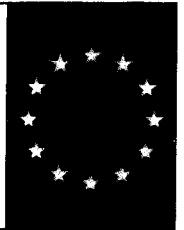


RESEARCH ON THE "COST OF NON-EUROPE"
BASIC FINDINGS
VOLUME 1

1999



BASIC STUDIES:
EXECUTIVE SUMMARIES

Document

COMMISSION OF THE EUROPEAN COMMUNITIES

Cataloguing data can be found at the end of this publication.

Luxembourg: Office for Official Publications of the European Communities, 1988

ISBN 92-825-8605-7

Catalogue number: CB-PP-88-B14-EN-C

© ECSC-EEC-EAEC, Brussels · Luxembourg, 1988

Printed in the FR of Germany

INTRODUCTION

Set out in the following pages is the complete collection of the executive summaries of the basic reports conducted for the research programme on the "costs of non-Europe" which was launched in 1986 and completed early 1988.

The programme's reports, funded by the European Commission, sought to establish the present costs of the European Community's market fragmentation - and thus the potential benefits from their removal - by analysing the impact of market barriers, and by comparing with the North American experience. The costs inherent in these barriers were examined both in reports dealing with the principal horizontal barriers impeding market integration, and in those studying the impact of specific examples of barriers in representative sectors of the Community's service and manufacturing economy.

The reports, while supervised by Commission officials, were conducted by independent consultants, who are thus responsible for the findings set out in them.

Common to all reports was the unprecedented nature of the research task. This created novel methodological challenges encountered in assessing non-Europe's present costs, and thus the potential gains to be had from market integration. Two symposia held between the consultants and the Commission in May and October, 1987, were essential to the project's methodological and indeed overall coherence.

To these challenges was added another : the project's geographical scope. In view of material constraints, studies could not embrace all twelve Community countries. However, data on the four largest EEC economies provided a common empirical core for systematic analysis. Despite the fragilities, the stories told by these various reports are complementary and convergent, and their message to the politicians unmistakable.

^

TABLE OF CONTENTS

Introduction	
1. The "Cost of Non-Europe": Border Related Controls and Administrative Formalities Ernst & Whinney	7
2. The "Cost of Non-Europe": An Illustration in the Road Haulage Sector Ernst & Whinney	41
3. The "Cost of Non-Europe" in Public Sector Procurement WS Atkins Management Consultants in association with Eurequip SA-Roland Berger & Partner-Eurequip Italia	65
4. Technical Barriers in the EC: an Illustration by Six Industries Groupe MAC	121
5. The "Cost of Non-Europe": Some Case Studies on Technical Barriers GEWIPLAN	155
6. The "Cost of Non-Europe": Obstacles to Transborder Business Activity European Research Associates & Prognos	189
7. The "Cost of Non-Europe" for Business Services Peat Marwick McLintock	225
8. The "Cost of Non-Europe" in Financial Services Price Waterhouse	259
9. The Benefits of Completing the Internal Market for Telecommunication Services in the Community INSEAD	293
10. The Benefits of Completing the Internal Market for Telecommunication Equipment in the Community INSEAD	329
11. The EC 92 Automobile Sector Ludvigsen Associates Ltd.	359
12. The "Cost of Non-Europe" in the Foodstuffs Industry Groupe MAC	397
13. Le "Coût de la Non-Europe" des produits de construction B.I.P.E. avec ses partenaires d'Euroconstruct	443
14. The "Cost of Non-Europe" in the Textile-Clothing Industry IFO-Institut für Wirtschaftsforschung - Prometeia Calcolo SrL	477
15. The "Cost of Non-Europe" in the Pharmaceutical Industry Economists Advisory Group Ltd	509
16. The Internal Markets of North America. Fragmentation and Integration in the US and Canada Jacques Pelkmans in cooperation with Marc Vanheukelen	533
Annexes: Presentation of the "Research on the Cost of Non-Europe": 1 - The Structure of the Research 2 - The Publication Programme	555

1.

The "Cost of Non-Europe":

Border Related Controls and Administrative Formalities

Ernst & Whinney

The Cost of “Non Europe”:

**BORDER RELATED CONTROLS AND
ADMINISTRATIVE FORMALITIES**

Executive Summary

November 1987

OPPORTUNITY COSTS

Introduction

Other studies

Mail order and express companies

Findings

COSTS TO GOVERNMENT

Introduction

Approach

Findings

CUSTOMS RELATED SECTOR

Introduction

Findings

Annex

The structure of the sample

**THE COSTS OF 'NON EUROPE': BORDER RELATED CONTROLS AND
ADMINISTRATIVE FORMALITIES**
EXECUTIVE SUMMARY

INDEX

SUMMARY OF OVERALL FINDINGS

INTRODUCTION

The 1985 white paper
Completing the market
Previous estimates of costs
The issues
The approach
The sample
Weighting the sample data
Adding import and export costs
Gross costs

COST TO FIRMS

Introduction
Overall results
Costs by country
Costs and size of firms
Existing simplified procedures
The single administrative document
Banking, Insurance and Inventory Costs
Cost of delays
Cost and means of transport

SUMMARY OF OVERALL FINDINGS

There are widely quoted estimates of the costs of customs barriers applying to trade in goods between Members of the European Community which have tended to have either little clear empirical basis or they have been extrapolated from evidence which relates to American experience several years ago in very different circumstances.

The present study, initiated by the Directorate General for the Internal Market and Industrial Affairs, is intended to provide estimates of:

- the costs to firms of compliance with customs formalities;
- the costs to government of administering the procedures;
- an estimate of the opportunity cost to the Community;
- the economic significance of services in the customs related sector.

The findings discussed below are all subject to a range of assumptions, limitations imposed by the size and coverage of the sample, and the extent of available official data, as indicated in each of the earlier sections of this report. While therefore the results need to be interpreted with caution they do represent the first attempt to obtain comprehensive empirical evidence on the customs costs of 'non Europe', which they confirm to be of considerable significance.

With these caveats in mind, the estimates presented below suggest that:

- the costs to firms of customs procedures might be in the area of:
 - 7 1/2 billion ECU for administrative costs, and a further 415-830 million ECU for delay related costs;
- costs to government might amount to 500-1000 million ECU;
- the economic significance of the customs sector in terms of its turnover might be of the order of 1 1/2 billion ECU;
- turning to lost trade, where the estimates need to be treated with particular caution, firms' opinions imply that trade could rise by in the region of 3/4 - 3%, or 3 3/4 - 15 billion ECU.

INTRODUCTION

Non-Europe: Customs

The 1985 Commission White Paper 'Completing The Internal Market' recalled that the Treaty of Rome envisaged the creation of a single integrated Community market within which there would be the free movement of goods.

Although a common external customs tariff had been adopted, the White Paper emphasised that several physical, technical and fiscal barriers remain. Physical barriers, in the form of Customs posts, are the most visible example of continued division in the Community. Frontier controls contribute to the costs and disadvantages of a divided market and the White Paper argued that their removal is essential for the completion of the internal market.

The White Paper recognised that frontier controls exist to ensure the enforcement of national policies on such matters as immigration control, health and safety regulation, the taxation of goods, the collection of trade statistics, the control of drugs and terrorism, and of the Common Agricultural Policy with respect to monetary compensation amounts. The White Paper said the "objective is not merely to simplify existing procedures, but to do away with internal controls in their entirety".

Completing the internal market: The 1992 Target

The Single European Act, which came into effect on 1 July 1987, states:

"The Community shall adopt measures with the aim of progressively establishing the internal market over a period expiring on 31 December 1992 ... The internal market shall comprise an area without internal frontiers in which the free movement of goods, persons and capital is ensured in accordance with the provisions of the Treaty".

By 1992 the Commission intends that Member States will agree on the abolition of barriers of all kinds, harmonisation of rules, approximation of legislation and tax structures, strengthening of monetary co-operation and the necessary measures to encourage European firms to work together.

It was against this background that the present study of the costs of customs controls was initiated by the Commission of the European Communities.

The costs may be divided into:

- the financial costs to firms of the administrative procedures and of the delays associated with compliance with customs formalities;
- the opportunity costs of lost trade; and
- the costs of administering customs controls borne by national government agencies.

Previous Estimates of costs

Previous attempts to quantify the costs of customs formalities have had to be made without the benefit of direct evidence from the firms and national administrations concerned. It is also a feature of several previously published estimates that their precise source is difficult to establish. The 1981 report from the Commission to the Council on "The State of the Internal Market" (COM (81) 313) simply states "... these procedures increase the costs of goods by around 5-10%". In 1983 Commissioner Narjes on behalf of the Commission said of customs formalities that "they are calculated in business circles to account for 5 to 7 per cent of the price of the goods traded" (Kangaroo News, February 1983). The Patterson Report to the Economic and Monetary Committee of the European Parliament (31 May 1985, Document A 2-50/85/B) quotes the estimates in the Albert and Ball Report ("Towards European Economic Recovery" European Parliament Working Document, 1983), which estimates the total costs of Non-Europe at 50 billion ECU or 2% of GNP, of which 12 billion ECU is attributed to the costs of crossing frontiers; Albert and Ball quote as their source Commission document to Council (COM (83) 80) which quotes the Economic and Monetary Affairs Committee of the Parliament as a source and states that preliminary calculations by the Commission suggest that the cost of these formalities could be equal to between 5% and 10% of the actual value of goods traded.

In short the source for each official estimate quoted above is either another official document or "business circles" or not stated, rather than a primary source such as a survey of firms.

In fact the basic source of all these estimates appears to be a 1971 study by the US National Committee on International Trade Documentation. That study suggested that the costs of exporting and importing could each amount to 7 per cent of the value of goods traded, or 14 per cent in total. Estimates of comparable EC costs of up to 10 per cent have been derived from the US figures after making certain adjustments: assuming that costs of about 4 per cent arise anyway for domestic trade. This is sometimes further reduced to 5-7 per cent in view of the greater simplification of

procedures which traders in the Community face than existed in 1971 for US firms, and because the US estimates included financing and insurance charges as well as customs compliance costs.

A recent report to the UN Economic Commission for Europe ("Methodology for Estimating Costs and Benefits of Trade Facilitation", 31 December 1986) argued that the US figures are quoted out of context, that they are out of date, and that they were grossed up from data of variable quality supplied by a possibly unrepresentative sample of firms, by an unclear methodology. They included all documentation costs (for instance, finance and shipping as well as customs) relating to US trade with the rest of the World, with which US trading relationships can be subject to much more complex control than exist currently within the EC. In particular, EC customs authorities are more co-operative than hitherto, their inspections are more selective; techniques for document preparation and processing have improved; comprehensive, competitively priced services by agents have helped to cut costs.

The degree of seriousness of the effect of administrative formalities on trade has therefore been a matter of conjecture.

The study for the British Overseas Trade Board stated that "successful exporters - almost without exception, dismissed such matters as customs procedures and export documentation as nothing more than an administrative nuisance". However other firms find either the prospect of complying with customs formalities, or their initial attempts to comply with such formalities, off-putting.

A study carried out among a sample of firms in Germany (by DIHT) suggested, on the basis of "fragmentary and inconsistent" information there is little relationship between compliance costs and the value of goods traded. The suggestion that the compliance costs facing firms is unrelated to the value of goods traded implies that exports of small value consignments, and by smaller firms, will bear a disproportionately high cost burden. It follows that, if the above impression is correct that the deterrent effect of frontier barriers will be greater for smaller than for very large firms. But it also implies that customs costs will tend to be a small proportion of the value of large consignments and of exports by larger firms. A recent study for the British Overseas Trade Board ("Into active Exporting" 1987) says "In terms of aggregate value, exports are dominated by a small number of large firms."

It would seem to follow from the German and British studies quoted above that if customs compliance costs are a low proportion of the value of exports by large firms, then because large firms dominate trade, compliance costs will be a low proportion of the actual value of trade. Nevertheless:

- the burden on smaller firms may be such that the opportunity for potential trade by small firms is lost;
- the impact on marginal decisions by larger firms on whether or not to export will be important if customs costs are a significant proportion of profit margins;
- although customs barriers are not insurmountable they are only overcome at a cost.

It is clear from the discussion above that accurate, relevant information about the costs of 'Non Europe' customs barriers need to be established. To the extent that the costs of 'Non Europe' are passed on to consumers in the form of higher prices, the costs of consumption are raised. Furthermore, the value of trade, output and employment will be reduced both because costs of trading within the EC are higher than they need be and because at least some firms are inhibited from trading because of their perception of the barriers imposed by customs formalities. The loss of trade, output and employment does not arise solely because trade within the Community is lower than it otherwise would be; the cost-raising effect on customs formalities reduces Europe's competitiveness vis a vis the rest of the world.

Initiation of the E&W Study: The Issues

The present study was initiated by the Directorate General for the Internal Market and Industrial Affairs to estimate, with the co-operation of firms and national administrations, the costs of 'Non Europe' created by customs formalities.

The purposes of the study are to identify the barriers to intra-community trade resulting from customs formalities and to measure:

- the costs borne by firms including:
 - the administrative costs of complying with customs formalities;
 - costs associated with the delays caused by customs procedures;
- the opportunity costs, that is the foregone exports and imports for firms including the costs on entry to another Community market;
- the budgetary cost to public authorities of customs formalities;
- the economic importance of the customs-related sector.

The Approach

The information to be obtained needed to cover:

- a range of countries;
- a sample of firms, by interview;
- a range of commodities;
- imports and exports.

The countries chosen (Belgium, France, Germany, Italy, Netherlands, United Kingdom) together account for 90 per cent by value of the internal trade of the EEC.

