

**Ex-post Evaluation
of the Impact of
Rescue and
Restructuring Aid
on the
International
Competitiveness of
the Sector(s)
Affected by Such
Aid**

Final Report

to

**The European
Commission -
Enterprise
Directorate-General**

By

London Economics

June 2004

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Executive Summary

Introduction

London Economics was commissioned by the European Commission Enterprise Directorate-General to undertake an ex-post evaluation of the impact of rescue and restructuring State aid.

In this report, we focus on the survival of companies having received such rescue and/or restructuring State aid, the social and economic effects of such aid on the aid-receiving companies, and the impact of State aid at the sectoral level.

Overview of rescue and restructuring State aid cases

To analyse the impact of rescue and restructuring State aid, we examined the State aid decisions made by the European Commission between 1995 and 2003. During this period, the number of approved cases relevant to our study was 86, consisting of 34 rescue and 52 restructuring State aid cases.

A case is considered to have ended if the aid has been reimbursed (in the case of rescue aid), or if the restructuring plan has come to an end (in the case of restructuring aid). Of the 86 cases, 77 were considered to have ended, involving 71 individual companies that received State aid, since six companies each had State aid cases approved on two occasions.

The geographic distribution of rescue and restructuring State aid shows that Germany and Italy were the EU Member States with the largest number of cases in our population. These two countries were followed by a second group of countries with a significant number of cases, comprising Austria, France and Spain. In contrast, Belgium, Greece, the Netherlands, Portugal and the UK have only a few cases and Denmark, Finland, Ireland, Luxembourg and Sweden have none.

Across the EU-15, the majority of rescue and restructuring State aid cases involved aid awarded to companies located outside assisted areas. However, in some countries, such as Austria, Spain and Portugal, the opposite was observed.

Most of the relevant State aid decisions concerned aid given in the periods 1994 to 1998 and 2001 to 2002. Rescue aid was particularly important in 1997, 2001 and 2002. However, with the exception of these three years, restructuring aid accounted for the bulk of the cases in any given year 1992 to 2003.

Construction and engineering was the sector most frequently in receipt of rescue and restructuring State aid. The financial services and machinery and equipment sectors were the next most important sectors as measured by the number of companies, followed by the electronics and telecoms sector. While

rescue State aid cases and restructuring State aid cases were about equal in number for the machinery and equipment sector, the rescue cases dominated in the electronics and telecoms sector and the restructuring cases in the financial services sector.

Large companies with more than 1,000 employees accounted for more than half of the rescue and restructuring cases among the 77 cases that had ended.

The reasons given for the companies being in difficulty and those for the purpose of the aid appear to be divided according to the type of aid received (rescue or restructuring).

Companies being awarded rescue aid suffered mainly from liquidity problems, which is consistent with the most common use of rescue aid: to restore solvency.

Companies receiving restructuring aid cited most often a heavy financial burden as a source of the difficulties they faced, and most used the restructuring State aid to assist the restructuring efforts of the company. Two other important objectives supported by the restructuring aid were recapitalisation and preparation for privatisation.

The four most common objectives of the restructuring plans were capacity reduction, personnel reduction, refocusing on core business activities and cost-cutting.

Survival of rescue and/or restructuring State aid-receiving companies

Of the 71 companies having received rescue and/or restructuring State aid, more than a third currently have the same legal status that they had at the time of the aid award, whilst almost a third have ceased operations. The rest either changed their name or were bought by other companies.

We categorised the 71 companies according to whether they survived or folded, based on their current status. In the cases where the status of the company was not totally clear, the classification was made on the basis of the continued existence of the productive apparatus of the company having received the aid. In other words, we considered a company to have survived, even if a new owner had acquired it, so long as the original production lines were still a recognisable physical entity. Thus, out of the 71 companies, 47 survived and 22 folded (the outcomes for two companies are unknown).

Whilst it is difficult, due to the relatively small number of State aid cases in some of the countries, to make strong conclusions about the contrast between firms' survival rates across Member States, some differences were apparent. French aid-receiving companies all survived, whereas about two-thirds of German companies, and only a slight majority of Spanish and Italian aid-receiving firms, did so. Within countries (apart from Germany), as for the overall sample, there were higher mortality rates for companies receiving rescue State aid than for those in receipt of restructuring State aid.

The mortality rate of aid-receiving companies was particularly high in the case of companies having received solely rescue aid. Of the 29 companies having received such rescue aid, 14 folded. The mortality rate of rescue aid-receiving companies was higher in companies having received such aid in 1997 against those that received aid in 2001 and 2002. In contrast, only 8 companies of the 42 companies having received restructuring aid over the period 1992 to 2003 have folded. Mortality of aid-receiving companies seems to have been related somewhat contemporaneously to the business cycle during the period analysed.

Analysis of the determinants of survival

Drawing on the literature on firm survival, we have related the probability of survival for an aid-receiving company to a number of company, sector and aid characteristics.

Our econometric estimates indicate that companies that have benefited from rescue aid are more likely to exit the industry than those that have received restructuring aid. Secondly, they indicate that the State aid usually works in keeping the company afloat for some time immediately following the receipt of aid.

A key finding of this analysis is that if the firm was in difficulty due to market decline and poor management, it has a better chance of surviving. High demand growth in the sector seems also to improve the probability of survival.

We also analysed whether the details of the restructuring plan mattered for the survival probability of aid-receiving companies. The results suggest that none of the features of restructuring plans had any impact on company survival.

Social and economic effects of State aid

Our assessment of the social and economic effects is two-pronged. Firstly, we examine how well an aid-receiving company performed, both in absolute terms and relative to its competitors. Secondly, through four case studies, we explore in greater detail the performance of the aid-receiving company in the post-aid award period.

Overview of performance

The overall performance of the companies having received rescue and/or restructuring State aid is generally positive both in absolute terms and relative to the performance of the comparator companies.

About half of the aid-receiving companies, by 2002, had actually increased their levels of employment since first receiving State aid, relative to their comparators. However, the magnitudes of the increases in employment were

in general much smaller than those of the decreases, which were in several cases in the order of 20% greater than the industry average.

The vast majority of aid-receiving companies experienced a rise in turnover figures since the time they first received State aid, but less than half of them performed better than their comparators by this measure.

About three-quarters of aid-receiving companies mostly improved their profitability (as measured by profits per employee) relative to the industry average improvement, but most also remained markedly below the industry average rate.

Three-quarters of aid-receiving companies improved their productivity figures (as measured by turnover per employee). In contrast to the profitability measure, most of them posted labour productivity above the industry average.

Firms that received rescue aid did not perform as well as their comparators by employment, turnover and profitability measures, but did improve their labour productivity to above the industry average.

Evidence from case studies

The performance of the four restructuring aid-receiving companies assessed in greater detail in this report is quite varied and it is difficult to draw strong conclusions from such a small sample.

In most cases, turnover grew rapidly following the implementation of the restructuring plan although the companies' competitors, in a number of cases, experienced even faster growth in turnover. Employment at the aid-receiving companies increased sharply in two cases while in the other two cases it fell. Fixed assets grew in three of the four cases.

More importantly, only two cases showed a strong rebound in labour and capital productivity to top industry levels while in the other two cases, the companies' labour and capital productivity performance remained well below that of their competitors. This suggests that the latter companies will remain structurally vulnerable in the near future.

Highly diverging profit margin performances confirm that the fundamental improvement in the companies' health varied substantially across the four companies. By 2001, two companies had restored their profit margin to at least the average of the industry, one company posted a positive profit margin in the midst of widely varied industry performance, and the final one continued to post a negative profit margin.

It is clear that the restructuring State aid helped, in all four cases, the receiving companies to move forward with a restructuring plan and allowed them to continue to operate. However, at the present time, it is not clear whether all the aid-receiving companies managed to restore their long-term viability.

Impact of State aid at the sectoral level

To investigate the effects of awarding rescue and restructuring State aid at the sectoral level, we analyse, for a small selection of sectors, the changes in market share by sales within the EU for the aid-receiving company relevant to each sector. The aim is to establish whether there is any evidence to suggest that these companies have gained an advantage over their European-based rivals.

We support this analysis by investigating the aid-receiving companies' export performance against their rivals, where relevant. To do this we compare sales made outside of the EU by each of the companies, with extra-EU exports for the corresponding sector.

We analyse five sectors, each with a corresponding State aid-receiving company:

- Sporting goods - Head N.V.
- Consumer electronics - Thomson S.A.
- Chemicals - Ercros S.A.
- Turning and milling machines - Gildemeister A.G.
- Firearms - Herstal Group

Three of the companies (Thomson, Gildemeister, and Herstal) showed robust growth in EU-market share, to such an extent that each company's market share in 2002 was actually higher than in the mid-nineties. This suggests that the recovery of these 3 companies occurred at the expense of their EU competitors, especially since, in all cases, imports were also growing for most of the period under consideration.

Due to large-scale extra-EU production in the case of Thomson and Herstal, we cannot draw any inferences about the relative contribution of these State aid-receiving companies to the sectors' export performances, but the data suggest that in the case of Gildemeister, the company made a strong contribution.

Head's recovery was essentially due to sharp growth in extra-EU sales as its EU-market share declined following the receipt of State aid, whilst Ercros is too small to have had any noticeable impact on its sectoral competitors.

With the exception of Ercros, which remained stable after an initially severe reduction, all the other aid-receiving companies listed on Bloomberg (Head, Thomson and Gildemeister) increased their stock of gross fixed assets in the period subsequent to receiving State aid, in both relative (as a share of the sector total) and absolute terms. The evolution of the aid-receiving companies' gross fixed assets was paralleled in each of them by the evolution of their employment levels. Head was the only one of the four Bloomberg-listed, aid-receiving companies to have suffered a fall in its (net) income to sales ratio relative to the other companies in its constructed sector, though it

did start from a high initial value. The other three all closed the gap between them and the rest of the companies in their sector.

Obviously, the sample of companies reviewed in greater detail is too small to draw any firm conclusions that would be applicable to the whole population of State aid-receiving companies. Nevertheless, the results suggest that, perhaps, in a number of cases the recovery of a State aid-receiving company appears to occur at the expense of EU competitors. We deliberately mention “appears to occur” because much more detailed case studies would be required to disentangle the specific effects of the recovery of the State aid-receiving companies on their competitors from factors idiosyncratic to the competitors such as aging or inferior product range, insufficient R&D in new processes and products, etc.

1 Introduction

1.1 Terms of reference of the study

London Economics was commissioned by the European Commission Enterprise Directorate-General to undertake an ex-post evaluation of the impact of rescue and restructuring aid on the international competitiveness of the sectors(s) affected by such aid.

According to the terms of reference¹ the study was to:

1. Examine the survival of companies having received rescue and restructuring aid;
2. Review the economic and social effects of rescue and restructuring at the company level; and
3. Review the economic and social effects of rescue and restructuring at the sectoral level.

The terms of reference specify that rescue and restructuring State aid given under pre-approved SME-focused national rescue and restructuring aid schemes should also be examined. Such aid does not typically have to be notified to the European Commission. However, we were unable to get detailed information on the companies having benefited from such aid.² Therefore, this report addresses exclusively the rescue and restructuring State aid cases that were formally approved by the European Commission.

Before proceeding any further, it is useful to set out more precisely the definitions of rescue and restructuring State aid.

1.2 Background information on rescue and restructuring State aid

According to the current Community State aid guidelines, rescue and restructuring State aid given to enterprises in difficulty, e.g. enterprises that face bankruptcy or need to restructure, is compatible with the Community's State aid regime only under strict conditions.

¹ The full terms of reference are provided in Annex 1.

² We wrote to the German and Spanish authorities to obtain more information on the beneficiaries of some of the national rescue and restructuring aid schemes, but received no such information.

Strict eligibility conditions are necessary because the provision of State aid to failing enterprises shifts the burden of structural change to other, more efficient firms and, as such, distorts the level playing field between firms in the same industrial sector. Therefore, in principle, such aid is incompatible with the Single Market.

However, the European Commission has noted that “... *there are circumstances in which State aid for rescuing firms in difficulty and helping them to restructure may be justified. It may be warranted, for instance, by social or regional policy considerations, by the desirability of maintaining a competitive market structure when the disappearance of firms could lead to a monopoly or tight oligopoly situation, and by the special needs and wider economic benefits of the small and medium-sized enterprise (SME) sector*”.³

The “Community guidelines on State aid for rescuing and restructuring firms in difficulty (Notice to Member States including proposals for appropriate measures) (Text with EEA relevance)” published in the Official Journal C 288 of 09.10.1999⁴ defines the conditions under which the rescue or restructuring State aid can be granted.⁵ According to the guidelines:

“A firm in difficulty is one unable, through its own resources and without outside intervention by the public authorities, to stem losses which will almost certainly condemn it to go out of business in the short or medium term. In addition, a firm is regarded as being in difficulty if it is:

- *A limited company where more than half of its registered capital has disappeared and more than one quarter of that capital has been lost over the preceding twelve months;*
- *An unlimited company where more than half of its capital has disappeared and more than one quarter of that capital has been lost over the preceding twelve months;*
- *A company fulfilling the criteria of insolvency under its domestic law.*

Newly created firms or companies belonging to a group are not normally eligible. Even if rescue aid and restructuring aid involve different processes, they are often two parts of a single operation:

³ European Commission, Directorate General for Competition, “**Competition law in the European Communities**, Volume IIA Rules applicable to State aid”, Situation at 30 June 1998 downloaded from http://europa.eu.int/comm/competition/state_aid/legislation/ on 26th January 2004.

⁴ Downloaded from <http://europa.eu.int/scadplus/leg/en/lvb/l26079.htm> on 26th January 2004.

⁵ These guidelines expire in October 2004 and are currently under review. New draft guidelines were published by the European Commission on 9 January 2004 (Draft Community Guidelines Applying Articles 87 and 88 of the Treaty to the Granting of Urgency Aid/or Restructuring Aid to Firms in Difficulty” downloaded from http://europa.eu.int/comm/competition/state_aid/ on 26th January 2004). The purpose of the present study is to inform this review.

- *Rescue aid should make it possible to keep an ailing firm afloat for the time needed to work out a restructuring or liquidation plan.*
- *Restructuring aid, on the other hand, should be based on a feasible, coherent and far-reaching plan to restore a firm's long-term viability.*

Rescue aid must be regarded as exceptional and must not be authorised for more than six months. It cannot be authorised if it is designed to maintain the status quo. As regards the general conditions for authorisation, it must:

- *Consist of loan guarantees or loans;*
- *Be reimbursed within twelve months of disbursement of the last instalment;*
- *Be warranted and have no adverse spillover effects on other Member States;*
- *Be accompanied on notification by a restructuring/liquidation plan or proof that the loan has been reimbursed in full;*
- *Be restricted to the amount needed during the period for which it is authorised.*

Since it may distort competition, restructuring aid is governed by the "one time, last time" condition, i.e. it may be granted only once. The conditions for granting such aid concern:

- *The eligibility of the firm, which must be a firm in difficulty;*
- *The formulation and implementation of a restructuring plan;*
- *Measures to mitigate the adverse effects on competitors;*
- *The amount and intensity of the aid, which must be limited to the minimum;*
- *The imposition by the Commission of specific conditions and obligations;*
- *The full implementation of the restructuring plan;*
- *The monitoring that the Commission must be able to carry out through detailed regular reports communicated by the Member State concerned.*

Moreover, rescue State aid must consist of liquidity support in the form of loan guarantees or loans bearing normal commercial interest rates while a wider range of aids are allowed for restructuring State aid.”⁶

1.3 Information sources

The key challenge of this study was to assemble a good data bank on the companies having benefited from rescue and restructuring State aid. Our primary sources for information on the aid-receiving companies, at the time of the aid decision being made, were the State aid case documents, which comprised decision documents and letters regarding the cases.

For analysing the subsequent performance and current status of the firms, we used a variety of channels. We also used these same channels, where possible, to find information missing from the State aid case documents. While for listed companies, the information service Bloomberg Professional 2000 provided most of the information we required for our analysis, in the case of unlisted companies we had to rely on a wide range of information sources such as the various company information databanks available in LexisNexis, company annual reports, company web sites, press articles, official bankruptcy registers, etc.

1.4 The literature on government aid to companies

There exists a relatively large body of literature that focuses on the general impact of government assistance to enterprises and the effectiveness of such assistance. A recent study by the French Commissariat du Plan provides a good overview of such studies.⁷

However, to the best of our knowledge, so far no study or evaluation has specifically examined rescue and restructuring State aid. Thus, the present report is the first one that sheds some light on the impact of rescue and restructuring government aid.

1.5 Structure of the report

The structure of the report is as follows:

Chapter 2 provides a description of the rescue and restructuring State aid cases analysed in this report.

⁶ For more detailed background information on rescue and restructuring State aid, see European Commission, (2003), “State Aid Scoreboard autumn 2003 update” COM(2003)636 final, 29 October.

⁷ Commissariat du Plan (2003), “Les aides publiques aux entreprises: une gouvernance, une stratégie”, Octobre.

Chapter 3 analyses the survival of companies having received rescue and/or restructuring State aid.

Chapter 4 presents the results of our analysis of the social and economic effects of rescue and/or restructuring State aid at the company level.

Chapter 5 investigates the effects of State aid at the sectoral level.

Chapter 6 summarises the general conclusions of the whole report.

Annex 1 sets out the detailed terms of reference of the project.

Annex 2 lists all the rescue and/or restructuring State aid-receiving companies covered by our study.

Annex 3 provides a detailed breakdown of rescue and restructuring State aid cases in assisted and non-assisted areas.

Annex 4 provides a detailed breakdown of aid instruments used in rescue and restructuring State aid cases, in which the period of reimbursement or restructuring aid has ended.

2 Overview of rescue and restructuring State aid cases

2.1 Background

This chapter provides a descriptive analysis of the rescue and restructuring State aid cases that we examined. Altogether, between 1990 and 2002, the European Commission approved 120 rescue and restructuring State aid cases.⁸

The present study focuses only on the rescue and restructuring State aid cases that were reviewed by the European Commission since 1995. Most of the aid was given in 1995 or later, though a few State aid cases involved an ex-post assessment of aid given before 1995.

In total, we received from the European Commission information on 94 rescue and restructuring State aid cases.

However, eight of these cases were irrelevant for the purpose of this study because:

1. The State aid-receiving companies were located in the former East Germany (DDR) (five cases);
2. More information was requested from national authorities and the State aid decision was still pending (1 case);
3. The State aid was considered to be R&D aid (1 case);
4. Two State aid cases essentially addressed the same State aid package.

Therefore, the number of relevant rescue and restructuring State aid cases stands at 86 in our sample.

On the basis of the information available to us, we concluded that the period of aid reimbursement or the restructuring plan had come to an end in 77 State aid cases.

It should be noted that these 77 cases involve 6 companies that benefited from two rescue and restructuring State aid interventions. Four companies received both rescue and restructuring State aid, one company received twice rescue State aid and one company received twice restructuring State aid.

Therefore, the number of individual companies having received rescue and/or restructuring State aid stands at 71 in our sample.

The list of these companies is provided in Annex 2. Please note that in this table and throughout the report, some of the aid-receiving companies have

⁸ See "State aid for Rescuing and Restructuring Firms in Difficulty" in European Commission (2003), "State Aid Scoreboard autumn 2003 update" COM(2003)636 final, 29 October.

asterisks immediately after their names. These denote that the company has been subject to more than one decision, including negative decisions, from the European Commission regarding the award of rescue and/or restructuring State aid.

Table 2.1: Summary of State aid cases in sample

Total number of rescue and restructuring State aid cases	86
Number of rescue and restructuring State aid cases that have ended, i.e., aid has been repaid or restructuring plans have come to an end	77
Number of companies having benefited from rescue and restructuring State aid cases where the aid has been repaid or the restructuring plans have come to an end	71

Source: London Economics

In the next section, we provide a brief overview of the key characteristics of the 86 rescue and restructuring State aid cases. Then, in Section 2.3 we provide more details about the rescue and restructuring State aid cases that were considered to have ended by 2003.

2.2 Key characteristics of the 86 rescue and restructuring State aid cases

In this section we present some background information on the 86 rescue and/or restructuring State aid cases. Firstly, we provide an overview of the data that we use throughout the study. Secondly, we provide information on the breakdown of these State aid cases into rescue and restructuring aid. Next, we review the geographical distribution of the rescue and restructuring State aid cases. Then, we review whether the rescue and restructuring State aid cases related to aid given to companies in assisted areas. Finally, we present information on the temporal distribution of the 86 rescue and restructuring State aid cases.

2.2.1 Data

We used the State aid case documents and corresponding letters from the Commission to Member States to extract information pertinent to investigating the effects of State aid. We classified the key features of the State aid cases to help summarise, contrast and compare the cases, and constructed a large database. In the database, we recorded the following information:

- Company details (name, age, history);

- Sector information (primary activity of the company, location of competitors);
- Location (primary location and any secondary locations for production, noting whether production was located in an assisted area);
- Aid type (rescue or restructuring, whether the aid was awarded as part of a scheme);
- Reasons for the company's difficulties (such as market decline);
- Purpose of the aid (such as recapitalisation, or for solvency);
- Aid instrument (such as capital injection, loan or guarantee);
- Value of the aid (converted into Euros, or equivalently Ecus);
- Duration of reimbursement (i.e., the duration of any loans or guarantees, noting that the period of reimbursement of a capital injection is zero);
- Restructuring plan details, duration of plan and actions taken (such as capacity reduction, focusing on core business, closing or selling of assets); and
- Economic data on the companies at the time of receiving State aid (employment, turnover and profit).

Where economic data was not provided for the time of receiving State aid, we used further sources. Missing information was obtained from the LexisNexis database⁹, Bloomberg Professional¹⁰ and more generally from the Internet.

2.2.2 Breakdown of rescue and restructuring State aid cases

Looking at the population of the 86 rescue and restructuring State aid cases from 1995 to 2003, one observes that restructuring aid is slightly more common than rescue aid.

Table 2.2 shows that of the total of 86 rescue and restructuring State aid cases, 52 related to restructuring State aid and 34 to rescue State aid.

⁹ http://business.lexisnexis.co.uk/page_63.html

¹⁰ <http://about.bloomberg.com/about/professional/index.html>

Table 2.2: Number of State aid cases by type of aid in the 86 State aid cases

Type of Aid	All cases	Ended Cases	Individual Companies
Rescue	34	34	29
Restructuring	52	43	42
Total	86	77	71

NOTE: the four companies that received both rescue and restructuring aid were included in the group of companies having received restructuring aid.

Source: *London Economics*

2.2.3 Geographical distribution of the rescue and restructuring State aid cases

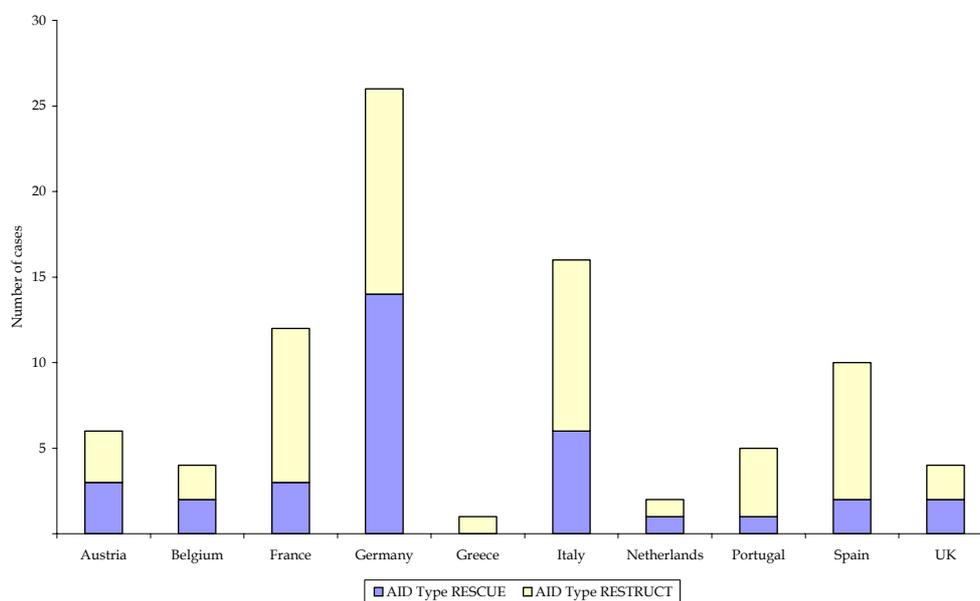
The rescue and restructuring State aid cases of the period 1995 to 2003 involved aid given by ten Member States and Figure 2.1 provides the geographical distribution of these State aid cases.

Two Member States, Germany and Italy, generated the largest number of approved rescue and restructuring State aid cases over the 1995 to 2002 period. Austria, France and Spain form a second tier of countries with a relatively large number of rescue and restructuring State aid cases while the other EU Member States generated relatively few or no cases.

The distribution between restructuring and rescue State aid cases varied across countries. In some countries (France, Greece, Italy, Portugal and Spain) restructuring State aid cases predominated while the converse was true in the case of Belgium and the United Kingdom.

In Austria and Germany the number of rescue and restructuring State aid cases were broadly similar.

Figure 2.1: Geographical distribution of rescue and restructuring State aid cases by type of State aid, 1995-2003



Source: *London Economics*

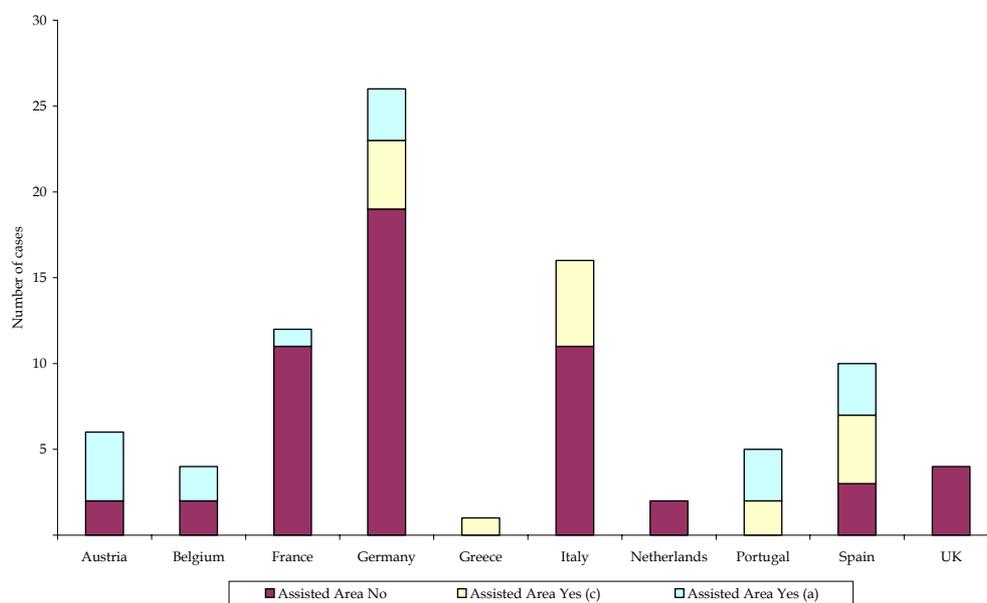
2.2.4 Restructuring and rescue State aid cases in assisted regions

According to the rescue and restructuring State aid regulations, the European Commission can show somewhat more flexibility with regard to the requirement for a reduction in capacity in the case of markets in structural oversupply. If regional developments needs justify it, the Commission will require a smaller reduction in capacity reduction for the purpose in assisted areas than in non-assisted areas and will differentiate between areas eligible for regional aid pursuant to Article 87(3)(a) of the Treaty and those eligible pursuant to Article 87(3)(c) to take account of the greater severity of the regional problem in the former areas.

In short, the rescue and restructuring State aid guidelines allow the Commission to adopt a somewhat flexible approach for rescue and restructuring State aid to companies in regions that are fundamentally disadvantaged (Article 87(3)(a)) and regions that are temporarily disadvantaged (Article 87(3)(c)).

In Figure 2.2 we present, on a country-by-country basis, the split between rescue and restructuring State aid case in assisted and non-assisted areas. The State aid cases relating to assisted areas are further sub-divided into cases relating to Article 87(3)(a) areas and Article 87(3)(c) areas.

Figure 2.2: Geographical distribution of rescue and restructuring State aid cases in assisted regions by type of State aid, 1995-2003



Source: *London Economics*

In Figure 2.2, the label “Yes(a)” refers to rescue and restructuring State aid cases situated in the most disadvantaged regions (Article 87(3)(a) areas) and the label “Yes(c)” to State aid cases in temporarily disadvantaged ones (Article 87(3)(c) areas).¹¹ The label “No” covers all the other rescue and restructuring State aid cases.

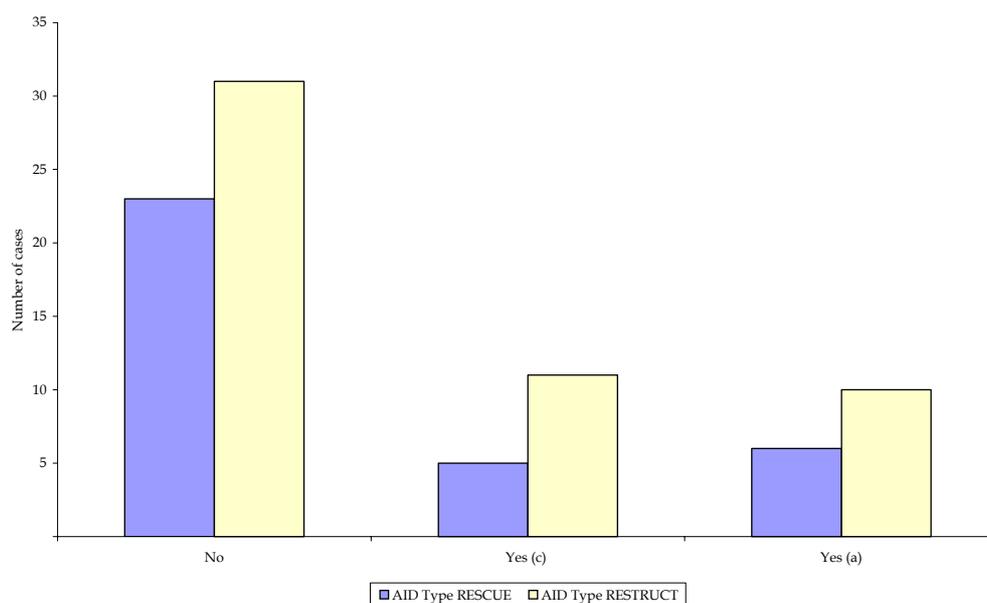
One observes that, across the EU-15 the majority of rescue and restructuring State aid was given to companies not located in assisted areas, although in some countries the opposite was true.

For example, rescue and restructuring State aid in Spain, Portugal and Austria was given predominantly to companies in assisted areas. This reflects the fact that assisted areas account for a large proportion of the landmass in these countries.

¹¹ We used the information in the State aid documents and letters to determine whether the aid-receiving company was in an assisted area. Failing that, we used regional State aid maps (http://europa.eu.int/comm/competition/state_aid/regional/). We were able to classify all the locations using these two sets of sources.

Figure 2.3 below shows the distribution of the number of rescue and restructuring State aid cases, categorised by type of aid, according to the three different classes of location of beneficiary companies. All 86 State aid cases are included in this chart.

