pressure in the next few years, other than through the impact of the regulatory decision. As shown above, profits will remain substantially above our estimated cost of capital even when taking the impact of this decision into account.

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<sup>35</sup> This includes the "Other/consolidation allocation" (see Table 5.2) and assumes this allocation to be unaffected. In practice, lower revenue in the Mail division would, given the revenue-based allocation method, lead to reduced allocation of the losses in the "other/consolidation" segment to Mail, resulting in a slightly higher profit for the Mail division.

## APPENDIX A. DETAILED DATA

Table A.1 to Table A.4 below contains key financial indicators for the Mail, Express and Logistics divisions as reported in the annual reports of Deutsche Post AG, and the sum of these.

In 2002, Deutsche Post made a change to its accounting methodology. Retail outlet operations, which were previously allocated to the Other/Consolidation segment, are now part of the Financial Services segment. As a result, the 2001 figures have been restated. A consequence of the change in accounting methodology is that the return on capital employed (ROCE) in the Mail segment is now higher than previously reported. The Tables below provide both the original and the restated 2001 figures.

**Table A.1**  
**Key Financial Indicators: Mail, 1998-2002**

<b>(€m)</b>	<b>1998</b>	<b>1999</b>	<b>2000</b>	<b>2001</b>	<b>2001</b>	<b>2002</b>
Total revenue	11,272	11,671	11,733	11,707	11,707	11,666
Earnings before interest and taxes (EBIT)	944	1,008	2,003	1,958	1,958	1,656
Segment assets	5,484	5,925	5,586	5,049	4,414	4,311
Segment liabilities	1,084	1,341	1,405	1,246	1,020	1,027
<b>Return on capital employed (ROCE)</b>	<b>21.5%</b>	<b>22.0%</b>	<b>47.9%</b>	<b>51.5%</b>	<b>57.7%</b>	<b>50.4%</b>

*Source: Calculated from Deutsche Post AG annual reports 1999-2002*

**Table A.2**  
**Key Financial Indicators: Express, 1998-2002**

<b>(€m)</b>	<b>1998</b>	<b>1999</b>	<b>2000</b>	<b>2001</b>	<b>2001</b>	<b>2002</b>
Total revenue	3,818	4,904	6,022	6,421	6,421	12,489
Earnings before interest and taxes (EBIT)	-11	35	33	126	126	-79
Segment assets <sup>36</sup>	2,761	4,607	4,272	4,112	3,954	8,651
Segment liabilities	574	1,220	934	957	901	2,043
<b>Return on capital employed (ROCE)</b>	<b>-0.5%</b>	<b>1.0%</b>	<b>1.0%</b>	<b>4.0%</b>	<b>4.1%</b>	<b>-1.2%</b>

*Source: Calculated from Deutsche Post AG annual reports 1999-2002*

<sup>36</sup> Investments in associates not included.

**Table A.3**  
**Key Financial Indicators: Logistics, 1998-2002**

<b>(€m)</b>	<b>1998</b>	<b>1999</b>	<b>2000</b>	<b>2001</b>	<b>2001</b>	<b>2002</b>
Total revenue	0	4,218	8,289	9,153	9,153	9,152
Earnings before interest and taxes (EBIT)	0	10	13	42	42	100
Segment assets <sup>37</sup>	0	3,070	5,355	5,330	5,330	4,601
Segment liabilities	0	2,161	2,213	2,097	2,097	1,602
<b>Return on capital employed (ROCE)</b>	<b>n/a</b>	<b>1.1%</b>	<b>0.4%</b>	<b>1.3%</b>	<b>1.3%</b>	<b>3.3%</b>

*Source: Calculated from Deutsche Post AG annual reports 1999-2002*

**Table A.4**  
**Key Financial Indicators: Mail+Express+Logistics, 1998-2002**

<b>(€m)</b>	<b>1998</b>	<b>1999</b>	<b>2000</b>	<b>2001</b>	<b>2001</b>	<b>2002</b>
Total revenue	15,090	20,793	26,044	27,281	27,281	33,307
Earnings before interest and taxes (EBIT)	933	1,053	2,049	2,126	2,126	1,677
Segment assets	8,245	13,602	15,213	14,491	13,698	17,563
Segment liabilities	1,658	4,722	4,552	4,300	4,018	4,672
<b>Return on capital employed (ROCE)</b>	<b>14.2%</b>	<b>11.9%</b>	<b>19.2%</b>	<b>20.9%</b>	<b>22.0%</b>	<b>13.0%</b>

*Source: Calculated from Deutsche Post AG annual reports 1999-2002*

In addition to these segment figures, the Deutsche Post AG accounts include an “other/consolidation” segment. By means of this segment, transactions between the corporate divisions are eliminated and non-allocable items such as corporate overhead costs are allocated.

Table A.5 contains the key financial indicators for the “other/consolidation” segment from 1998 to 2002.

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<sup>37</sup> Investments in associates not included.