In view of the Commission's particular interest in the problems of small and medium sized firms (SMEs) the sample was to be constructed to give particular emphasis to industries in which they are important. But to the extent that trade is dominated by large firms it needs to be borne in mind that the costs to SMEs might not be typical of trade as a whole.

Three detailed questionnaires were devised following pilot testing requesting information on:

- costs of customs procedures to firms;
- road haulage delays and restrictions on competition;
- freight forwarders/customs agents.

The sample

Over 2,500 firms were approached by Ernst & Whinney offices in the six countries concerned, over 2,000 questionnaires were sent out and our staff interviewed 467. Details of internal costings and trade values were obtained from 267 for imports and 224 for exports. The sample accounts 0.8 per cent of intra-EEC trade. Summary data on the sample are shown at Annex I.

Ernst & Whinney decided to telephone the offices of the chief executives of firms before sending them the questionnaires, to explain the importance of the survey, in order to improve the response rate.

Limitations on the response rate are attributable to the considerable degree of detail sought, which was time-consuming for the firms to provide, the fact that a number of other surveys of the same subject had already been undertaken in Italy (where response from small firms was low).

Within the time and resources available for this study we have been unable to establish how representative the sample is in terms of its size structure of firms in each sort of commodity trade in each country.

Small and medium sized firms are proportionately numerous in our sample (because of the Commission's interest in them), and probably to a greater extent than in intra-Community trade as a whole.

Weighting the Sample Data

The sample results needed to be 'grossed up' to obtain estimates of total costs in the sample countries and the EC as a whole. In order to do this the sample results were 'weighted', to take into account the share of each industry in each country's trade, each country's share in total EC trade in that industry, each country's share in all EC trade, each industry's share in total trade in the sample countries.

Adding Import and Export Costs

In order to arrive at the total costs to firms of compliance with customs controls the separate costs for importing and exporting in each firm in each country need to be established and then added. An international trading transaction involves the preparation of customs documentation in the exporting country and in the importing country, so the total cost of customs documentation compliance is the sum of these costs. For example, if someone in one country buys a car from someone in another contry they each have to complete customs documents. This point needs to be stressed to avoid misunderstanding.

Gross Costs

Finally is should be noted that our remit was to establish the total costs of controls and procedures administered by customs on the assumption that they are all avoidable. To the extent that any controls remain after 1992 the actual cost saving will be lower than those estimated below, but it was not our task to analyse this (largely political) issue.

COST TO FIRMS

Introduction

The intention was to obtain as much information as possible about:

- the nature of the costs borne by firms (internal administration costs, including staff, computers, overheads, agents' fees, delay related costs, excessive inventories and any other costs regarded as significant);
- the way in which these costs varied according to:
 - firms' size;
 - commodities traded;
 - the value of consignments;
 - the means of transport used;
 - countries concerned;
- the use of simplified customs procedures;
- the expected impact on costs of the new Single Administrative Document;
- the impact on trade expected if all customs formalities were abolished within the EC;
- firm's views on the main source of difficulty posed by official procedures.

Overall results of Ernst & Whinney Survey

The average cost per consignment (including internal costs and agents fees) to firms in the sample was found to be in the region of approximately 65-85 ECU, or 0.7-0.8 per cent of value, for imports and exports respectively. In round terms the combined costs for both imports and exports could amount to 1 1/2 per cent of the value of internal Community trade, or in the region of 7 1/2 billion ECU (but see below).

To this delay related costs need to be added (see below), these might amount to 415-830 million ECU for road haulage.

As a proportion of the value of trade and as a contribution to costs and prices, the administrative costs of customs formalities are lower than those previously quoted in some other sources. This is not surprising as procedures have been streamlined, particularly through the co-operation of customers authorities and the increased use of computers. Notwithstanding this, their economic significance lies in the extent to which they reduce the incentive of firms to trade across frontiers thereby inhibiting the development of a single market. Customs related costs of 1-2 per cent may be a major consideration if expected profit margins are low.

However we are not in a position to establish the elasticity of exports with respect to profits or the extent to which customs costs are borne out of reduced profits rather than passed on to purchases in the form of higher prices (which will depend on market structures in specific industries and countries), nor were we asked to model such macro-economic effects. But without such estimates it is difficult to establish the ultimate economic significance of the results presented here.

Grossing up: alternatives

Weighting the results by industry and country we arrive at a combined cost for imports and exports of 1 1/2 per cent of the value of the intra-EC trade, implying a total cost of around 7 1/2 billion ECU.

An alternative method of grossing up from the sample data would be to multiply the costs per consignment (for each industry in each country) by the number of consignments.

However no data for the number of consignments is available for each category of good in each country.

Data on the number of entries (which can include more than one consignment) is available by type of good in Belgium and the UK; total number of entries for all trade, but not by commodity, is available for other countries except Italy. Applying weighted national average costs per consignment to the total number of consignments for the five countries for which we know the number of consignments and the grossing up to the level of all EEC countries a total cost to firms of 4 1/3 Billion ECU emerges from this broad brush approach.

Costs by Country

Analysis of costs per consignment after allowing for differences in the relative importance in EC trade of the commodities included, show that costs are:

- below average in Benelux;
- particularly high in Italy.

	<u>Costs per Consignment, ECU</u>	
	<u>Imports</u>	<u>Exports</u>
Belgium	26	34
France	92	87
Germany	42	79
Italy	130	205
Netherlands	46	50
United Kingdom	75	49

The existence of simplified documentation within the Benelux customs union appears to have contributed to lower customs clearance costs. In particular, the 'Benelux 50' document effectively facilitates trade within the member countries providing all the necessary information for VAT and customs statistics purposes.

More generally, differences in costs between countries reflect differences in the industrial composition of sample firms' trade, variations in agents charges across countries, and the presence of 'outliers' in the sample.

Likewise differences between costs for imports and exports largely reflect differences in the industrial composition in the sample and the presence of 'outliers'.

Agents Costs: Benelux and Italy

An analysis of agents costs per consignment, for which the basic data is probably more accurate than that for firm's internal costs and which is available by trading partner shows that:

- costs of trade between Benelux partners are lower than for trade between Benelux countries and other EC countries;
- costs of trade between EEC members are lower than for trade with Non-Members;

- that trade between Italy and other countries is more costly than between any other country and the rest of the EC.

Costs and firms' sizes

Our sample data suggests that costs per consignment are 30-45 per cent higher for firms with fewer than 250 employees than for larger firms. But larger firms account for over 65 per cent of trade (in our sample) so that their lower costs will be the more important influence on the average for firms as a whole.

Costs by industry

An analysis of costs by industry exhibits variations between industries and between imports and exports. There are a number of factors which can cause these differences:

- the sample size for petroleum products is too small to make inferences and is influenced by a French company with extremely high costs;
- cost per consignment is positively related to value per consignment although not in direct proportion;
- some industries require additional documentation for strategic reasons or because they are covered by trade agreements;
- outliers have an impact in some industries such as iron and steel where some Italian importers report very high costs;
- countries with high (or low) costs in a particular industry can distort the differences between import and export costs if their share of EEC exports and imports are significantly different.

Existing simplified procedures

A number of procedures have been developed by customs authorities to simplify formalities. They include pre-authenticated documents, local import or export control (as opposed to border control) and period entry (whereby a trader can have perhaps a month's imports/exports processed together).

Such procedures can reduce the time between the presentation of documentation to customs control offices and the release of the goods at the border transit point to a few minutes. At some stage the necessary documentation needs to be prepared and subsequently processed.

Where firms do not use simplified procedures this is mainly because either the minimum necessary loads required to qualify are not available, or the firm uses agents to complete all the formalities; in only a minority of cases we did find that firms were not sufficiently aware of the available simplified procedures.

The sample data suggests that costs per consignment are in the region of 50 per cent lower where simplified procedures are always used than where they are never used.

The Single Administrative Document

From January 1988 a new customs document, the Single Administrative Document (SAD) is to be introduced. It represents document simplification, not a simplified procedure. It will enable export, transit and certain import information to be entered on a single form, rather than on separate forms.

However, serious misunderstandings about the purpose and effects of SAD emerged from our discussions with several firms in certain countries, where the customs authorities will need to help firms to understand the changes.

Virtually all firms which commented on the anticipated impact of SAD believe it will neither accelerate nor simplify customs procedures.

Companies which do not have computerised systems are afraid that without a computer they will not be able to complete the form; those with computers need to change their programs and most do not expect a significant reduction in costs subsequently. Some fear that the replacement of text by code numbers will make documentation more difficult to complete and read. Some firms are worried that SAD will not be the only document if different documents will be needed for exporting, transit and importing, in each language of the countries concerned. Some said they still await official explanations of the changes. Some firms which have thought about 1992 see SAD as an unnecessary step, given the target of abolishing all intra-EEC formalities.

The principal conclusion to emerge from the above opinions is that SAD is not regarded as reducing the benefits to be achieved in 1992 by comparison with the current situation and that a major information and training effort is needed in certain countries to explain the nature, purposes and procedures of SAD.

Banking, Insurance and Inventory Costs

Abolition of customs barriers are not seen as reducing financial costs or inventories, which are not usually regarded as being sensitive to changes in procedures which may save minutes or hours rather than days in terms of reduced delays. It could be argued that several hours delay can effectively amount to a whole working day, but most firms interviewed have not adopted 'just-in-time' inventory control techniques this could reflect the structure of our sample which contains several small firms.

Banks and insurance companies were interviewed to establish whether the removal of customs formalities would bring any benefits to firms through the impact of swifter, more predictable transactions. Neither banks nor insurance companies saw any significant benefit arising, whether through the reduction of premiums for European traffic, through lessened possibility of consequential loss or through lower bank charges.

Cost of delay

In our survey "Cost of Non Europe: Illustrations in the road haulage sector" we include details of the work carried out to assess the cost of delay borne by road vehicles across the Community. The results of our survey were then used to estimate a cost for delay for all road haulage. The cost of delay for road traffic amounts to some 830 Million ECU. This represents a gross figure that cannot all be saved as it assumes that all delay time can be utilised. This is not necessarily the case as drivers tend to coincide rest breaks with frontiers wherever possible and cargo is not necessarily available to occupy the available capacity. To take this into account, we have assumed that a 50% saving could be achieved, thus giving a range of ECU 415-830 million ECU for the Community as a whole.

Although significant tonnage is also carried by Inland Waterway (41% of 1986 tonnage total) and rail (13%), an insufficient proportion of our sample utilised these services to provide any reliable data from which to calculate delay-related costs. This should be borne in mind when considering the cost of delay for the Community as a whole.

Costs and Means of Transport

No significant difference in customs compliance costs appear to be associated with differences in the means of transport used, although as the sample was heavily biased in favour of road traffic the reliability of data relating to the use of other modes is suspect.

OPPORTUNITY COSTS

Introduction

The second key part of the study is to examine the opportunity costs for firms, especially lost trading opportunities.

In our assessment of this cost we have concentrated on four key issues:

- the extent to which importers and exporters claim they would increase their trade within the community if customs formalities were abolished;
- the extent to which firms contend that the presence of customs regulations has prevented them from trading with partners in the European Community;
- differences in perceptions among firms of different sizes;
- particular activities likely to be hit by delays and indefinite transit times, namely:
 - express;
 - mail order.

It is important to emphasise that the data presented below, as in several other studies, is based on what firms perceive or claim to be the problems associated with customs barriers and the benefits they claim to expect from the removal of those barriers. As such they do not represent objective data about costs and benefits which can be independently tested. But as perceptions they have a reality of their own which needs to be recognised.

Other studies

The paper on "implementation of ECE/FAL recommendations methodology for estimating costs and benefits of trade facilitation" (31/12/86) for the United Nations Economic Commission for Europe Committee on the Development of Trade sees opportunity costs arising in the import and re-export of goods and consequent compliance with two sets of formalities and procedures. The time delays and consequent unpredictability of both the import and export cycle mean that "costs and so prices rise, profits tumble and customers are lost and alienated". The same study identifies "deterrent costs", (classified in this study as an opportunity cost) as the barrier to trade

represented by "a general impression of complication and difficulty" associated with "complicated procedures and documents".

A survey is currently being carried out by the Banque Nationale de Belgique involving 500 Belgian companies. We understand that initial feedback from this study has not identified customs formalities as a major barrier to trade.

The Joint Textile Committee's report, "Lifting the Barriers to Trade" (June 1986) analysed the trade barriers to UK exports of textiles and clothing, and categorised the type and severity of barrier according to the country concerned. The Western European countries are categorised together as "relatively accessible" with reasonably low import duties and generous quotas. The real barriers in EEC are seen as "administrative inconveniences rather than real obstacles". The exceptions are Greece, Portugal and Spain, all new members of the EEC whose barriers are now being dismantled. The view of the Joint Textile Committee then, is that the EEC administrative formalities do not represent a major barrier to trade.

The BOTB research paper "Into Active Exporting" (April 1987) analysed the presence of untapped export potential in smaller and medium sized manufacturing companies, identifying:

- the barriers to export and their relative importance;
- how export can be encouraged.

The BOTB questionnaire based survey the problem associated with customs procedures and export documentation was seen "as nothing more than an administrative nuisance" by successful exporters, although with inevitable teething problems. Of the firms not exporting, 10 per cent mentioned lack of experience and confidence in exporting but documentation was not seen as a prime barrier to trade. The report concluded that export documentation and procedures represent no problem to professionals either internally or externally. The ten least successful firms had tried to cut corners in this area.