Figure 2.3: Distribution of rescue and restructuring State aid cases in assisted regions by type of State aid, 1995-2003



Source: *London Economics*

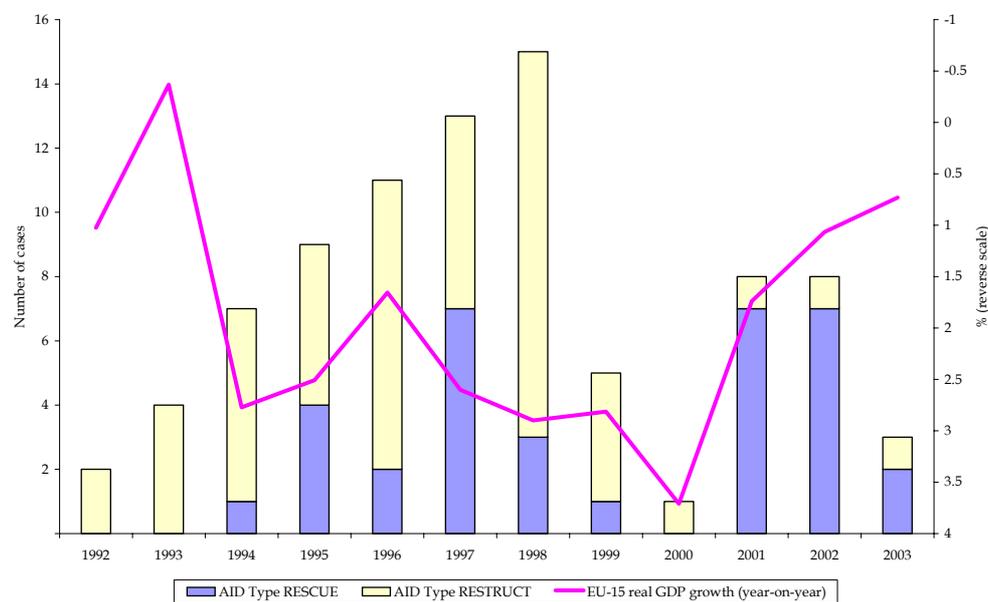
Overall, restructuring State aid dominated in terms of number of cases in all three of the location categories (see Annex 3 for details). Though the majority for both types of State aid awarded was to companies located outside of assisted areas, this proportion was higher for rescue State aid than for restructuring State aid.

Of the 86 rescue and restructuring State aid cases in our sample, rescue State aid cases accounted for about 43% of total rescue and restructuring State aid cases outside the assisted areas, 38% of total cases in the most disadvantaged areas and 31% in the temporarily disadvantaged areas.

2.2.5 Temporal distribution of State aid cases

Next, we present in Figure 2.4 the temporal distribution of when the State aid was actually first given to the companies in the 86 State aid cases.

Figure 2.4: Distribution of State aid awards over time



Sources: London Economics, LE calculations based on data from OECD Economic Outlook

One observes that the number of rescue and restructuring State aid cases across the EU increased sharply from 1993 to 1998, before plummeting rapidly at the end of the last decade. However, in the first few years of the new Millennium, the number of rescue and restructuring State aid cases increased sharply again, especially the number of rescue aid cases.

In fact, one observes that rescue aid cases largely dominated in recent years while in the nineties restructuring aid cases were dominant.

The thick line shows the annual rate of real growth in the EU-15 over the period in question. The vertical scale for this variable has been reversed, so a fall in the growth rate between years is represented by an upward sloping line. Rescue and restructuring State aid awards appear to have lagged behind the economic cycle, though the relationship was not very strong.

In analysing the profile of the temporal distribution of the aid commencement, it is important to note that the cases incorporated in this chart are the 86 rescue and restructuring State aid cases that the European Commission took a decision on since 1995.

State aid cases are not always considered by the European Commission prior to the aid being committed or given. It is not uncommon for non-notified aid to be assessed after it has been given to a company. Such ex-post assessment occurs typically before the aid had ended. Indeed, in our sample, an ex-post assessment by the European Commission long after the aid had ended was a rare occurrence. Therefore, though the State aid cases on which the European Commission might not include all the State aid awards made, we note that it

is likely that they do include most of the State aid awards that would be classed as having ended, which criterion is the focus of this study.

2.3 Characteristics of the rescue and restructuring State aid cases that have ended

As it is impossible to draw any relevant conclusions as to the impact of the rescue and restructuring State aid of cases that have not yet ended, we exclude these cases from our analysis.

As noted earlier, this reduces the size of the population of rescue and restructuring State aid cases from 86 to 77. The list of companies that are excluded from the scope of our analysis is included in Annex 2.

In this sub-section, we first review the sectoral distribution of the rescue and restructuring State aid cases that have ended. Next we present the distribution of such State aid cases by size of the aid-receiving companies. We then provide some information on the reasons, listed in the State aid decisions, explaining why the aid-receiving company ran into difficulties. We also present information on the period of the aid reimbursement of the various State aid cases, the duration of the restructuring plans in the restructuring State aid cases, the business objectives supported by the State aid, the financial instruments used and key aspects of the restructuring plans. Finally, we discuss briefly whether rescue and/or restructuring State aid was provided under pre-approved rescue and restructuring State aid schemes.

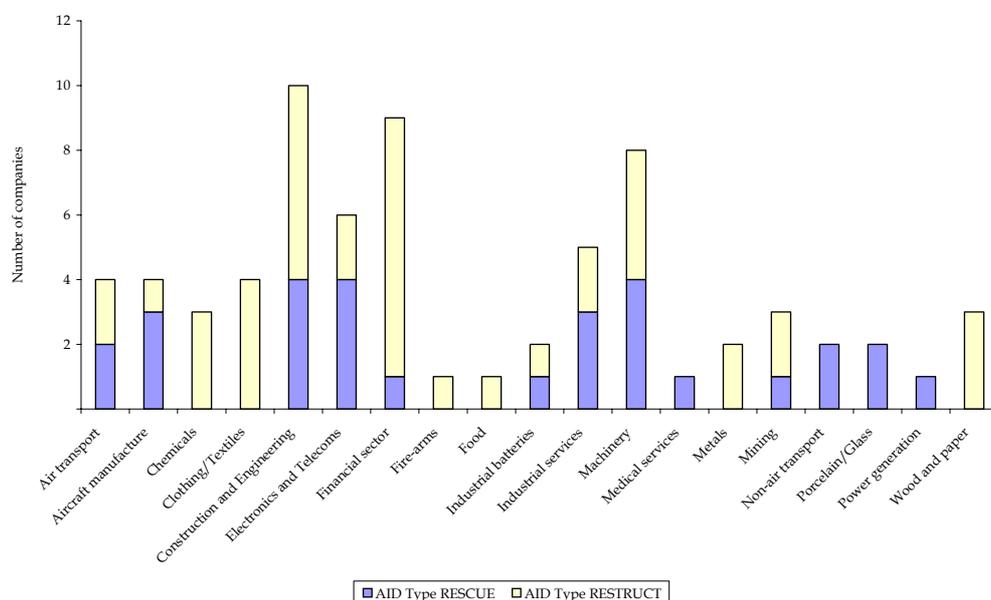
2.3.1 Sectoral distribution

In our analysis of the distribution of aid by sector we include each aid-receiving company just once, regardless of the number of aid awards it has received. Figure 2.5 shows the number of aid cases awarded to individual companies, and distinguishes between the different types of aid awarded.

It is important to note that the six companies that received two awards of State aid in the period concerned are included and classed by their more relevant award. Thus the breakdown by aid type within sectors is not quite the full picture. Of these six companies, three received rescue aid followed by restructuring aid; one received rescue aid twice; one received restructuring aid twice¹²; and one received restructuring aid followed by rescue aid. All four of the companies that received two different types of aid have been classified as having received restructuring aid. The relative importance of the various sectors, shown by the full height of the bars, is not affected by this allocation rule.

¹² Restructuring State aid is supposed to be awarded to any given company once only. In one of the cases we investigated, the company deemed by the European Commission to have benefited from the State aid was the parent company of the actual aid-receiving company. Therefore the parent company was the relevant beneficiary.

Figure 2.5: Rescue and restructuring State aid cases by sector and type



Source: London Economics

The chart above shows that the sector that benefited from the most awards of rescue and restructuring State aid was construction and engineering, with 10 companies having received such aid (14% of the total). The financial services sector was the second most important sector in terms of aid awards followed by the machinery and equipment sector and the electronics and telecoms sector.

Given that the number of aid-receiving firms in each sector was low, it is hazardous to draw firm conclusions about the distribution of the type of aid within each sector.

However, it appears that financial services companies tended to receive mainly restructuring aid and that the converse appears to be true for electronics and telecommunication firms that received mainly rescue aid. While the construction and engineering sector benefited about equally from rescue and restructuring State aid.

2.3.2 Distribution of rescue and restructuring State aid cases by size of company

Among the 71 companies that received rescue and/or restructuring aid, large companies with 1,000 or more employees accounted for slightly more than 50% of all the companies having received such aid and those with less than 500 employees accounted for only about 30% of the aid-receiving companies.

The relatively limited presence of SMEs among the aid-receiving companies is due to the fact that there exist a number of SME-focused rescue or restructuring aid schemes that have been approved by the European Commission. Under these schemes, individual aid awards do not have to be individually notified to the European Commission provided the level of the aid remains under a certain threshold.

Table 2.3: Distribution of companies receiving rescue or restructuring State aid by size of company employment

Number of employees in company	Number of companies	Percentage of all companies
Less than 250	7	9.9%
250-500	13	18.3%
500-1000	11	15.5%
1000-2500	13	18.3%
2500-5000	8	11.3%
5000-10000	7	9.9%
More than 10000	12	16.9%
Total	71	100.0%

Source: London Economics

2.3.3 Reasons for business difficulties

The rescue and restructuring State aid decisions of the European Commission generally provide some information about the reasons why the company, which is the beneficiary of the aid, ran into business difficulties.

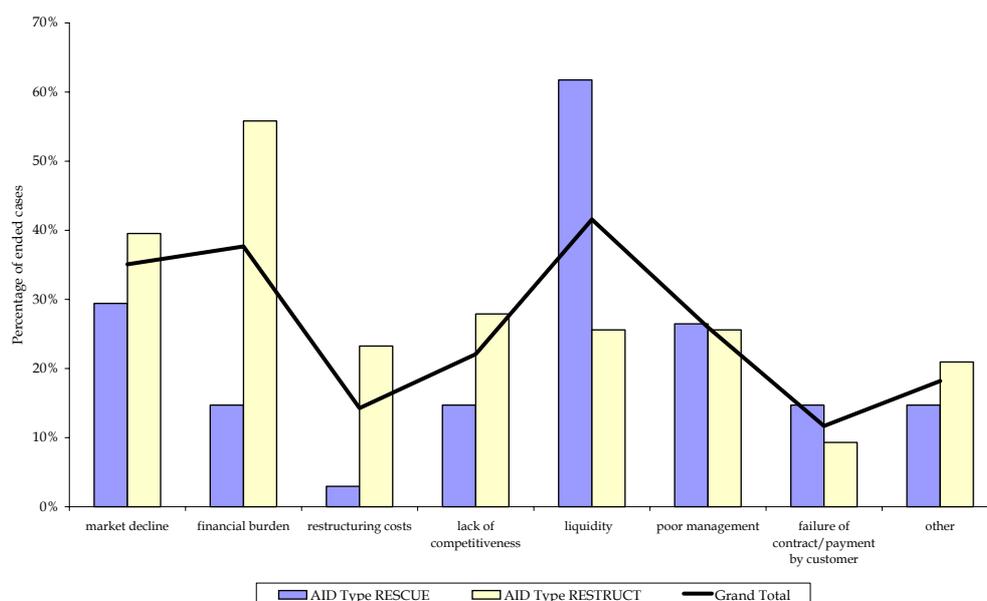
While many different reasons are cited in the various decisions, we have attempted to group these into a few broad factors such a market decline, financial burden, restructuring costs, lack of competitiveness, liquidity, poor management, failure of contract payment by customer and other reasons.

Often, a number of different factors are cited in the aid decisions. Therefore, rather than showing the number of occurrences of each factor, we report in Figure 2.6 the percentage of State aid decisions that listed a particular factor.

A few points should be noted in assessing the reasons for business difficulties. Firstly, these were the reasons given in the decision documents of the Commission, and are ultimately based on the presentations of the Member States. Secondly, restructuring costs can be considered to have been a cause of business difficulties if the company found, subsequent to an attempt to restructure through self-financing, that it had burdened itself with

damagingly high costs. This is distinct from foreseeing the problems posed to a company by restructuring costs, since the costs, in this sense, would be covered as a purpose of the aid.

Figure 2.6: Reasons for business difficulties



Source: London Economics

Unsurprisingly, rescue aid-receiving companies generally seemed to be suffering from liquidity problems.

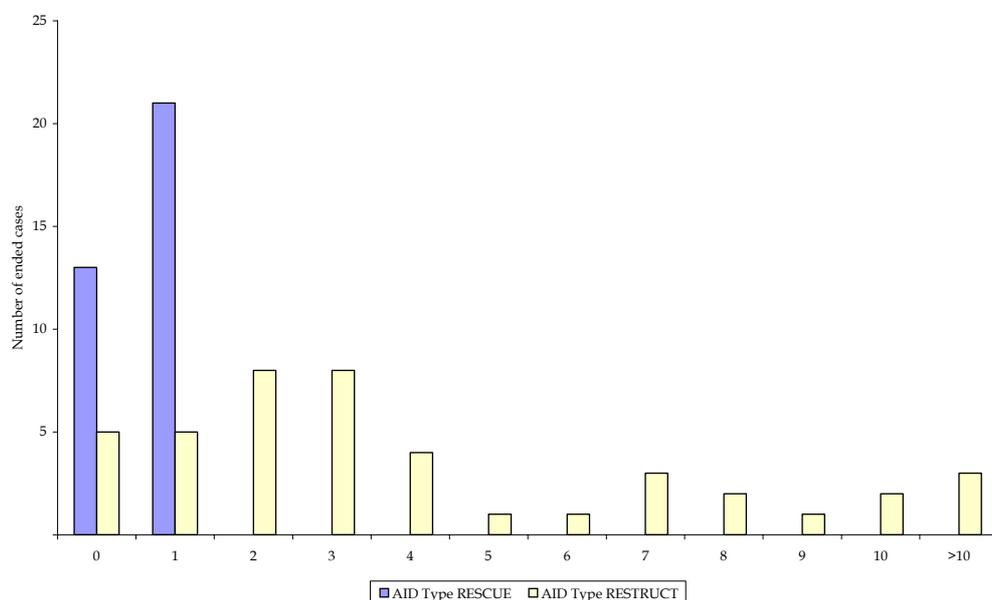
In contrast, companies receiving restructuring aid seemed to be primarily burdened by heavy financial burdens (that is, accumulated debt).

The third and fourth most common factor for both rescue and restructuring aid-receiving companies were market decline and poor management.

2.3.4 Period of reimbursement

The period of reimbursement in Figure 2.7 shows the length of the period over which the aid is to be repaid, or in the case of loan guarantees the life of these guarantees.

Figure 2.7: Period of reimbursement (years)



Source: London Economics

Given that the maximum length allowable for rescue aid is 12 months, it is not surprising to see that all of the rescue aid awards were no longer than one year in duration.

In contrast, in the case of restructuring aid, it was often several years before the aid was fully reimbursed. However, there were few cases where the repayment period exceeded 10 years.

In the majority of the restructuring aid cases, the repayment period was less than five years.

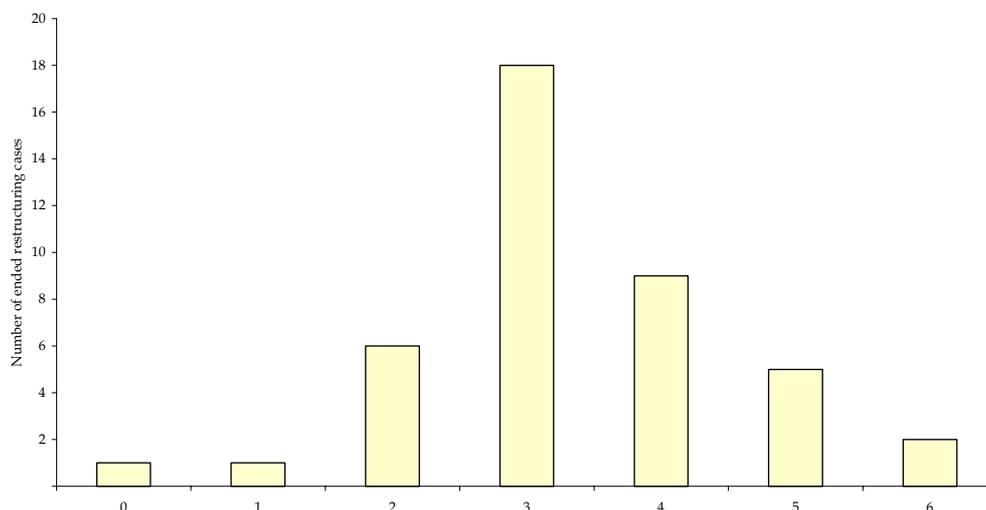
2.3.5 Duration of restructuring plan

There were 43 restructuring State aid cases. Figure 2.8 charts the duration of the restructuring plans in the restructuring State aid cases.

It is strikingly clear that the most common length of restructuring plans was three years.

The vast majority of all restructuring plans fell in a relatively narrow time span of 3 to 5 years.

Figure 2.8: Duration of restructuring plan (years)

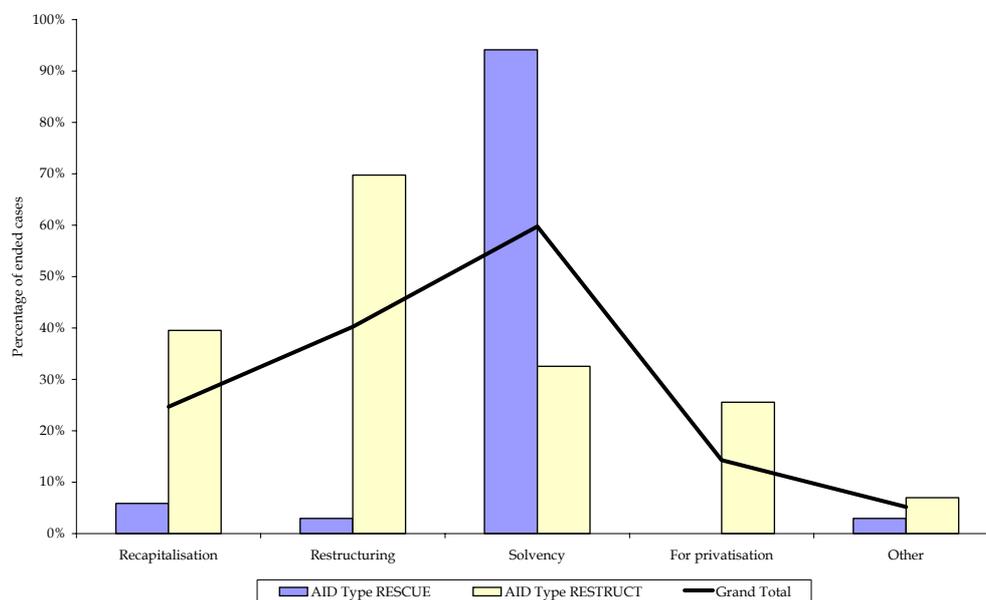


Source: London Economics

2.3.6 Purpose of the rescue and restructuring aid

The State aid decisions also provide some information on the purpose of the aid that is being provided. Among the recurring objectives were the restoration of the solvency of the company, restructuring, recapitalisation and preparation for privatisation. The occurrences of these various objectives in the rescue and restructuring State aid decisions are shown in Figure 2.9.

Figure 2.9: Purpose of State aid



Source: London Economics

Not surprisingly, the stated purpose of the aid varies considerably depending on the type of aid awarded.

Restoration of a company's solvency was the most frequently cited reason in the rescue State aid cases while, in the restructuring State aid cases, restructuring was most frequently mentioned, followed by recapitalisation, solvency and privatisation.

2.3.7 Instruments used to provide the rescue and restructuring aid

A wide variety of financial means (aid instruments) were used to confer State aid to companies. The case reports did not discuss the reasons for choosing one type of aid instrument over another.

Figure 2.10 shows the manner in which aid was awarded to the company concerned, whether by capital injection, waiving or restructuring debt, loan, guarantee, or some combination.

For the cases where more than one instrument type was used, the classification is based on a hierarchy, descending from capital injection, to loan, and then to guarantee. For instance, a case where a company received a capital injection and also a loan is classified as "Capital Injection in Combination".

Subordinated loans are also included in this hierarchy, placed between capital injections and loans. Due to the infrequent use of subordinated loans as aid instruments, they have not been shown separately in the bar chart. However, the details of their use are described below.

Waiving and restructuring of debt, similarly, have not been accorded a separate classification, as they were mainly used in conjunction with another aid instrument, and moreover were not commonly used. With regards to the hierarchy for classification, aid instruments relating to debt rank the lowest.

Figure 2.10 shows that the variety of instruments used to confer rescue aid was narrower than the variety used to confer restructuring aid. Secondly, though financial instruments were sometimes used in combination, there was a clear preponderance towards using a single financial instrument in both the rescue and the restructuring State aid cases.

Loans and guarantees, each conferred in isolation, accounted for almost all of the instruments used in the rescue State aid cases.

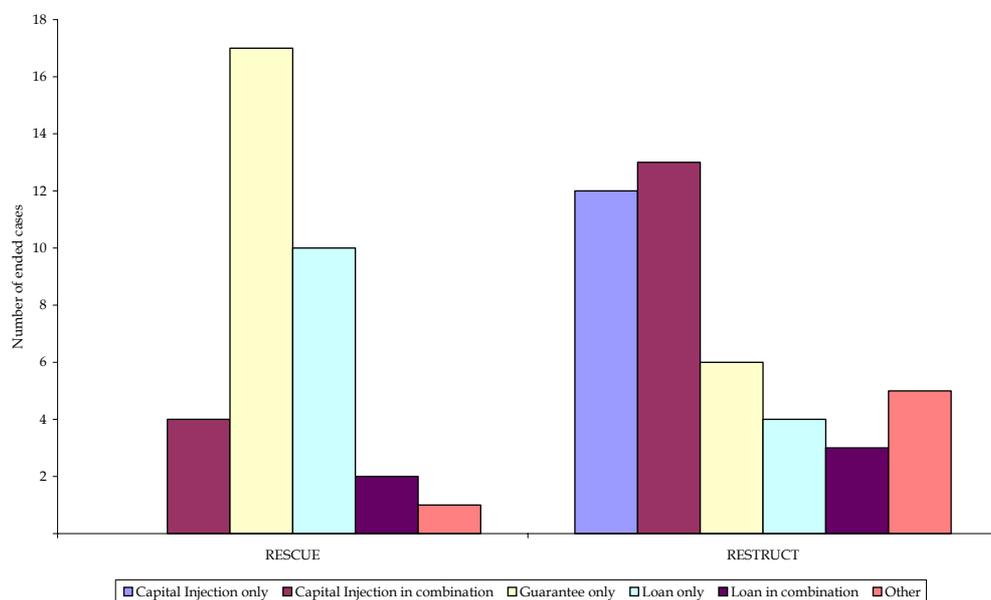
In contrast, restructuring aid was provided through a wider range of instruments but capital injections, which comprise outright grants and shareholder injections, were the most common.

About 1 in 14 cases involved the waiving of debt, and the same is true of debt restructuring. Overwhelmingly, these debt adjustments occurred in restructuring State aid cases.

Subordinated loans were considered to be distinct from capital injections, and are illustrated in Figure 2.10 as part of "Other". There were 4 cases, all for restructuring aid, in which subordinated loans were part of the package of aid instruments used: twice as the sole instrument, once in combination with a debt waiver, and once in combination with a loan and a guarantee. The two remaining aid instruments included in "Other" comprise one case of a repayable shareholder advance (for rescue aid) and one case of a debt waiver being used on its own (for restructuring aid).

A full table detailing the precise combinations of instruments can be found in Annex 4.

Figure 2.10: Instruments used in State aid awards



Source: London Economics

2.3.8 Restructuring details

Figure 2.11 shows the main features of the 43 restructuring plans as described in the documentation of the State aid cases.

Though there is not a standardised format in the case reports for disclosing restructuring details, we have collated the information provided to represent the different economic impacts that each action might have. To that end, the nomenclature separates effects that, to the firm, are roughly equivalent, but in the wider economy are not.

For example, the selling or closure of the plants and their assets could be considered to be a capacity reduction (in terms of output) by the firm. However, we have distinguished between reducing capacity (output) in general from closing an entire plant location. Furthermore, selling a plant or its assets can be different from simply closing, because the new owner might utilise the acquired resources. In doing so, the new owner restores at least some of the economic output given up by the selling company.

The four most common restructuring features listed in the State aid decisions were capacity reductions and personnel reductions (each in about 65% of the plans), and focusing on core business activities and cost-cutting (each in about half of the plans).

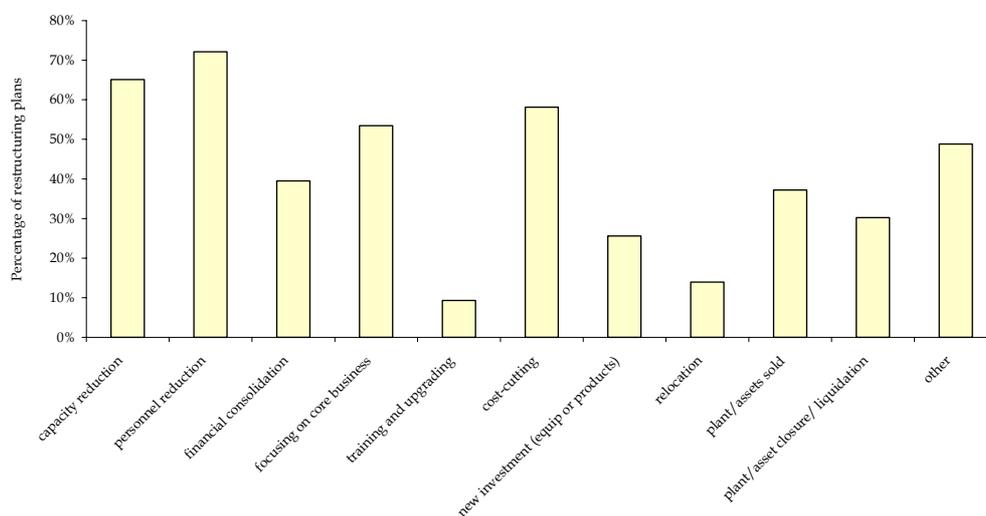
Financial consolidation and selling or closure of plants and assets were listed in about a third of restructuring plans.

In contrast, new investment, training and upgrading, did not very frequently feature in the restructuring plans described in the State aid decisions.

The most common details of the restructuring plans included in the “Other” category in Figure 2.11 were ones involving the reorganisation of the management structure, supply chains, or marketing operations.

Thus, the restructuring plans supported by the restructuring aid aimed primarily to reduce costs, to a lesser extent to reorganise the organisational structure, and only infrequently to make new investment.

Figure 2.11: Key elements of restructuring plans



Source: *London Economics*

2.3.9 Aid Approved under existing rescue and restructuring schemes

As noted earlier, the European Commission has approved a number of national rescue and restructuring aid schemes mainly aimed at SMEs and under which aid awards do not have to be notified to the Commission provided the aid level is below a certain threshold.

Among the 77 rescue and restructuring State aid cases, 14 were awarded under such schemes but had to be notified. We can see from Table 2.4 that the split, between scheme- and non-scheme related cases, was similar for the two types of aid.

Table 2.4: Aid approved under rescue and restructuring aid schemes

Part of Aid Scheme?	AID Type		All Cases
	RESCUE	RESTRUCT	
Yes	7	7	14
No	27	36	63

Source: London Economics

2.4 Conclusions

In this chapter we have examined 86 rescue and restructuring State aid decisions made by the Commission between 1995 and 2003.

Among the 86 rescue and restructuring State aid cases, 52 relate to restructuring aid and 34 to rescue aid.

Germany and Italy were the EU Member States with the largest number of rescue and restructuring State aid cases. They were followed by second group of countries, Austria, France and Spain, which also had a significant number of cases in our population. In contrast, Belgium, Greece, the Netherlands, Portugal and the UK had only a few cases and Denmark, Finland, Ireland, Luxembourg and Sweden had none.

Across the EU-15, the majority of rescue and restructuring State aid cases involved aid given to companies located outside assisted areas. However, in some countries, such as Austria, Spain and Portugal, the opposite was observed.

The proportion of rescue State aid cases was somewhat larger outside the assisted areas.

The bulk of the rescue and restructuring State aid decisions concerned aid given in the periods 1994 to 1998, and 2001 to 2002. These two periods account for 83% of the 86 cases.

Rescue aid was particularly important in 1997, 2001 and 2002. In general, however, and with the exception of these three years, restructuring aid accounted for the bulk of the cases over the period 1992-2003.

Amongst the 77 rescue and restructuring State aid cases that had ended, the construction and engineering sector accounted for most of the cases. The machinery and equipment and financial services sectors were the second most important sectors in terms of number of cases, followed by the electronics and telecoms sector. While rescue State aid cases and restructuring State aid cases were about equal in number in the case of the machinery and equipment sector, the rescue State aid cases dominated in the electronics and telecoms sector and the restructuring cases in the financial services sector.

Large companies with more than 1,000 employees accounted for more than 50% of the rescue and restructuring cases among these 77 cases.

Companies awarded rescue aid suffered mainly from liquidity problems while companies that received restructuring aid cited most often a heavy financial burden as a source of the difficulties they faced.

Rescue aid was generally used by companies to restore solvency, while restructuring aid was primarily used to assist the companies' restructuring efforts. Two other important objectives supported by restructuring aid were recapitalisation and preparation for privatisation.

The four most common objectives of the restructuring plans were capacity reduction, personnel reduction, refocusing on core business activities and cost-cutting.

Overall, only four companies received both rescue and restructuring aid, and two companies received either twice rescue or twice restructuring State aid.

3 Survival of rescue and/or restructuring State aid-receiving companies

3.1 Introduction

In this chapter we analyse the survival rates of aid-receiving companies as well as the key company, sector and aid characteristics that made these companies more likely to survive.

We begin with a simple statistical analysis of mortality among rescue and restructuring aid-receiving companies. Next, we undertake an econometric analysis of the determinants of survival among those companies having received rescue and /or restructuring aid.

3.2 Survival of aid-receiving companies

The current legal status of the 71 companies having received rescue and restructuring State aid is shown in Figure 3.1 by the type of aid they received. This information has been sourced from the companies' websites, the Internet, LexisNexis and the archives of the Financial Times (at FT.com).