**Table A.5**  
**Key Financial Indicators: Other/Consolidation, 1998-2002**

<b>(€m)</b>	<b>1998</b>	<b>1999</b>	<b>2000</b>	<b>2001</b>	<b>2001</b>	<b>2002</b>
Total revenue	-501	-1,301	-1,326	-1,506	-2,778	-2,924
Earnings before interest and taxes (EBIT)	-101	-179	-319	-264	-270	-325
Segment assets <sup>38</sup>	3,518	-1,374	513	379	238	-238
Segment liabilities	1,172	-1,295	354	518	468	1,030

*Source: Calculated from Deutsche Post AG annual reports 1999-2002*

We have allocated the items of the “other/consolidation” segment in Table A.5 to the individual segments on the basis of the revenue of each individual segment. The revenue figures in Table A.1 to Table A.3 above have been used as basis for the allocation. The allocation takes into account the existence of a fourth segment “Financial Services”: part of the “other/consolidation” items are allocated to this segment (which we do not consider further in the present report) on the basis of its revenue share.<sup>39</sup>

Table A.6 to Table A.9 below contain the key financial indicators for each segment after the allocation of the “other/consolidation” figures, and the sum of these.

**Table A.6**  
**Key Financial Indicators: Mail with Other/Consolidation Allocation, 1998-2002**

<b>(€m)</b>	<b>1998</b>	<b>1999</b>	<b>2000</b>	<b>2001</b>	<b>2001</b>	<b>2002</b>
Total revenue	10,900	11,029	11,276	11,202	10,808	10,857
Earnings before interest and taxes (EBIT)	869	920	1,893	1,869	1,871	1,566
Segment assets	8,098	5,248	5,763	5,176	4,491	4,245
Segment liabilities	1,955	702	1,527	1,420	1,172	1,312
<b>Return on capital employed (ROCE)</b>	<b>14.1%</b>	<b>20.2%</b>	<b>44.7%</b>	<b>49.8%</b>	<b>56.4%</b>	<b>53.4%</b>

*Source: Calculated from Deutsche Post AG annual reports 1999-2002*

<sup>38</sup> Investments in associates not included.

<sup>39</sup> The revenue figures for the Financial Services segment that have been used are €81m in 1998; €2,871m in 1999; €7,990m in 2000, €8,876m in 2001 and €8,872m in 2002.

**Table A.7**  
**Key Financial Indicators: Express with Other/Consolidation Allocation, 1998-2002**

<b>(€m)</b>	<b>1998</b>	<b>1999</b>	<b>2000</b>	<b>2001</b>	<b>2001</b>	<b>2002</b>
Total revenue	3,692	4,634	5,787	6,144	5,928	11,623
Earnings before interest and taxes (EBIT)	-36	-2	-23	77	78	-175
Segment assets	3,646	4,322	4,363	4,182	3,996	8,581
Segment liabilities	869	952	997	1,052	984	2,348
<b>Return on capital employed (ROCE)</b>	<b>-1.3%</b>	<b>-0.1%</b>	<b>-0.7%</b>	<b>2.5%</b>	<b>2.6%</b>	<b>-2.8%</b>

*Source: Calculated from Deutsche Post AG annual reports 1999-2002*

**Table A.8**  
**Key Financial Indicators: Logistics with Other/Consolidation Allocation, 1998-2002**

<b>(€m)</b>	<b>1998</b>	<b>1999</b>	<b>2000</b>	<b>2001</b>	<b>2001</b>	<b>2002</b>
Total revenue	0	3,986	7,966	8,758	8,450	8,518
Earnings before interest and taxes (EBIT)	0	-22	-65	-27	-26	29
Segment assets	0	2,825	5,480	5,429	5,390	4,549
Segment liabilities	0	1,930	2,299	2,233	2,215	1,825
<b>Return on capital employed (ROCE)</b>	<b>n/a</b>	<b>-2.5%</b>	<b>-2.0%</b>	<b>-0.9%</b>	<b>-0.8%</b>	<b>1.1%</b>

*Source: Calculated from Deutsche Post AG annual reports 1999-2002*

**Table A.9**  
**Key Financial Indicators: Mail+Express+Logistics with Other/Consolidation Allocation,**  
**1998-2002**

<b>(€m)</b>	<b>1998</b>	<b>1999</b>	<b>2000</b>	<b>2001</b>	<b>2001</b>	<b>2002</b>
Total revenue	14,592	19,650	25,029	26,103	25,185	30,998
Earnings before interest and taxes (EBIT)	833	895	1,805	1,920	1,922	1,420
Segment assets	11,744	12,395	15,606	14,787	13,878	17,375
Segment liabilities	2,824	3,584	4,823	4,705	4,371	5,485
<b>Return on capital employed (ROCE)</b>	<b>9.3%</b>	<b>10.2%</b>	<b>16.7%</b>	<b>19.0%</b>	<b>20.2%</b>	<b>11.9%</b>

*Source: Calculated from Deutsche Post AG annual reports 1999-2002*