A Small Business Research Trust study (all firms including non manufacturing) concluded that the following were the most significant factors:

- finance/delays in payment 26.2%
- export paperwork 14.4%

- market information 14.4%
- product suitability 14.3%

This shows that the smaller firms believed export paperwork (of which about half is customs related) was a more serious problem than the larger firms but again indicates that it is one of many contributory factors.

Findings

In our discussions with trade associations and traders, we have found little empirical evidence to suggest that customs formalities represent a major barrier to trade for newcomers. Rather, these procedures are seen as an irritation or an inconvenience to be overcome by successful firms. Smaller firms which do successfully export have found customs formalities particularly worrying but have learned to cope with them, often with the advice of trade associations and quasi-official agencies intended to promote trade. As for those firms which do not export it is difficult to establish the significance of customs barriers alone, apart from all the other (languages etc) problems involved. For this reason advisory bodies who have been approached for advice by small firms from which they subsequently heard no more, are very doubtful of being able to derive valid estimates of the effect of customs formalities, even if a large sample of such firms were to be contacted; in any event a large sample of non exporters was beyond the scope of the present study.

One of the largest Chambers of Commerce in Germany emphasised to us that the reasons why SMEs do not trade across frontiers include:

- different industrial standards;
- limited knowledge of foreign markets;
- different procedures for registering and testing the design of certain goods apart from customs barriers.

Nonetheless the results of our survey shown in the table below are not insignificant.

A number of smaller companies reported to us that they are reluctant to attempt to break into new markets because small unmarketable samples and brochures may be subject to duty by Customs authorities; the duty on the despatch of several such consignments is regarded as a significant deterrent by such firms.

Mail Order and Express Companies

Most mail order firms conduct their operations within national boundaries, partly because of the cost of translating and distributing catalogues in other countries. There were mixed responses from the small sample of companies which do mail order business in other countries: some found customs regulations burdensome, others said they were not a major consideration. Little thought has been given by some to their post 1992 strategy, but in any event customs formalities are just one element of the changes they need to consider.

Express companies find customs procedures the cause of delay (up to about 1 hours per consignment). One firm reported that 8 out of 25 staff at a central European despatching point in Brussels are involved in customs procedures, (but this includes non-EEC business).

Survey Findings

The table below shows those companies indicating that the removal of customs formalities will lead to an increase in existing trading activities. It clearly shows that the smaller firms see themselves in particular benefitting from the completion of the internal market.

	Number of Employees				
	0 - 50	51 - 250	251 - 500	More than 500	Average Over All Firms*
IMPORTS					
% of sample stating increase	12	8	3	11	9
Average % increase stated	22	13	7	8	1.0*
EXPORT					
% of sample stating increase	24	22	14	22	22
Average % increase stated	26	20	8	10	3.2**

* Including firms not expecting increase.

** Weighted according to share of total imports/exports accounted for by firms in each size category in the sample.

The results suggest that exporters are more optimistic about increased opportunities than importers. In practice increased exports and imports within the EC must equal one another, but it is not logically required that this balance must apply to this particular sample.

These results take no account of possible increases in trade by firms which do not trade across frontiers at present, a large sample survey of such firms being beyond the scope of this study.

Even if firms do perceive customs formalities as being due for abolition in 1992 it does not follow that they envisage greater export activity unless the other barriers are expected to vanish, and even then the other inhibitions on trade (such as limited awareness of foreign markets) need to be overcome.

An increase in trade of the order of 1 - 3 per cent implied by the table above is by no means insignificant and, if true of the EC as a whole, could amount to 4 1/2 - 15 Billion ECU. These results need to be compared to those which can be obtained from a simulation using an econometric model of trade in Europe, on the assumption that the costs to firms fall to the extent reported in the previous part of the report, that these costs are passed on in lower prices, and taking into account the elasticity of demand for, and supply of, traded goods.

COST TO GOVERNMENT

Introduction

The third part of the study involves the calculation of the budgetary cost to the public authorities in terms of the material and human resources employed to carry out inspections. The initial assessment of this cost was to be based on publicly available data which was then to be discussed with the officials in the agencies concerned.

Approach

In each country involved in the survey responsibility for customs formalities is combined with additional duties. In order to obtain a consistent and representative cost of administration we have adopted the following approach to the assessment:

- all figures relate to the calendar year, 1986;
- trade with all member states is included (including Portugal and Spain);
- where possible, the cost associated with non-customs tasks have been deducted, for example:
 - administration and collection of domestic value-added tax (VAT);
 - compilation of trade statistics;
 - excise administration;
- the number of consignments rather than the value trade has been used as a basis for splitting the cost of customs between EEC and non-EEC trade wherever possible or at least between export and import: where this is not available we have used trade values;
- if customs officials have indicated that import consignments take more time than exports we have weighted the costs accordingly: however, where the ratio of EEC trade to non-EEC (trade in terms of consignments or alternatively value) for imports and export is similar we have not weighted the results;
- equally, if officials indicate that EEC traffic requires generally less attention than non-EEC, an adjustment has been made.

- compilation of trade statistics has been deducted wherever separate figures are available as in most countries this is not a task for customs authorities.

Findings

The table below shows estimates of the costs to government and of the staff involved. The figures for 'Total' staff and budget refer to all the operations of customs administrations as shown in official sources. The 'adjusted' figure first removes the costs of activities which are not related to customs controls for international trade, such as domestic VAT administration and car taxation which customs administrators undertake - to varying extents - in the countries concerned. The remaining costs are then adjusted according to a statistical estimate based on the percentage of international trade undertaken with partner EC countries.

It takes no account of the likelihood that costs of dealing with EEC trade are in general lower than those for a similar amount of non-EEC trade. Assuming that costs are indeed lower for EEC trade it follows that the potential savings which should arise from the abolition of customs barriers will be lower than those shown in 'adjusted' columns.

It is also the case that certain customs officials believe that feasible reductions in their function after 1992 are for discussion and do not automatically imply that they will have no role as far as EC trade is concerned. Taking these matters into account it may be that the savings to be achieved may lie in the range of 500 to 1,000 million ECU, or 15,000 - 30,000 staff, that is to say between a half and all the expenditure and staff implied by the 'adjusted' figures.

	COSTS TO GOVERNMENTS			
	<u>Total</u>		<u>Adjusted</u>	
	Staff	Costs	Staff	Costs
		ECU		ECU
	<u>000's</u>	<u>millions</u>	<u>000's</u>	<u>millions</u>
Belgium	6.4	160	4.7	75
France	21.1	470	12.3	275
Germany	8.0	487	4.0	245
Italy	6.8	240	3.3	115
Netherlands	7.0	220	2.3	67
<u>UK</u>	<u>26.1</u>	<u>660</u>	<u>4.5</u>	<u>125</u>
Total	75.4	2,237	31.1	902

CUSTOMS RELATED SECTOR

Introduction

As part of our study we were asked to calculate the economic importance of the activities directly associated with customs inspections. Such economic activity includes:

- customs clearance by agents;
- providers of customs and tax advice;
- support services at frontier points, eg. restaurants, hotels and other services catering for the drivers arriving and waiting at frontiers.

The scale of this activity is very difficult to assess as formal statistics are not kept of any of these functions.

Customs agents

There are no reliable statistics on the customs-related sectors. Customs clearance is increasingly provided as one of the services from diversified forwarding agents and is therefore difficult to analyse as it forms only part of the firm's turnover. There is no single body representing all customs agents in any country and the organisations representing freight forwarders are not subscribed to by all relevant organisations.

At the beginning of this year the European Federation of National Federations of Freight forwarders (Clecat) carried out a survey of its Members' views on the expected loss of jobs arising from the abolition of customs barriers for intra-EEC trade and estimated that 85,000 jobs could be lost. However, because of differences in the manner in which the questions appear to have been interpreted and ambiguity over the split between EEC and non-EEC work we have not felt able to rely on these figures as a means of assessing the scale of economic activity.

In order to assess the scale of agent activity in Member States we have taken the fees paid to customs and forwarded agents from the main study and have grossed these figures up to provide an indicative assessment of the scale of this activity and we have:

- calculated the number of consignments moving between member states, using either publicly available figures or extrapolating from total consignments for all trade and using the value of trade for EEC countries;
- calculated the % and number of entries prepared by agents, either using estimates from official customs statistics (United Kingdom and Belgium) or the % found in our survey;
- taken the average cost per consignment charged by agents in our survey and used this to compute total charges for the survey countries.

The resulting figures show total revenues of ECU 1,500m. The following points should be considered:

- the agent percentages, whilst drawn from a random, small sample have been found accurate when comparing our survey percentage with customs estimates in Belgium and UK;
- it is not straightforward matter to derive a related manpower figure for this activity: charges for customs clearance are often based on a standard tariff that may be influenced more by competitive pressures than by the actual cost of preparation;
- the manpower impact will vary depending on the level of diversification and the size of the organisation.

Organisations engaging in tax advice may have separate departments specialising in the provision of customs-related advice, but again, no breakdown of these revenues is available. Whilst there are some small specialised firms providing this advice there is no means of aggregating their revenues short of a detailed search.

Customs and tax advice

It is very difficult to quantify this activity, as the firm providing the services tend not to publish their turnover in a sufficiently detailed fashion and together do not form a recognisable, measurable economic sector.

Whilst we found customs tax specialists active in some countries, for instance, United Kingdom, in other countries, for example Belgium, much of this work is carried out by the agents themselves as a means of diversifying activities and providing clients with a more complete

service. When advice is provided it tends to be "one off" rather than continuous and we do not regard it as a major activity area in the context of customs related services as a whole.

Support services

Many frontier points have support services established not only to provide facilities for the passing haulier or tourist but also for the customs-related functions that have given up at these points. Without a detailed examination of this phenomenon it is difficult to assess the total scale of activity involved and the extent to which it would be effected by the abolition of customs formalities. We do not believe this is likely to be a major cost, compared to the cost of Customs agents.

ANNEX I

STRUCTURE OF SAMPLE

	Questionnaires*	<u>Replies</u>	Useful	
	<u>sent out</u>		<u>Imp</u>	<u>Exp</u>
Italy	379	73	38	41
Belgium	211	73	59	46
Netherlands	281	49	35	33
W Germany	310	93	62	63
France	514	101	25	26
UK	316	78	48	39

* After deducting companies approached by telephone who did not want to receive the questionnaire.

2.

The "Cost of Non-Europe":

An Illustration in the Road Haulage Sector

Ernst & Whinney

The Cost of “Non Europe”: An illustration in the Road Haulage sector

Executive Summary

November 1987

COSTS OF 'NON EUROPE': ILLUSTRATIONS IN THE ROAD HAULAGE SECTOR

EXECUTIVE SUMMARY

INDEX

SUMMARY OF OVERALL FINDINGS

INTRODUCTION

Background

Terms of reference

Approach

COST OF DELAYS

Data and analysis

Interpretation of findings

COST OF EMPTY JOURNEYS

Introduction

Data and analysis

Interpretation of findings

SUMMARY OF OVERALL FINDINGS

Our study was initiated to provide:

- an estimate of the costs borne by road hauliers as a result of customs formalities at border and inland clearance sites;
- an indication of the cost of empty road journeys and the reported views of a small sample of road hauliers regarding the impact on these costs arising from:
 - lifting restrictions on cabotage;
 - removing quantitative limitations on permit availability.

The findings discussed below are subject to a range of assumptions and limitations imposed by the size of the sample. Our findings indicate that the total cost of delay is between 415-830 million ECU.

INTRODUCTION

Background

The completion of the internal market will have a profound impact on the road haulage industry which represents the prime means of transporting goods between Member States. Indeed, in some quarters this impact is already being felt.

In the current regime road vehicles are subject to delays either at frontiers or at inland clearance sites brought about by the presence of import and export formalities. Whilst the extent of these delays differs between Member States and indeed between frontier points, the existence of the delay imposes an additional cost on the haulage operator and thereby on the price of these services to importers and exporters.

The Cockfield White Paper foresees a market in which the passage of vehicles and thereby goods is unhindered by the need to comply with documentary and physical control obligations, resulting in the faster and more predictable movement of cargoes.

The free movement and operation of road vehicles throughout the Community is restricted by a variety of measures, which include:

- the quota system, which requires hauliers to apply for quantitatively restricted permits in order to move goods to, from and across Member States;
- the restrictions over non-resident hauliers carrying out a collection and delivery within the boundaries of a Member State ("cabotage").

The presence of these regulations has created an environment in which free competition does not exist, and again, although the extent of these restrictions varies greatly between Member States, this has inevitably influenced the operating efficiency of international road hauliers within the Community.

As a consequence of the Treaty of Rome, a common transport policy and an internal market are envisaged, in which:

- limitations on the number of permits are replaced by qualitative criteria relating to the credentials of the haulier concerned;

- cabotage is allowed, thereby enabling non resident hauliers to collect and deliver loads within the boundaries of a Member State, in order to supplement the revenue earned for the vehicle round-trip.

Terms of reference

Our study was initiated to provide an indication of the impact of these restrictions on road haulage operators, in conjunction with our survey, "Costs of Non Europe: Customs Barriers". The work undertaken for the Commission is split into two distinct although related parts as follows:

- an assessment of the cost of delay experienced by hauliers in the movement of goods between Member States as a result of customs formalities;
- a preliminary evaluation of the cost of empty movements borne by the hauliers in the sample and of their views on the impact that the Commission's proposals will have.