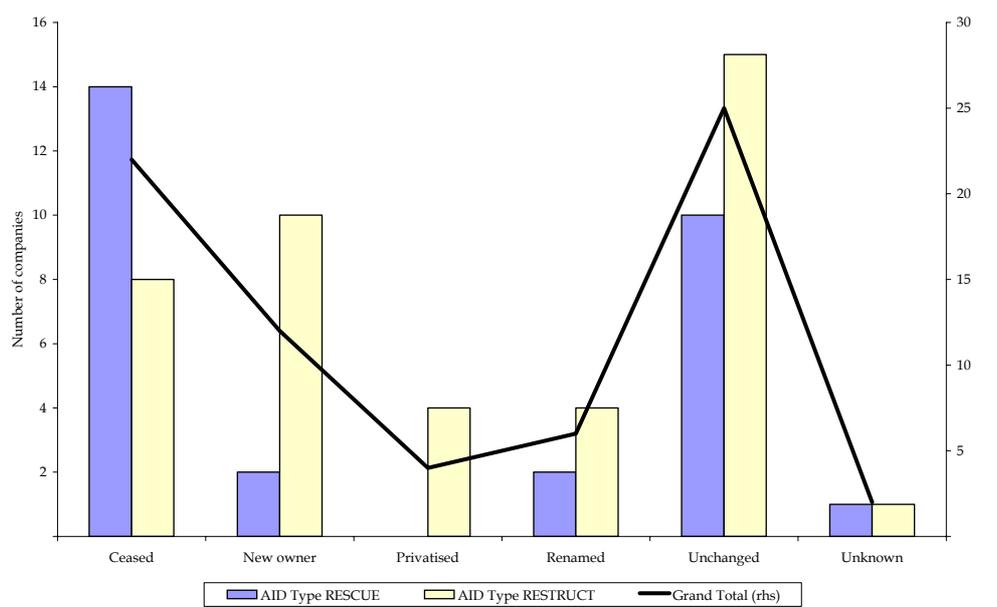
The key facts to note are the following:

1. More than a third of the companies have maintained the same legal status that they had at the time of the aid being awarded.
2. Almost a third of companies (22) have ceased operations.
3. Twelve companies have been taken over, whilst six have been renamed, often re-branding themselves following their episode of difficulty.
4. Of the 12 that have new owners, 11 have maintained the existence of their brand, and 8 of those 11 can be considered as still distinct operating entities.

Not all of the companies that ceased operations have disappeared without trace. In 3 cases, a new company has used the location and some semblance to the ceased company's name, but has not continued the ceased company's economic activity (product range or service line). Therefore, though superficially it might appear that the company has remained in place, it has actually ceased operations. A further 3 companies sold off their major operations: one became officially bankrupt in February 2004 (though it effectively ceased in 2003), and the operations of the other two were dramatically reorganised, and thus they have been classified as having ceased operations.

The 8 companies, which have been taken over, but are still distinct entities, vary in their degree of independence, from a distinct company within an umbrella group, to a totally separate company that is owned by an investment group. Most are in the former category, and some of these produce details of their economic and financial position in anecdotal form, such as on their websites. Only two of the companies (Crédit Lyonnais and Banco di Sicilia) produce separate detailed financial results. In general, it appears that the aid-receiving companies that have been acquired have improved their profits since the time of receiving State aid (when they were largely loss makers), though not all of them made a profit in 2002. It does not seem that any of these companies make heavy losses, only to be supported by their owner for strategic reasons.

Figure 3.1: Current status of companies having received State aid between 1995 and 2003



Source: London Economics

In the following three charts, we examine more closely the mortality of the companies having received rescue and restructuring State aid by allocating the 71 companies to one of the following two sub-groups: 1) companies that have survived and 2) companies that have folded. The criteria for allocating a company to one the two sub-groups are described in Table 3.1.

Table 3.1: Success or failure of aid-receiving companies

	Events after aid	Survival	Explanation
Aid given	Bankruptcy	NO	
	Restructuring and continuation of business activities in large part	YES	The aid has helped the company to survive during the difficult time and then used to restructure and to come back to “normal” business life.
	Restructuring and selling of large part of business	YES	The aid has helped the company to restructure and to become marketable. The fact that a large part of the assets are continuing to operate, even under a different name, shows that the aid has been successful and has helped the company to return to the “normal” continuation of its activities. Without the aid it would have been more difficult to sell the company. The aid procedure may also have been used to separate the “good assets” of the company from the less profitable ones.
	Insolvency	Excluded from analysis	The company is in a transition state, from which either it could end up in bankruptcy or it could recover. It is too soon to reach a judgment on the effectiveness of aid and therefore the company is excluded from the sample.
	Liquidation, including selling small parts of the business and the trading name of the company or the brand name.	NO	The company has been broken into parts and sold to repay the creditors. The sale of “small” parts of business that may have occurred is interpreted as part of the liquidation process of the old company and not as continuation of the old company under a different ownership.

Source: London Economics

On the basis of the company allocation mechanism described above, we estimate that almost 50% of the companies having received rescue State aid did not survive while only 20% of the companies having received restructuring aid failed to survive, as shown in Table 3.2.

Table 3.2: Survival and mortality of companies having received rescue and restructuring State aid⁽¹⁾

Current status of company?	AID Type		All Cases
	RESCUE	RESTRUCT	
Survived	14	33	47
Folded	14	8	22
Status undetermined	1	1	2
Total	29	42	71

NOTE: (1) For rescue and restructuring State aid cases decided over the period 1995 to 2003 and that have ended.

Source: *London Economics*

Table 3.3 shows the comparative performances of aid-receiving companies by the Member State from which the company originated. Whilst it is difficult to make conclusions about any contrast across Member States, due to the relatively small number of State aid cases in some of the countries, we can see some differences. French aid-receiving companies all survived, whereas about two-thirds of German companies, and only a slight majority of Spanish and Italian aid-receiving firms, did so. Within countries (apart from Germany), as for the overall sample, there were higher mortality rates for companies receiving rescue State aid than for those in receipt of restructuring State aid.

Table 3.3: Survival and mortality of companies having received rescue and restructuring State aid by country⁽¹⁾

Country	AID Type						All Cases
	RESCUE			RESTRUCT			
	Survived	Folded	Unknown	Survived	Folded	Unknown	
Austria		1		3			4
Belgium	1	1		1			3
France	2			7			9
Germany	9	5		5	4		23
Greece				1			1
Italy		4	1	7	2	1	15
Netherlands		1					1
Portugal				3			3
Spain		2		5	2		9
UK	2			1			3
Grand Total	14	14	1	33	8	1	71

NOTE: (1) For rescue and restructuring State aid cases decided over the period 1995 to 2003 and that have ended.

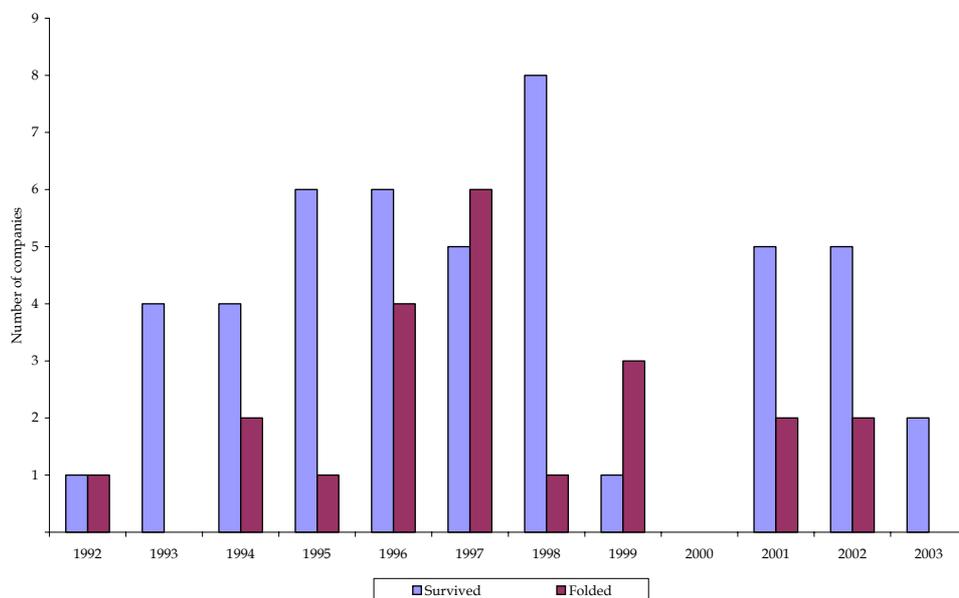
Source: *London Economics*

The mortality rate varies considerably according to the year when the companies received the rescue and/or restructuring State aid but, as Figure 3.2 shows, such mortality does not appear to trend over time.

Of note is the fact that the cohorts of companies having received rescue and/or restructuring State aid in 1996, 1997 and 1999 show the highest mortality rate.

The mortality of the 1998 cohort is particularly high and exceeds the number of companies of that cohort that still survive.

Figure 3.2: Survival of companies having received rescue and/or restructuring State aid by the year that aid was first given



Source: *London Economics*

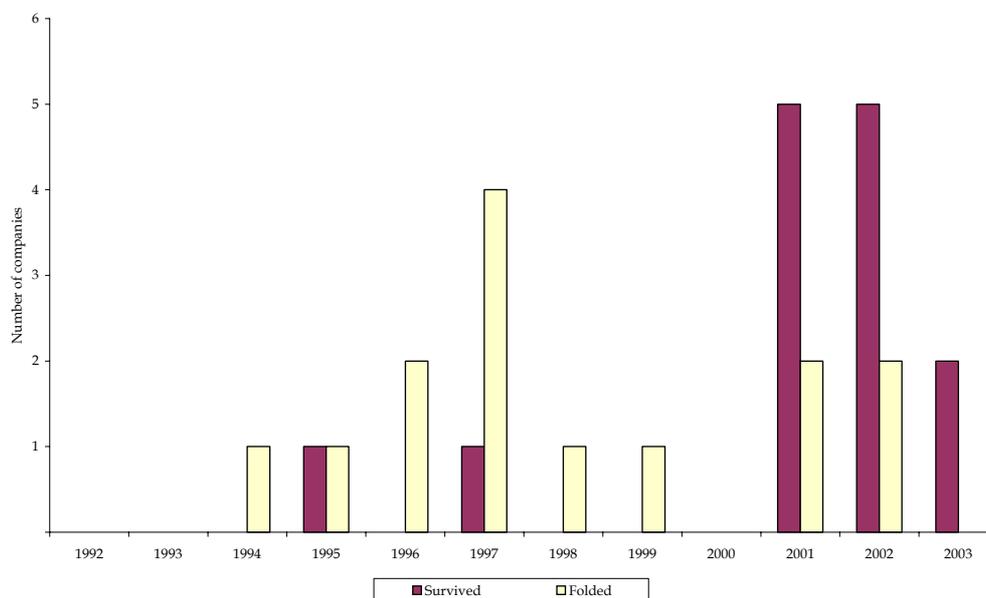
The next charts present mortality and survival figures separately for rescue State aid and restructuring State aid.

In the case of rescue State aid, it is interesting to note that mortality varies sharply across the various cohorts (Figure 3.3).

The highest mortality is observed for the cohort having received rescue State aid in 1997.

Somewhat disconcerting is also the fact that the recent 2001 and 2002 cohorts already show relatively high mortality figures although relatively little time has passed since the aid was given.

Figure 3.3: Survival of companies having received rescue aid by the year that aid was first given

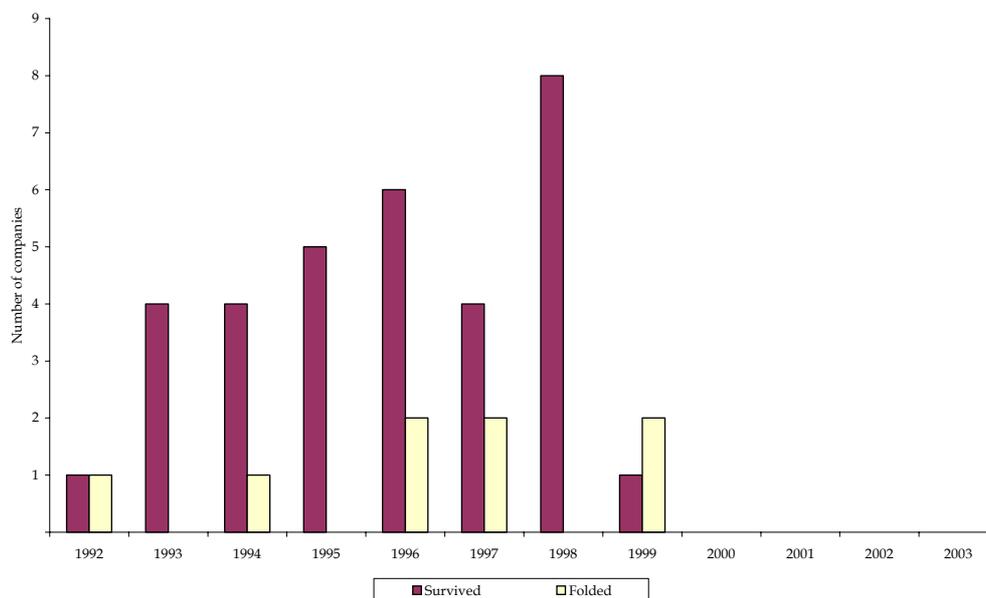


Source: *London Economics*

In contrast, the mortality rate of the companies having received restructuring State aid (Figure 3.4) is much lower and varies relatively little across cohorts.

Generally, each cohort will have lost 1 or 2 companies by now.

Figure 3.4: Survival of companies having received restructuring aid by the year that aid was first given



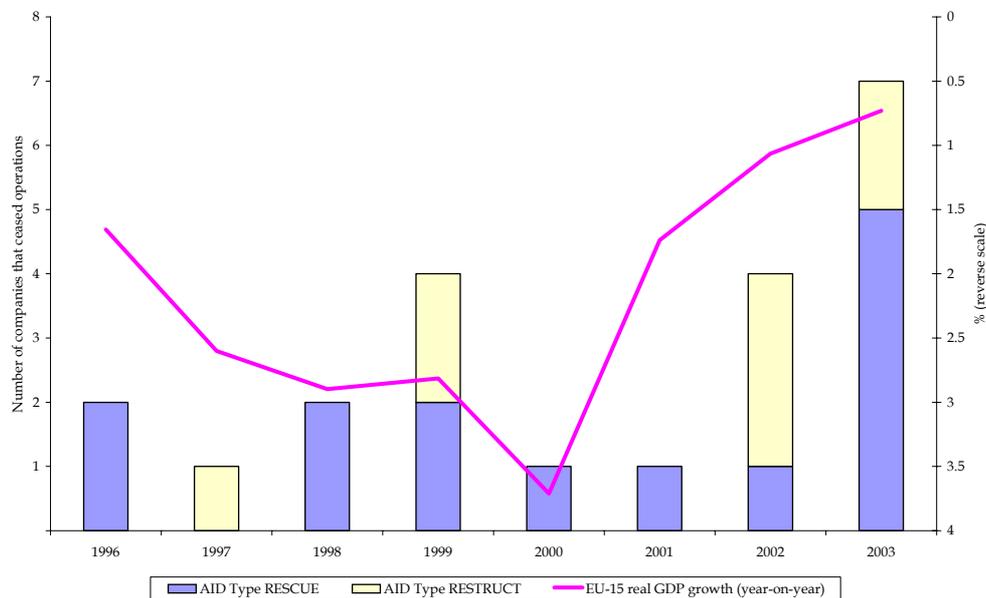
Source: *London Economics*

Figure 3.5 shows the year in which the 22 companies that folded ceased to exist. Within our population, peaks occurred in 1999 and 2003, though it is not yet possible to ascertain what figure 2004 will produce.

As in Figure 2.4, the business cycle for the EU-15, shown by the thick line, is plotted on a reverse scale, so a fall in the growth rate is illustrated by an upward sloping line.

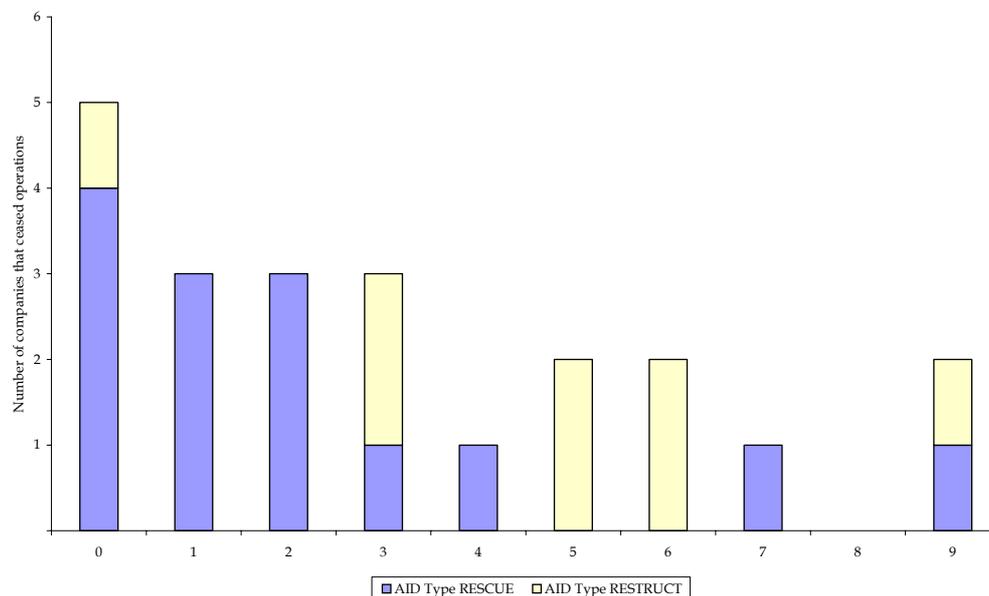
Mortality does seem to be related contemporaneously to the business cycle, with most of the mortality occurring when the economy is very weak, as in 2003.

Figure 3.5: Year of "death" for aid-receiving companies that have ceased operations



Sources: London Economics, LE calculations based on data from OECD Economic Outlook

Figure 3.6, below, shows how many years the 22 companies survived before ceasing operations. The duration of survival is defined as the difference between the year that the company ceased operations and the year it first received State aid. As before, the type of aid received is illustrated. It is immediately apparent that most of the companies that folded did so within 3 years of the start of the aid. This pattern is particularly strong for companies that received rescue State aid, but almost half of the companies that received restructuring State aid and folded also did so within 3 years.

Figure 3.6: Number of years of survival of aid-receiving companies that have ceased operations

Source: *London Economics*

3.2.1 Conclusions

Of the 71 companies having received rescue and/or restructuring State aid, more than a third currently have the same legal status that they had at the time of the aid award and almost one third ceased operations. The others either changed their name or were bought by other companies.

In our analysis we split the 71 companies into two groups, namely the companies that survived and the companies that folded. In the cases where the status of the company was not totally clear, the allocation to either of one of these two groups was made essentially on the basis of the continued existence of the productive apparatus of the company having received the aid. In other words, we considered a company to have survived, even if it had been acquired by a new owner, as long as the original production lines were still a recognisable physical entity.

Whilst it is difficult to conclude any trends, due to the relatively small number of State aid cases in some of the countries, we can see some differences. French aid-receiving companies all survived, whereas two-thirds of German companies, and only a slight majority of Spanish and Italian aid-receiving firms, did so. Within countries (apart from Germany), as for the overall sample, there were higher mortality rates for companies receiving rescue State aid than for those in receipt of restructuring State aid.

In total, out of the 71 companies having received rescue and/or restructuring aid between 1992 and 2003, 22 folded and 47 survived. The mortality rate of aid-receiving companies is particularly high in the case of companies having received rescue aid.

Of the 29 companies having received rescue aid, 14 folded. The mortality rate of rescue aid-receiving companies is particularly high in the case of companies having received such aid in 1997 and, to a lesser extent, in 2001 and 2002.

In contrast only 8 companies of the 42 companies having received restructuring aid have folded.

3.3 Analysis of determinants of survival

This section builds on previous studies on the determinants of firm survival in order to study what drives the survival of aid-receiving companies. We therefore estimate the probability of survival for aid-receiving companies as a function of a number of company, sector and aid characteristics.

Our analysis begins with the specification of our empirical model. We then explain the data used and present a summary of the results obtained in the empirical analysis.

3.3.1 Model specification

Our choice of the variables affecting firm survival is influenced by other studies¹³, though of course limited by data available on particular variables in our data set. Previous work has typically included size, initial size, age of the company, demand growth and whether the firm is part of a larger group, sector characteristics, etc. We therefore include in our model, size, age and status of the company and sector fixed effects. We also include a number of variables proxying for the various characteristics of State aid, its amount, the condition of the company at the time the aid was given as well as controls for the recentness of aid. All these factors are likely to have played a role in determining the survival of the aid-receiving company.

¹³ Firm survival has been assessed by many studies. Audretsch (1995) argue that firms enter at a small initial size relative to minimum efficient scale and so will exit unless they can grow. Hence survival rates should depend on initial size and growth. Jovanovic (1982) and Ericson and Pakes (1992) argue that a firm's success depends on its learning about its ability; survivors are those who have good ability and so become large. Hence survival should depend on current size. Disney et al. (1999) estimate how the hazard rate of exit depends on establishment, business cycle and cohort variables. Their results indicate a secular fall in cohort survival probabilities over time, and complex interactions between survival, age of firm and the size of the firm over time. Other studies that analyse exit rates are Mata et al (1995), on a similar data set for Portugal, and Audretsch and Mahmood (1995), using a cohort of US firms started in 1976. Boeri and Bellmann (1995) estimate the log odds ratio of the hazard rate on German data and Doms et al (1995) estimate a binary probit for whether a plant failed or not between 1988 and 1991.

Our methodology has the advantage of allowing us to examine the effects of one or more drivers of company survival taking account of other factors at play. Denoting aid-receiving companies by $i=1,\dots,N$, our framework is based on the following equation:

$$\text{Equation 3.1: } PS_i = \Phi \left(\begin{array}{l} \beta_0 + \beta_1 SIZE_i + \beta_2 AGE_i + \beta_3 PUBLIC_i \\ + \beta_4 COND_i + \beta_5 AID_i + \beta_6 OTHER AID_i \\ + \beta_7 RECENT_i + \beta_8 SECTOR_i + \beta_9 DIFFS_i \end{array} \right)$$

where:

PS_i is the probability of survival of company i .

$SIZE_i$ denotes the size of the company at the time of the aid, AGE_i is the age of the company, $PUBLIC_i$ is an indicator variable denoting the status of the company (state-owned or not). As these variables (or variants of them) are included in the vast majority of studies analysing company survival, they can be considered as standard controls for this type of analysis.

$COND_i$ is a variable indicating the condition of the company at the time of the aid. It is likely that some companies may have survived relatively to others simply because they were in a better condition when they received aid. The idea is that it might have been easier (or quicker) for these companies to restructure their operations and to restore normal business. Thus, we would expect this variable to be positively signed.

AID_i is the amount of aid given to the company. We would expect State aid to have a positive impact on the probability of survival. This implies that the probability increases with the amount of aid given.

$OTHER AID_i$ is an indicator variable proxying for other aid instruments in addition to grants, capital injections and loans. In many cases the aid package included also guarantees, debt waivers/write-offs, debt restructuring and other aid instruments in addition to new financial resources. These other aid instruments may have provided some additional relief to aid-receiving companies and thus increased their probability of survival.

$RECENT_i$ is a variable indicating whether the aid was given recently. It is important to control for the recentness of aid because there might be cases in which companies are still surviving only because they received aid recently and not because of the viability of their business. If we omitted this control, our results would understate the probability of failure and therefore be biased in favour of survival. The sign of this variable is therefore expected to be positive.

$SECTOR_i$ denotes demand growth in the sector where the aid-receiving company operates after the aid was given. The idea here is that the survival of the company **after** the aid was given might have been easier because of fast

demand growth in the sector. We would therefore expect a positive coefficient on this variable.

$DIFFS_i$ is a set of variables indicating the various reasons for difficulties leading up to the granting of State aid. Aid-receiving companies may have been in difficulty for various reasons such as market decline, huge financial liabilities, poor management etc. and the idea here is to test whether the type of difficulty mattered for survival. It is important to stress that this set of variables focuses on aid-receiving firms **before** the aid was given.

Φ is the cumulative normal distribution and $\beta_0 - \beta_9$ denote our parameters of interest.

Equation 3.1 will be estimated by using the Probit model. In the next subsection we will describe our data sources as well as discuss some measurement issues with respect to our variables of interest.

3.3.2 Data and measurement issues

Data sources

The data used in our empirical work were mostly sourced from the State aid approvals provided by DG Enterprise. These approvals typically contain general information on aid-receiving companies at the time of aid and before, such as company size, year of foundation, status of the company, etc., financial details, information on the aid package, explanations of the reasons for difficulties and details of the restructuring plan. Missing information was obtained from the LexisNexis¹⁴ database, Bloomberg Professional¹⁵ and more generally from the Internet. Sectoral data were obtained from the OECD STAN dataset¹⁶.

The regression sample consists of all State aid approvals over the period 1995-2003 for which we were able to retrieve all the necessary information to estimate the model.

Data definitions and measurement

Outcome variable (success/failure): grouping the events after the aid in five 'typical' categories and attributing an outcome (success/failure) to each of them enabled us to assign whether a company survived or not after receiving State aid. This process is illustrated in Table 3.1 along with a brief explanation of the criteria used to decide the outcome.

¹⁴ http://business.lexisnexis.co.uk/page_63.html

¹⁵ <http://about.bloomberg.com/about/professional/index.html>

¹⁶ <http://www.oecdwash.org/PUBS/ELECTRONIC/SAMPLES/stan2002-guide.pdf>

Company size (SIZE_i): is measured by the logarithm of employment at the time of State aid.

Age: is simply the age of the company.

Company status (PUBLIC_i): is a dummy variable taking value 1 if the company is state owned and 0 otherwise.

Condition of the company at the time of the aid (COND_i): is simply measured as profit at the time of receiving aid, normalised on employment.

Amount of aid (AID_i): is measured as the sum of eventual grants, capital injections and loans included in the aid packages normalised on employment at the time of aid.

Other aid instruments (OTHER AID_i): is a dummy variable taking value 1 if the aid package included guarantees, debt waivers/write-offs, debt restructuring and other aid instruments in addition to grants, capital injections and loans, and 0 otherwise.

Sector growth (SECTOR_i): is measured as (average) real value added growth in the sector of the aid-receiving company from the year the aid was given to present.

Reasons for difficulties (DIFFS_i): is measured as a full set of dummies, one for each reason of difficulty (at the time of the State aid case) listed in the State aid decisions. The reasons of difficulty being analysed included market decline, financial liabilities, restructuring costs, low competitiveness, liquidity problems, poor management, external failure¹⁷ and other reasons.

3.3.3 Results

The model described earlier has been estimated on a cross section of State aid decisions over the period 1995-2002 by using the Probit model. We estimate two equations, one that does not control for any impact of initial difficulties on company survival (Model 1) and another that includes such controls (Model 2). The latter specification allows us to test whether the initial difficulties matter for the survival of the company and which type of difficulty is more likely to affect survival. The estimation results are reported in Table 3.4.

¹⁷ What we mean by external failure is that sometimes a company can be in a situation of difficulty because key business partners are themselves in difficulty. The typical example is when an important client of the company defaults on its contractual obligations.

Table 3.4: Probit estimates of company survival

Independent variable	Model 1		Model 2	
	Coefficient	Z-statistic	Coefficient	Z-statistic
Size	-0.023	-0.18	0.000	0.00
Age	0.006	1.37	0.010	1.41
Status	-0.674	-1.24	-1.021	-1.13
Rescue aid	-2.235*	-3.54	-4.569*	-3.49
Condition of the company	1.227	0.68	1.387	0.45
Aid received	1.807	1.13	3.682	1.31
Other aid instruments	0.483	1.05	0.709	1.01
Recent aid case	2.251*	2.89	3.928*	2.63
Sector growth	6.416	0.92	14.892**	1.73
Market decline			1.731*	2.14
Financial liabilities	-	-	-1.152	-1.32
Restructuring costs	-	-	0.643	0.67
Low competitiveness	-	-	-1.612	-1.45
Liquidity problems	-	-	0.186	0.23
Poor management	-	-	2.045**	1.92
External failure	-	-	0.067	0.06
Other reasons	-	-	1.183	1.42
Constant	0.431	0.47	-0.196	-0.12
Number of observations	63		63	
Pseudo R-squared	0.27		0.52	
Likelihood ratio (P-value)	0.01		0.00	

NOTE: the columns labelled 'coefficient' contain the estimated value of each parameter of the two models; the columns labelled 'Z-statistic' contain the normally distributed statistic of each parameter of the two models; Pseudo R-squared is an indicator of the goodness of fit of our models; Likelihood ratio is a statistic testing that all the parameters of our models are equal to zero; * denotes statistically significant at 5% confidence level; ** denotes statistically significant at 10% level.

Source: *London Economics' estimates*

The regression shows good statistical properties and a pattern of signs that is consistent with the theoretical insights described earlier.¹⁸ Beginning with

¹⁸ We have also estimated more general models of survival, where the constant element of the probability of survival is sector-specific. These estimates are obtained by introducing a full set of sector dummies,

Model 1, our results show that if rescue aid is given (as opposed to restructuring aid) the company has, on average, a lower chance of survival. This is not to say that rescue aid *causes* low survival, but simply reflects the fact that companies who receive rescue aid have, on average, a lower probability of surviving. This result can be explained by recalling the key characteristics of rescue aid.

Rescue aid differs from restructuring aid in how it supports the company in difficulty. Whereas restructuring aid provides resources for the company to fundamentally alter its organisation over an extended period, rescue aid simply enables the company to fulfil its current obligations (essentially, the cost of day-to-day operations) in the short-term (usually six months, and no more than twelve). Thus, a company receiving rescue aid would remain in a precarious position following the termination of the aid, should its problems persist. The solution would be to restructure, but rescue aid does not provide the resources for this. It is a prerequisite, however, that a company receiving rescue aid submit a restructuring plan to be followed in the near future. A company receiving rescue aid alone would therefore assume the entire burden of restructuring costs, as opposed to a company receiving restructuring aid, which would be supported through the process by government funds.

Our analysis also shows that having recently received aid (in this case after 1999) improves the survival chances of the company in the near future. The probability of survival increases with the age of the company, better conditions of the company at the time of the aid, the amount of aid received, the presence of additional aid instruments in addition to grants, capital injections or loans, and when demand in the sector grows faster, though these effects are less precisely determined. The size of the company at the moment of the aid and state-ownership seem to affect negatively the survival chances of the company, though these effects are less certain.

We have also tested to what extent the reasons for difficulties at the time of the aid and the individual reasons for difficulties mattered for the survival of aid-receiving companies (Model 2). Our analysis suggests that if a company were in difficulty because of market decline and/or poor management, its chance of survival after receiving State aid would be higher. These results are interesting and quantitatively relevant. For example, our estimates reveal that if the reasons for difficulties were market decline or poor management, the company has roughly a 30% higher chance of surviving¹⁹. All other reasons for being in difficulty are statistically insignificant at conventional levels. Moreover, in this specification, demand growth in the sector (after the aid

one for each sector. Our results were found robust to this specification and to a number of other experiments.

¹⁹ In the context of the Probit model, these effects are called “marginal effects” and indicate the change in probability for an infinitesimal change in each independent variable. Formally, the marginal effect of variable 1 is $\partial\Phi / \partial x_1 = \phi(\bar{x}b)b_1$.

was given) has a positive and statistically significant effect on company survival²⁰.

Finally, we conducted an econometric assessment of whether the main features of the restructuring plans documented in State aid cases mattered for company survival. We tested for any impact on survival of the following ten features of the restructuring plans including: duration of restructuring, capacity reductions, personnel reductions, focusing on core business activities, cost-cutting, financial consolidation, selling or closure of plants and assets, new investment, training and upgrading and plant relocation. None of these variables resulted statistically significant at conventional levels²¹.

3.3.4 Conclusions

In this section we have analysed the probability of survival of aid-receiving companies. Drawing on the literature on firm survival, the probability of survival has been related to a number of company, sector, and aid characteristics.

Our estimates indicate that companies that benefited from rescue aid are more likely to exit the industry and that the State aid usually works in keeping the company afloat in the short term. Our analysis also shows that if the firm was in difficulty due to market decline and/or poor management, it has a better change of surviving. High demand growth in the sector is also found to improve the probability of survival.