Approach

The study was to comprise "own account" operators from the sample of firms surveyed in the customs study and additional "hire and reward" hauliers from the following Member States:

- France;
- Belgium, Luxembourg and Netherlands (Benelux);
- West Germany;
- Italy;
- United Kingdom.

Our sample was to include small haulage businesses as well as the major international operators and was aimed at hauliers involved in Community trade. Contact was also made with the appropriate trade associations in each Member State. The data received is described in subsequent sections of this report.

Following completion of the questionnaire, participants were interviewed in order to validate the data received. Following our analysis of the data we held discussions with certain experts in the road haulage industry.

Several difficulties were encountered in obtaining the desired level of support from road hauliers. These included the following:

- many of the firms we approached did not keep statistics in the form required to complete our questionnaire: this was particularly true of the smaller enterprises;
- the amount of information required to satisfy our needs for both delays and empty moves was felt by some firms to be excessive, particularly if additional analysis was needed to extract data from existing reports and files;
- some firms were unwilling to provide data concerning empty loadings as this was deemed to be extremely sensitive, in spite of our assurances regarding confidentiality: this was particularly the case in West Germany where it was felt that releasing such data could put hauliers at a competitive disadvantage.

Additional problems were also caused by lack of publicly available data in standard, consistent formats. This situation was referred to in the International Road Union report of late 1985, in which is described, "the considerable difficulties encountered whenever comparisons are drawn in the sphere of statistics, and more especially in that relating to the transportation of goods and passengers by road".

The sample size of this outline study is small when considered in the context of the size of the road haulage community in each Member State. Our sample of 68 hire and reward operators is drawn from over 283,000 hauliers in the six Member States surveyed. Care has been exercised in drawing global conclusions from our results without first considering the appropriateness of the sample and we have therefore adopted a policy of explicitly presenting our assumptions and the influences that may affect the figures shown.

Size and structure of sample: Number of firms in sample classified by number of vehicles

<u>Number of Vehicles</u>	<u>Hire & Reward</u>			<u>Own Account</u>			<u>Total</u>
	<u>1-5</u>	<u>6-10</u>	<u>11+</u>	<u>1-5</u>	<u>6-10</u>	<u>11+</u>	
Belgium	-	1	10	4	2	1	18
France	3	6	10	-	-	-	19
West Germany	1	-	3	-	-	-	4
Italy	1	-	3	3	-	2	9
Netherlands	2	2	5	3	-	2	14
UK	<u>2</u>	<u>1</u>	<u>16</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>21</u>
	9	10	49	10	2	5	85

COST OF DELAYS

Data and analysis

Data required

In order to assess the cost of delay hauliers were asked to provide details of:

- time spent on typical transactions in export, transit and importing countries: hauliers were asked to include in their estimates all the formalities that are completed inland and at frontiers;
- vehicle and driver costs;
- the causes of delay;
- the extent to which hauliers estimate that charges would be reduced if customs formalities were abolished.

Delay costs have been combined for both hire and reward and own account traffic.

Cost of delays

In order to assess the cost of delays it is necessary to reflect the two major types of cost arising namely, driver costs and opportunity costs relating to the vehicle utilisation, and to then derive a basis upon which an hourly rate for these costs can be calculated. We describe our approach to these below.

Having calculated the average delay time on each route, irrespective of haulier nationality, an average annual driver cost was established (26,500 ECU) and an hourly rate was computed based on 214 working days per year (allowing for holidays and sickness) and a maximum nine hour working day.

To provide a global figure for all road transport between the countries surveyed, the total number of journeys was needed. In order to assess the total number of journeys made and thereby calculate the total cost of empty movements between Member States, we have assumed a typical load of 12.5 tonnes of cargo per road vehicle. A major Europe-wide haulier uses this figure as

supplied by Customs statistics for Community trade in its management information and it has been used here in the absence of any other verifiable figures.

It was decided to include the opportunity cost associated with the under-utilisation of the vehicle, for although the delays were only measured in hours, the wasted time nevertheless relates to an unused asset which over time could be better used. However, the data collected in our survey relates to vehicle running cost rather than the fixed annual costs, from which opportunity costs can be calculated. These costs are:

- depreciation;
- financing cost;
- insurance;
- vehicle tax.

A recent study entitled, "Freight Transport in the European Community" showed that, coincidentally, annual driver costs and fixed vehicle costs represent very similar percentages of the total annual operating cost, namely 22-34% and 23-30% respectively. As the total operating costs from our survey were similar to those in this study, we have used the driver-related cost from our sample as a substitute for the annual vehicle operating cost. To derive an hourly vehicle delay cost rate, we have assumed that the vehicle will be 95% available, 24 hours a day for 365 days a year. This figure has been verified by an international haulier. The resultant hourly rate is then applied to the custom delay.

Interpretation of findings

Using this approach the total delay-related cost is calculated as ECU 780 million for the six countries surveyed. If similar delays and costs are found in the remaining Member States, which represent 6% of the total road haulage tonnage, then a globalised figure would be ECU 830m.

This figure is however subject to certain distortions, as follows:

- the computation of hourly cost saved is based on an effective nine-hour working day; this is a regulatory maximum and the actual working day is likely to be lower, thus increasing the hourly rate and cost;
- the computation assumes that the time spent in delay could otherwise be effectively used; this may not always be the case, as legitimate rest periods may be timed to coincide with

known customs delay points: this in itself is not always possible to achieve, due to the regulations on driving and rest hours;

- the delays include those incurred by unaccompanied trailers for which the driver-related costs do not apply;
- the assumption is made that work can be found for the driver and the vehicle: this will not always be the case.

Given that there are a number of influences that will tend to reduce the overall potential savings the cost estimate above must be treated with caution and therefore as an upper limit. We suggest that a lower limit should be established at 50% of this figure, providing a globalised range of 415-830 million ECU.

Perceived effect of abolition

In our survey we asked hauliers to estimate the effect that the abolition of customs formalities would have on their costs and the extent to which clients would benefit from this. It should be noted here that in many cases the hauliers will be operating for forwarding agents and therefore the net benefit will not automatically be passed onto the importers and exporters.

The majority of hauliers stated that although their costs would be reduced, they did not believe that this would result in a similar reduction in their charges to clients. Most hauliers we spoke to regard rating structures as highly competitive at present and will take opportunities wherever possible to boost short-term profitability. Traders with own account operations will benefit more directly from the reductions in operating costs. In overall terms, the net effect for users of road haulage services will be largely influenced by the more competitive market envisaged by the Commission which should ensure that in the long-term these users will benefit.

COST OF EMPTY MOVEMENTS

Introduction

The countries included in this survey were those chosen for the customs formalities study, and whilst these countries generate over 90% of the cargo tonnage moving by road within the Community, it cannot be assumed that the data collected and views reported from the surveyed countries are identical to those in the other Member States, namely Greece, Eire, Denmark, Luxembourg, Spain and Portugal. Indeed, the excluded States include a number of the poorer nations with lower operating costs as well as those on the geographic periphery of the Community. As a result, there are likely to be specific issues and problems relating to these countries that differ markedly from the pattern established in our survey countries. This should be borne in mind when our survey results are viewed in global context.

Data and analysis

Data required

In order to assess the cost of empty journeys hauliers were asked to provide details of:

- the number of loaded and empty journeys to and from Member States and the distances and times involved;
- vehicles and driver costs;
- causes of empty movements.

Cost of empty journeys

Our sample was small, and as a result, unlikely to be representative of road haulage across the Community as a whole and it was therefore decided that the data collected should not be used for global analysis, but should rather be viewed in the context of the sample itself. In order to do this, the following approach was used:

- establishing an average annual cost for both driver and vehicle based on the average time and length of the empty journeys: these were estimated averages for each country as data was not available from each individual firm;

- estimating the net operating cost for each haulier as 90% of the stated turnover assuming a 10% gross margin;
- assessing the percentage that the average cost of empty journeys represents of the total net operating cost for each haulier: the results are presented for each country by vehicle fleet size, separating hire and reward and own account operations.

The results are summarised below.

Cost of empties as % of net operating cost (all countries)

Cost %	No of vehicles					
	Hire & Reward			Own Account		
	1-5	6-10	11+	1-5	6-10	11+
Incomplete data (Turnover or empty moves)	3	4	11	8	1	5
No empty moves	3	3	19	1	-	-
Below 1	-	1	5	-	1	-
1 - 5	1	2	7	-	-	-
5 - 10	-	-	-	-	-	-
Over 10	2	-	7	1	-	-

The picture presented in the table above is broadly similar for each of the countries concerned. The majority of positive observations occur in the 1 - 5% range which, although small as a share of costs, may be significant in relation to profits and could result in a sizeable profit increase if the revenue earning potential can be realised. Of the 32 firms whose responses could not be used in this analysis over half did not provide turnover data. Just under half of the companies with no empty journeys were from the UK for whom the round trip was only profitable if loads could be found in each direction. This is due to the downward pressure on rates on the outward leg arising from substantial competition from other Community hauliers. Although the

main beneficiaries appear to be the larger organisations this simply reflects the structure of our sample. From our analysis hauliers of all sizes will benefit, as our survey sample shows that the smaller operators do not have a materially different loaded to empty ratio than the larger hauliers.

Reported causes of empty journeys

Hauliers were asked to rank the possible reasons for empty moves as:

- most important;
- significant;
- not important.

The options provided were:

- awareness of loads;
- cabotage;
- permit availability;
- unprofitability;
- incompatibility;
- customer creditworthiness;
- other.

In analysing the responses to the questionnaire, we have identified the number of incidences of each reason specified as "most important" and "significant". The table below summarises these results.

Incidence of "most important" and "significant" reasons for hire and reward hauliers

	Incidences as			Incidences as		
	<u>"most important"</u>	<u>%</u>	<u>Position</u>	<u>"Significant"</u>	<u>%</u>	<u>Position</u>
Awareness	72	49	1	19	16	4
Unprofitable	33	23	2	27	19	3
Cabotage	19	13	3	11	8	6
Incompatible	13	9	4	31	22	2
Permits	8	5	5	13	9	5
Other	1	1	6	10	7	7
Customer creditworthiness	0	0	7	32	22	1

For most countries observed and for all haulier nationalities operating to and from these countries, awareness of cargo and unprofitability are the most commonly mentioned "most important" reasons. Permit shortages were most often reported in Italy where this reason was placed third. Cabotage was in third place for every country except Italy.

The main findings in respect of the causes of empty moves stated by firms in this sample can be summarised as follows:

- the key concern of the majority of hauliers was the awareness and availability of loads, although most used automated means to locate cargo, usually telex;
- the lack of multi-lateral permits is not seen as a cause of empty movements and although the lack of permits restricts cross-trade opportunities, cross-trading itself is still not regarded by most of the sample hauliers as a well developed opportunity area;
- cabotage was viewed as a potentially significant means of reducing empty trips.

It was not within the remit of the study to calculate the net benefits that would accrue from liberalisation, but rather to identify the cost of empty moves that liberalisation is intended to reduce. It is clear that, whilst there is a potential cost saving there are also factors which could reduce this potential.

Interpretation of findings

Introduction

It is important to distinguish between the findings arising from the views expressed to us by our survey sample and our interpretation of these views in relation to liberalisation. In order to form a basis for the views expressed in this section we have used input from:

- industry experts;
- previous reports;
- studies from the USA relating to the impact of de-regulation.

In our survey the focus has been on assessing the number of empty journeys as a means of providing a measure of "wasted capacity". However, this measure needs to be interpreted with caution because of the following factors:

- the imbalance of each country's imports and exports compatible for carriage by road;
- the natural imbalances of import and export road traffic arising from the use of specialised equipment to carry particular cargoes for example, refrigerated and liquid loads;
- the under-utilised capacity represented by part-loaded lorries;
- the extent of oversupply of vehicle capacity in the international road haulage market: this is evidenced by the presence of empty loads and the differential that exists between international haulage rates and those for domestic journeys of equivalent distance.

In addition, any assessment of the effects of liberalisation should take into account the tendency of operators to improve productivity as rates become more competitive.

Permit availability

The questionnaire was designed to assess the extent to which the shortage of multi-lateral permits causes empty moves, as without such permits the option of cross-trading is precluded. The availability of bilateral permits is not an issue here as these cover a return journey and cannot therefore be said to cause empty movements. It could be argued however, that this does reduce the effective utilisation of capacity if equipment is unused because of a bilateral permit shortage.

Whilst our study did not find that permit restrictions were believed to be a significant cause of empty moves, there was some suggestion that some permits are in short supply, particularly those for multi-lateral purposes. The "Freight Transport" report to which we referred earlier found evidence of a "black market" in permits in the United Kingdom leading to "a loss of price competitiveness for the UK operator compared with foreign hauliers who can secure permits through official channels". The study concludes however that "the problem of permit shortage is a diminishing one", and that "80 per cent of UK international hauliers considered the problem to be less severe than it was 3 years ago". Given that the number of permits available is planned to increase annually this seems a reasonable conclusion.

In assessing the importance placed upon the lack of multi-lateral permits it is instructive to consider the extent to which cross-trading is currently undertaken, using statistics from a recent Commission report.

<u>1984 figures</u>	<u>Haulier nationality</u>					
	<u>West Germany</u>	<u>France</u>	<u>Italy</u>	<u>Nether- lands</u>	<u>Belgium</u>	<u>UK</u>
Prevalence of cross trade as % of hire and reward movements	0.4	1.2	0.1	4.8	6.0	1.9

The table indicates a great range of usage and different degrees of familiarity with the cross trade option which could help explain the relative lack of interest expressed in cross-trading as a means of reducing empty loads. The main users of cross-trading, that is, Netherlands and Belgium, have an adequate supply of multi-lateral permits and are already therefore taking advantage of this opportunity. In 1984, only 1.9% of journeys undertaken by UK hire and reward hauliers were used for cross-trade purposes due largely to shortages of bilateral permits for which purpose multi-lateral permits are often used. The relatively low importance attributed to multi-lateral permits may therefore be the result of lack of familiarity due to the predominant bi-lateral focus adopted by these hauliers rather than a lack of opportunities.

The significance of the opportunities presented by cross-trading is clearly a matter of some debate and inevitably in view of our small sample size we have simply reflected the news of a small part of the haulage community.

Cabotage

The introduction of cabotage is seen by the Commission as another means of improving the capacity utilisation of road haulage. The impact of removing the restrictions of cabotage in each Member State cannot be easily assessed, as it will depend on the interaction of several factors, including:

- the degree of control and regulation in the domestic market;
- the commodity mix and level of domestic trade and the use of specialised equipment relative to the patterns for international trade;
- the size of the country and the physical dispersion of cargoes;

- the prevalence of freight forwarders who are reported to be less nationalistic is selecting road haulage services.

Large countries with tightly regulated domestic haulage market and high domestic rates, for example, France and Germany see themselves as being particularly vulnerable. However, in each country diverse views have been expressed, emphasising the subjectivity of the topic. The "Freight Transport" report (quoted above) estimated that, under liberalised cabotage, 1% of the UK domestic market was under threat. At the same time a press report declared that the UK would be "swamped" with European operators.

In our survey we found that whilst the operators in Northern Europe are worried about the influx of low cost operators from Southern Europe, the Southern European operators are concerned about the inroads that the highly efficient Northern European hauliers will make. Clearly this is a complex and emotive issue and one that is beyond the scope of this study to address comprehensively.

Comparison with USA

One of the difficulties in quantifying the effects of a liberalised road haulage market is the absence of precedent, as, for example, all Member States restrict cabotage. For this reason we have made comparisons with the road haulage market and industry in the USA which until 1980 was characterised by high transport rates and state-based restrictive practices.

In 1980 the Motor Carrier Reform Act enabled:

- trucking companies to raise or lower rates by ten per cent without Interstate Commerce Commission approval;
- easing of entry barriers;
- reduction of the level of operating restrictions;
- abolition of collective rate fixing.

There are several key differences between the operating frameworks in USA and the Community, which must be borne in mind. For example, in the USA:

- no authority is required for interstate bilateral or cross-trade movements, whereas there is a permit system in the Community;

- there are differences between states in the levels of taxation and vehicle weights, but these do not distort the relative operating costs of hauliers from different states to the same extent as in the Community;
- there are no currency differences between states.

Given that the USA does not reflect the same level of complexity and competitive distortion as that which exists in the Community, it nevertheless represents a market in which competition has been increased. Intrastate barriers to entry still exist in 43 states, the equivalent of cabotage restrictions, and this provides the opportunity to observe the relative performance of operations in both regulated and de-regulated environments.

There have been a number of studies undertaken in recent years, including some by Ernst & Whinney, to quantify the effect of de-regulation in the USA. These studies have sought to establish the extent to which operational efficiency has been increased and to identify the potential benefit yet to be derived. Some statistics are instructive:

- during 1960-80 expenditures of manufacturers and distributors on freight transportation averaged 8% of GNP, whereas in 1986 this had fallen to 6.8%;
- between 1960-80 truck ton miles had an annual compound growth rate of 10.7%: since 1980 truck ton miles have grown at the same rate as GNP, that is 3.2% per annum, thereby indicating an increase in carriage efficiency.

Several important trends are emerging, and although they cannot all be ascribed to deregulation because of the parallel effects of the depression, it appears that there are some positive indicators of relevance to the Community. These include the following:

- competition has reduced freight rates and brought an improved level and choice of service in most cases;
- whilst there have been a large number of bankruptcies spread across all sizes of company, the total number of carriers has increased;
- small hauliers have survived by occupying niche markets and concentrating on low investment strategies;

- successful haulage firms have shifted their emphasis from pure operations to marketing, planning and the need for innovation;
- there is evidence that firms operating in regulated environments are not necessarily more profitable than those in more competitive markets because of the higher operating costs that can prevail in regulated markets;
- a recent study found that the high level of regulation in Texas has led to:
 - higher distribution costs;
 - increased prevalence of own account haulage;
 - lower carrier productivity;
 - business lost to other de-regulated states.

Implications for the European Community

Although the USA is not an exact parallel with the European Community there is sufficient similarity to make the comparison worthwhile. Indeed, some of the trends emerging in the USA can already be seen in the Member States, for example:

- the growth in the importance of multi-modal, multi-service operators providing additional facilities in the form of warehousing and customs clearance;
- the movement of the large operators into high value-added, capital intensive and specialised products and services and away from general haulage, typically dominated by the small owner-operator with low operating costs and a high degree of operational flexibility;
- the increased focus on productivity and efficiency, for example, on the highly competitive link to and from the UK, unaccompanied trailers account for 50% of the cargo moved: in this way, driver and tractor utilisation are improved on both sides of the channel;
- the increased demand for computerised freight-broking services, particularly in Northern Europe.

The market in the Community has already begun to change and there are indications which suggest that the benefits enjoyed by traders in the USA may begin to accrue here. Further work is required to confirm the validity of this comparison and to provide evidence that can assist the Commission in assessing the impact of the proposed liberalisation measures.

3.

The "Cost of Non-Europe"

in Public Sector Procurement

WS Atkins Management Consultants
in association with
Eurequip SA-Roland Berger & Partner-Eurequip Italia

THE COST OF NON-EUROPE IN PUBLIC SECTOR PROCUREMENT

EXECUTIVE SUMMARY

**WS ATKINS MANAGEMENT CONSULTANTS
Woodcote Grove Ashley Road
Epsom Surrey KT18 5BW
in association with
Eurequip SA-Roland Berger & Partner-Eurequip Italia**

NOVEMBER 1987

CONTENTS

	Page
1. INTRODUCTION	1
1.1 Background	1
1.2 The public sector	2
2. KEY CONCLUSIONS	3
2.1 Barriers to trade in public purchasing	3
2.2 The completion of the internal market	4
2.3 Savings in public expenditure	6
3. OVERVIEW OF THE STUDY METHOD	8
4. THE POTENTIAL FOR SAVINGS	11
4.1 The institutional framework of the public sector	11
4.2 Procurement procedures	12
4.3 Areas of potential savings	13
5. THE VOLUME OF PUBLIC PURCHASING	16
6. SELECTION OF REPRESENTATIVE PRODUCTS	20
7. PRICE COMPARISONS	26
8. CASE STUDIES	33
8.1 Selection of the case studies	33
8.2 Case study method	33
8.3 Characteristics of the case study industries	35
8.4 Prices and economies of scale	36
8.5 Scenarios	38
9. THE COST OF NON-EUROPE IN PUBLIC PROCUREMENT	42

LIST OF TABLES AND FIGURES

Tables

	Page
Table 1 Public Sector Import Penetration from EC and Non-EC Sources	4
Table 2 Macroeconomic Importance of Public Sector Purchasing	18
Table 3 Products/Sectors affected by Opening Up Public Procurement	22
Table 4 Potential Static Price Savings by Product	29
Table 5 Characteristics of the Selected Case Studies	34
Table 6 Case Studies: Market Characteristics, 1986	35
Table 7 Case Studies : EC v USA in 1987	36
Table 8 Case Studies : Potential Price Saving	37
Table 9 Case Studies : Restructuring Effects	38
Table 10 Summary of Potential Savings	45

Figures

Figure 1 Breakdown of Public Purchases by Supplying Sector	19
--	----

1. INTRODUCTION

1.1 Background

Since the inception of the European Economic Community in 1957, private sector trade between member states has risen substantially. However, despite the existence of directives designed to promote open tendering and competition, the public sector has not enjoyed the same level of benefit. Indeed, direct imports represent a very small proportion of public purchasing.

Today, the world is a highly competitive commercial environment. With the contraction and disappearance of old industries such as coal, steel, shipbuilding and textiles and the rapid growth of new industries, such as electronics and biotechnology, European producers have to face the joint threats from large scale high technology companies in the USA and Japan and low labour cost manufacturers/assemblers in the newly industrialising nations such as Korea, Malaysia and Taiwan.

In certain key industries, for example, telecommunications equipment, the public sector is a major - often dominant - purchaser. Therefore, by not encouraging intra-Community competition, it is implicitly supporting sub-optimal enterprises, which is reflected in European industry being less competitive in world markets. In addition, public expenditure is higher than necessary.

Against this background, WS Atkins Management Consultants have carried out a global assessment of the potential savings in public expenditure from removing all barriers to trade in public purchasing, including: national purchasing practices and

procedures, standards, border formalities etc. The Consultant's brief was to quantify the measurable effects: the important dynamic effects are discussed at the end of the report.

1.2 The Public Sector

In this study, the public sector is defined to include central and local government and its agencies, and also the 'non-competitive sector', that is, those enterprises, whether privately or publicly owned, which are granted a monopoly or concession to provide a public service. Gas distribution, power generation and distribution, railways, airport authorities and the like are therefore included in the estimates of expenditure and savings. On the other hand, publicly owned manufacturing firms, for example, Regie Renault, are excluded.

2. KEY CONCLUSIONS

2.1 Barriers to Trade in Public Purchasing

Public purchasing is sometimes used by EC member states as a policy instrument to support national or regional firms or industries, either:

- * for strategic reasons (e.g. defence goods, telecommunications aerospace, etc)
- * to support employment in declining industries (e.g. shipbuilding)
- * to compensate local communities near environmentally damaging public industries (e.g. coal mining, nuclear fuels)
- * to support emerging high technology industries (e.g. new telecommunications systems, lasers)
- * for more general political reasons (e.g. highly visible goods like cars, tableware).

Public purchasing authorities generally deny that overt nationalistic purchasing policies exist. However, in certain key sectors there is virtually no trade between producing countries of the Community even though they have extensive trade with other countries, as described in the case studies in Section 8. Sample contract data collected during the study (see Table 1) support the view that the degree of import penetration in public purchases is much lower than for the economy as a whole. This may be an underestimate since purchasers do not always know whether contracts let with national suppliers include the supply of imported goods.

**TABLE 1 - PUBLIC SECTOR IMPORT PENETRATION FROM EC AND NON-EC SOURCES
(percent)**

	Belgium	France	Germany	Italy	UK
National import penetration (1)	43	20	22	19	22
Apparent public sector import penetration (2)	21	16	12	1	4
Public purchases from foreign suppliers (3)	2.6	1.6	3.8	0.3	0.4

Sources: (1) ESA National accounts 1985, (2) and (3) Atkins sample contract database

Definitions: (1) Imports/(national production + imports)
 (2) Purchases reported to be of foreign origin/total purchases (total purchases include those of unreported origin)
 (3) Value of contracts with foreign suppliers/total value of contracts (includes contracts with unreported suppliers)

2.2 The Completion of the Internal Market

The consequence of closed and protective public purchasing is that in certain key high technology supplying sectors - notably capital equipment for defence, power generation, telecommunications and railways - a symbiotic relationship builds up between suppliers and purchasers. This has enabled a situation to persist in which:

- * there are widely differing national design standards, for example in railways and power generation. This also creates a barrier to the trade in the goods and services supplied by the public sector, with widespread repercussions on transport and communications, and hence on the efficiency of European business
- * Governments attempt to enforce competition between alternative national suppliers (e.g. GEC and Plessey, or the three German locomotive manufacturers) which directly leads to suboptimal

size of plants, and to Government support for inefficient firms which would otherwise have to improve performance or go out of business

- * markets are distorted by Government subsidies, R&D support and artificially high prices
- * R&D effort is duplicated, dispersed and suboptimal
- * there is little incentive to invest in new technology to confront the competition from non-EC firms
- * firms have shortsighted marketing and production strategies. In key sectors such as computers, aerospace, telecommunications and vehicles, US and Japanese firms, as well as non-EC firms, are making increasing inroads into the EC market by adopting European marketing strategies while EC firms shelter behind their national public sector customers and look outward only towards declining third world markets
- * there is a lack of product specialisation, so that even large EC firms have uneconomically wide product ranges and short production runs.

Unless the restrictions on public purchasing are swept away, it is the Consultants' view that, far from strategic industries being protected, whole areas of industry which have high multiplier effects on other sectors of manufacturing could cease to be viable.

In most of the key industrial sectors the largest world firms are generally US or Japanese. Yet the EC's larger number of firms adds nothing to the degree of competition in EC states, because of the protectiveness of European national markets.

Completion of the internal market, as far as public purchasing is concerned, means:

- * making public purchasing procedures transparent, and open to all qualified suppliers
- * doing away with unnecessary differences in engineering standards and design specifications which confuse third country customers as well as making intra EC trade difficult
- * viewing competition policy on an EC wide basis, permitting both national and transnational mergers so that world-league EC firms can be built.

Although the completion of the internal market will lead to increased intra-Community trade and a reduction in prices of some products, the bulk of producers in a given country will experience no significant direct impact, because:

- * in most sectors public purchasing only represents a small proportion of gross output
- * the restructuring effects will be limited to certain key industries, for example, telecommunications equipment
- * local purchasing will still continue for a wide range of products
- * as in the private sector, not all price competitive producers will take advantage of the export opportunities in the public sectors of other Community countries.