We also analysed whether the various aspects of restructuring plans mattered for company survival. Our results indicate that none of these features had any impact on company survival.

²⁰ It is important to understand that the variable "market decline" is a dummy variable proxying for market conditions immediately before receiving State aid. The variable "Sector growth" measures the market conditions after the company receives aid. Therefore, as long as the sector is not in a condition of structural decline, there is no correlation between the two variables. Moreover, our regression does not show any symptom of collinearity between "market decline" and "sector growth".

²¹ Given that 24 State-aid cases did not contain details of the restructuring plan, we had to adopt a different estimation strategy for this part of the analysis. In essence, we constructed a new model (Model 3) by adding one restructuring plan variable to streamlined version of Model 2 (see Table 3.4) and then estimated it eleven times, each time with a different restructuring plan variable. In this way we obtain parameter estimates of the entire set of restructuring plan variables. Full estimation results are available upon request.

4 Social and economic effects of State aid

4.1 Introduction

In the previous chapter we analysed survival rates of aid-receiving companies as well as the key company, sector and aid characteristics that made these companies more likely to survive. In this chapter, we assess the growth, profitability and productivity performance of aid-receiving companies from the time they received their first award of State aid. The purpose of this exercise is to understand in which way, if any, the aid has helped the company to survive a difficult time. Likely questions to be answered are: Did the company grow or merely survive after receiving aid? Was the company able to quickly restore normal profitability? Did the aid merely postpone the demise of the company (preserving employment, etc.) or was it used to overcome temporary difficulties, restructure and re-launch the company? This analysis is restricted to only those companies who were beneficiaries of positive State aid decisions between 1995²² and 1999²³ and that in 2002 were still in business.

We answer these questions in two stages. First, we track the performance of all the aid-receiving companies from the time they received aid relative to the performance of their competitors. This exercise gives us a broad overview of the “average” performance of firms after they receive State aid. The key strength of this type of analysis is that of relying on the entire population of State aid-receiving companies. Its weakness is that of being relatively limited in depth. Aid-receiving companies are only judged with reference to some key aspects of their performance, e.g. employment and turnover dynamics and return to productivity and profitability. In the next stage, therefore, we analyse in greater detail firm performance after the receipt of State aid, by drawing up four case studies of aid-receiving companies. This exercise complements the previous one by adding important detail that the policymaker may find of interest.

This chapter is structured as follows. In the next section, we focus on the first stage of our assessment, including a detailed discussion of the key methodological issues of programme evaluation, a description of the data sources used and the results of our analysis. Section 4.3 contains the four case studies of aid-receiving companies.

²² As noted earlier, some of the post-1995 rescue and restructuring State aid decisions relate to State aid given in the early nineties.

²³ Our dataset also contains State aid cases after 1999, but we decided do not use them because we considered them too close to the granting of aid to analyse their performance. Omitting these latest cases is supported by our findings in the regression analysis, and, for cases since 2002, is also enforced by the lack of comparative data.

4.2 Overview of aid-receiving firms' performance

In this section we provide an overview of the performance of aid-receiving companies after receipt of rescue or restructuring State aid. We first address the methodological issues surrounding any evaluation of performance. Then, we describe the data sources and the results of our analysis.

4.2.1 Methodological issues

Evaluating the performance of a company having benefited from State aid is not an easy task and raises challenges similar to those of the so-called "evaluation problem", i.e. the measurement of the impact of a policy reform or intervention on a set of well-defined outcome variables²⁴. The central issue here is that, in order to isolate the effects of the programme/intervention on the outcome variable(s), we need to know what would have happened (to the outcome variable) had the company not been treated by the programme. This aspect of the evaluation process is dealt with by constructing the so-called "counterfactual" of the programme, which by definition is not affected by the programme. Once the proper counterfactual has been constructed, the impact of a programme can be assessed by comparing the outcomes.

There are several alternative approaches that could be used to construct the counterfactual, each of them depending on the type of information available to the researcher and the assumptions that the researcher is willing to make. Datasets with longitudinal (panel data) or repeated cross-section information support less restrictive assumptions due to the relative richness of information. If the available data are in a longitudinal or repeated cross section format, the difference-in-difference (DID) method can provide a robust estimate of the impact of the treatment. DID tries to find a naturally occurring comparison group that can mimic the properties of the control group (i.e., the group subject to the programme/intervention) in the properly designed experimental context. The average impact of the programme can then be recovered by comparing the difference in average behaviour before and after the intervention for the control or eligible group with the before and after difference for the comparison group.

Under certain conditions, the DID method can be used to recover the average effect of a programme on those individuals who entered into the programme – or those individuals "treated" by the programme.²⁵ The average effect of the treatment on the treated is measured by filtering out unobservable individual effects and common macroeconomic effects. However, it relies on the two

²⁴ See for example Blundell and Costa Dias (2000) for an excellent review of non-experimental methods for the evaluation of social programmes.

²⁵ This is a different question than measuring the impact of a programme on agents of a particular type as if they were assigned to such a programme randomly from the population of all agents of that type.

critically important assumptions of *common time effects across groups* and *no compositional changes within each group*.

The case at study satisfies some of the conditions that ensure consistency of DID but not others. First and foremost there is the issue of finding the proper set of comparators. Firms having benefited from State aid are typically in a situation of difficulty for some time before receiving the State aid. Finding an appropriate comparison group would therefore require finding a number of companies that not only operate in the same sector, of a similar size, etc., but that were also in a situation of difficulty at the same time as the firms that received State aid.

Further complications in finding the comparison group are due to the fact that different companies can be in different situations of difficulty – it would not be sufficient to compare a sample of companies in difficulty receiving State aid against a sample of companies in difficulty and not receiving State aid.

It is also important to note that the aid awarded varies between firms in terms of its amount, its duration, the financial instruments used in the aid package and the conditions under which the aid is approved by the Commission. In other words, the programme/intervention is not the same for all the aid-receiving firms and this can well affect their performance after the aid is granted. Furthermore, the interval of time between the first receipt of State aid and 2002 also varies between aid-receiving companies.

These reasons mean that the performance of one aid-receiving firm cannot be strictly compared with that of another.

On the basis of the methodological concerns described above and issues of data availability²⁶, we opted to use a simpler method to assess the performance of aid-receiving companies after the aid was granted. The following four steps describe our methodology:

1. **Identification of suitable comparators of aid-receiving companies.** These comparators were identified on the basis of a number of characteristics of aid-receiving companies (see below for details).
2. **Definition of performance indicators for aid-receiving companies and their comparators.** In practical terms, this involves defining a set of performance indicators and calculating them for both the aid-receiving companies and their comparators. In our analysis, we use employment, turnover, profitability and labour productivity as indicators of performance. Given that we rely on more than one comparator firm for each aid-receiving firm, the comparator firms' performance is summarised by constructing weighted averages of the underlying

²⁶ This was especially a problem concerning the aid-receiving companies before receiving State aid if the necessary statistical data was not contained in the State aid cases.

variables (employment, turnover, profitability and labour productivity)²⁷.

3. **Measurement of performance for each aid-receiving company and its comparators.** Performance was assessed for both the aid-receiving company and its comparators by calculating the distance between each aid-receiving company and the industry average immediately before receiving State aid and in the most recent year for which data was generally available. This therefore identifies the position of the aid-receiving company relative to the industry (its comparators) at the time that it first received State aid, and in 2002.
4. **Comparison of the progress made by each aid-receiving company against that of comparators over the same time period.** This final stage of the methodology allows the disentangling of the performance of aid-receiving companies from more general macroeconomic and sectoral trends. In practical terms, this involves comparing, at two points in time, the measures constructed in the previous step. The analysis shows whether the aid-receiving company improved at all, and if so, whether it did so to such an extent that it achieved the industry average, or whether it surpassed it.

The proposed methodology has the notable features of being able to control for common macroeconomic effects and to some extent for company heterogeneity. However, there might be an issue of differential performance dynamics between aid-receiving companies and their comparators after granting of aid. There are two reasons. Firstly, the State aid itself can give a temporary boost to the aid-receiving company. Secondly, the firms that received State aid usually start from the bottom and, if they were successful, would easily outperform their comparators by growth or difference measures.

We expect the first effect to be stronger in the first few years of the aid and this is supported by the findings in the regression analysis reported in Section 3.3.3. Our methodology attenuates these effects by excluding the State aid cases from our sample, in which the first instalment of State aid was awarded subsequent to the end of 1999. As these effects are likely to be temporary, after some time we would expect the aid-receiving companies to regain the pace of their competitors. Nevertheless, we would still expect that surviving aid-receiving companies might exhibit better than the industry average performance due to their poor initial conditions.

To conclude, it is important to realise that our methodology is not an application of the DID method, but simply a comparative assessment of the performance of aid-receiving companies. Although our results do not have

²⁷ We simply weight each company's employment, turnover, profitability and labour productivity by its (time-varying) employment share in the industry.

the properties of the DID method, they mitigate in several ways the likely bias arising from the previously discussed specificity of State aid cases.

4.2.2 Data Sources

To implement the model we required financial data on the companies receiving State aid and a number of comparator companies over the period since State aid was first received until the present day. We split the companies receiving State aid into two groups: those companies which were listed on Bloomberg Professional (BB-listed) and those which were not (non-BB-listed).

For the comparators and aid-receiving BB-listed companies, the information was obtained from Bloomberg. A range of data sources was employed to obtain this information for the non-BB-listed companies, including the State aid case reports, LexisNexis database, company web pages and other internet sites.

For the companies listed on Bloomberg and receiving State aid, we were able to obtain a wider array of financial fundamental data than for non-BB-listed companies. Data on turnover, employment and net income was common to both BB and non-BB cases. Therefore, for the population-wide analysis of the performance of aid-receiving companies, these are the three variables utilised.

4.2.3 Comparator company selection process

There are four main steps in the selection process for relevant comparators:

- *Initial selection of comparators;*
- *Elimination of those without data;*
- *Identification of firms with similar activities; and*
- *Refinement of list to include only firms similar in size to the aid-receiving firm.*

Next, each step is discussed in sequential order.

Initial selection

An initial list of comparators was constructed using a combination of the information extracted from the State aid case documentation, the Internet and Bloomberg Professional.

For BB-listed firms, Bloomberg Professional was used to identify broadly similar companies. These companies were those classified in the same industry subgroup as the BB-listed firm and were drawn from the geographic

market most relevant to aid-receiving company.²⁸ To this list, other companies were added if they were defined as a competitor in the State aid case reports, or by the alternative sources, and were listed on Bloomberg Professional.

Non-BB-listed firms had to be assigned to an industry subgroup prior to the construction of an initial list of comparators. A combination of information in the State aid case reports and Internet sites was used to assign the company receiving State aid to a Bloomberg industry subgroup. After this, the process used for BB-listed firms was implemented.

Data availability

For the firms on the initial list, financial fundamentals over the period 1990-2002 were downloaded. To be considered as a “relevant” comparator, the firm had to have data from the year of the beginning of State aid and had to have at least data up to and including 2002. Firms without sufficient data were filtered out to form a basic list of comparators.

Where the information was not in euros, the data was converted from the comparator company’s domestic currency to euros using the yearly average of daily exchange rate data sourced from Oanda²⁹.

Controlling for similar activities

To ensure that the companies present in the basic list were suitable comparators, the firms’ descriptions in Bloomberg Professional were compared to the activities of the aid-receiving firm. Firms involved in similar activities were identified, and the rest discarded.

Controlling for companies of similar size

Comparator firms should be similar in size as well as their activities to assess the performance of aid-receiving companies since the start of their State aid. Therefore the list was further refined by selecting similarly sized companies, as indicated by the level employment and/or turnover. Dissimilar firms were eliminated and the list of comparators was finalised.

Summary

The objective was to compare the performance of the aid-receiving companies since they first received State aid to similar firms facing similar commercial constraints. To reflect this, scope, scale and geographical location criteria

²⁸ The choice of geographic boundaries for BB comparators was based on a range of information from the State aid case reports, and company and industry web pages.

²⁹ Oanda’s website: www.oanda.com.

were used to identify comparator firms from the available data and a final list was obtained, on which the analysis was performed.

4.2.4 Results of analysis

Having established the comparator groups, as described above, we compare employment, turnover, profitability and labour productivity of companies that received State aid against those that did not.³⁰ We make this comparison at two points in time, just immediately before receiving State (initial time) aid and in the most recent year for which financial and employment data are generally available (final time). For reasons of data availability we restrict the 'initial' time to the moment of receiving the first instalment of State aid and the 'final' time to 2002.³¹

If in the period under consideration the aid-receiving firm has grown faster than the industry average, this firm would gradually close the gap with the industry average and eventually, in some time, outperform the industry. We construct a measure of this differential performance for each performance indicator by subtracting the (average) growth rate of the industry from that of the aid-receiving company. The difference between these two figures allows us to analyse how, on average, the basic financial fundamentals of the aid-receiving firms have evolved compared to those of similar firms in the same market. We report this measure in Tables 4.1-4.4, in the column labelled 'Differential growth'.

If for a company the differential growth indicator takes a positive value, this means that over the period under investigation the aid-receiving company has gained some ground against its comparators. This can be seen by comparing the distance between an aid-receiving company and the industry average before the State aid was given with the current distance. These two measures are reported respectively in the columns labelled 'D0 (%)' and 'D1 (%)' of Tables 4.1-4.4. If for a firm the value in the column 'D1 (%)' is smaller (in absolute value) than that in 'D0 (%)', this firm has moved closer to the industry average.

If the aid-receiving firm has grown at a much faster rate than the industry, this firm may have outperformed the industry over the period of analysis. This would be the case of a firm that was below the industry average at the time the aid was given and finds itself above the industry at the end of our period of analysis. We note these cases in the last column of Tables 4.1-4.4.

We analyse each performance measure in turn before discussing and summarising our findings.

³⁰ Each State aid company has more than one comparator firm. The performance of each set of comparator firms is summarised by constructing a weighted average of the variable measured at the firm-level.

³¹ This was specially the case of aid-receiving companies.

Employment

Table 4.1 shows how employment growth in firms that received State aid compares to employment growth in comparator companies. Employment, as in section 3.3.2, can be viewed as a measurement of the evolution of the size of the company. However, simply observing movements in employment could be misleading, since a company could be reducing employment either because its output is shrinking or because it is increasing efficiency by downsizing its workforce. Moreover, in many cases the Commission asks the firms to reduce capacity and headcounts in order to approve the aid.

Employment in the companies that received State aid grew quicker (or shrank slower) than their comparators in about half of the State aid cases. In all these cases the position of the aid-receiving company moved closer to the industry average and in one case above the industry average (Head Tyrolia Mares).

The remaining half of firms that received State aid posted employment growth smaller than their comparators. Crédit Lyonnais underperformed the industry average, though this is not necessarily an indicator of bad performance.

When considering the actual change in employment among companies receiving State aid, we notice that eleven companies increased their employment levels, though in one case (Cofinca S.A.) at a slower pace than the industry (Table 4.1). The remaining firms reduced their employment level, though in two cases at a lower rate than the industry.

Wilhelm Stoll Maschinenfabrik GmbH and Niemeyer und Söhne GmbH & Co. KG were the only two firms that received rescue aid. In both cases the employment performance of these companies was below that of their comparators.

Table 4.1: Employment performance of State aid-receiving companies and comparators since State aid was first received

State aid case	Differential growth	D0 (%)	D1 (%)	Position versus industry average
Crédit Lyonnais*	-12.3	12.3	-57.5	Went below
Head Tyrolia Mares	5.8	-26.9	14.3	Went above
Gildemeister AG*	3.8	40.6	72.4	
Wilhelm Stoll Maschinenfabrik GmbH	-8.8	-97.5	-98.7	
Danona Sociedad Cooperativa	2.0	-66.9	-61.4	
Alitalia*	1.3	-21.7	-16.2	
Thomson S.A.	12.4	-75.3	-42.4	
ADIS Advanced Integral Structures GmbH	6.3	-73.9	-58.7	
GAN	-33.0	-6.8	-93.8	
Condotte S.p.A.	14.1	-97.2	-92.7	
Italstrade S.p.A.	1.3	-97.2	-96.8	
Crown Agents	-14.9	-47.7	-80.1	
Niemeyer und Söhne GmbH & Co. KG	-22.9	-97.6	-99.7	
Productos Tubulares	-17.9	-36.3	-81.7	
Ergee Textilwerk GmbH*	9.2	-54.3	-32.2	
Banco di Sicilia e Sicilcassa	-23.8	298.1	38.1	
Graphischer Maschinenbau GmbH	1.6	-91.3	-90.8	
Cofinca S.A.	-10.3	-33.0	-58.4	
Ercros S.A.	1.6	-98.8	-98.7	
SNIACE S.A.	-27.4	-58.7	-80.4	
Fesa Enfersa Group	-5.4	-59.1	-80.6	
Olympic Airways	-5.6	-60.8	-68.4	

NOTE: An asterisk after a company's name denotes that the company has been subject to more than one decision by the European Commission on rescue and/or restructuring State aid, including negative decisions.

Source: London Economics' analysis on data from LexisNexis database, Bloomberg Professional, State aid documentation.

Turnover

Table 4.2 shows the turnover data in the same manner as employment was shown in Table 4.1. Turnover (or revenue, or sales) shows the size of the company, but in terms of demand, rather than, as employment does, in terms

of supply. 43% of the aid-receiving firms increased their turnover by a greater amount than their comparator companies. All these firms have moved closer to their industry average or outperformed it in the case of Gildemeister AG.

About 47% of State aid-receiving firms' turnovers have, on average, decreased relative to their comparators, whilst in two cases their turnover roughly moved in line with that of their industry. Crédit Lyonnais and Alitalia were above the industry average at the time the State aid was given, but they ended up below the industry average in 2002.

It should be noted that the turnover figures are nominal, and thus include increases due to price inflation³². With this caveat in mind, we briefly note that, between the time the companies received aid and 2002, turnover rose for about sixteen aid-receiving companies, though only in nine cases above the industry average (Table 4.2).

Four companies reduced their turnover in absolute terms and relatively to the industry average. Of the rest, one company barely changed its turnover, but did so in a period when its comparators increased turnover, so its relative turnover fell against the industry average (Table 4.2).

Wilhelm Stoll Maschinenfabrik GmbH and Niemeyer und Söhne GmbH & Co. KG were the only two firms that received rescue aid. Similarly to their employment performance, their turnover performance was below that of their comparators.

³² The difference between the growth in the aid-receiving companies' turnover and that of their competitors does not suffer from the problem of inflation, since both sets of turnover data will have increased by the same rate of inflation.

Table 4.2: Turnover performance of State aid-receiving companies and comparators since State aid was first received

State aid case	Differential growth	D0 (%)	D1 (%)	Position versus industry average
Crédit Lyonnais*	-15.8	51.5	-51.6	Went below
Head Tyrolia Mares	2.5	-52.7	-41.9	
Gildemeister AG*	63.7	-22.5	179.6	Went above
Wilhelm Stoll Maschinenfabrik GmbH	8.4	-99.8	-99.3	
Danona Sociedad Cooperativa	14.3	-81.2	-63.5	
Alitalia*	-7.7	25.5	-10.6	Went below
Thomson S.A.	15.7	-80.6	-58.9	
ADIS Advanced Integral Structures GmbH	12.8	-86.0	-64.7	
GAN	-33.6	-33.1	-91.7	
Condotte S.p.A.	-2.1	-63.2	-66.5	
Crown Agents	-5.4	-81.8	-86.8	
Niemeyer und Söhne GmbH & Co. KG	-10.6	-99.5	-99.8	
Productos Tubulares	-0.1	-58.1	-58.3	
Ergee Textilwerk GmbH*	-3.4	-62.3	-68.7	
Banco di Sicilia e Sicilcassa	30.0	-86.0	-72.7	
Graphischer Maschinenbau GmbH	38.6	-93.9	-84.5	
Groupe Herstal	1.6	219.0	239.9	
Cofinca S.A.	-8.1	-92.4	-94.4	
Ercros S.A.	-0.6	-98.7	-98.8	
SNIACE S.A.	-28.0	-79.2	-88.8	
Olympic Airways	-7.2	-80.7	-85.1	

NOTE: An asterisk after a company's name denotes that the company has been subject to more than one decision by the European Commission on rescue and/or restructuring State aid, including negative decisions.

Source: London Economics' analysis on data from LexisNexis database, Bloomberg Professional, State aid documentation.

Profit rate

The measure of net income to employment aims to show how well the industry uses the capital it invests to generate profit. In the absence of generally available data on the amount of capital invested, the level of employment serves as a proxy. Profit figures are not available for all of the

surviving companies. We do not know whether these companies are more, or less, profitable than the ones for which we do have data. Therefore, any conclusions are tentative.

Table 4.3 shows that the vast majority of State aid-receiving firms (72%) improved their profitability, narrowing the gap with the industry average.³³ Although the profit rate remains well below the industry average for most of the aid-receiving companies, in four cases profitability outperformed the industry average. This was the case of Crédit Lyonnais, Productos Tubulares, Banco di Sicilia e Sicilcassa and Groupe Herstal.

Five aid-receiving firms saw their profitability deteriorate relative to the industry average and in the case of Gildemeister AG and Wilhelm Stoll Maschinenfabrik GmbH the profit rate went from above to below the industry average after the State aid was given.

Wilhelm Stoll Maschinenfabrik GmbH was the only firm that received rescue aid and for which profit data were available. Similarly to its employment and turnover performance, its profitability performance was below that of its comparators.

³³ Due to the fact that in many cases the profit rate was negative at the time of the State aid, we are unable to compute the growth of the profit rate. In this part of the analysis we rely more on comparisons with the industry averages.

Table 4.3: Profitability performance of State aid-receiving companies and comparators since State aid was first received

State aid case	Differential growth	D0 (%)	D1 (%)	Position versus industry average
Crédit Lyonnais*		-264.3	2.3	Went above
Head Tyrolia Mares	11.9	-110.5	-100.6	
Gildemeister AG*		3726.2	-141.8	Went below
Wilhelm Stoll Maschinenfabrik GmbH	1.8	560.0	-163.2	Went below
Alitalia*		-698.5	-209.8	
Thomson S.A.		-128.2	-111.7	
GAN		-150.0	-44.3	
Crown Agents	361.7	-95.5	-23.8	
Productos Tubulares		-1066.8	1250.0	Went above
Ergee Textilwerk GmbH*		-599.8	-65.9	
Banco di Sicilia e Sicilcassa		-142.1	547.7	Went above
Graphischer Maschinenbau GmbH		-157.9	-8001.7	
Groupe Herstal		-1634.4	64.4	Went above
Cofinca S.A.		-160.0	-98.7	
Ercros S.A.	8.6	-58.2	-10.0	
SNIACE S.A.	5.5	-408.7	-614.6	
Fesa Enfersa Group	26.5	1316.5	0.1	
Olympic Airways	45.4	-132.9	-37.5	

NOTE: An asterisk after a company's name denotes that the company has been subject to more than one decision by the European Commission on rescue and/or restructuring State aid, including negative decisions.

Source: London Economics' analysis on data from LexisNexis database, Bloomberg Professional, State aid documentation.

Productivity

Measuring productivity before and after receiving State aid aims to capture whether aid-receiving firms have managed to increase their efficiency levels by successfully implementing their restructuring plans. In absence of data on capital stock and the labour share in value added, we focus on labour productivity (LP) instead of Total Factor Productivity or TFP. Although TFP is a better measure of productivity than LP because it takes into considerations all the inputs used in the production process, LP is a good measure of productivity for firms within the same sector, which is our case.

Table 4.4 shows the labour productivity performance of firms that received State aid against that of comparator firms. 71% of the aid-receiving companies posted labour productivity growth above the industry average. This means that these companies have actually narrowed the productivity gap with the industry. Four companies managed to improve their productivity performance from below to above the industry average. These companies were Gildemeister AG, GAN, Productos Tubolares and Graphischer Maschinenbau GmbH.

The remaining six firms that received State aid posted labour productivity growth lower than their comparators.

When considering the actual change in labour productivity among companies receiving State aid, we notice that sixteen companies increased their productivity levels, though in one case (Olympic Airways) at a slower pace than the industry (Table 4.4). The remaining firms reduced their productivity level, though in one case at a lower rate than the industry.

Wilhelm Stoll Maschinenfabrik GmbH and Niemeyer und Söhne GmbH & Co. KG were the only two firms that received rescue aid. In both cases the productivity performance of these companies was above that of their comparators.

Table 4.4: Labour productivity performance of State aid-receiving companies and comparators since State aid was first received

State aid case	Differential growth	D0 (%)	D1 (%)	Position versus industry average
Crédit Lyonnais*	-2.1	18.6	1.6	
Head Tyrolia Mares	4.6	-41.0	-4.5	
Gildemeister AG*	31.4	-44.7	60.1	Went above
Wilhelm Stoll Maschinenfabrik GmbH	5.6	-64.5	-49.8	
Danona Sociedad Cooperativa	8.5	-46.8	-8.7	
Alitalia*	-7.7	56.6	5.4	
Thomson S.A.	3.8	-54.3	-44.9	
ADIS Advanced Integral Structures GmbH	6.1	-46.3	-23.6	
GAN	12.2	-32.4	16.3	Went above
Condotte S.p.A.	-14.6	825.3	317.4	
Crown Agents	10.7	-67.6	-38.0	
Niemeyer und Söhne GmbH & Co. KG	44.3	-77.4	-13.3	
Productos Tubulares	25.4	-50.9	26.6	Went above
Ergee Textilwerk GmbH*	-11.0	-18.8	-58.0	
Banco di Sicilia e Sicilcassa	57.6	-97.1	-83.1	
Graphischer Maschinenbau GmbH	33.1	-38.9	45.2	Went above
Groupe Herstal	6.8	78.0	128.4	
Cofinca S.A.	0.4	-88.1	-87.9	
Ercros S.A.	-1.2	-7.2	-13.6	
SNIACE S.A.	3.1	-51.9	-47.0	
Olympic Airways	-1.5	-50.6	-53.3	

NOTE: An asterisk after a company's name denotes that the company has been subject to more than one decision by the European Commission on rescue and/or restructuring State aid, including negative decisions.

Source: London Economics' analysis on data from LexisNexis database, Bloomberg Professional, State aid documentation.

4.2.5 Conclusions

The overall performance of the companies having received rescue and/or restructuring aid is generally positive both in absolute terms and relative to

the performance of the comparator companies. More precisely, we found that³⁴:

- With regards to *employment*, about 50% of the State aid-receiving companies increased employment faster than the industry;
- With regards to *turnover*, 80% of the State aid-receiving companies showed an increase in absolute terms and 43% of these companies posted a better increase in turnover than their comparator companies.
- Regarding to *profitability*, as measured by profits per employee, 72% of State aid-receiving companies narrowed their gap with industry average, though for most of them their profit rate remains well below that of the industry;
- With reference to labour productivity, 76% of the aid-receiving firms posted increases in productivity and in the case of most of them, to above the industry average; and
- Firms that received rescue aid performed worse than their comparators in terms of employment, turnover and profitability. Conversely, their productivity performance was above the industry average.

4.3 Evidence from case studies

[For reasons of confidentiality, the case studies have not been retained in this version of the report]

³⁴ Because the number of companies for which information is available varies across performance indicators, the performance results for each indicator are reported in terms of the percentage of State-aid receiving companies showing a specific outcome.

5 Impact of State aid at the sectoral level

5.1 Introduction

In this chapter we investigate the effects of awarding rescue and restructuring State aid at the sectoral level for a small selection of sectors.

The provision of rescue and restructuring State aid to a failing firm will not only affect the beneficiary firm but may also impact on its competitors through a number of channels. In other words, rescue and restructuring State aid has a number of positive and negative externalities that need to be taken into account in any evaluation of the impact of such aid.

It should be noted at this point that approval of State aid awards is dependent upon appropriate action being taken by the aid-receiving company to avoid undue distortion to competition in the markets in which it is active. Therefore, if a market is in decline, part of the restructuring plan for a company receiving State aid includes a capacity reduction to mitigate the effects of the aid in distorting competition. However, these decisions are based on contemporaneous expectations, and so do not imply that distortions will actually be avoided.

The clearest negative externality at the sectoral level is the fact that the provision of such aid keeps in the market a competitor that would otherwise have failed. This implies that the aid-receiving firm will absorb some share of the market that would otherwise have divided up between the non-aid-receiving firms. The continued presence of the State aid-receiving firm will also likely put downward pressure on output prices, especially if the industry suffers from overcapacity. Thus the financial performance of the competitors to the aid-receiving firm is likely to be less strong than would have been the case if the aid-receiving firm had failed.

On the other hand, the continued existence of an aid-receiving firm may sustain the industry innovation effort if it counts among the industry leaders. In such a case, the aid would have a positive externality as the innovation dynamism, shown by the aid-receiving firm, could benefit indirectly its competitors by expanding the knowledge set of the industry and nurturing a skilled labour force that can be poached by the other firms in the sector. Moreover, as restructuring aid packages require substantial capacity adjustments by the aid-receiving firm in cases where the sector suffers from overcapacity, such aid may bring about an orderly sector capacity adjustment that benefits all the firms in the sector.

To summarise, any rescue and restructuring State aid, especially the latter, is likely to exhibit a number of externalities. Unfortunately, the lack of detailed sectoral data and the relatively short time period over which data are available limit the scope of any analysis of such externalities.

Nevertheless, in this section we aim to provide a broad, largely qualitative, overview of the potential negative impact the rescue and restructuring aid may have had on the competitors of aid-receiving firms.

More precisely, we analyse how the European-based competitors of the aid-receiving firms have fared in terms of market share, gross fixed assets, employment and profitability and aim to establish whether there is any systematic evidence to suggest that the aid-receiving companies have gained an advantage over their European-based rivals.

We analyse the changes in market share by sales for the aid-receiving company relevant to each sector, and establish whether there is any evidence to suggest that these companies have gained an advantage over their European-based rivals. A key issue in undertaking such an analysis is the need for highly disaggregated data. As such data are limited in scope and breadth (see below), the richness of the sectoral analysis is less than what one would ideally wish.

We analyse five sectors: sporting goods, consumer electronics, chemicals, turning and milling machines, and firearms. For each sector, we analyse the changes, at the EU-15 level over time, in production, imports, exports and apparent consumption.

Each sector was chosen on the basis of data availability at both the sectoral level and the company level. The list of sectors and companies is as follows:

- Sporting goods - Head N.V.
- Consumer electronics - Thomson S.A.
- Chemicals - Ercros S.A.
- Turning and milling machines - Gildemeister A.G.
- Firearms - Herstal Group

In our analysis, we look at the distribution of sales by region for each of the relevant aid-receiving companies, and follow this up with an investigation into how their market share of sales within the EU has changed over time.

We support this aspect of the analysis by investigating the relationship, where relevant, between sales outside of the EU by each of the companies, with extra-EU exports for the corresponding sector.

Furthermore, we use Bloomberg-listed companies in the same field of activity as the aid-receiving companies as a proxy for the sector to investigate other aspects of the aid-receiving companies' performances. We look at the change in the market shares of gross fixed assets and of employment for the aid-receiving companies, and compare the performance over time of the aid-receiving companies profits against an aggregate for the "industry". We also describe the change in employment levels and income to sales ratios of the aid-receiving companies against the individual records of the other companies in their constructed proxy sectors.

5.2 Data

The key source for sectoral data was Europroms (available from Eurostat's New Cronos database).

We identified the product-lines relevant to each sector at the most disaggregated level, namely the 8-digit code of the PRODCOM nomenclature. The products included were based upon the activities of the given aid-receiving company, the information on which was sourced from the European Commission's State aid decision documents and from the websites of the respective companies.

Since data on basic chemicals was not available in Europroms, we used data from Cefic (the European Chemical Industry Council)³⁵, which was in the same format as the Europroms data, but not provided at such a disaggregated level.³⁶

For each sector, we calculated the value of production, imports, exports, and apparent consumption, at the EU-15-wide level in time series. Apparent consumption is calculated by taking the sum of the value of all production within the EU, adding the value of imports from outside of the EU and subtracting the value of exports from outside of the EU. It provides an estimate of the EU-15 market size for each product. Aggregating over products provides a value of the market in which the aid-receiving company operates.

The production data was not always available due to issues of confidentiality, and thus the market size is potentially underestimated. Nevertheless, the database used is the best source for investigating market shares at such a degree of disaggregation. We aggregated production data for each of the Member States and took the values of external trade flows from the already aggregated EU-15 level, since these data were fully available. We then used these data to construct estimates of apparent consumption at the EU-15 level (equal to total production in the EU-15, plus total extra-EU imports, less total extra-EU exports), which we used as an estimate of the size of the EU market.

Financial data (sales by geographic region and total/gross fixed assets) on the aid-receiving companies was primarily sourced from the companies' annual reports, and other financial statements. Our secondary source for company data was Bloomberg Professional. Data on Herstal Group came from the Centrale des Bilans of the Belgian National Bank.

We only calculated the ratio of sales outside of the EU-15 to extra-EU exports for companies, whose production facilities were all within the EU-15. Sales outside of the EU-15 by companies with production facilities also outside of

³⁵ <http://www.cefic.org/factsandfigures/>

³⁶ Therefore, our definition for the market in this sector, in contrast to our other sectors' market definitions, includes products in which the aid-receiving company has no activity.

the EU-15 are not necessarily extra-EU exports. Using these types of sales as a numerator in the ratio would be misleading.

The evolution of extra-EU exports incorporates broadly three effects. It is indicative of, firstly, demand in the rest-of-the-world economy; secondly, the competitiveness of EU-based production; and thirdly, inventory transfers between production facilities across the EU boundary, but within the same company. We can use the overall value of extra-EU exports to make inferences about aid-receiving companies' exports, but must bear in mind the three effects, since we are unable to distinguish between them.

Approximations to the sectors in which the aid-receiving companies operate were constructed by identifying all European-based companies that performed the same activities as the aid-receiving companies, and that were listed on Bloomberg Professional. The construction for this sample differs from that used above in Chapter 4. Comparators used in the two sections of that chapter were chosen based on their close similarities to the activities and size of the aid-receiving company. The companies presented in the case studies in section 4.3 were those that most closely matched the aid-receiving companies, which in some instances implied a refinement of the sample used in the comparators section.

For the analysis in this chapter, we were interested in the performance of companies in the same sector (regardless of size), but of European origin. Therefore, we excluded from our sample any companies that originated from outside of the EU, but included companies that were too small or too large to be considered comparators in chapter 4. We also excluded companies for which Bloomberg did not supply data for the whole sample period, since we were constructing not the actual sector, but a representative one, based on a consistent sample of companies.

Using the approximated sector, we aggregated the data on employment, gross fixed assets and profits across companies within a sector (including the aid-receiving company) to construct sectoral characteristics. Having done so, we estimated the "market share" of the aid-receiving company for employment and gross fixed assets, and plotted the aid-receiving company's profits over time against that of the sector. We also compared the performance of aid-receiving companies with respect to employment, and income to sales ratios, against the individual companies (and also against the industry average, for the net-income to sales ratios) in their constructed sectors. Unlike the data on extra-EU exports, this data allows for an analysis of aid-receiving companies that have production facilities based overseas, since our criteria only stipulate that the company must be European in origin. However, this also means that the analysis is not directly comparable to that based on the Europroms data.³⁷

³⁷ All analysis on the sectors constructed by using Bloomberg listed companies, are not directly comparable to the EU-15 data, since they include only those companies that originate from the EU and that are also listed on Bloomberg. Companies with production facilities, or that make sales, within the EU, but that

5.3 Results

We present the detailed results of our assessment of the sectoral impact in the following paragraphs. For each sector we present first the broad sectoral trends in production, apparent consumption, and extra-EU exports and imports. Next, we provide information on the geographical distribution of sales of the State aid-receiving company. We then review trends in the EU-15 market share and extra-EU exports market share (if relevant) of the State aid-receiving company. This analysis is followed by a discussion of the State aid-receiving company's market share of the EU sector's employment and gross fixed assets, and of the company's profitability against the sector.

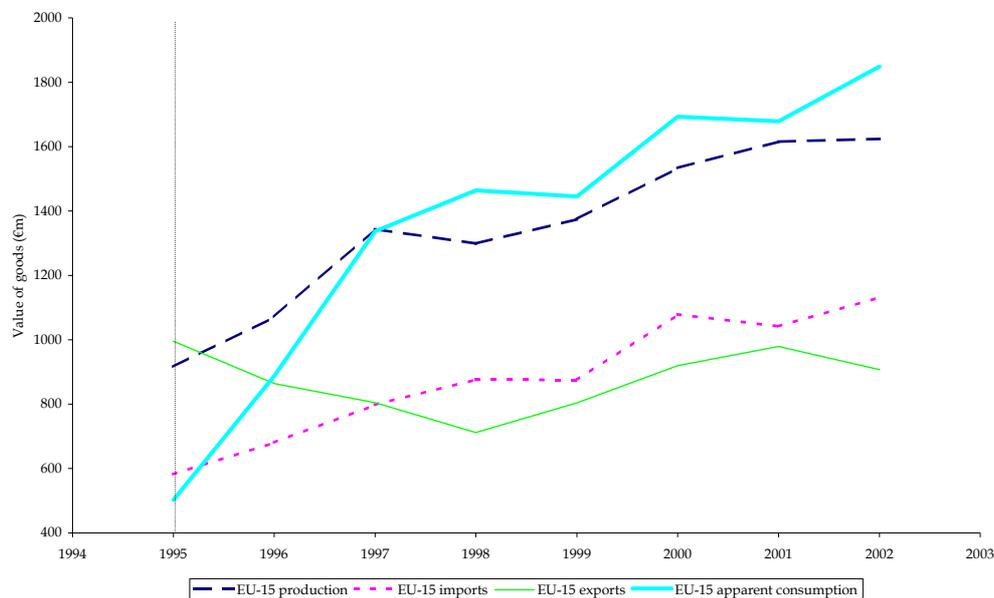
5.3.1 Sporting goods

The State aid-receiving company is Head N.V. and the products included in our analysis of the sporting goods sector were:

- Footwear for skiing and snowboarding;
- Skis, ski-bindings and other ski equipment, such as ski poles;
- Water-sport equipment;
- Golf equipment;
- Tennis rackets;
- Squash rackets and other similar rackets; and
- Balls.

originate from outside the EU, or that are not listed, are excluded. Furthermore, the data refer to the overall company results for each of the listed companies, regardless of the locations of their operations or sales.

Figure 5.1: Production, trade and apparent consumption in sporting goods, 1995-2002⁽¹⁾

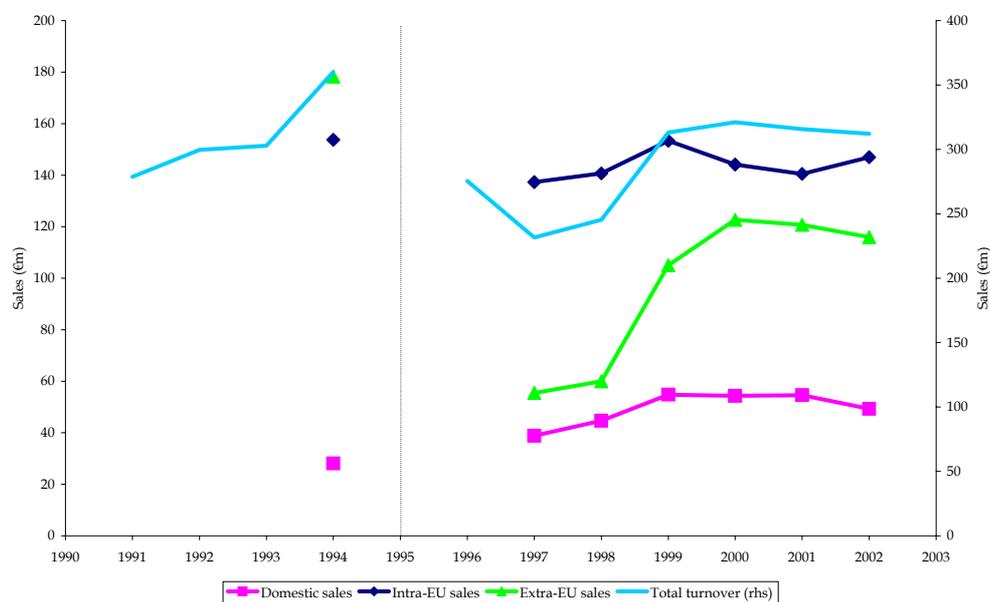


NOTE: (1) The vertical line at 1995 denotes the year in which Head first received its State aid award.

Source: London Economics calculations based on Eurostat data

Since 1995, the value of production and of extra-EU imports in sporting goods rose steadily up until 2002 (Figure 5.1). The value of extra-EU exports fell slightly over that same period, though it fluctuated substantially in the interim, slumping to a low in 1998. Following a steep rise, due to a switch by the EU from being a net exporter to being a net importer around 1997, apparent consumption rose steadily until 2002.

Figure 5.2: Geographical distribution of sales for Head, 1991-2002 (1)(2)

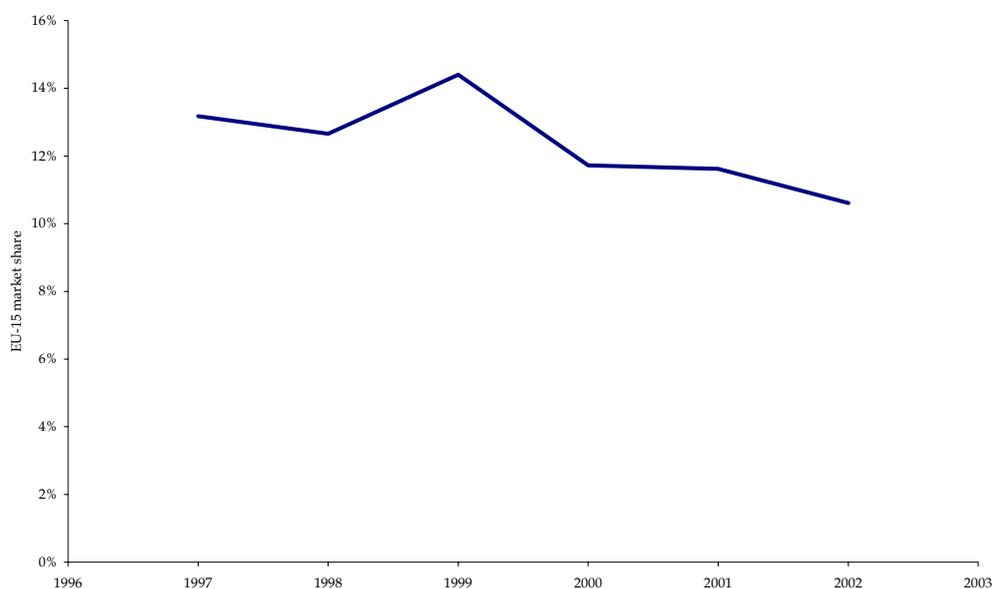


NOTE: (1) Data are missing for the period 1995-1996. (2) The vertical line at 1995 denotes the year in which Head first received its State aid award.

Source: State aid documentation, and Head annual reports and financial statements

Head's sales fell from a level of about €350m in 1994, the year prior to it first receiving restructuring State aid, to under €300m in 1996. Figure 5.2 clearly shows that the evolution of turnover in the ensuing period up until 2002 was driven mainly by sales outside of the EU-15, which approximately doubled from €55m in 1997 to €105m in 1999. Overall turnover between these two years increased by over a third. However, sales within the EU-15 comprise the bulk of Head's turnover. Both sales within Austria and within the rest of the EU-15 were roughly stable from 1999 onwards, at about €50m and €140m respectively, both having risen between 1997 and 1999.

Figure 5.3: Head's EU-15 market share, 1997-2002



Source: London Economics calculations based on data from Eurostat and Head annual reports and financial statements

According to the State aid documentation on Head³⁸, in 1994, it held world market shares of 11% in skis, ski boots and diving equipment, 18% in tennis equipment and 32% in ski bindings. It was within the top three companies in the world for all of these products, except for ski boots, where it was fourth. On the European market, it held similar rankings, but was the market leader in tennis with 18.8% of the market.

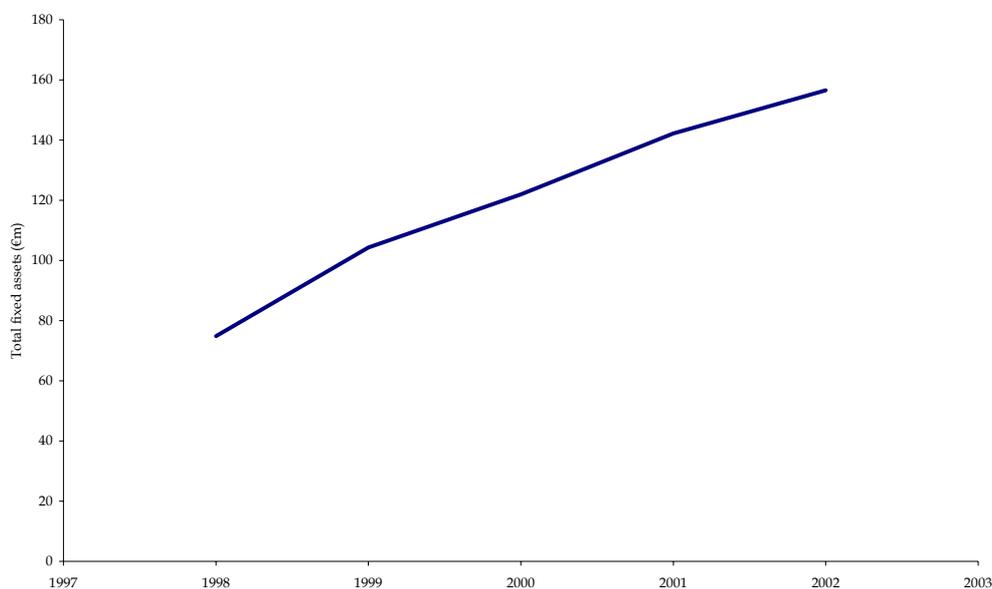
In 1997, Head held a sizeable 13% of the sporting goods market within the EU-15. This appears to have been quite similar to the share it had in 1994, a finding supported by the breakdown of turnover by geographic region in Figure 5.2, which shows that Head's sales within the EU-15 were about €180m in both of those years. The slow increase in Head's EU-based sales, however, is reflected in its falling market share at the EU-15 level, which had risen 14% in 1999, but then fallen to 11% by 2002.

Thus, although Head's sales within the EU-15 have increased since 1997, they did not do so at as fast a rate as the sector, meaning that Head had lost 2% market share by 2002.

Since Head has production facilities in the United States, Estonia and the Czech Republic, its sales outside of the EU-15 are not comparable with extra-EU exports.

³⁸ Official Journal of the European Commission L 25 28.1.97 pp. 29.

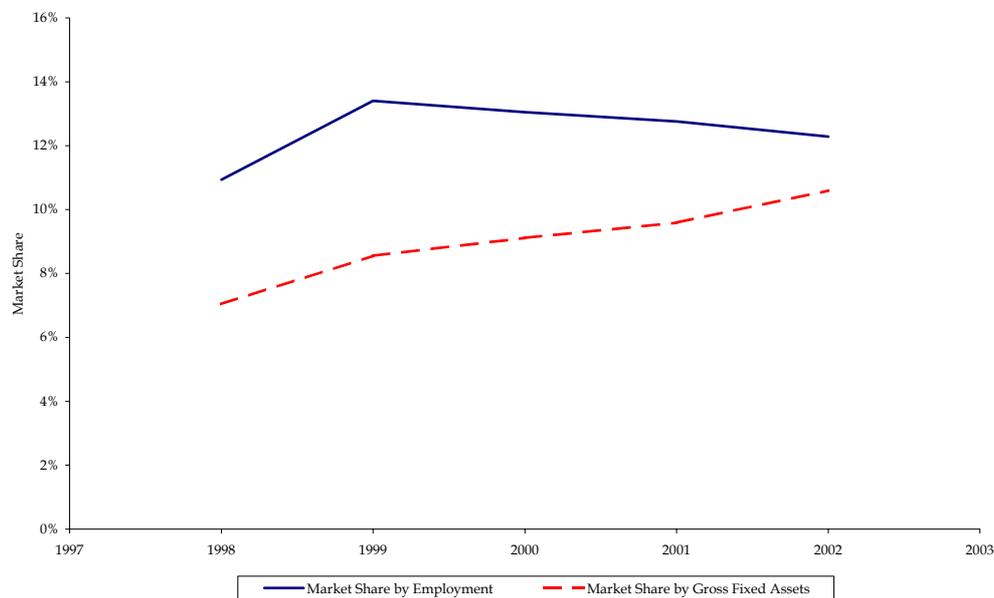
Figure 5.4: Head's gross fixed assets, 1998-2002



Source: Bloomberg

Bloomberg data for Head is only available since 1998, three years after Head's initial receipt of State aid. From 1998 to 2002, though Head's turnover remained somewhat unchanged, it more than doubled its capacity, as illustrated by the change in gross fixed assets. Figure 5.4 shows that gross fixed assets rose in value from €75m to €157m in that interval (there are no publicly available data for the preceding period). It should be noted that these data on gross fixed assets are for the whole of Head, including its operations outside of the EU.

Figure 5.5: Head's market share by employment and gross fixed assets, 1998-2002

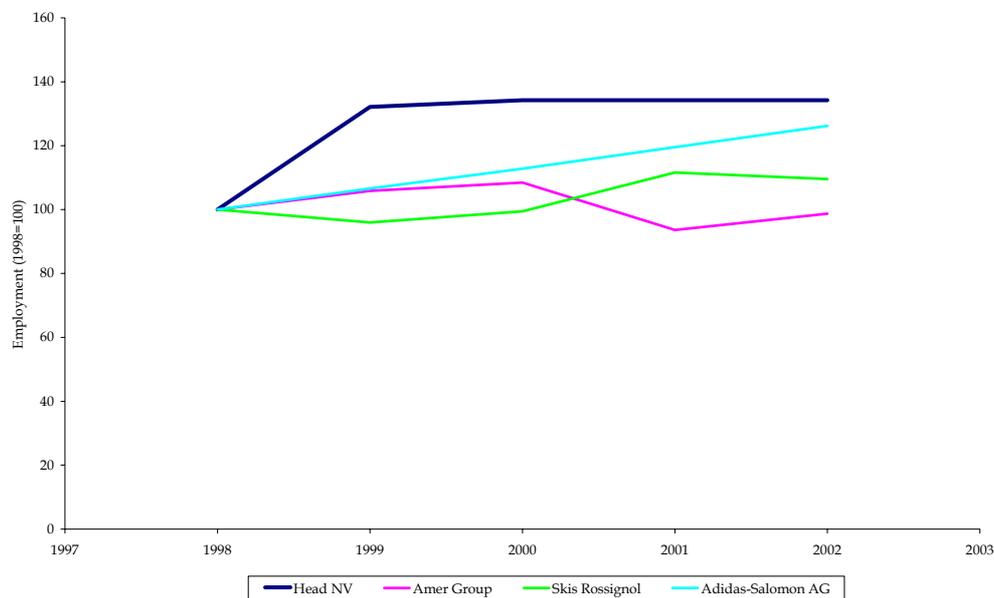


Source: Bloomberg

For Head, the Bloomberg-listed companies included in the sector were Head NV, Amer Group, Skis Rossignol and Adidas-Salomon AG. Though Adidas-Salomon produces articles for winter sport, its product range is much more diversified than the others in the sector, and it is a much larger company. It is included in the sector, because of a lack of other suitable companies, but the analysis acknowledges that it is a major factor governing the sector's overall performance.

Against the sector, Head's gross fixed assets grew from 7% to 11% of the total between 1998 and 2002, indicating that the rapid increase enjoyed by Head was greater than for the sector overall. This is somewhat supported by the data on employment, which, despite peaking at just over 13% in 1999, nevertheless increased from about 11% to over 12% in the period 1998 to 2002.

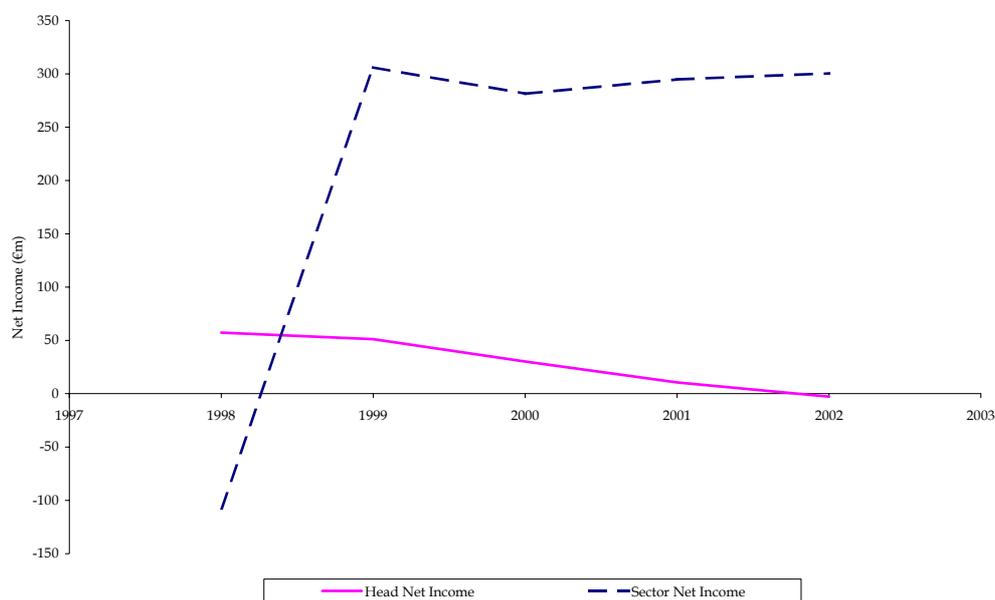
Figure 5.6: Evolution of Head's employment versus companies in sector, 1998-2002 (1998=100)



Source: LE calculations based on data from Bloomberg

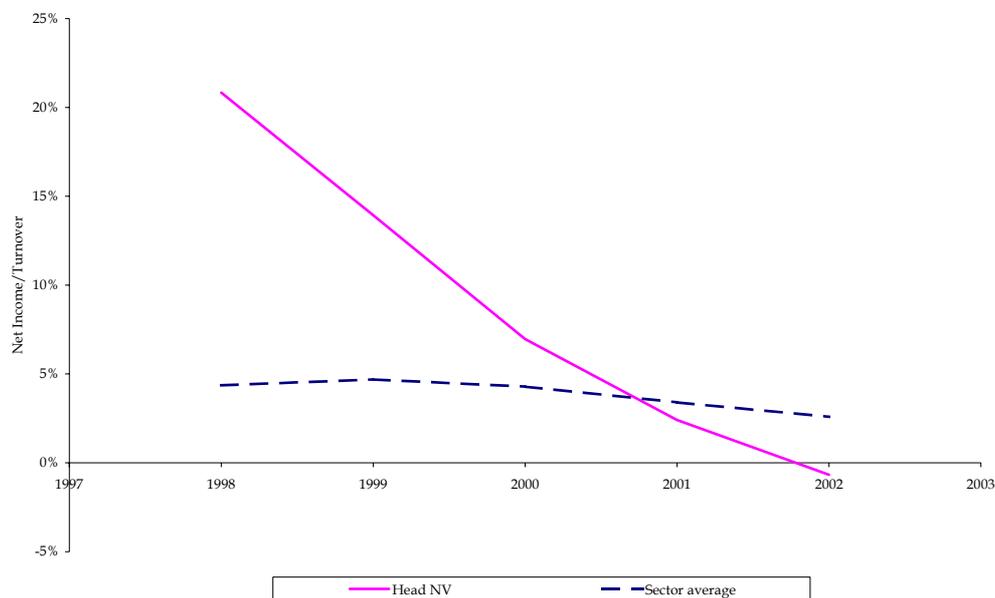
Figure 5.6 shows that from 1998, Head's employment increased more rapidly for one year, and then remained fairly constant thereafter. In contrast, the evolutions over the sample period of the level of employment of the other three companies in the constructed sector exhibited considerable variation, both when compared with Head and amongst themselves. Only Adidas-Salomon came close to achieving Head's performance in the rate of employment growth over the sample period.

Figure 5.7: Head's profit versus sector, 1998-2002



Source: Bloomberg

In 1998, the sector was overall loss-making, though this was due mostly to a bad result for Adidas-Salomon, whilst Head was a profitable company. Since then, Head's profits, like its EU-15 market share, have been in decline, actually falling below zero in 2002, whilst the sector's profits (again, heavily influenced by Adidas-Salomon) have been roughly stable.

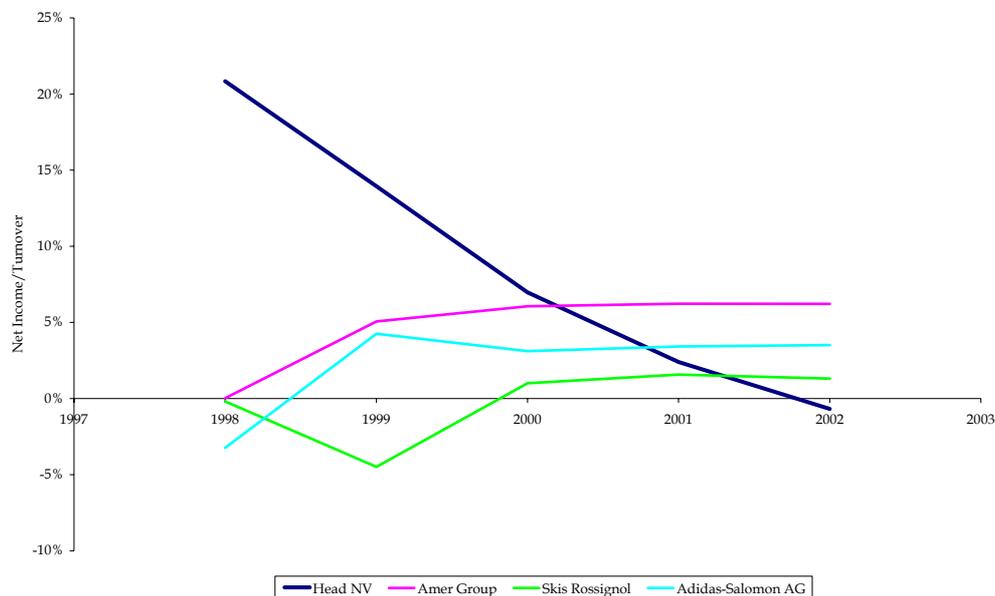
Figure 5.8: Head's ratio of net income to turnover versus sector, 1998-2002

Source: LE calculations based on data from Bloomberg

Figure 5.8 shows how Head's ratio of net income as a percentage of its turnover compared to the average of the ratios for the companies in the constructed sector (including Head). The graph shows that Head's income to sales ratio was four times the sector average in 1998, but has fell steeply to become negative in 2002, whilst the sector average remained relatively unchanged, though it did fall slightly.

Figure 5.9 shows that the other three companies actually improved their income to sales ratios, implying that the fall in the sector average was due entirely to the performance of Head.

Figure 5.9: Head's ratio of net income to turnover versus companies in sector, 1998-2002



Source: LE calculations based on data from Bloomberg

Conclusions

Although Head's output and sales recovered following the receipt of State aid in 1994, this recovery occurred essentially outside the EU. The company's EU market share declined and the company's recovery cannot be said to have occurred at the expense of its rivals in the EU market.³⁹

5.3.2 Consumer electronics

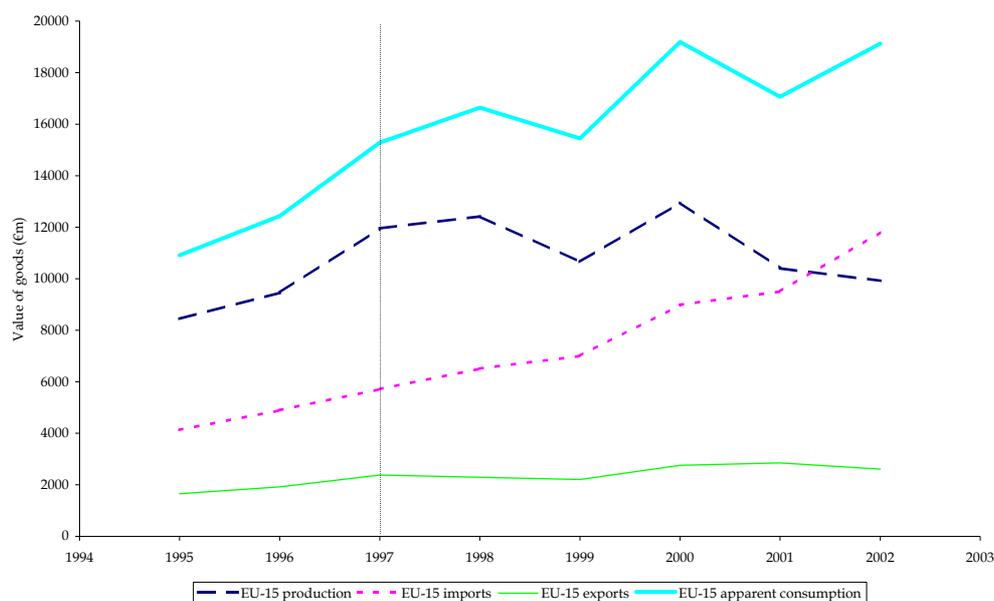
The aid-receiving company is Thomson SA and the products included in our analysis of the consumer electronics sector were:

- Reproduction of sound and vision on magnetic tape and video discs;
- Reproduction of sound on compact discs;
- Television and cinematographic cameras;
- Telephone sets and answering machines;
- Televisions and video recorders/players;

³⁹ That being said, it is important to recognise that in the case of the demise of HEAD, its rivals would have picked up market share and would have shown an even stronger performance.

- (Digital) decoder boxes for television signals;
- CD/DVD recorders/players; and
- Video games for use with a television receiver.