2.3 Savings in Public Expenditure

The analysis and estimates described in Section 9 indicate potential savings in annual public expenditure of some 8 to 19 billion ecus, made up of:

- * 3 to 8 billion ecus (1 to 2 percent of 1984 public purchasing) for the five study countries: Belgium, France, Germany, Italy and the UK, from new trade at the prices of the lowest cost country, arising directly from opening up public procurement

(This includes a potential 2 billion ecus saving in coal purchases by importing from outside the EC, which in the context of an overall energy policy may not be considered a cost of non-Europe)

- * a further 1 to 3 billion ecus (around half a percent of 1984 public purchasing) as a result of competitive pressure on prices in sectors not previously open to international competition. It is assumed this will be matched in time by improvements in efficiency of firms by reorganisation or adoption of new technology
- * a further 4 to 8 billion ecus (1 to 2 percent of 1984 public purchasing), with some time lag, in economies of scale arising from the restructuring of industry in the previously protected sectors supplying equipment for defence, power generation, railways and telecommunications.

In addition to these potential public expenditure savings there are likely to be:

- * benefits for private sector purchasers of similar goods
- * an important impact on the rate of innovation, investment and growth in the sectors enjoying the benefits of restructuring, with positive effects on their international competitiveness.

3. OVERVIEW OF THE STUDY METHOD

The study has been carried out in two parts:

- * Part I, a study of the present public purchasing environment, which included three main streams of research:
 - institutional aspects of the purchasing entities and their purchasing procedures, in the EC and USA
 - data on total volumes of purchasing and its breakdown by purchasing entity and product group
 - compilation and analysis of an extensive database covering detailed information on a sample of over 4,000 contracts in the five study countries.

The results of this research were presented in the Part I report.

The compilation of data was made difficult by the reluctance of some purchasing authorities to participate, and by the lack of detailed records or data on purchasing in most authorities. In one country the current legislation precluded the provision of all the information requested on contracts, particularly price information and data on suppliers

- * Part II, an evaluation of the cost of non-Europe in public procurement. This part investigated existing price differences and the potential for future cost savings through industrial restructuring, in a representative sample of products purchased by the public sector. The products include:

- a 'price effect list', of products for which there were thought to be possible restrictions on trade and price differences between countries
- a 'case study list', of products predominantly purchased by or for the public sector, for which there was thought to be strongly nationalistic purchasing, and potential for significant economies from industry restructuring.

From this analysis, the potential savings in public expenditure have been estimated in terms of:

- * the **static trade effect** - by buying from the cheapest supplying country at present prices
- * the **competition effect** - reduction in prices from national producers who are faced with foreign competition for the first time. It is assumed that these price reductions can be met by reduction in real production costs, by investment in new technology or by eliminating 'x-inefficiency'
- * the **restructuring effect** - the long run saving arising from economies of scale, including shared R&D and distribution costs, following industry restructuring in certain key sectors dominated by public sector purchasing.

The following sections describe the analysis, assumptions and findings in more depth. They cover:

- * the institutional constraints and opportunities for saving (Section 4)
- * the derivation of data on the size and breakdown of total public purchasing (Section 5)
- * the selection of products for detailed study of price differences and economies of scale (Section 6)

- * the methodology and findings on static price savings (Section 7)
- * the case studies on economies of scale (Section 8)
- * the aggregation of findings and analysis of total potential savings (Section 9).

4. THE POTENTIAL FOR SAVINGS

4.1 The Institutional Framework of the Public Sector

The five countries studied have quite different institutional and legal frameworks for public purchasing.

Firstly, there are important differences between the study countries in the extent and legal form of public ownership, and hence in the degree of public control over purchasing in key sectors like transport, telecommunications, and energy.

Secondly, there are also differences in the level of decentralisation of purchasing decisions. Where purchasing is highly decentralised, contracts are generally small and of little interest to foreign suppliers except in border areas. Decentralised purchasers also have few resources to handle international tendering (if this involves evaluation of complex bids or quality assurance of foreign firms). In all countries, defence, railways and posts and telecommunications, which together make up 20 to 35 percent of public purchasing, depending on the country, are fairly centralised, whereas local government purchasing (15 to 40 percent of the total) is highly decentralised. For the rest, which includes electricity, gas, water, health, roads and other transport, purchasing is highly decentralised in Germany and Italy, and much less so in the other countries, particularly the UK.

Thirdly, there are differences in the traditional regulatory framework for public purchasing into which the current and proposed EC legislation is inserted. In France, there is a rigid legal code and central control over a widely defined concept of 'marchés publics'. Less rigid systems apply in Belgium, Italy and Germany, while the UK traditionally has no central system of regulations.

4.2 Procurement Procedures

The EC Directives on public purchasing have been in force since 1971 (for works contracts) and 1977 (for supplies). These enforce transparency in tendering procedures by, amongst other provisions, requiring publication of calls for tender to a standard format in the Official Journal of the European Communities (OJEC); limiting the use of negotiated (i.e. non-competitive) tendering procedures and of brand names or restrictive specifications.

Despite the existence of these procedures, there has so far been very little effective opening up of public procurement. This is true for all sectors, and particularly so for the purchasing sectors where there is really nationalistic purchasing for strategic reasons, and where there are large specialist contracts of interest to foreign suppliers. These have up to now been excluded from coverage by the directives. They are:

- * energy
- * transport
- * telecommunications
- * drinking water supply.

In addition, certain categories of defence contracts, particularly those involving special security measures or state security, are also excluded. This study has shown that in these excluded sectors there are very large potential gains from opening up the markets.

The purchasing authorities which do comply at present (including ministries, local authorities and health authorities) tend to have a lot of small contracts, and purchases of relatively common supplies and works which could be purchased from local importers or locally established representatives or subsidiaries of foreign firms. Such authorities have not seen much benefit in terms of direct bids from

foreign suppliers. Some purchasing officers view the directives as an irritant and waste resource trying to evade them. It is likely, however, that implementation of the directives has improved national firms' awareness of public sector opportunities, by increasing the extent of open tendering, and so led to saving in public purchasing even where trade has not increased. As new legislation takes effect, the benefits must increase.

In the past, legislation on procurement has not had much direct effect on trade because:

- * there are too many ways to evade the rules or influence the choice of supplier during bid evaluation
- * the other barriers to trade which permit price differences still exist
- * purchasers perceive that their resources do not permit costly active sourcing and evaluation of international bids for low value contracts (although the thresholds set by the Directives are such that if foreign suppliers respond, the potential benefits ought to justify the additional cost)
- * suppliers sometimes either do not want to export, are limited by marketing agreements or exclusive dealerships, do not want to enter into competitive bidding, or do not believe the call for tender is serious, so international tendering is unproductive.

It is hoped that by 1992 this situation will have changed.

4.3 Areas of Potential Savings

Although central purchasing agencies and large public enterprises which practice competitive tendering are sometimes very effective, resources for public procurement in many authorities are often insufficient. Purchasing is sometimes inefficient, complacent and

open to corruption, particularly at the local level. There is clearly an argument for improving control and transparency in public purchasing in the interest of consumers and taxpayers. Benefits would come from improved purchasing within a country or region, not just by increased trade, and in many cases local suppliers would be forced to meet import prices.

The study has shown that for most of the products considered there are large potential savings for some countries by buying from foreign suppliers. The fact that price differences exist, indicates either that there are other barriers to trade (including lack of knowledge), or the products concerned are not really comparable. If it is the latter then some of the potential gains from trade would be overestimated. It should also be noted that except for centralised purchasing agencies which have enormous market power and act commercially, public purchasers are unlikely to be better traders than commercial trading companies; there would not be many significant savings from cross-border trade on products which are already freely traded by the private sector. The large price differences identified in the study suggest, however, that many products are not freely traded and there are very significant restrictions on private sector trade, so a few large cross-border public contracts could have a powerful knock-on effect on both purchasers and suppliers by, in particular, breaking restrictive trade practices.

A special situation exists in the case studies and similar products where the public sector is the main purchaser, contracts are large and there are few suppliers. Public purchasing in these sectors has in the past been used to maintain an indigenous capability for strategic reasons, and also at the same time to be an organ of anti-trust policy, to maintain more than one supplier. This had led to a situation in many sectors where there is virtually no trade between EC producers. Railway, power generation and telecommunications equipment are prime examples. Consequently there is overcapacity, too many firms, duplication of R&D and marketing efforts, and suboptimal scale of production. In some of these

sectors (power generation equipment, railway locomotives, telecommunications equipment) technology changes and the threat from new low cost producers have now made firms want to merge, rationalise and invest in new technology. Wider public procurement is essential to permit this; without it, protectionist countries will be left with no viable producer.

Where potential benefits from trade and restructuring have been identified, these may be a result of a combination of:

- * changes in public procurement procedures
- * changes in Member States' protection and competition policy
- * other changes in the Internal Market (e.g. freedom to create pan-European companies and harmonisation of standards)
- * changes in technology (e.g. the development of TGVs in France) which give one firm an advantage and help to break up cartel arrangements.

There is possibly a danger of double counting the benefits. What this study has measured is the total benefit of the internal market, in terms of savings in public expenditure (but without taking account of the benefits to private sector purchasers caused by more competition in the public sector). Public purchasing legislation alone may not achieve these benefits without other elements of the internal market programme being implemented, and without changes in suppliers' attitudes and strategies.

5. THE VOLUME OF PUBLIC PURCHASING

In order to estimate the potential benefits of the internal market on public purchasing, data have been collected on the volume and pattern of purchases.

Three different concepts, which can be applied to any entity or group of entities, need to be distinguished:

- * total expenditure, which includes wages and salaries, other employment costs, financial charges, and transfers to other individuals or authorities (e.g. grants, subsidies, etc) as well as purchasing
- * total purchasing, which includes all payments for goods and services from third parties. For government (excluding public enterprises) this is typically 10 to 20 percent of government expenditure
- * contract procurement, defined for this study as that portion of total purchasing which is made after tendering or negotiating a formal written contract with a limited term of validity and which theoretically could have been open to competition. This excludes a substantial portion of total purchases which are either:
 - non-competitive or non-tradable services or products such as gas and electricity, rents of buildings, post and telecommunications and administrative expenses. The data suggest that this is around 15-25 percent of total purchasing

- small purchases or other purchases not subject to formal contract procedures. From limited evidence in France and the UK these appear to make up around 20-30 percent of total purchasing (but this may be partly due to under-reporting of contracts).

Table 2 shows the macroeconomic importance of public purchasing. In 1984, it totalled 384 billion ecus in the five study countries, which indicates a total of about 440 billion ecus for the 12 member states. This is equivalent to 15 percent of GDP.

Total contract procurement (total purchasing less the above elements) is estimated at between 170 and 250 billion ecus in 1984 (200 to 280 billion ecus for the 12 member states), equal to between 6 and 10 percent of GDP.

The figures in Table 2 need to be treated with caution. The data have been compiled from a variety of sources, including Eurostat ESA National Accounts, Member States' national accounts, contract data compiled by Ministries and local government representative bodies, company accounts and the Consultants' own estimates. The values for contract procurement are approximate, because only France maintains a central record of public contracts let, and this suffers from a high degree of under-reporting. Belgium has a more limited database, which does not include local government.

Data on the breakdown of total purchases by product group have been obtained from manipulation of the input-output tables for 1980, adjusted to 1984 levels of purchasing. At the one digit level the breakdown is shown in Figure 1.

TABLE 2 - MACROECONOMIC IMPORTANCE OF PUBLIC SECTOR PURCHASING
(Billion units national currency, 1984)

	Belgium BF	France FF	Germany DM	Italy Lit	UK UKL	Total ecu
GDP	4,402	4,282	1,754	720,682	319	2,566
Total expenditure: Government	2,599	2,048	788	336,515	137	1,183
Total public purchasing:						
Government	288	369	131	60,215	38	227
Public enterprises	480	235	77	34,226	32	157
Total PP	768	604	208	94,441	70	384
Government purchasing/ expenditure	11.0%	18.0%	17.0%	18.0%	28.0%	19.0%
Total PP as % GDP	17.5%	14.1%	11.8%	13.1%	21.8%	15.0%
Estimated total contract procurement (45-65% PP)	350-500	270-400	95-140	43,000- 60,000	32-45	170-250

Sources: ESA National Accounts; Atkins' estimates for public enterprises and contract procurement