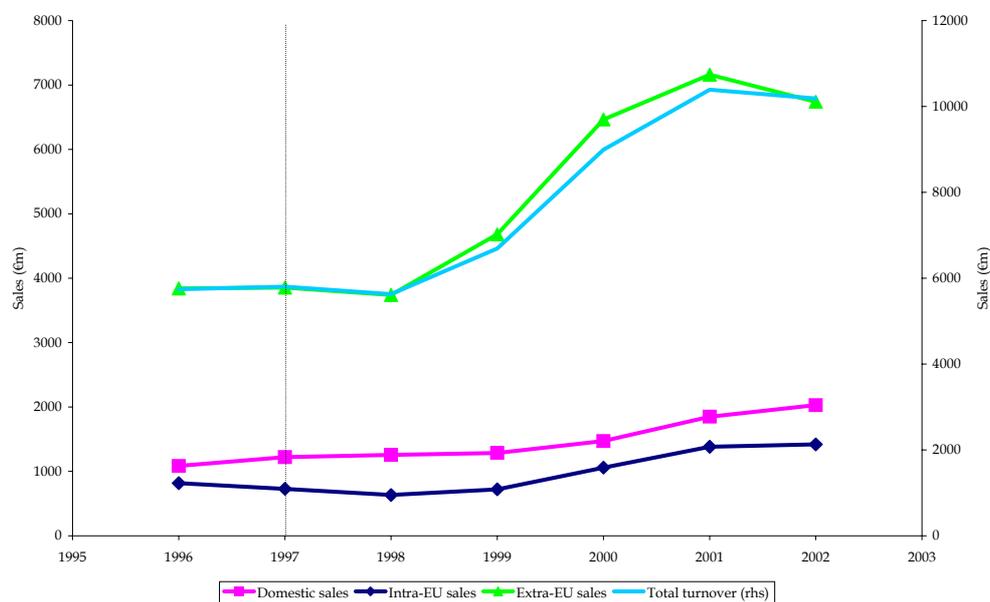
Figure 5.10: Production, trade and apparent consumption in consumer electronics, 1995-2002⁽¹⁾



NOTE: (1) The vertical line at 1997 denotes the year in which Thomson first received its State aid award.

Source: London Economics calculations based on Eurostat data

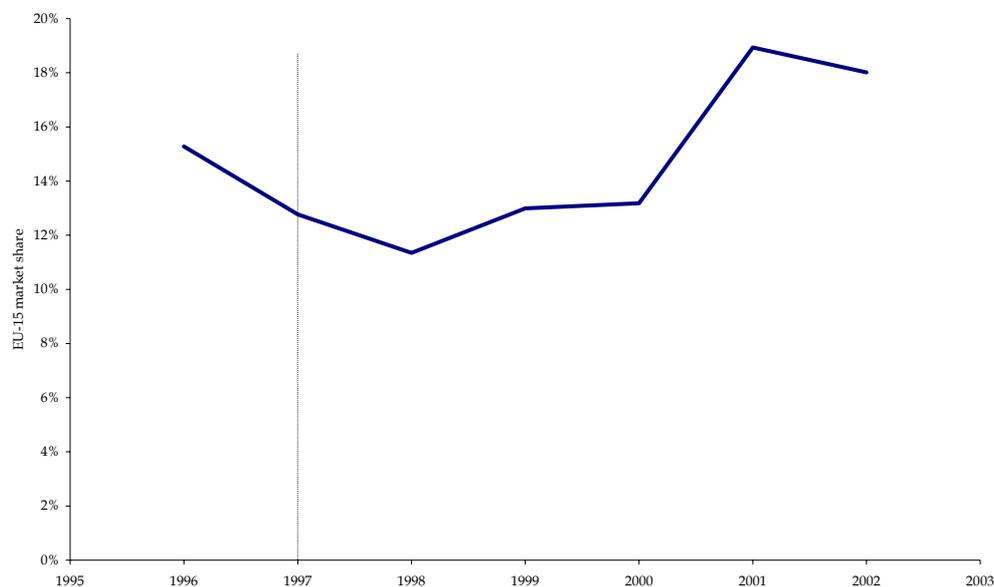
The value of production of consumer electronics within the EU-15 swelled in the late 1990s, with a brief dip in 1999, only to fall back to its 1996-level of about €10bn in 2002. Throughout the period 1995 to 2002, the value of extra-EU imports rose, increasing more rapidly since 1999. By 2002, the value of extra-EU imports was almost three times its value in 1995. With the value of extra-EU exports being so much lower than that of imports, even a rise in their value of approximately a two-thirds did not prevent a widening of the trade deficit in consumer electronics. Overall, apparent consumption in the EU-15 almost doubled over the period 1995-2002, from just over €10bn to just under €20bn.

Figure 5.11: Geographical distribution of sales for Thomson, 1996-2002⁽¹⁾

NOTE: (1) The vertical line at 1997 denotes the year in which Thomson first received its State aid award.

Source: Thomson annual reports and financial statements

It is clear from Figure 5.11 that Thomson's overall sales were highly correlated with its performance in markets outside of the EU-15. Though both domestic sales in France and sales in the rest of the EU-15 increased from 1996 to 2002, their impact was dwarfed by that of the sales to the rest of the world. Thomson increased its turnover from about €5.7bn in 1996 to over €10bn in 2002. Almost three-quarters of that increase were due to sales outside of the EU-15.

Figure 5.12: Thomson's EU-15 market share, 1996-2002⁽¹⁾

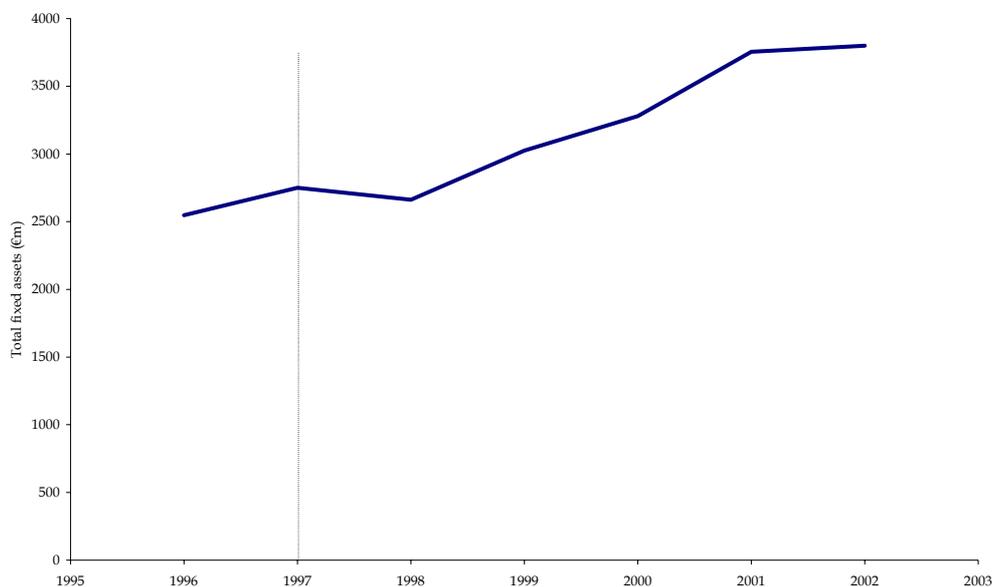
NOTE: (1) The vertical line at 1997 denotes the year in which Thomson first received its State aid award.

Source: London Economics calculations based on data from Eurostat and Thomson annual reports and financial statements

In 1996, one year prior to receiving restructuring State aid, Thomson had a considerable 15% share of the EU-15 market. Figure 5.12 shows that, although Thomson's EU-15 market share fell from 1996 to 1998, it recovered since then, exceeding its 1996-value by 4% in 2001 and by 3% in 2002.

The changes in Thomson's market share reflect the fact that its sales grew steadily over the period 1998-2001, and dipped very slightly in 2002, all at a time when there was fluctuating, but persistent, growth in the EU-15 market for consumer electronics.

Since Thomson has production facilities in the Americas and in Asia, its sales outside of the EU-15 are not comparable with extra-EU exports.

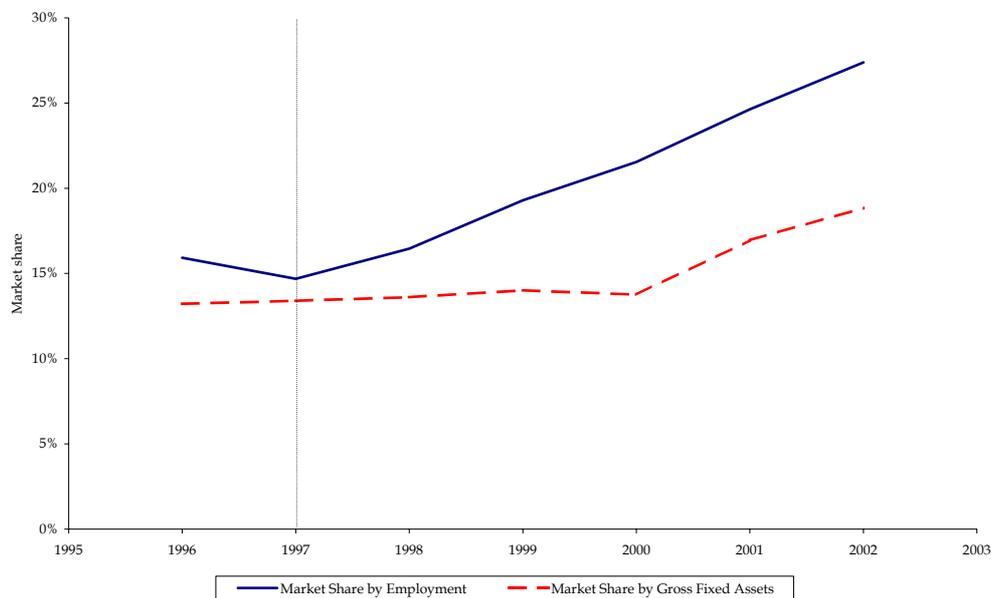
Figure 5.13: Thomson's gross fixed assets, 1996-2002⁽¹⁾

NOTE: (1) The vertical line at 1997 denotes the year in which Thomson first received its State aid award.

Source: Bloomberg

From 1996 to 2002, Thomson increased its gross fixed assets by 50%, with the majority of the increase happening between 1998 and 2001. Though happening more smoothly than its increase in total sales, the overall effect has been that gross fixed assets increased by a proportion similar in magnitude to that of its increase in turnover over the period 1996 to 2002. However, as noted previously, Thomson has production facilities outside of the EU, so it may be that the increase in gross fixed assets occurred outside the EU.

Figure 5.14: Thomson's market share by employment and gross fixed assets, 1996-2002⁽¹⁾



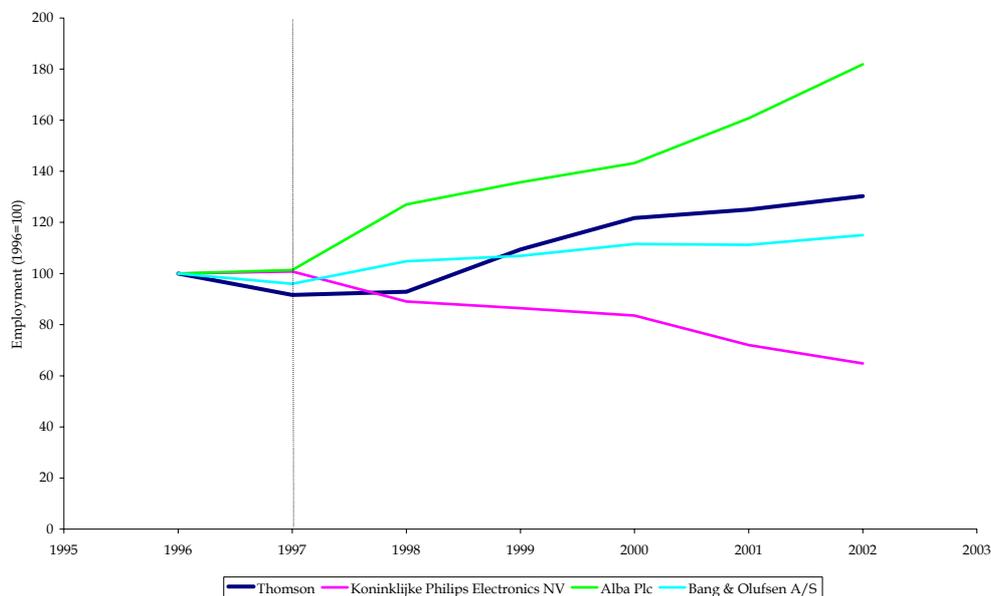
NOTE: (1) The vertical line at 1997 denotes the year in which Thomson first received its State aid award.

Source: Bloomberg

For Thomson, the European Bloomberg-listed companies included in the sector were Thomson SA, Koninklijke Philips Electronics NV, Alba Plc and Bang & Olufsen A/S. Philips dominated this sector with respect to size.

Although Thomson had increased its gross fixed assets in the late 1990s, Figure 5.14 shows that it had done so in line with the sector up until 2000, when it started to increase its market share, beginning at almost 14% and ending up at almost 19%. Somewhat in contrast to this, Thomson increased its employment very steeply against the sector, increasing from a low of 15% in 1997 to 27% in 2002.

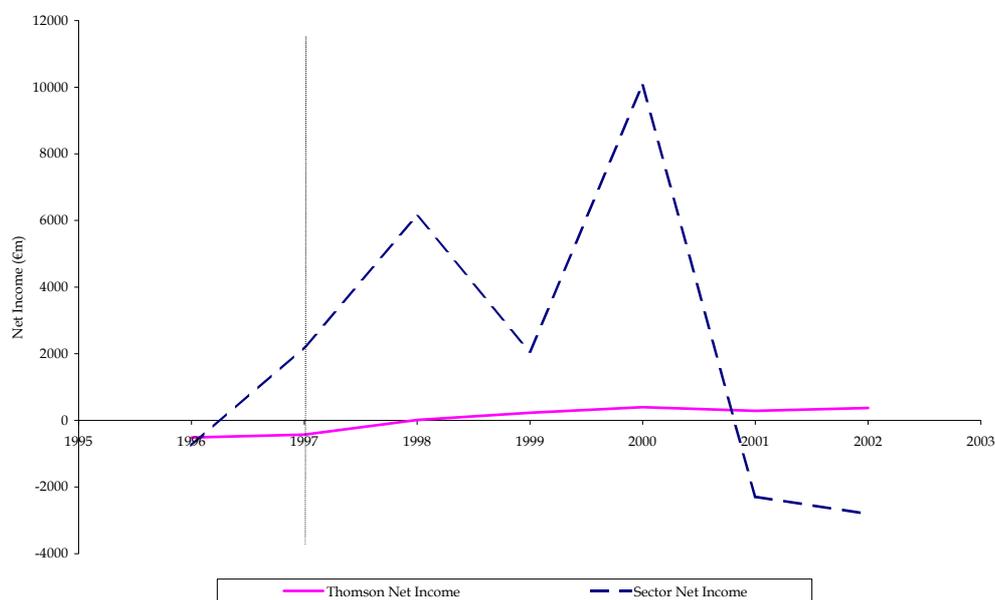
Figure 5.15: Evolution of Thomson's employment versus companies in sector, 1996-2002 (1996=100)⁽¹⁾



NOTE: (1) The vertical line at 1997 denotes the year in which Thomson first received its State aid award.

Source: LE calculations based on data from Bloomberg

Figure 5.15 shows that from 1996 to 1997, Thomson's employment fell relative to the other three companies in its sector, but that after 1997, Thomson increased its employment relative to the other three companies, with only Alba Plc increasing its employment at a greater rate than Thomson.

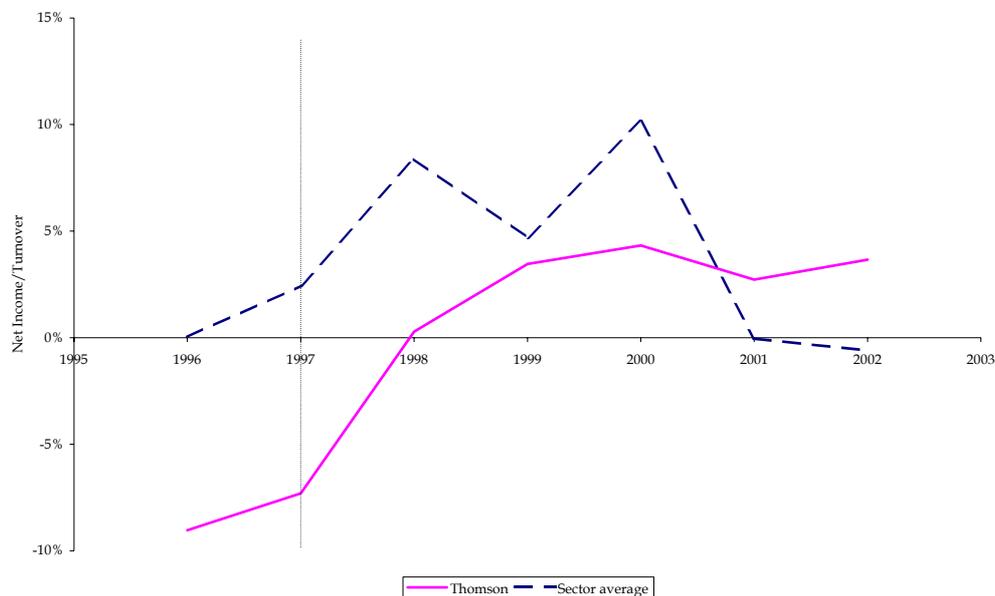
Figure 5.16: Thomson's profit versus sector, 1996-2002⁽¹⁾

NOTE: (1) The vertical line at 1997 denotes the year in which Thomson first received its State aid award.

Source: Bloomberg

Figure 5.16 shows that Thomson achieved a steady improvement in profits whilst increasing its sales and production capacity, from a loss of more than €500m in 1996 to breakeven in 1998 and a profit of about €370m in 2002. The sector's performance was far more volatile, mainly due to the varying fortunes of Philips.

Figure 5.17: Thomson's ratio of net income to turnover versus sector, 1996-2002⁽¹⁾

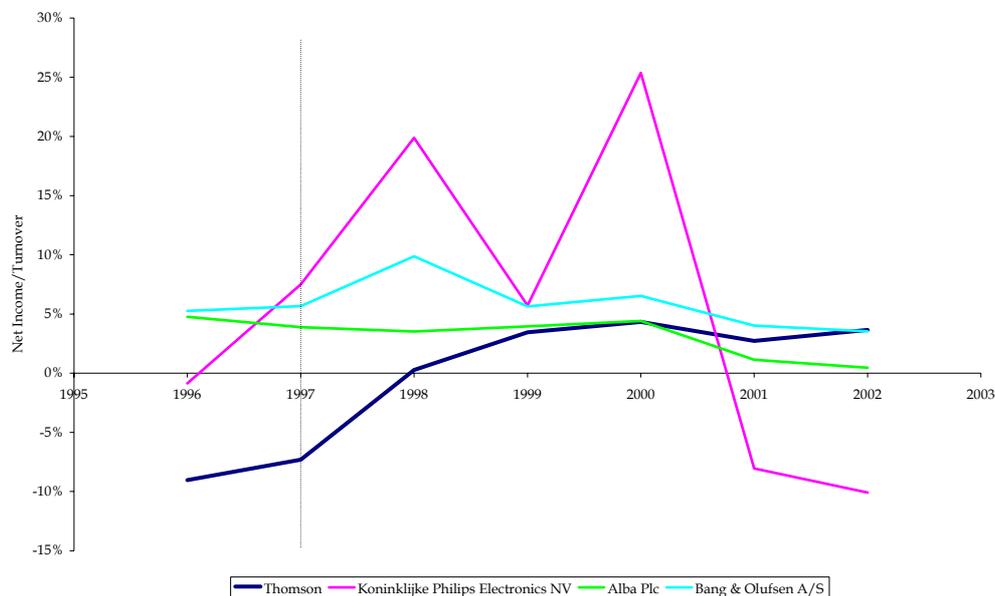


NOTE: (1) The vertical line at 1997 denotes the year in which Thomson first received its State aid award.

Source: LE calculations based on data from Bloomberg

The volatility within the sector is illustrated further by inspecting the average income to sales ratio for the sector constructed from Bloomberg. Figure 5.17 shows that, though the ratio was close to zero at either end of the period, it fluctuated greatly in between, reaching a high of 10% in 2000. The next chart, Figure 5.18, shows explicitly that the vast majority of the volatility in the sector values was due to Philips. Thomson, in contrast, steadily increased its income to sales ratio from a very low -10% to a seemingly stable figure of about 3.5%, which was roughly similar to that of the remaining two companies in the constructed sector.

Figure 5.18: Thomson's ratio of net income to turnover versus companies in sector, 1996-2002⁽¹⁾



NOTE: (1) The vertical line at 1997 denotes the year in which Thomson first received its State aid award.

Source: LE calculations based on data from Bloomberg

Conclusions

Thomson clearly regained market share in the EU market following the receipt of State aid. In fact, in the early years of the current decade, Thomson's EU market share even exceeded its pre-State aid market share. As imports were also growing rapidly during this period, the market share of its EU competitors is likely to have been squeezed during this period.⁴⁰

Philips may have been affected by the recovery of Thomson although it is difficult to distinguish the effect of factors that are idiosyncratic to Philips from the effect of the recovery of Thomson. Such an assessment would require a much more detailed product-by-product analysis of market developments since the early nineties.

⁴⁰ For the data presented in this section, it is impossible to compute precisely the market share of its EU competitors, as part of the imports into the EU may have been Thomson products produced outside the EU.

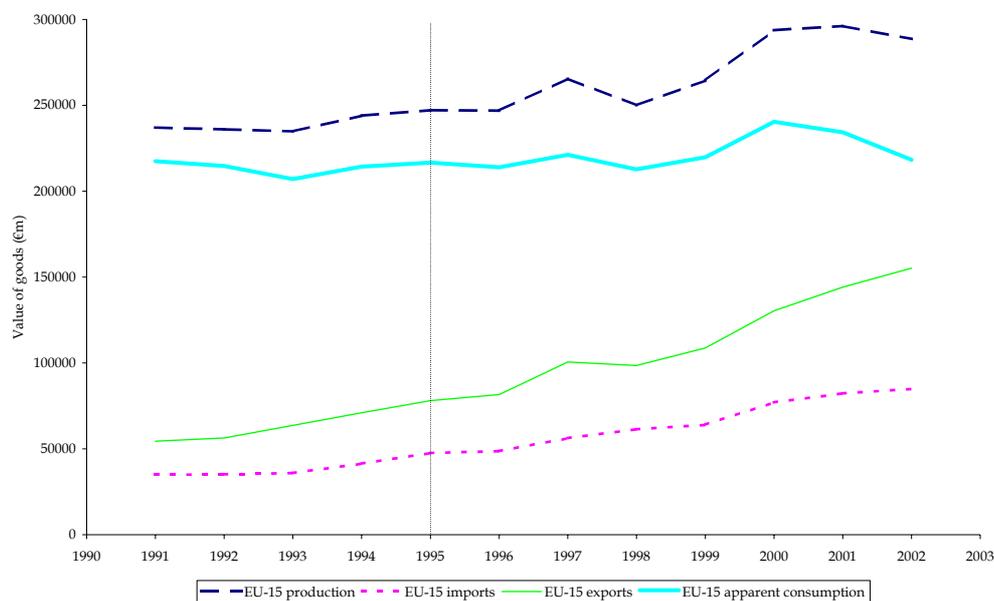
5.3.3 Chemicals

The State aid-receiving company is Ercros and the products included in our analysis of the chemicals sector were:

- Base chemicals;
- Speciality and fine chemicals;
- Pharmaceuticals; and
- Consumer chemicals.

Ercros has production lines associated with the first three of the four categories above. It produces basic chemicals (primarily chlorine, chlorinated solvents, acetic acid and its derivatives, and basic inorganic chemicals), some of which it uses in the production process of its other products. Ercros also produces pharmaceuticals, agrochemical and animal food, and acrylic and vinyl emulsions.

Figure 5.19: Production, trade and apparent consumption in chemicals, 1991-2002⁽¹⁾



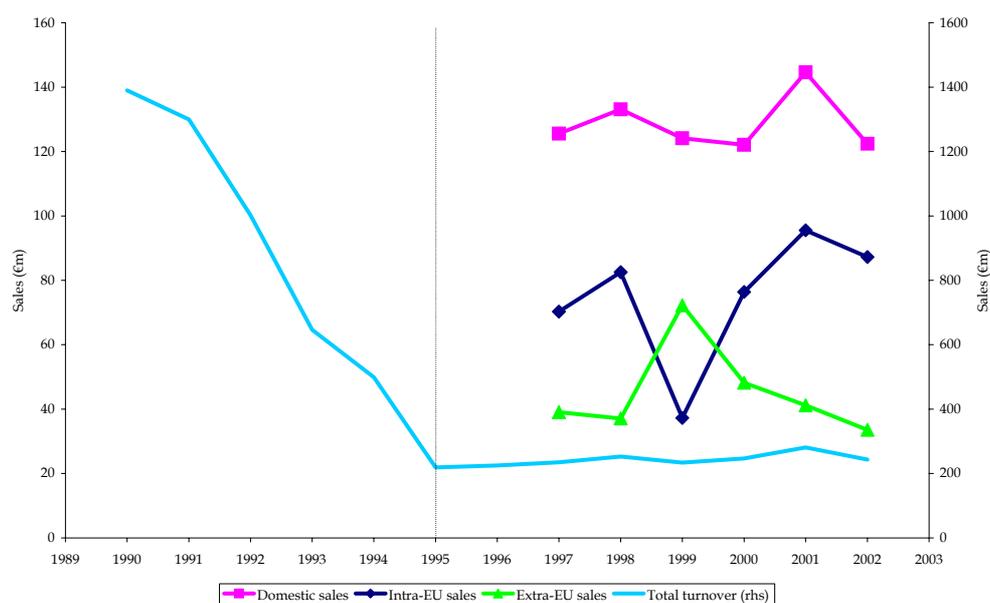
NOTE: (1) The vertical line at 1995 denotes the year in which Ercros first received its State aid award.

Source: London Economics calculations based on Cefic-International Trade and Competitiveness Analysis data

Production in the chemicals sector of the EU-15 market (including Austria, Finland and Sweden prior to the start of their membership in 1995) grew in the late 1990s, though apparent consumption did not do so by as much, since

the trade surplus increased at the same time. Figure 5.19 shows that although the value of both imports and exports out of the EU grew, exports grew at a faster rate. However, it should be noted that the short-term fluctuations in EU-15 production were generally correlated with those in apparent consumption over the whole period.

Figure 5.20: Geographical distribution of sales for Ercros, 1990-2002⁽¹⁾

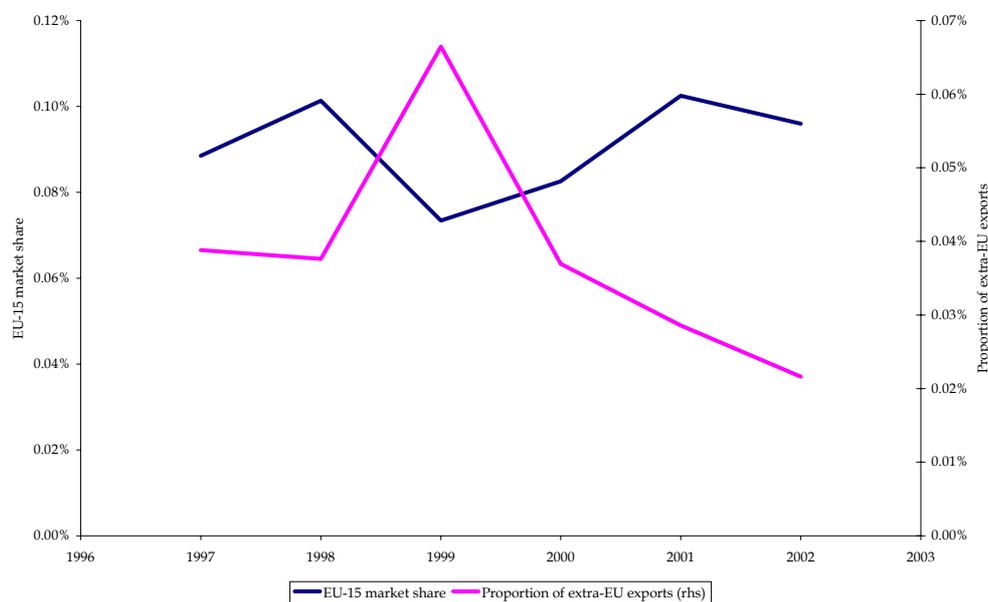


NOTE: (1) The vertical line at 1995 denotes the year in which Ercros first received its State aid award.

Source: Bloomberg, and Ercros annual reports

It is striking how Ercros's sales plummeted in the early 1990s, due to the divestiture of a large part of its operations. Since the award of aid in 1995, Ercros maintained a roughly stable level of turnover that seems to have been very modestly increasing until a dip in 2002. The geographic breakdown of sales in Figure 5.20 shows that Ercros's domestic sales in Spain were greater than all of its other sales in all the years for which there are data, and, though the value of domestic sales fluctuated, there is no strong evidence of a trend. A brief, but sharp, fall in 1999 in sales to the rest of the EU-15 was mostly compensated for by a higher-than-usual value of extra-EU sales.

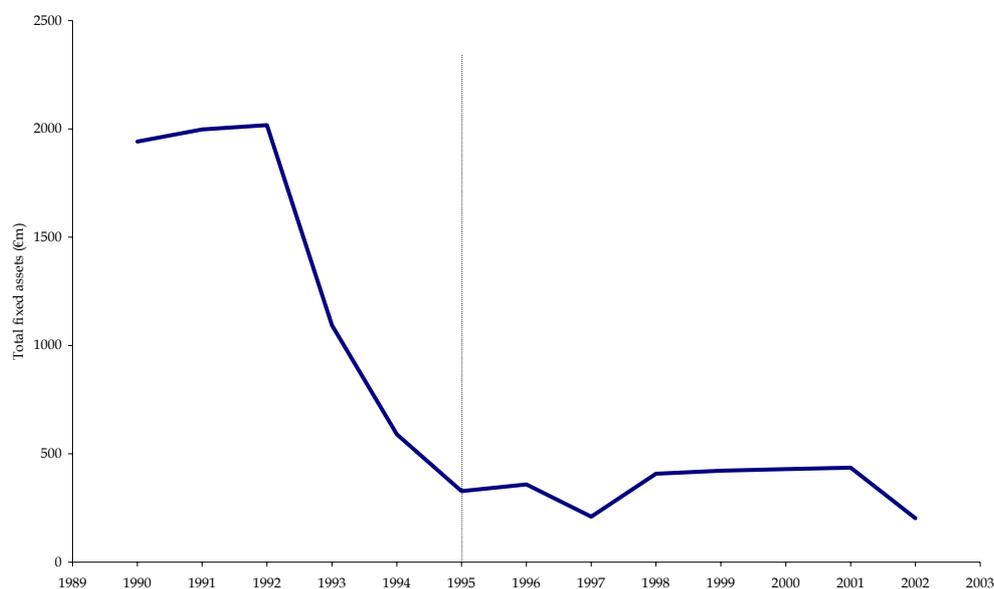
Figure 5.21: Sales by Ercros as a proportion of sector, 1997-2002



Source: London Economics calculations based on data from Cefic-International Trade and Competitiveness Analysis and Ercros annual reports

Ercros is not among the big companies in the chemicals sector within the European or world economy. The market share shown in Figure 5.21, which was about 0.1% in 1997 and in 2002, supports this assertion, though it is worth remembering that the sector definition for chemicals is a broad one, including activities in which Ercros does not participate. Figure 5.21 clearly illustrates that Ercros's market share in the EU-15 market was influenced primarily by the firm's own performance, rather than by fluctuations in the sector, which had remained relatively stable over the full duration of the period 1997-2002. However, despite the fluctuations, as already mentioned, Ercros's market share in 2002 was almost identical to its market share in 1997.

Since Ercros has production facilities solely within the EU-15, it is possible to compare its sales outside of the EU with extra-EU exports. We can see that Ercros' extra-EU sales have fallen substantially against total extra-EU exports, after briefly peaking in 1999. It would seem that Ercros has not been able to expand its export sales despite the increasing size of extra-EU exports in the sector, as was shown in Figure 5.19.

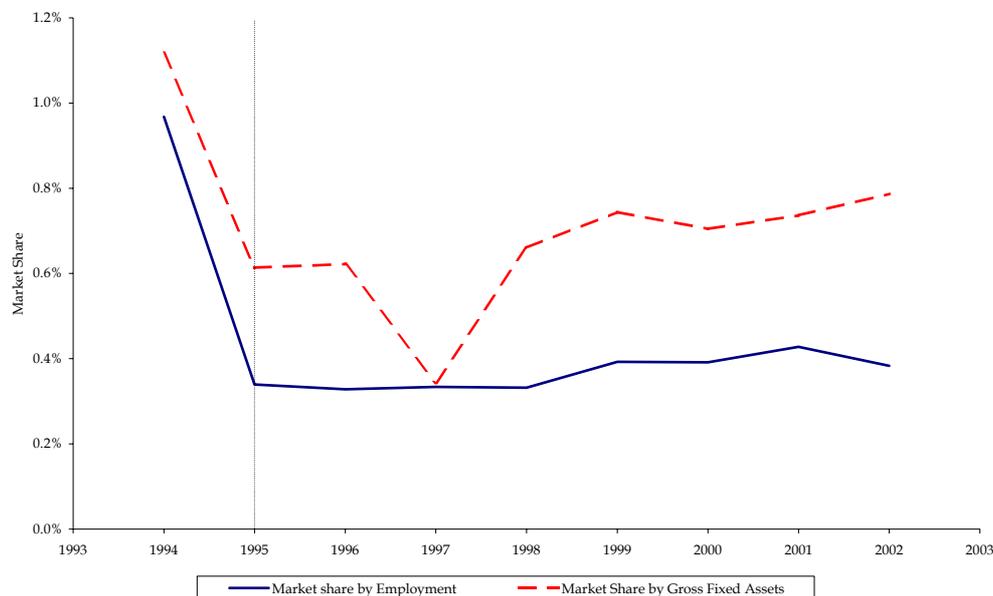
Figure 5.22: Ercros's gross fixed assets, 1990-2002⁽¹⁾

NOTE: (1) The vertical line at 1995 denotes the year in which Ercros first received its State aid award.

Source: Bloomberg

Given that the company divested so many of its lines, it is not surprising to see that Ercros's gross fixed assets fell so sharply in the early 1990s. Since 1995, Ercros has maintained an average value of just over €300m for gross fixed assets, but this belies a great deal of volatility: the value doubled from 1997 to 1998 and fell by half from 2001 to 2002, so that in 2002, gross fixed assets had returned to their value in 1997 of just over €200m.

Figure 5.23: Ercros's market share by employment and gross fixed assets, 1994-2002⁽¹⁾



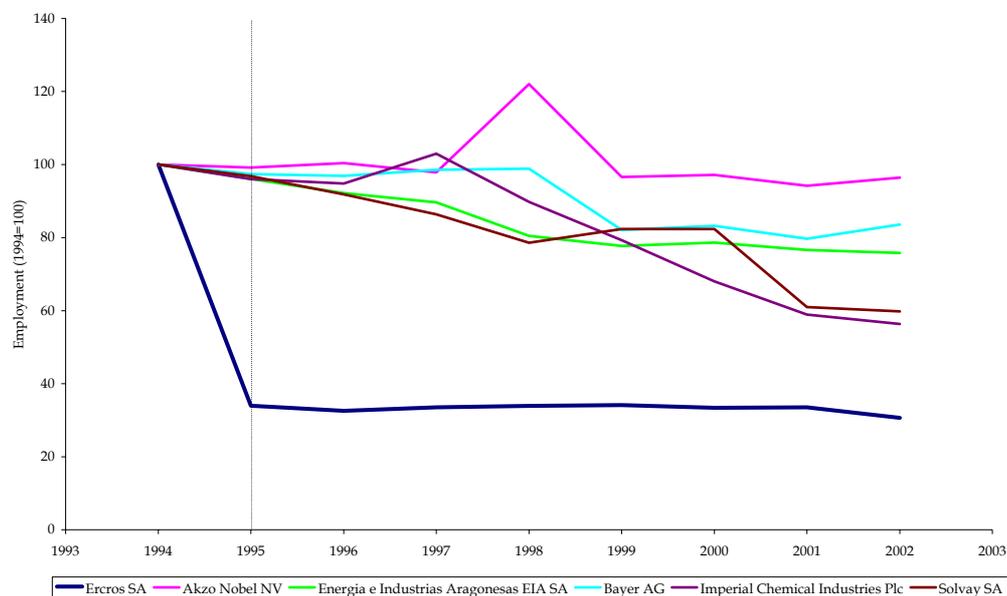
NOTE: (1) The vertical line at 1995 denotes the year in which Ercros first received its State aid award.

Source: Bloomberg

For Ercros, the European-based Bloomberg-listed companies included in the sector were Ercros SA, Akzo Nobel NV, Energia e Industrias Aragonesas EIA SA, Bayer AG, Imperial Chemical Industries Plc and Solvay SA. Most of the companies in this sector were much larger than Ercros even before it shrunk to its 1995 size.

The effect of Ercros's reduction in size is evident even in the difference between 1994 and 1995. After 1995, Ercros increased its market share very slightly in terms of employment. Its sudden and brief reduction in gross fixed assets in 1997 did reduce its market share in the sector of Bloomberg-listed companies, but its subsequent restoration of gross fixed assets restored Ercros's market share to its previous value. From 1998 to 2002, Ercros increased its market share of gross fixed assets from 0.66% to 0.79%. It is noteworthy that in 2002, even though Ercros itself reduced its gross fixed assets, it did not do so as much as the sector, since it gained market share in that year.

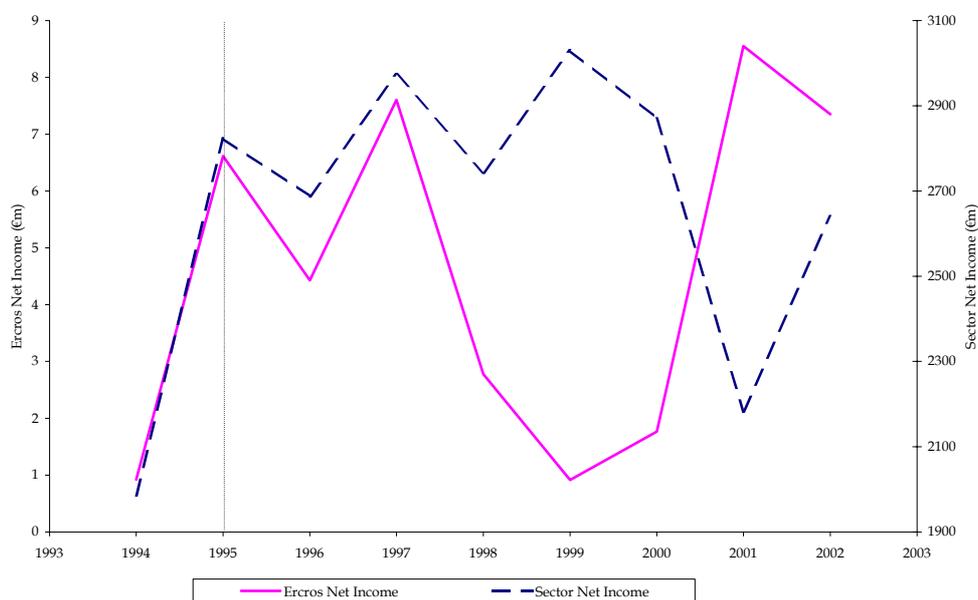
Figure 5.24: Evolution of Ercros's employment versus companies in sector, 1994-2002 (1994=100)⁽¹⁾



NOTE: (1) The vertical line at 1995 denotes the year in which Ercros first received its State aid award.

Source: LE calculations based on data from Bloomberg

Given that Ercros severely reduced its capacity and range of activities, it is not surprising to see that its employment fell severely relative to the industry at the time that it received State aid. However, after 1995, its level of employment remained relatively stable, which meant that by 2002, it had regained some ground on the other companies in the constructed sector, since they almost all reduced their own employment over the period, each to varying degrees.

Figure 5.25: Ercros's profit versus sector, 1994-2002⁽¹⁾

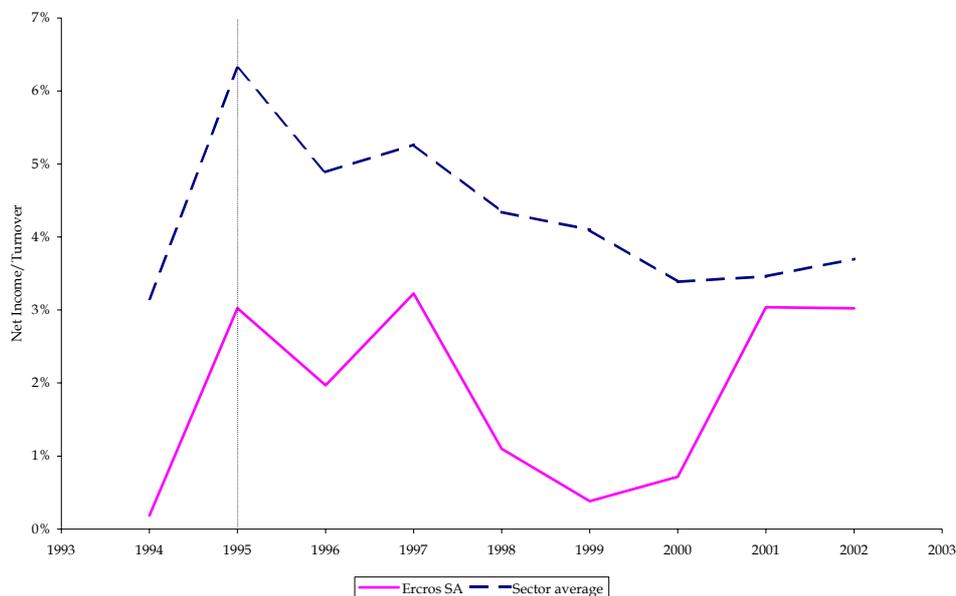
NOTE: (1) The vertical line at 1995 denotes the year in which Ercros first received its State aid award.

Source: Bloomberg

It is difficult to compare the profitability values for Ercros against the industry, since it is such a small company. However, what is noticeable from Figure 5.25 is that the peaks and troughs in Ercros's profits match those of the sector for the years 1994 to 1998, but then Ercros seemed to falter, only recovering between 1999 and 2000, a year after the sector as a whole. It is possible that Ercros's profitability might be lagging that of the sector, but it is too early to say whether this episode was indicative of a new behaviour, or simply a transitory misalignment.

Comparing Ercros's profitability against its total turnover, from Figure 5.20, and its gross fixed assets, from Figure 5.22, suggests that the fall in profits might have been due to the adjustment of Ercros to its new size, since periods of expansion seem to have been confluent with falling profits, and vice-versa, until 2001-2002.

Figure 5.26: Ercros's ratio of net income to turnover versus sector, 1994-2002⁽¹⁾

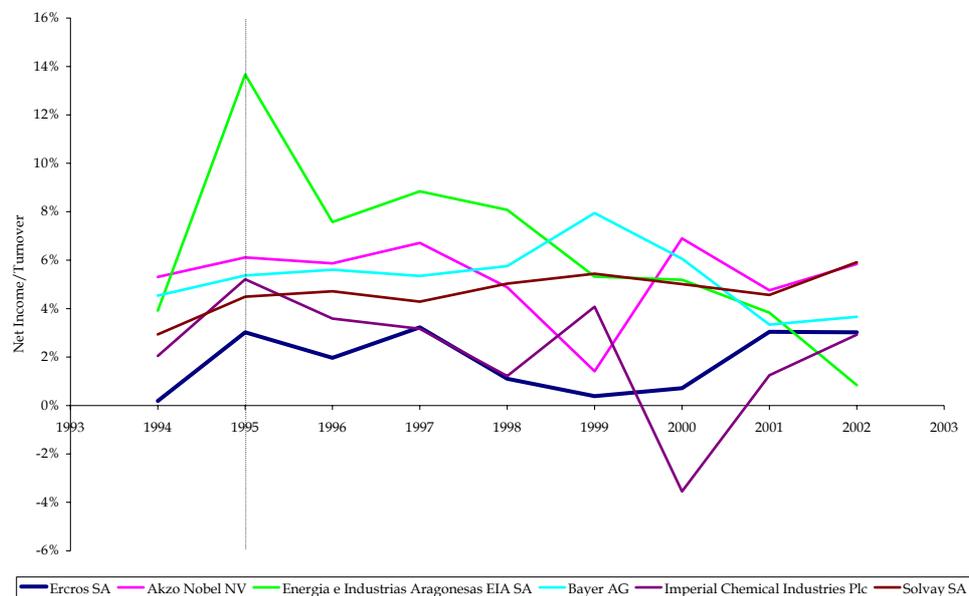


NOTE: (1) The vertical line at 1995 denotes the year in which Ercros first received its State aid award.

Source: LE calculations based on data from Bloomberg

Comparing income to sales ratios provides a clearer picture that Ercros improved over the sample period. Though it remained below the sector average for the entire period, Figure 5.26 shows that Ercros rapidly increased its income to sales ratio after 1999, so that the difference was less than 1% in 2002 (compared to 3% in 1994, and almost 4% in 1999). Figure 5.27 reveals that all the other companies had higher income to sales ratios than Ercros in the early part of the sample period, but that just two had significantly higher income to sales ratios in 2002.

Figure 5.27: Ercros's ratio of net income to turnover versus companies in sector, 1994-2002⁽¹⁾



NOTE: (1) The vertical line at 1995 denotes the year in which Ercros first received its State aid award.

Source: LE calculations based on data from Bloomberg

Conclusions

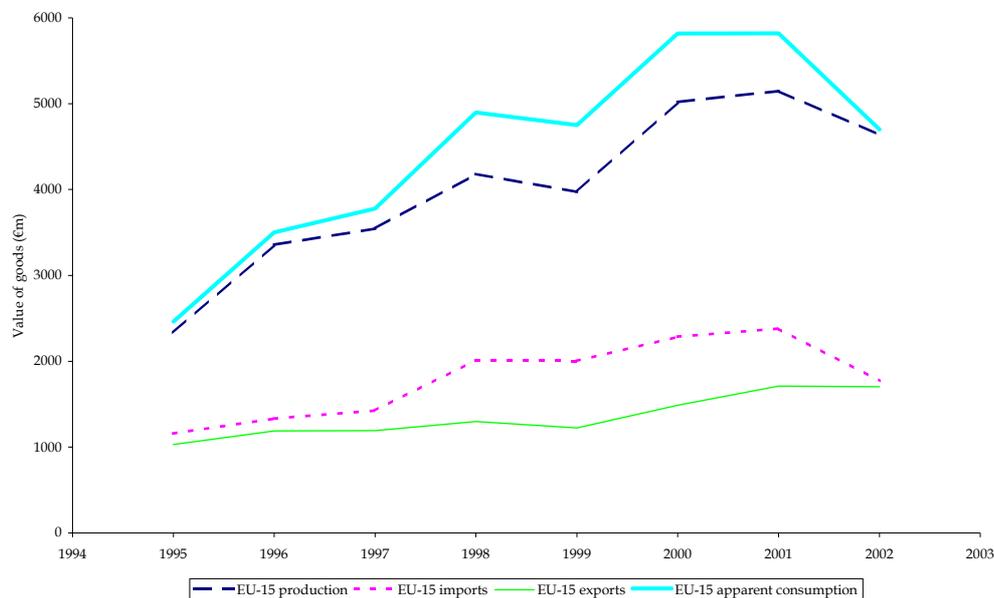
Ercros is a small player in the European chemicals sector and its recovery following the receipt of State aid does not appear to have had a discernible impact on its competitors. Indeed, while its market share recovered in the late nineties, it stood at only about 0.1% in 2002.

5.3.4 Turning and milling machines

The State aid-receiving company is Gildemeister and the products included in our analysis of the turning and milling machines sector were:

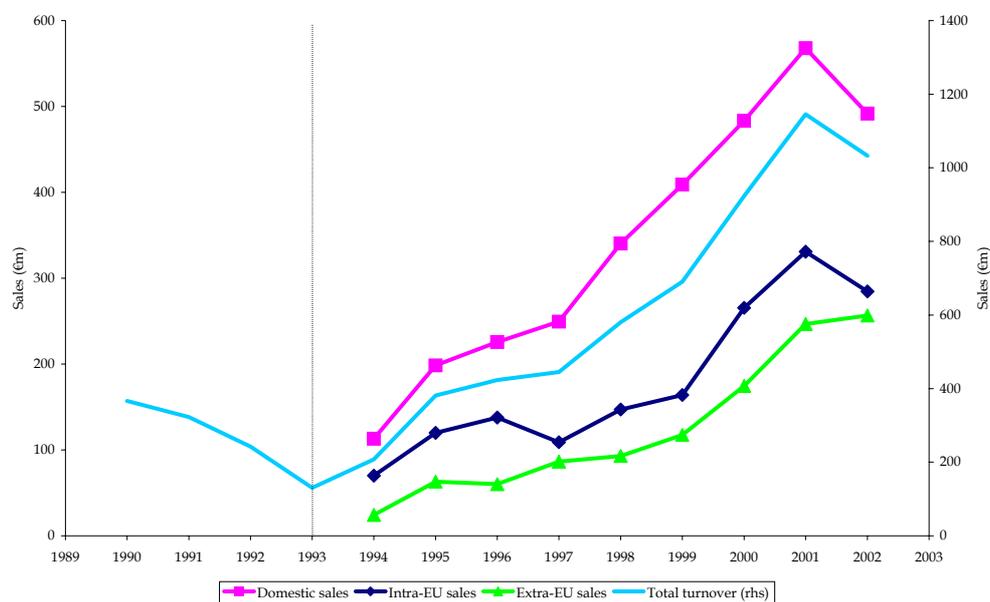
- Lathes;
- Turning and milling tools;
- Machining centres; and
- Machine-tools used to remove material by laser or ultrasonic processes.

Figure 5.28: Production, trade and apparent consumption in turning and milling machines, 1995-2002



Source: London Economics calculations based on Eurostat data

Figure 5.28 shows that EU-15 apparent consumption grew from about €2.5bn in 1995 to €5.8bn in 2001, before falling back to €4.7bn in 2002, similar to its 1999 level. The rise and fall in apparent consumption seems to have been mainly accommodated by production within the EU-15, though extra-EU imports certainly played a supporting role. Extra-EU exports, accounted for about a third of production, rising steadily for most of the period.

Figure 5.29: Geographical distribution of sales for Gildemeister, 1990-2002⁽¹⁾

NOTE: (1) The vertical line at 1993 denotes the year in which Gildemeister first received its State aid award.

Source: Bloomberg, and Gildemeister annual reports

Like Ercros, Gildemeister had experienced reduced turnover in the years leading up to its receipt of restructuring State aid, in 1993. Since then, however, it has grown strongly and swiftly, with sales increasing in all locations equally rapidly. Much like apparent consumption in the sector, Gildemeister's turnover peaked in 2001 at over €1.1bn from a low of €130m in 1993.

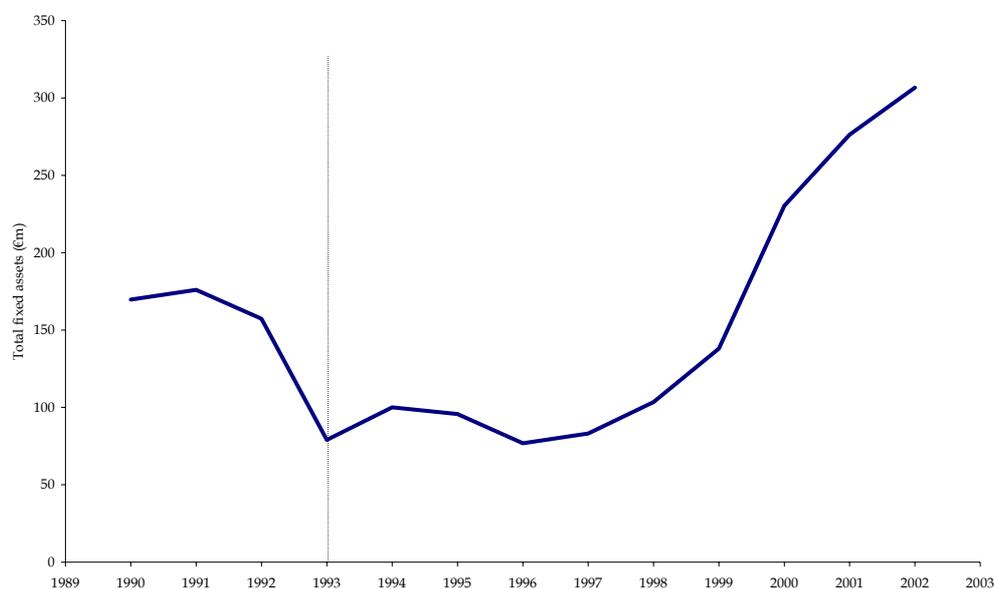
Figure 5.30: Sales by Gildemeister as a proportion of sector, 1995-2002



Source: London Economics calculations based on data from Eurostat and Gildemeister annual reports

In 1995, Gildemeister had an EU-market share of 13%, making it one of the major companies in machine-tools manufacturing. Although Gildemeister's sales within the EU-15 were increasing throughout the second half of the 1990s, it was only right at the end of the decade that it was growing faster than the industry, allowing it to regain market share that it had lost between 1995 and 1997. In 2002, its market share was 17%, 6% higher than in 1995.

Gildemeister produces the vast majority of its output within the EU-15, with one plant in Poland, and one in China, though the latter did not start production until January 2003, so it has not featured in the results presented here. Thus, Gildemeister's sales outside of the EU-15 are almost all extra-EU exports, allowing us to compare their extra-EU sales. Figure 5.30 shows that the improvement in Gildemeister's export performance outstrips that of its sales within the EU-15. Over the period 1995 to 2002, it increased its share of extra-EU exports from about 6% to 15%, in a market where exports in total were rising too.

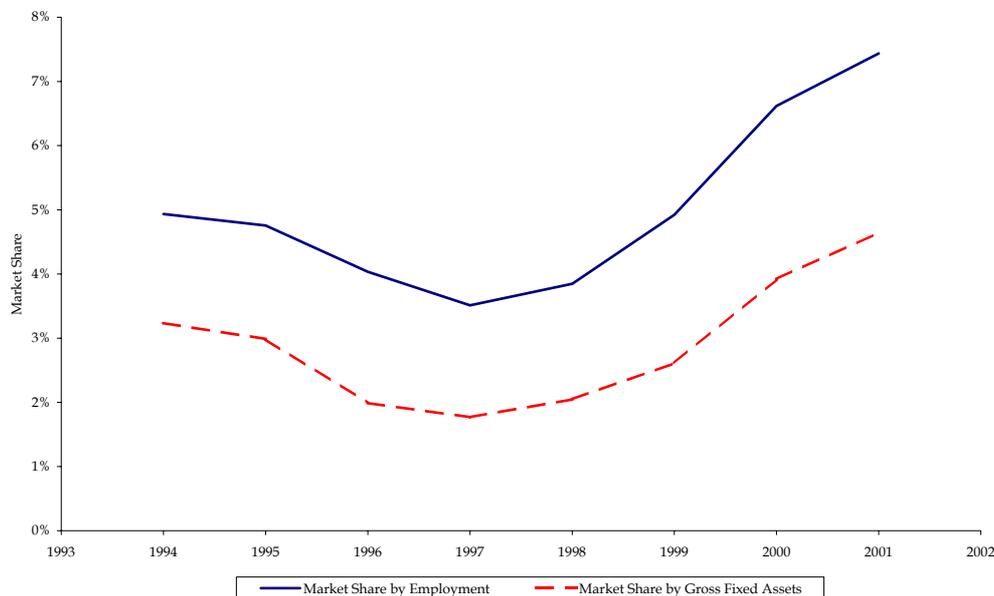
Figure 5.31: Gildemeister's gross fixed assets, 1990-2002⁽¹⁾

NOTE: (1) The vertical line at 1993 denotes the year in which Gildemeister first received its State aid award.

Source: Bloomberg

Figure 5.31 shows that, after the reduction in capacity preceding the receipt of State aid in 1995, Gildemeister quickly increased its gross fixed assets, which we know from supplementary sources was due to the buyback of parts of the firm, which were divested when Gildemeister was in difficulty, upon the better performance of the company.

Figure 5.32: Gildemeister's market share by employment and gross fixed assets, 1994-2001

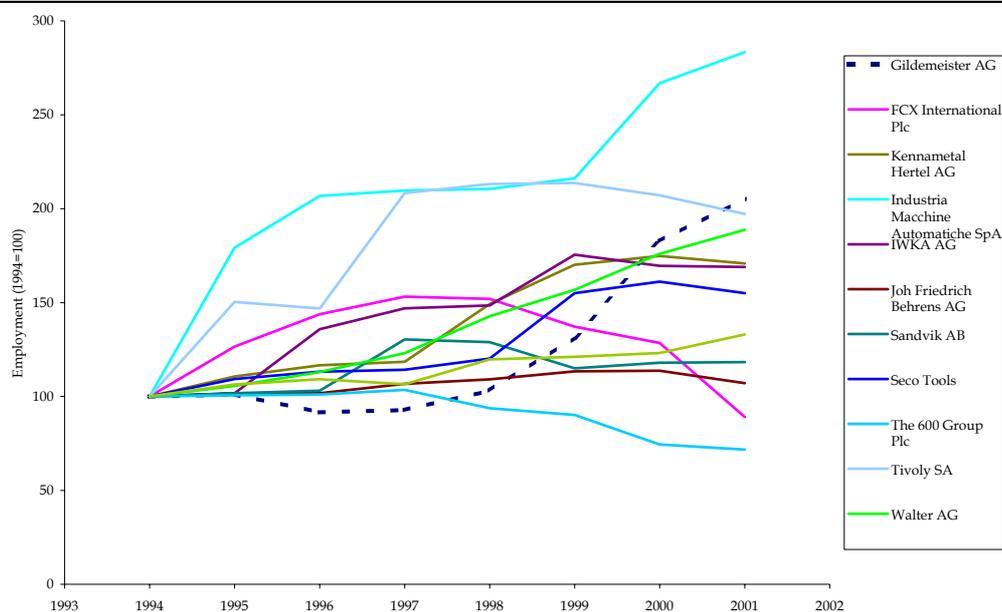


Source: Bloomberg

For Gildemeister, the European-based Bloomberg-listed companies included in the sector were Gildemeister AG, FCX International Plc, Kennametal Hertel AG, Industria Macchine Automatiche SpA, IWKA AG, Joh Friedrich Behrens AG, Sandvik AB, Seco Tools, The 600 Group Plc, Tivoly SA, Walter AG and Michael Weing AG. There were a large variety of company sizes in this collection, but IWKA AG and Sandvik AB stood out as particularly large for the sector.

The market shares for employment and gross fixed assets in Figure 5.32 are remarkably similar, and are also very similar to the curve of market share by sales. Given that the sector was increasing in size for the middle part of the period, it would seem that Gildemeister was gaining market share in a growing market. Again, Gildemeister's performance seems to have fallen in the years immediately following 1995, but then improved rapidly in the latter part of the 1990s and beyond.

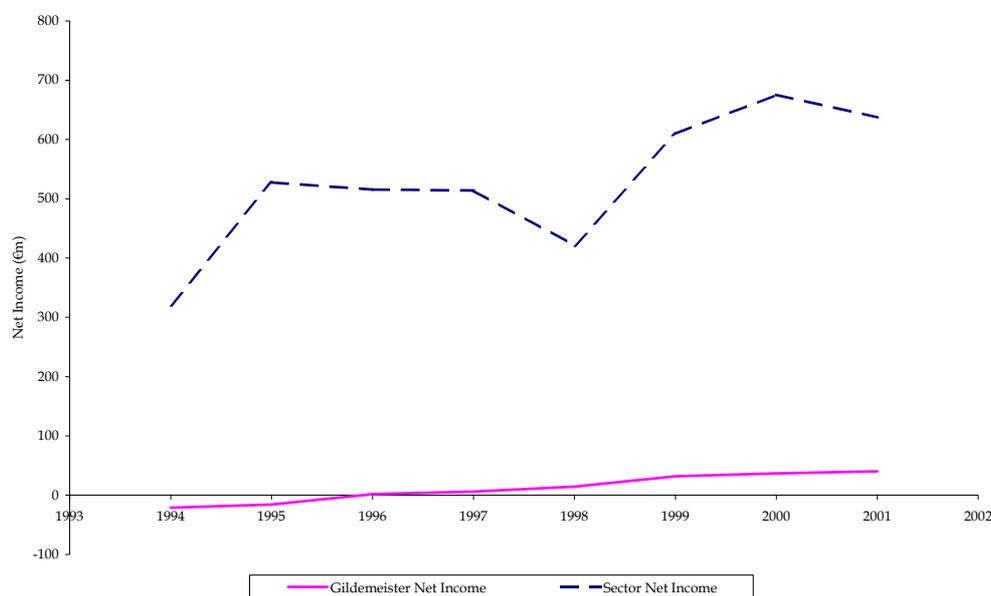
Figure 5.33: Evolution of Gildemeister's employment versus companies in sector, 1994-2001 (1994=100)



Source: LE calculations based on data from Bloomberg

Figure 5.33 shows that, though Gildemeister (shown by the dashed line) doubled its employment between 1994 and 2001, it was not the company with the fastest growing workforce over the period. Indeed, until 1997, Gildemeister was the worst performing company by this measure. Subsequent to that year, it grew faster than almost all the other companies in its constructed sector, which seems to have been populated mostly by growing companies.

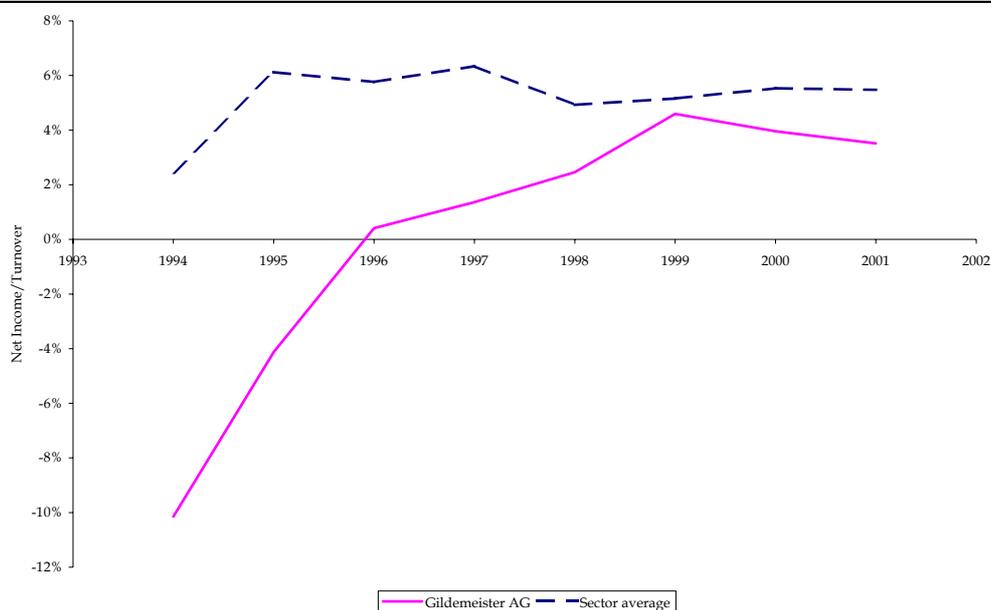
Figure 5.34: Gildemeister's profit versus sector, 1994-2001



Source: Bloomberg

Gildemeister's recovery relative to the sector is further described by the evidence presented in Figure 5.34, which shows that the company went from a loss of €21m in 1994 to a profit of €40m in 2001. However, despite the company's better performance in terms of market share in sales, employment and gross fixed assets, the sector improved more rapidly in terms of profit. This is a somewhat surprising finding. The company has improved its performance steadily whilst the sector (constructed using Bloomberg-listed companies) has fluctuated more wildly, exhibiting signs of booms and slumps more so than in the Europroms data.