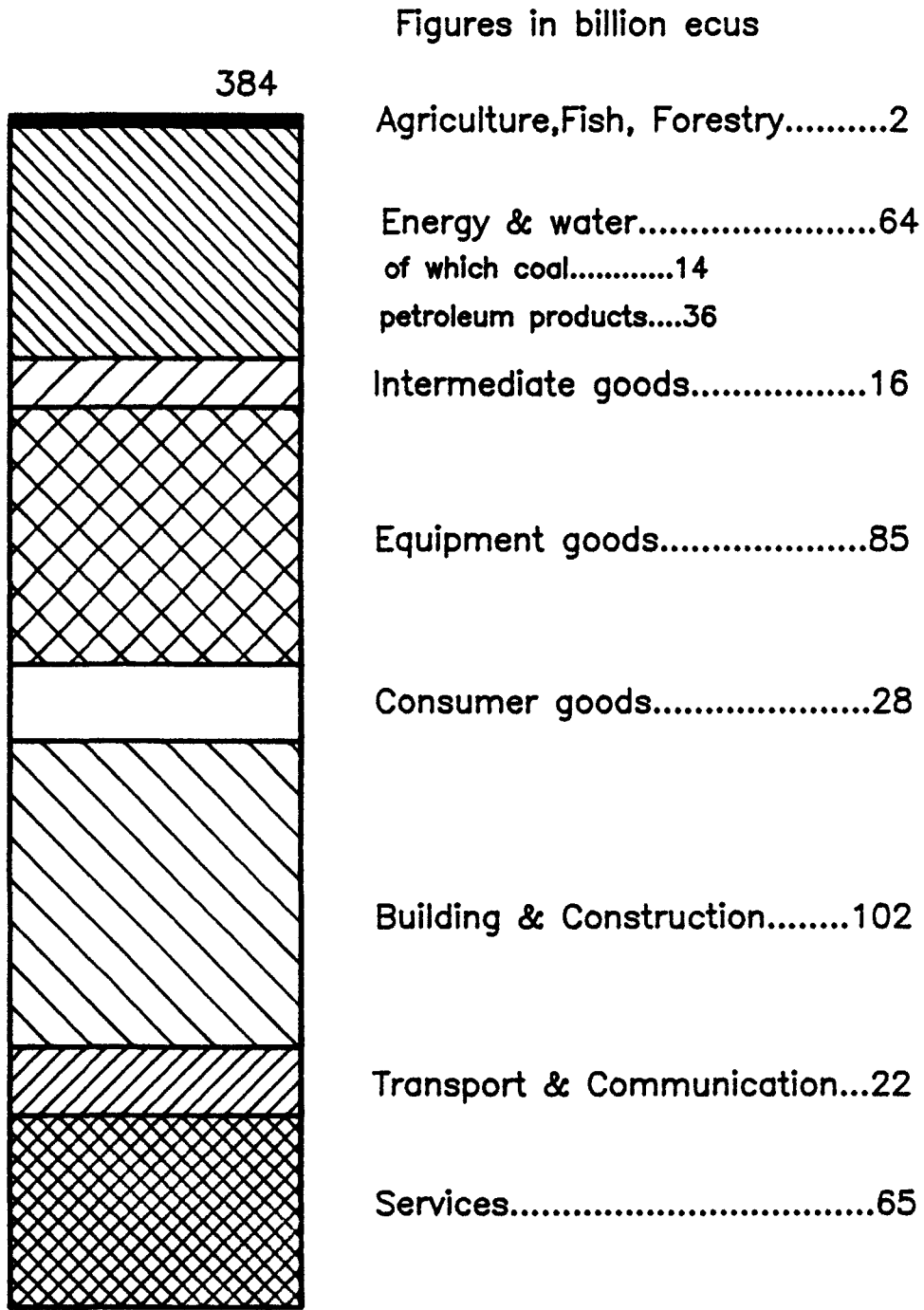


FIGURE 1. BREAKDOWN OF PUBLIC PURCHASES BY SUPPLYING SECTOR (5 Countries 1984)

6. SELECTION OF REPRESENTATIVE PRODUCTS

The quantitative estimation of gains from trade and restructuring started from specific cases. For price comparisons, very specific products were selected and closely defined. Within the limitations of the present study there is a trade-off between the number of different products that can be studied and the level of detail at which each can be analysed. Two lists of selected products were agreed:

- * a 'price effect' list of products which show a potential saving from new trade due to static price differences
- * a 'restructuring effect' list of products for which there is a potential dynamic benefit from restructuring and economies of scale.

To evaluate the static trade effect of gains from new trade arising from opening up public procurement, it was necessary to look at products which:

- * have a large share in public purchasing, so that price differences lead to significant savings
- * are tradable
- * are not at present freely traded, so that there is a possibility of price differences existing (after allowing for trading and transport costs)
- * benefit from nationalistic purchasing policies, the removal of which might lead to increased trade by the public sector.

Using the NACE classification of economic activities at the three digit level, all products were reviewed against these criteria, using data on the breakdown of public purchasing. The products for which savings were considered possible are shown in the "Price Effect List", Table 3.

In order that opening up public procurement should have an effect on the efficiency of the industry through restructuring and economies of scale it is necessary in addition that the supplying industry should:

- * depend heavily on public sector purchasers
- * have a few dominant producers in each country, because economies of scale are important.

These products are shown in the "Restructuring Effect List", Table 3.

A further selection of these products was made to arrive at a list of products for analysis of prices, costs and industry structure and behaviour. Products of little importance in total purchasing, products not researchable for security reasons, and defence industries were eliminated from further study (but the conclusions of the analysis of selected products have been applied to all products). This left 14 product groups (42 specific products) for which an analysis of prices has been carried out and 8 products for which case studies have been prepared covering industry structure, markets, competitiveness, cost structure and economies of scale, and the industries' likely response to opening up public procurement.

Most of the products are from the manufacturing sectors. Raw materials and commodities can generally be excluded since near perfect international markets exist in most cases, and public sector purchases are low. The main exception is coal, for which restrictive purchasing agreements exist, and has been treated as a special case in the analysis.

TABLE 3 - PRODUCTS/SECTORS AFFECTED BY OPENING UP PUBLIC PROCUREMENT

Estimated share of PP affected	Price effect list	Restructuring effect list
6.8%	* Aerospace equipment/arms	* Aerospace/arms
4.6%	* Business services	-
3.7%	Coal for power stations	Coal
3.0%	* Specialised civil engineering & building	-
1.7%	Motor vehicles	-
1.6%	Pharmaceuticals	-
1.3%	* All other mechanical engineering	-
1.2%	Heavy steel fabrications	Heavy fabrications
0.9%	* Shipbuilding	* Shipbuilding
0.9%	Power generation equipment	Power generation equipment
0.9%	Telecommunication equipment	Telecom equipment
0.9%	Computer equipment	Mainframe computers
0.9%	Railway rolling stock	Railway rolling stock
0.7%	School/office desks/furniture	-
0.7%	Uniforms/clothing	-
0.5%	Power cables	-
0.5%	Lighting (office/street)	-
0.4%	Paper	-
0.3%	* Nuclear fuels	* Nuclear fuels
0.3%	* Explosives	-
0.1%	* HVAC equipment	-
0.1%	* Mining equipment	-
0.1%	* Military/police boots	-
0.1%	-	* Steel tubes/special steels
0.1%	-	Lasers and optoelectronics
less than 0.1%	Cement	-
less than 0.1%	* Steel plant	-
less than 0.1%	* Pit props	-
less than 0.1%	* Railway track	-

Source: WS Atkins: Shares of public purchasing from analysis of input-output data

* not included in detailed studies

There are also a large number of categories of utilities and services for which the potential for trade is very weak - distribution of water and electricity, personal services, transport and communications - because proximity of the final supplier and the customer is of the essence. (This does not prevent the service being provided by a local establishment with foreign ownership, or imported materials being used in providing the service).

There are, however, undoubtedly areas within the services sector where there is potential for some expansion of trade - examples are engineering design, management consultancy, computer services, or architectural services, within the business services sector. This sector also includes insurance and finance brokers, estate agents, legal services, accountants, advertising, and technical services. In most of these sectors, language and knowledge of local laws, customs and circumstances are the main barriers to cross border trade, and nationalistic purchasing is likely to be of little importance. Most business is done by or through local representative offices. Nevertheless in this, and in some other service sectors, there is opportunity for trade in border areas and in specialist services. Completion of the internal market will facilitate this trade, for which international tendering is a prerequisite. It is not susceptible to detailed comparison of prices, but an estimate has been made of the potential impact in the calculation described in Section 9.

Building and civil engineering is a far larger supplying sector, representing about 30 percent of public purchasing. Although the potential for increased trade is in general limited by distance, the volume of purchases makes any savings potentially important. Trade is restricted by the on-site nature of most of the work, and the limited mobility of labour and the cost of transporting building materials, which also limit potential savings which could be offered by foreign contractors. Nevertheless, there are likely to be potential savings:

- * in border areas
- * in specialist activities such as tunnelling, airports, and innovative building methods
- * when there are local areas of high construction activity and low construction activity, leading to differential profit margins, so that firms with low orders have an incentive to bid in the high demand areas.

Although there are highly innovative contractors, designers and building product manufacturers, the construction industry tends, rightly in view of the long term risks of new methods, to be cautious. The building materials trade is also prone to restrictive practices. The entry of foreign contractors with proven methods and experience which are new to national markets is likely to accelerate useful innovation, stimulate competition and by-pass materials cartels. The Commission's own experience in building 120 rue de la Loi is an example of potential savings:

The Commission issued a call for tender in the Official Journal of the European Communities for the contract to construct a Commission office building at 120 rue de la Loi, Brussels. Responses were received from a wide range of construction companies both from within and outside the Community. They provided interested firms with a specification of works in English and French. There were few foreign tenders, which were generally more expensive than local bids. The selection was made from tenders received - not all firms submitted a tender subject to the tenderer being financially sound and complying with the works specification. The contract was awarded to a consortium of four companies, including Dumez of France, which collectively took on the role of the prime contractor. Tenders were also invited for sub-contract parcels of work and nominated sub-contractors were appointed. Although there was foreign involvement in the contract and it was not always evident as to the origin of certain materials and equipment - other than specialist equipment such as the air conditioning system, all purchases were made locally - according to the responsible Commission official:

- * an estimated 90% of the cost of works remained in Belgium

- * the project was completed on time and to budget
- * the value of the contract was some 15 - 25% below the initial estimate provided by the Belgian Ministry of Works in 1981 prior to the issue of the call for tender.

As with services, these potential areas of saving are specific to particular locations, contracts and times and are not easily quantifiable. An estimate of the potential has been made in the calculations of the static price effect.

7. PRICE COMPARISONS

For analysis of the static trade effect, inter-country comparisons of prices have been obtained from four sources:

- * direct market research for 17 closely specific standard products. In each country enquiries were made to obtain quotations from three suppliers (where three exist and were willing to quote), and the price actually paid by one purchasing authority
- * data held by Eurostat. Of these data, 17 products had comparable prices for at least four of the five study countries (this includes data on 18 models of car, averaged to represent one composite product)
- * data on the cost of a basket of pharmaceutical products from a study by the Bureau Europeen des Unions de Consommateurs ('A Common Market in Medicines' BEUC 1987)
- * data from case study interviews.

The comparison of prices raises a number of problems, the most critical of which are:

- * identical products are not available in all countries, because of differing national standards, and product differentiation. In some cases the nearest available product has a quite different specification (e.g. diameter of power cable, rating of transformer) for which it has been possible in the direct price enquiries to make a correction. It is understood that similar analyses and corrections have been carried out on the Eurostat data. In other cases, however, quality and design

differences have not been able to be analysed, and may account for a part or all of the price differences observed. In the case of street lamps, for example, comparable specifications could not be found in all countries; and products like desks, however closely defined, are subject to design and quality differences

- * there is a considerable variation in prices within each country. For example, a study of local authority purchasing in the UK found price differences of typically 2:1 and sometimes more, even for identical product specifications. This effect has been minimised by taking the mean of four observations where possible, but the fact that the price differentials within a country are as great as the differences between countries indicates that expenditure savings could often be made by improved purchasing without increased trade.

To calculate the potential savings, the Consultants estimated a savings threshold for typical contracts for each product and each pair of trading countries. The savings threshold is the cost of transport, trading, procurement and bidding, and a risk premium, as a percentage of the domestic price. The potential savings factor is then estimated by subtracting this savings threshold from the price differential for each pair of trading countries. Sensitivity analyses have been carried out to test the effect of different assumptions, and in particular the effect of assuming negligible trading and procurement costs and zero risk in the future internal market.

The potential savings factors calculated by this method are shown in Table 4. For several products there are no apparent potential savings at all (for example fluorescent tubes, school desks, cement, cardiac monitors). For some there are apparent potential savings of 30 to 50 percent for the high price countries (for example uniforms, filing cabinets, X-ray machines, telephones). These data are

carried forward to the calculations of the trade effect, where aggregate savings are calculated for each product group and applied to product groups not covered by detailed analyses.