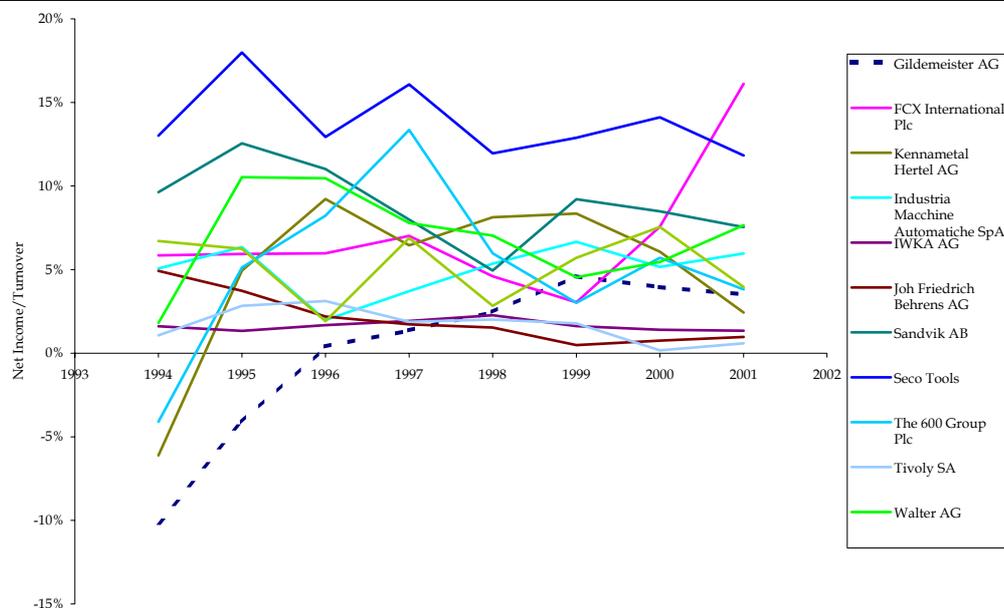
Figure 5.35: Gildemeister's ratio of net income to turnover versus sector, 1994-2001



Source: LE calculations based on data from Bloomberg

Gildemeister's income to sales ratio rocketed from below -10% in 1994 to 3.5% in 2001, almost entirely catching up to the sector average, which had remained relatively steady at around 5% throughout most of the sample period, as is shown in Figure 5.35. Figure 5.36 shows that Gildemeister was one of a few companies to have improved their income to sales ratios from a negative position in 1994. However, Gildemeister started off the lowest of all the companies. Other than the improvement by those that were at the bottom of the rankings by their income to sales ratio, there was no clear trend in the performance of companies in the constructed sector. In fact, with the exception of the steep improvement of FCX International, there was, if anything, a slight downward trend for the companies that started off with the better income to sales ratios.

Figure 5.36: Gildemeister's ratio of net income to turnover versus companies in sector, 1994-2001



Source: LE calculations based on data from Bloomberg

Conclusions

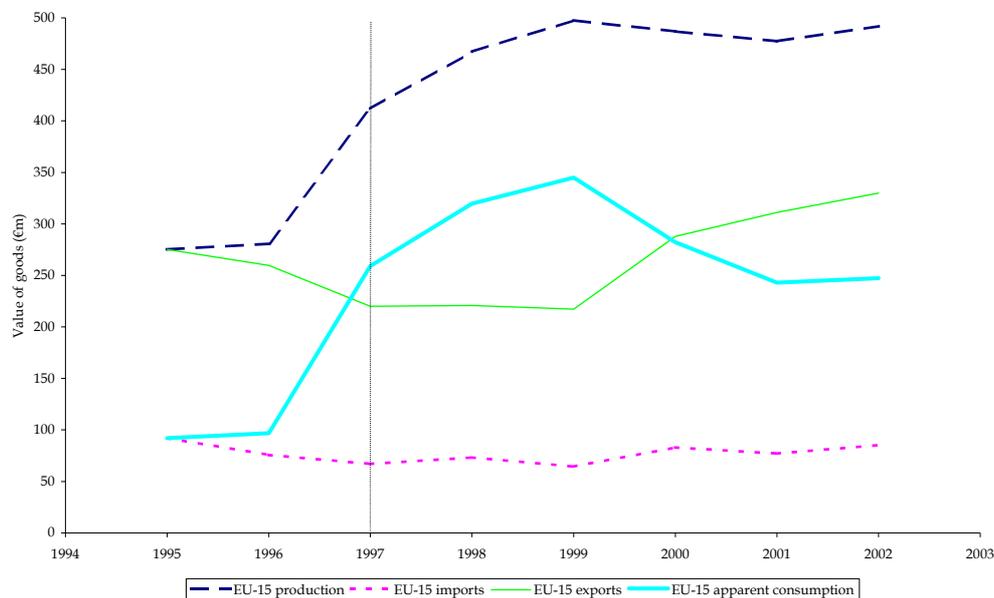
Gildemeister is a good example of company that, following the receipt of State aid, not only regained any lost market share but also managed to increase its market share to a level well above the one it held in the pre-State aid period. Its EU competitors' EU market shares are likely to have been squeezed during this period, especially as imports were also rising during most of the period under consideration. Gildemeister's export performance also sustained the sector's overall export performance as its exports grew faster than those of the sector overall.

5.3.5 Firearms

The State aid-receiving company is Herstal and the products included in our analysis of the firearms sector were:

- Military weapons;
- Revolvers and pistols;
- Shotguns, rifles, carbines and muzzle-loaders; and
- Other arms (including air or gas guns and pistols).

Figure 5.37: Production, trade and apparent consumption in firearms, 1995-2002⁽¹⁾

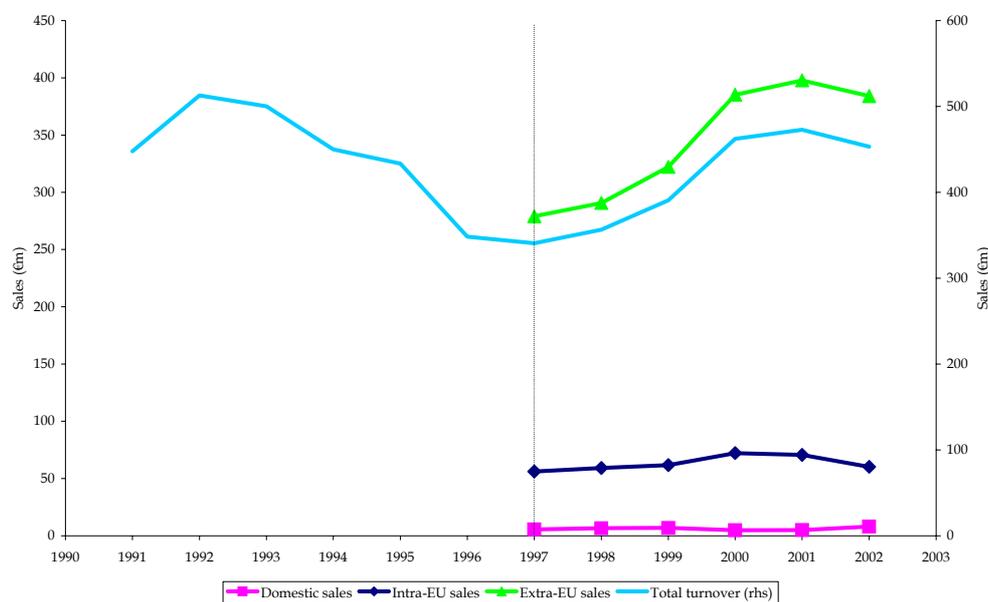


NOTE: (1) The vertical line at 1997 denotes the year in which Herstal first received its State aid award.

Source: London Economics calculations based on Eurostat data

Figure 5.37 shows that the value of domestic production, domestic apparent consumption and extra-EU exports fluctuated. Whilst extra-EU imports remained rather unchanged between 1995 and 2002, EU-15 total production increased throughout the period, coinciding with, firstly, a (partially persistent) rise in apparent consumption, and, secondly, a rise in extra-EU exports. By 2002, the values of EU-15 production and of EU-15 apparent consumption were both about double those in 1995. At both the beginning and at the end of the period, exports were worth more to European producers than consumption within the European Union.

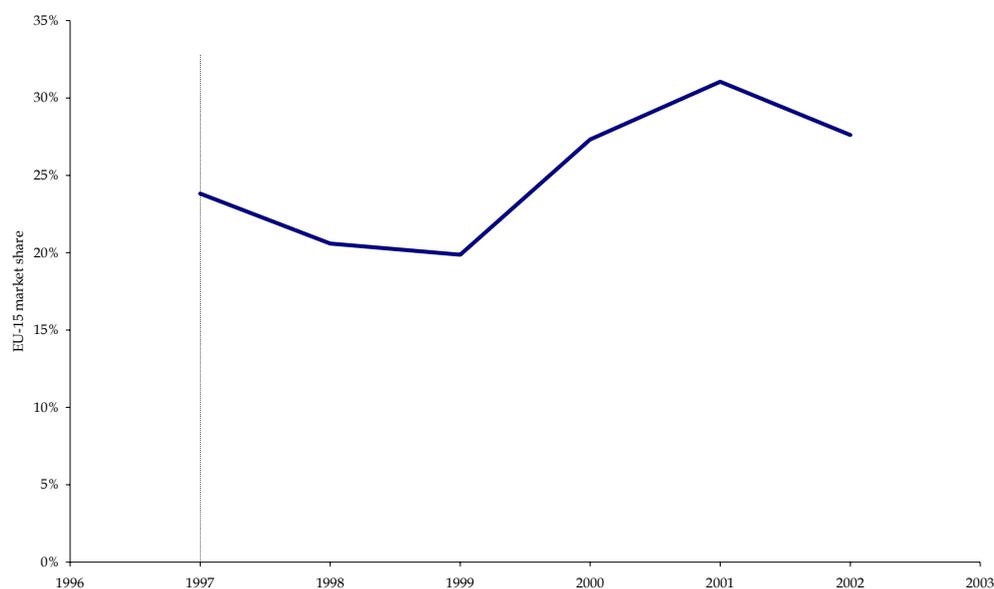
It should be noted that the firearms industry is one in which the number of countries reporting data that is incomplete, due to reasons of confidentiality, is rather high in the Europroms databank. This means that the inferences made from the data should be considered tentative. However, the Europroms databank remains the best available source of information for the purpose of the analysis contained within this section, and thus should be taken as a best estimate of the state of affairs in the firearms market.

Figure 5.38: Geographical distribution of sales for Herstal, 1991-2002⁽¹⁾

NOTE: (1) The vertical line at 1997 denotes the year in which Herstal first received its State aid award.

Source: Herstal financial statements at the Belgian Central Bank

Herstal's turnover fell to a low in 1997, having received restructuring State aid in that same year. Since that time, its sales performance has recovered, seemingly on the back of better turnover from sales outside of the EU-15, which, in any case, constitute overwhelmingly the greatest proportion of total sales. Sales within the EU-15, both within Belgium, and in the wider market, remained relatively small, and only modestly higher in comparison to the change in extra-EU sales between 1997 and 2002. Total sales within the EU-15 increased from €61.7m in 1997 to €68.3m in 2002, with the years 2000 and 2001 being the best in terms of EU-15 sales for the company.

Figure 5.39: Herstal's EU-15 market share, 1997-2002⁽¹⁾

NOTE: (1) The vertical line at 1997 denotes the year in which Herstal first received its State aid award.

Source: London Economics calculations based on data from Eurostat and Herstal financial statements at the Belgian Central Bank

In 1997, the year when Herstal first received State aid, the company held a large 24% of the market.⁴¹

The volatility of the size of the EU-15 market in firearms contrasted with the steady progress of sales within the EU for the Herstal Group, meaning that the market share enjoyed by the company fell as the market grew and rose as the market fell. By 2002, the company's market share was 28%, after peaking at 31% in 2001.

Since Herstal has substantial production facilities in America, its sales outside of the EU-15 are not comparable with extra-EU exports.

We were unable to undertake a comparison of Herstal's performance in terms of employment, fixed assets and profits with that of the EU sector as a whole, since its major EU-based competitors are unlisted and thus, no detailed financial information is publicly available.

⁴¹ As mentioned earlier, this market share information is only as reliable as the underlying data, which showed many instances of information being withheld for reasons of confidentiality

Conclusions

Like Gildemeister, Herstal is a company that shows a strong increase in EU market share. The company recovered the market share lost during the problem years, and managed to raise it even higher. That being said, the results must be considered tentative due to the incomplete market data set and the fact the Herstal's problems started in the early nineties. Thus it is possible Herstal's recently observed market share is simply a level similar to the one that prevailed earlier on in the nineties.⁴²

5.4 Conclusions

The five cases reviewed in this chapter show very different pictures in terms of impact on the sector in which they operate:

- Three companies (Thomson, Gildemeister, and Herstal) show robust growth in EU-market share. Not only was the ground lost during the problem years recovered, but also the market share in 2002 was actually higher than in the mid-nineties. This suggests that the recovery of these 3 companies occurred at the expense of their EU competitors, especially as in all cases imports were growing as well during most of the period under consideration. While, due to large-scale extra-EU production in the case of Thomson and Herstal, we cannot draw any inferences about the relative contribution of the State aid-receiving companies to the sectors' export performance, the data suggest that in the case of Gildemeister, the company made a strong contribution.
- In the case of Head, the company's recovery was essentially due to sharp growth in extra-EU sales as its EU-market share declined following the receipt of State aid.
- In the case of Ercros, the company is too small to have had any noticeable impact on its sectoral competitors.

With the exception of Ercros, which remained stable after an initially severe reduction, all the other aid-receiving companies listed on Bloomberg (Head, Thomson and Gildemeister) increased their stock of gross fixed assets in the period subsequent to receiving State aid, in both relative (as a share of the sector total) and absolute terms. The evolution of the aid-receiving companies' gross fixed assets was paralleled in each of them by the evolution of their employment levels. Head was the only one of the four Bloomberg-listed, aid-receiving companies to have suffered a fall in its (net) income to sales ratio relative to the other companies in its constructed sector, though it did start from a high initial value. The other three all closed the gap between them and the rest of the companies in their sector.

⁴² As the Europroms data start only in 1995, it is impossible to verify this hypothesis.

Obviously, the sample of companies reviewed in greater details is too small to draw any firm conclusions that would be applicable to the whole population of State aid-receiving companies. Nevertheless, the results suggest that, perhaps, in a number of cases the recovery of a State aid company appears to occur at the expense of EU competitors. We deliberately mention “appears to occur” because much more detailed case studies would be required to disentangle the specific effects of the recovery of the State aid-receiving companies on their competitors from factors idiosyncratic to the competitors such as aging or inferior product range, insufficient R&D in new processes and products, etc.

6 Conclusions

In this report, we focused on the survival of companies having received rescue and/or restructuring State aid, and the social and economic effects of such aid on the aid-receiving companies. Altogether, we examined 86 aid cases, 34 of which were rescue State aid cases and 52 were restructuring State aid cases.

Germany and Italy were the EU Member States with the largest number of cases in our study, followed by Austria, France and Spain. In contrast, Belgium, Greece, the Netherlands, Portugal and the UK had only a few cases and Denmark, Finland, Ireland, Luxembourg and Sweden had none.

Rescue aid was particularly important in 1997, 2001 and 2002 while, with the exception of these three years, restructuring aid accounted for the bulk of the cases in any given year 1992 to 2003.

Construction and engineering was the sector most frequently in receipt of rescue and restructuring State aid. The financial services and machinery and equipment sectors were the next most important sectors as measured by the number of companies, followed by the electronics and telecoms sector.

Large companies with more than 1,000 employees account for more than half of the rescue and restructuring cases amongst the 77 rescue and restructuring State aid cases that have ended.

Companies being awarded rescue aid suffered mainly from liquidity problems, which is consistent with the most common use of rescue aid: to restore solvency while companies receiving restructuring aid cited most often a heavy financial burden as a source of the difficulties they faced, and most used the restructuring State aid to assist the restructuring efforts of the company.

We found that, out of the 69 companies for which we had significant amounts of information, 47 survived and 22 folded. The mortality rate of aid-receiving companies was particularly high in the case of companies having received solely rescue aid. When we empirically analysed the probability of survival for an aid-receiving company we found that companies that have benefited from rescue aid are more likely to exit the industry than those that have received restructuring aid and that the State aid usually works in keeping the company afloat for some time immediately following the receipt of aid. Another key finding is that if the firm was in difficulty due to market decline and poor management, it has a better chance of surviving. High demand growth in the sector seems also to improve the probability of survival. But, none of the features of restructuring plans had any impact on company survival.

The overall performance of the companies having received rescue and/or restructuring State aid is generally positive both in absolute terms and relative to the performance of the comparator companies as about half of the

aid-receiving companies, by 2002, had actually increased their levels of employment since first receiving State aid, relative to their comparators. The vast majority of aid-receiving companies experienced a rise in turnover figures since the time they first received State aid, but less than half of them performed better than their comparators by this measure.

About three-quarters of aid-receiving companies improved their profitability (as measured by profits per employee) relative to the industry average improvement, but most also remained markedly below the industry average rate. Three-quarters of aid-receiving companies improved their productivity figures (as measured by turnover per employee). In contrast to the profitability measure, most of them posted labour productivity above the industry average.

We complemented this general analysis with a much more detailed analysis of the performance of the four restructuring aid-receiving companies. However, the outcomes are quite varied and do not allow us to draw strong conclusions from such a small sample.

We also investigated the effects of awarding rescue and restructuring State aid at the sectoral level, for a small selection of sectors we analyse the changes in market share by sales for the aid-receiving company relevant to each sector. The aim is to establish whether there is any evidence to suggest that these companies have gained an advantage over their European-based rivals.

We also investigated the relationship, where relevant, between sales made outside of the EU by each of the companies, with extra-EU exports for the corresponding sector and examined the profitability and employment performance of the competitors to State aid-receiving firms in five different sectors. Again the results are quite varied. However, they suggest that, perhaps, in a number of cases the recovery of a State aid-receiving company appears to occur at the expense of EU competitors. We deliberately mention "appears to occur" because much more detailed case studies would be required to disentangle the specific effects of the recovery of the State aid-receiving companies on their competitors from factors idiosyncratic to the competitors such as aging or inferior product range, insufficient R&D in new processes and products, etc.

In fact, a fully-fledged analysis and the derivation of robust conclusions regarding the empirical analysis of potential externalities would need to be conducted over a much large sample of sectors. Moreover, it would be necessary to observe the performance of the State aid-receiving firm and its competitors over a much longer period than is currently possible to be better able to disentangle cyclical and firm and sector idiosyncratic factors from the indirect effects of the State aid.

In addition, it would be necessary to have detailed firm level data on a wide range of firm characteristics such sales, employment, productive assets (e.g., capacity), productivity, profitability, R&D spent, new patents, etc. In order to be able to build up the necessary information and data, it would be important to clearly identify, at the time the State aid is approved, the sector and the

competitors of the State aid-receiving company, and to track sectoral and company developments on an on-going basis. In the absence of the construction of such a quasi real-time databank, the basic data difficulties that we faced in undertaking our analysis of the potential sectoral impacts of rescue and restructuring State aid will remain, and will continue to seriously hamper any future evaluations.

References

- Audretsch, D. B., 1995. "Innovation, survival and growth", *International Journal of Industrial Organization, Special issue: the Post Entry Performance of Firms*, Vol. 13, No. 4, pp. 441-450.
- Audretsch, D. B. and Mahmood, T., 1995. "New firm survival: New results using a hazard function", *Review of Economics and Statistics*, Vol. 77, No. 1, pp 97-103.
- Blundell, R. and Costa Dias, M., 2000. "Evaluation methods for non-experimental data", *Fiscal Studies*, Vol. 21, No. 4, pp. 427-468.
- Boeri, T. and Bellman, L., 1995. "Post-Entry Behaviour and the Cycle: Evidence from Germany", *International Journal of Industrial Organization, Special issue: the Post Entry Performance of Firms*, Vol. 13, No. 4, pp. 483-500.
- Commissariat du Plan (2003), "Les aides publiques aux entreprises: une gouvernance, une stratégie", Octobre.
- Disney, R., Haskel, J., and Heden Y., (1999). "Entry, exit and establishment survival in UK manufacturing", *Journal of Industrial Economics*, Vol. 51, No. 1, March, pp. 91-112.
- Doms M, Dunne T. and Robert, M. J., 1995. "The role of technology use in the survival and growth of manufacturing plants", *International Journal of Industrial Organization, Special issue: the Post Entry Performance of Firms*, Vol. 13, No. 4, pp.423-524.
- Ericson, R and Pakes, A., 1992. "Markov-Perfect Industry Dynamics: A Framework for Empirical Work", *Review of Economic Studies*, Vol. 62, No. 1, pp. 53-82.
- Jovanovic, B., 1982. "Selection and Evolution of Industry", *Econometrica*, Vol. 50, No. 7, May, pp. 649-670.
- Mata, J., Portugal, P. and Guimarzes, P., 1995. "The Survival of New Plants: Start-up Conditions and Post-Entry Evolution", *International Journal of Industrial Organization, Special issue: the Post Entry Performance of Firms*, Vol. 13, No. 4, pp. 459-481.

Annex 1 Terms of reference

The following are the terms of reference specified by the European Commission:

a. Rescue aid

This part of the study will examine for companies having received rescue aid, what percentage of companies presented a restructuring plan, have survived or have been liquidated and have to what degree reimbursed the rescue aid. The study will examine companies for which rescue aid has been authorised by the Commission and companies for which rescue aid has been granted on the basis of approved schemes.

b. Restructuring aid

This part of the study will examine the survival rate of companies having received restructuring aid, over a period of up to ten years following the decision to effectively grant restructuring aid, starting:

(i) in the cases of individually notified to the Commission, from the date of the Commission decision to consider the granting of restructuring aid to be compatible with the common market,

or

(ii) in the case of schemes, and where such information is available, as of the date the Member State grants restructuring aid under the scheme. It will also indicate whether the company is situated in an assisted area or not.

Chapters 1 and 2 should conclude with identification of patterns that could give indications of possible factors that influence the efficiency of rescue and restructuring aid in terms of a beneficiary returning to viability. They could be drawn from sector and regional specificity, level of aid, size of the company, etc.

The social and economic effects of rescue and restructuring aid.

c. At company level

This part of the study will examine the social and economic effects of the restructuring on the recipient company over the same ten-year period, in particular the effects on employment, profitability and turnover as well as possible diversification of activities. The study will also indicate whether the companies are situated in an assisted area, the sectors in which the companies are/were active (using “product concerned” as defined in the multisectoral Framework on regional aid for large investment projects, OJ

C 70, 19.3.2002, p.8 as reference). The study will also provide an ex-post view on whether the aid was indeed limited to the minimum necessary.

d. At sector level

This part of the study will examine the economic effects of rescue and restructuring aid on the competitiveness of the sector. The study will examine what the situation of that sector(s) was at the time the aid was granted and is today (using average annual growth of apparent consumption or turnover of the services concerned as reference, as defined in the Multisectoral Framework). The analysis will distinguish between rescue and restructuring aid, and between growing and declining sectors, and will look in particular at:

- whether the aided companies have been able to increase market share in the sectors concerned to the detriment of non-aided competitors
- positive externalities (i.e. was the sector forced to rationalise or whether the aid prevented higher concentration)
- negative externalities (impact on non-supported companies for example)

In examining these effects, the study should take into account the influence of any counterpart demanded from the aid recipient (usually in the form of capacity reduction).

The consultant will propose selected sectors in relation to which the analysis of this part will be performed. Though the choice of sectors will be conditioned to a large extent by data availability and the number of restructuring cases in a given sectors, the consultant should try to include in the selected sectors examples of growing and declining sectors.

In order to perform these specific tasks identified in specific tasks a) to d) above the following matters should be taken into account:

(i) Exclusion

Excluded from the study will be rescue and restructuring aid for activities relating to the production processing and marketing of products listed in Annex I of the Treaty. Aid given to enterprises in Eastern Germany under conditions referred to in footnotes 10 and 25 of the rescue and restructuring aid guidelines will also be excluded.

(ii) Time span

The study will examine State aid cases since 1995. Only those cases for which the period of aid reimbursement (rescue aid) or the restructuring plans (restructuring aid) have come to an end will be taken into account.

Annex 2 List of companies

In the table below, we list all the companies having received rescue and restructuring State aid that are in the sample of companies discussed in this report. An asterisk after a company's name denotes that the company has been subject to more than one decision by the European Commission on rescue and/or restructuring State aid, including negative decisions.

The table is broken down into four different parts.

- *Part I lists the companies that either survived or folded and are eligible for inclusion in our comparator analysis of the subsequent performance of aid-receiving companies. These are cases where the first instalment of State aid was awarded by the end of 1999.*
- *Part II lists the companies that either survived or folded but are not eligible for inclusion in our comparator analysis of the subsequent performance of aid-receiving companies, because these are cases where first instalment of State aid was awarded after 1999.*
- *Part III lists the companies, in cases the rescue aid was repaid or the restructuring plans were completed, but for which we are unable to determine whether they survived or folded.*
- *Finally, Part IV lists the companies, for which the rescue or restructuring State aid cases have not yet ended, and, therefore, are not covered in our analysis.*

Table A1.1: List of companies and outcomes

	Companies Receiving Rescue Aid		Companies Receiving Restructuring Aid	
Part I Cases that have ended and are eligible for inclusion in comparator analysis				
Survived	Austria	Ergee Textilwerk GmbH*	Austria	Head Tyrolia Mares
	Austria	Kresta Anlagenbau GmbH*	Belgium	Groupe Herstal

Table A1.1: List of companies and outcomes

Companies Receiving Rescue Aid		Companies Receiving Restructuring Aid	
Germany	Niemeyer und Söhne GmbH & Co. KG	France	Comptoir des Entrepreneurs
Germany	Wilhelm Stoll Maschinenfabrik GmbH	France	Crédit Lyonnais*
		France	Crédit Foncier de France SA
		France	GAN
		France	Société française de Production (SFP)
		France	Société Marseillaise de Crédit
		France	Thomson S.A.
		Germany	ADIS Advanced Integral Structures GmbH
		Germany	Gildemeister AG*
		Germany	Graphischer Maschinenbau GmbH
		Germany	Rawe GmbH & Co
		Germany	Wernal Aluminium Technik GmbH
		Greece	Olympic Airways
		Italy	Alitalia*
		Italy	Banco di Napoli
		Italy	Banco di Sicilia e Sicilcassa
		Italy	Condotte S.p.A.
		Italy	Istituto Poligrafico e Zecca dello stato
		Italy	Italstrade S.p.A.
		Italy	Rambaudi Industriale S.p.A.
		Portugal	Cofinca S.A.
		Portugal	Dragapor SA*
		Portugal	Subvidouro Crl.

Table A1.1: List of companies and outcomes

		Companies Receiving Rescue Aid	Companies Receiving Restructuring Aid	
			Spain	Danona Sociedad Cooperativa
			Spain	Ercros S.A.
			Spain	Fesa Enferosa Group
			Spain	Productos Tubulares
			Spain	Sniace S.A.
			UK	Crown Agents
Folded	Austria	Actual Maschinenbau AG*	Germany	Altenburger Bau GmbH
	Germany	Hagenuk Telecom GmbH	Germany	Batropa Batterie GmbH
	Germany	Kaelble-Gmeinder GmbH	Germany	Draiswerke GmbH
	Italy	Case di Cura Riunite s.l.r.	Germany	Philipp Holzmann AG
	Italy	Fratelli Costanzo S.p.A.	Italy	Enichem S.p.A.
	Italy	I.R.A. Costruzioni	Italy	Enirisorse S.p.A.
	Italy	Società Gruppo Fochi*	Spain	Almagrera S.A.
	Netherlands	Fokker	Spain	Babcock Wilcox Espanola S.A.
	Spain	Grupo de Empresas Alvarez		
	Spain	Minas de Rio Tinto S.A.L.*		
Part II Cases that have ended, but are too recent to be included in comparator analysis				
Survived	Belgium	ABX Logistics*		
	France	Bull		
	France	SNCM*		

Table A1.1: List of companies and outcomes

	Companies Receiving Rescue Aid		Companies Receiving Restructuring Aid	
	Germany	BAE Berliner Batteriefabrik GmbH, MODAC GmbH		
	Germany	Bankgesellschaft Berlin AG		
	Germany	BBP Service GmbH (Babcock Borsig)		
	Germany	Grundig AG		
	Germany	LTU*		
	Germany	MobilCom AG		
	Germany	STP Elektronische Systeme GmbH		
	UK	British Energy plc		
	UK	Railtrack PLC		
Folded	Belgium	Sabena		
	Germany	CargoLifter AG		
	Germany	Fairchild Dornier GmbH		
	Germany	Hermann Heye KG		
Part III Cases have ended, but the outcome is uncertain				
	Italy	Enterprise S.p.A.	Italy	CATA Hotels
Part IV Cases that have not yet ended				
			Belgium	Sunparks International B.V.
			France	Brittany Ferries
			France	SERNAM (Service National des Messageries)
			Germany	Dach Sanitär Handel eG
			Germany	LTU*

Table A1.1: List of companies and outcomes

Companies Receiving Rescue Aid		Companies Receiving Restructuring Aid	
		Netherlands	Koninklijke Schelde Group
		Portugal	M. Carmona & Irmaos S.A.
		Spain	Porcelanas del Principado S.L.

Source: London Economics

Annex 3 Rescue and restructuring State aid cases and assisted areas

Table A3.1: Companies receiving State aid located in assisted areas

Country	Number of cases outside assisted area		Number of cases within an assisted area in the meaning of...				Grand Total
			87(3)(c)		87(3)(a)		
	RESCUE	RESTRUC.	RESCUE	RESTRUC.	RESCUE	RESTRUC.	
Austria	1	1	2	2			6
Belgium	2			2			4
France	3	8		1			12
Germany	11	8	2	1	1	3	26
Greece						1	1
Italy	3	8			3	2	16
Netherlands	1	1					2
Portugal			1	2		2	5
Spain		3		3	2	2	10
UK	2	2					4
Grand Total	23	31	5	11	6	10	86

Source: London Economics

Annex 4 Aid instruments used in rescue and restructuring State aid cases

Table A4.1: Aid instruments used to confer State aid in cases that have ended, 1995-2003

Aid Instrument	AID Type		Grand Total
	RESCUE	RESTRUCT	
Capital Injection only		12	12
Capital Injection and Subordinated Loan		1	1
Capital Injection, Loan and Debt Waiver		1	1
Capital Injection and Guarantee	3	3	6
Capital Injection, Debt Waiver and Subsidies		1	1
Capital Injection and Debt Waiver		1	1
Capital Injection and Debt Restructuring	1	5	6
Capital Injection and Tax Concessions		1	1
Guarantee only	17	6	23
Loan only	10	4	14
Loan and Guarantee	2	2	4
Loan, Guarantee and Debt Waiver		1	1
Subordinated Loan and Debt Waiver		1	1
Subordinated Loan only		2	2
Subordinated Loan, Loan and Guarantee		1	1
Repayable shareholder advance only	1		1
Debt Waiver only		1	1
Grand Total	34	43	77

Source: London Economics