TABLE 4 - POTENTIAL STATIC PRICE SAVINGS BY PRODUCT
(percent of 1987 home price - base case hypothesis)

R59	Product sector	% of total purchases	Belgium	France	Germany	Italy	UK	Data source
31	Coal	3.69	0	0	50	0	25	a
151	Cement etc	0.05	0	0	0	0	0	a
170	Chemicals Pharmaceuticals	3.22	9	0	52	0	40	c
190	Metal products	2.27						
	Boilers		0	0	0	0	0	d
	Filing cabinets		20	15	28	0	0	a
	Fixed armchair		0	2	23	0	5	b
	Storage cabinet		0	0	0	0	0	b
	File cabinet		4	19	0	11	0	b
	Shelf		30	0	0	0	0	b
	Swivel chair		16	0	5	0	0	b
	Weighted average		6	3	5	1	0	
210	Agriculture/industry etc	2.62	11	8	10	7	4	e
230	Office machine & instrumentation	1.76						
	Mainframe		0	0	0	0	0	a
	Typewriter I		0	10	0	28	27	b
	Calculator I		4	25	17	43	0	b
	Paper shredder		0	0	0	31	0	b
	Calculator II		0	22	0	33	0	b
	Weighted average		1	12	3	27	5	

TABLE 4 - POTENTIAL STATIC PRICE SAVINGS BY PRODUCT - CONTINUED
 (percent of 1987 home price - base case hypothesis)

R59	Product sector	% of total purchases	Belgium	France	Germany	Italy	UK	Data source
250	Electrical equipment	4.69						
	Turbine generators		20	5	0	10	0	d
	Cables		28	0	0	0	0	a
	Transformers		12	16	0	0	19	a
	Transformer I		0	6	6	0	29	b
	Telephone switching		60	40	70	50	50	a
	Telephones		20	43	39	0	0	a
	Telephone II		47	63	68	34	0	b
	Laser		0	0	0	0	0	a
	Cardiac mon.		0	0	0	0	0	a
	Electrocardiograph		0	0	0	0	0	b
	X-ray machine		18	30	29	49	0	a
	Street lamp		0	0	0	0	0	a
	Fluorescent tube		0	0	0	9	0	a
	Weighted average		17	14	15	14	7	
270	Motor vehicles	1.70						
	Opel		0	11	9	9	7	a
	Average car		0	4	0	8	12	b
	Fiat		0	12	4	5	0	a
	VW		0	15	4	17	0	a
	Van B6		0	0	11	13	14	b
	Van 87		0	21	5	12	13	b
	Bus D8		0	8	0	19	0	b
	Bus D14		0	30	4	0	21	b
	Weighted average		0	13	4	10	9	

TABLE 4 - POTENTIAL STATIC PRICE SAVINGS BY PRODUCT - CONTINUED
 (percent of 1987 home price - base case hypothesis)

R59	Product sector	% of total purchases	Belgium	France	Germany	Italy	UK	Data source
290	Other transport	9.01						
	Electric locos		10	0	10	20	0	d
	Goods wagon		13	0	23	5	10	a
	Weighted average		11	0	13	16	3	
410	Textiles and clothing	0.69						
	Uniforms		55	25	0	36	1	a
450	Wooden furniture	0.70						
	School desk		20	7	25	0	0	a
	Office desk		0	0	15	0	0	a
	Weighted average		10	4	20	0	0	
471	Paper and board	0.44						
	Copier paper		0	8	18	0	0	a
430	Leathers, leather & skin goods, footwear	0.13	11	6	11	14	4	e
490	Rubber & plastic products	0.71	11	6	11	14	4	e
510	Other manufacturing products	0.46	11	6	11	14	4	e
530	Building & civil engineering works	26.65	10	10	10	10	10	f

TABLE 4 - POTENTIAL STATIC PRICE SAVINGS BY PRODUCT - CONTINUED
 (percent of 1987 home price - base case hypothesis)

R59	Product sector	% of total purchases	Belgium	France	Germany	Italy	UK	Data source
710	Business services provided to enterprises	<u>4.63</u> 63.41	10	10	10	10	10	f

Sources: a Atkins direct enquiries 1987
 b Eurostat price survey 1986
 c BEUC 'A Common Market in Medicines' 1987
 d Atkins case study interviews
 e Weighted average of other manufacturing sectors
 f Atkins hypothesis

Notes: 1 To estimate potential savings for leather goods and footwear, rubber and plastics, and other manufacturing products, a weighted average was used of the potential savings in other manufacturing sectors.
 2 A straight estimate of 10% potential savings was made for building and civil works, and business services, for each country
 3 The potential savings for coal are taken from the case study

8. CASE STUDIES

8.1 Selection of the Case Studies

The objective of the case studies was to examine, for specific supplying industries, the potential impact of the internal market on industry structure and economies of scale. The analysis included a comparison of the structure and competitiveness the EC and US industries. The case studies were selected from the range of special 'public sector goods', which was shown in the restructuring list in Table 3. These are principally capital equipment for the defence, transport, energy, telecommunications and water sectors. They were chosen to cover different industry sectors, traditional and hi-tech industries and different industry structures, as illustrated in Table 5.

8.2 Case Study Method

Interviews were held with senior executives and directors concerned with European marketing and development strategy in the principal firms in the five study countries, a total of some 60 companies, supplemented by desk research in Europe and USA. Many of these companies supply several of the case study products. The outstanding example is that three subsidiaries of CGE (Framatome, Alstom and Alcatel) are virtually monopoly suppliers in France and also dominant EC suppliers of equipment to the rail, power generation and telecommunications sectors.

The interview programme and case study desk work covered:

- * the industry structure: size of firms, market shares, ownership patterns

TABLE 5 - CHARACTERISTICS OF THE SELECTED CASE STUDIES

Product sector	Purchasing sector	Characteristics
Coal	Power generation	Declining industry Strategic resource
Boilers (heavy fabrications)	Power generation	Traditional industry, facing technical change. Few producers
Turbine generators	Power generation	Similar to boilers
Locomotives	Transport	Oligopolistic industry, hi-tech with traditional base
Mainframe computers	Central & local gov't & public enterprises	High technology; with external threat
Public switching	Telecommunications	High R&D costs, rapid technology change, government involvement in R&D
Telephones	Telecommunications	Small unit value, high volume, medium scale industry
Lasers	Defence and telecoms	New product, highly innovative with strategic importance

- * market size, trends and existing trade patterns
- * technology and technology trends
- * cost structure and capacity utilisation
- * relative prices
- * perceived barriers to intra-EC trade
- * the firms' European marketing strategies
- * the firms' views of future industry scenarios and restructuring.

8.3 Characteristics of the Case Study Industries

Table 6 summarises the key market characteristics of the case study products. There is generally excess capacity (except telephones and computers) and negligible trade between EC producers (except in computers - mainly due to IBM - and public switching equipment between local subsidiaries of EC and non EC firms).

TABLE 6 - CASE STUDIES : MARKET CHARACTERISTICS, 1986

Product	Approx. EC market m Ecus	Estimated capacity utilisation	Intra-EC trade
Coal	20,000	-	negl
Boilers	2,000	20%	negl
Turbine generators	2,000	60%	negl
Locomotives	100	50% to 80%	negl
Mainframe computers	10,000	80%	30 to 100%
Public switching	7,000	approx 70%	15% to 45%
Telephones	5,000	90%	negl
Lasers	500	50%	high

Source: WS Atkins interviews and estimates

Table 7 compares the number of major firms in the EC and USA. In several of the products (boilers, turbine generators, locomotives, public switching) there are more firms in the EC than the USA, and economies of scale are important in each of these products. It is not, however, universally true that the EC has too many firms, and there are only some sectors which would be likely to undergo major restructuring in the internal market. Mainframe computer manufacturing, however, illustrates the point that although the US has more firms than the EC, in the US the biggest (like IBM) may be very big and achieve economies of scale and the smaller firms may specialise (like Cray). In Europe, product ranges and R&D are duplicated, without effective competition to improve efficiency.

TABLE 7 - CASE STUDIES : EC v USA IN 1987

Product	No. of EC firms	No. of US firms
Coal	10 majors	3,000
Boilers	12	6
Turbine generators	10	2
Locomotives	16	2
Mainframe computers	5	9
Public switching	11	4
Telephones	12	17
Lasers	over 1,000	over 1,000

Source: WS Atkins interviews

8.4 Prices and Economies of Scale

Table 8 summaries, in rounded terms, the consensus of industry views on typical price differences for the case study products, relative to either the lowest price EC supplier or the likely future open market price. These differences are included in Table 4.

In each of the sectors a quantitative analysis of potential economies of scale was made, using data on cost structures, capacity utilisation and technology. Likely scenarios, based on firms' reported strategies and their views of likely changes in industry structure, were considered. This enabled hypotheses to be developed on potential changes in the output of typical plants and potential economies in R&D and overheads.

Economies of scale can be defined in terms of:

- * Short Run Economies of Scale (SREOS) - economies achievable with existing fixed capital (or with minor investment in de-bottlenecking) as a result of increased capacity utilisation and overall capacity reduction due to restructuring, with markets unchanged. The size of firms and plants are also unchanged

- * Long Run Economies of Scale (LREOS) - result from increases in the size of plant (new investment) or in the size of firms (mergers and acquisitions, or market growth). In the selected case studies, increase in the size of plant and major investment in new facilities is not part of any of the scenarios. Mergers of firms leading to rationalisation of production, and elimination of duplicated R&D and marketing effort, is a common feature.

Both 'short run' and 'long run' economies of scale may take many years to be achieved, since both require industry restructuring.

TABLE 8 - CASE STUDIES : POTENTIAL PRICE SAVING

Product	Potential price saving
Coal	50% FRG 25% UK
Boilers	negl
Turbine generators	5 to 20% B, F, I
Locomotives	10 to 20% B, FRG, I
Mainframe computers	negl
Public switching	40% F 45% B 50% UK, I 70% FRG
Telephones	40% F, FRG 20% B
Lasers	negl

Source: WS Atkins interviews and price enquiries

8.5 Scenarios

A brief summary of the assumed scenarios for each of the case studies is given below. The estimated price change due to economies of scale - assuming all cost savings are passed on to customers (as they should in the new competitive environment) - is shown in Table 9.

TABLE 9 - CASE STUDIES : RESTRUCTURING EFFECTS

Product	SREOS	LREOS	Restructuring required
Coal	-	-	Pit closures
Boilers	20%	-	Mergers and plant closures
Turbine generators	10%	2%	Mergers and rationalisation
Locomotives	13%	7%	Mergers and technical collaboration, some closures
Mainframe computers	negl	5%	Rationalisation of product ranges and manufacturing
Public switching	10%	10%	Further acquisitions and rationalisation
Telephones	negl	negl	Some closures, some rationalisation
Lasers	large, not due to internal market		Natural growth and consolidation

Source: WS Atkins

* Coal: Germany and UK have purchasing agreements between power authorities and the coal industry. (France and Belgium have high production subsidies but smaller, declining industries and do not prevent imports). Removal of purchasing restrictions would lead to some accelerated closures in UK and massive closures in Germany. Germany would save around 50 percent and UK about 25 percent of coal prices by imports from outside the EC. It is assumed that imports would capture most

of the German market and about 10-20 percent of the UK market. This is only the effect of removal of purchasing restrictions, not the removal of all subsidies. In the absence of purchasing restrictions, the same protection could be afforded to coal industries by increasing production subsidies to lower home production prices, or by external tariffs. Since this is a matter of energy policy the potential savings estimated here may not be considered a 'cost of non-Europe' in the context of this study

- * Boilers: there is no trade between EC producing countries, and there is massive overcapacity. Price differences give no evident static price advantage, but increased competition in the internal market would lead to some reduction in boilermaking capacity, and in the number of firms from 15 (in five countries) to around four. Unit prices and costs would fall by around 20 percent. The industry is vulnerable to low cost third world competition, and some manufacturing would probably shift offshore. These developments will require changes in national competition policy as well as opening up public procurement

- * Turbine generators: As in boilers, there is little trade between the main EC producing countries, and some overcapacity. There are some price differences, so there are potential static price gains. Italy and the UK are beginning new power station building programmes, so French and German firms would be able to enter these markets. This is likely to lead to mergers and acquisitions and rationalisation of production, reducing unit costs by an estimated 12 percent, without major closures

- * Electric locomotives: There is no significant trade yet between EC producing countries, but mergers and collaboration agreements are beginning to occur. Purchasing is opening up. Trade will be slow to develop because present locomotive designs were developed jointly between railway authorities and

national suppliers, and different rail systems are perceived as a barrier. Over a period of decades, the number of main manufacturers is likely to reduce from 16 (counting both mechanical and electrical subsystem manufacturers) to 3 or 4, with rationalised product ranges. Unit costs would fall by around 13 percent. Pressure for these changes already exists because of changing technology, but they cannot occur without changes in public purchasing policy

- * Mainframe computers: Unlike the previous case studies, this is a highly competitive industry, but in a bilateral fashion, with indigenous producers competing against IBM in each country. IBM has become a pan-European firm, and other manufacturers are following, particularly Groupe Bull. There is no static price effect likely as a result of opening up public procurement. Some continued rationalisation of the industry is likely, leading to minor savings in R&D and marketing, estimated at around 5 percent of costs, but Europe now has fewer manufacturers (5 including IBM) than the USA (9 firms). Japan already has a strong presence in Europe (ICL, Comparex and Olivetti sell Japanese machines) and this is likely to increase, with direct sales and possibly local manufacture

- * Public exchange switching equipment: There are seven different digital switching systems being installed in EC countries, five of which were developed by EC firms with the protection of national purchasing policies and R&D funding. According to interviewees and press reports, the 1987 price per line ranges from \$225 to \$500, because of varying levels of amortisation of development costs, compared to around \$100 in the USA. With open tendering the European price would probably fall to around \$150 (there are still R&D costs for adaptation to different national networks). The industry has been restructuring rapidly recently to compete for national market shares, notably by the emergence of Alcatel as a major pan-European firm and a series of other mergers and

cooperation agreements. With completely open markets there would probably be only two firms in the EC. This would give economies of scale in production, although there would still be distributed manufacturing, and would give some economies in the next round of development costs for future systems

- * Telephones: There are many manufacturers of telephones and significant imports into deregulated markets. There are substantial price differences, mainly because there are high specifications for telephones into regulated markets (ie. first telephones in all but UK) and lower quality products in free markets. There are also differences in technology between manufacturers. Free competition would drive out expensive products and high cost producers, bringing prices down by 30 to 40 percent in Belgium, France and Germany, but there are no additional economies of scale to be achieved by major restructuring

- * Lasers: The laser industry is very competitive, with many small firms, at the beginning of the product cycle curve. Only France is reported to have nationalistic public purchasing policies, although for telecommunications applications lasers are produced by some of the telecommunications equipment firms which are themselves protected by public purchasing. Otherwise the market is open. Costs will continue to fall as the industry matures and economies of scale will be achieved through market growth and mergers, but this will not be a result of internal market effects.

9. THE COST OF NON-EUROPE IN PUBLIC PROCUREMENT

The price analyses and case studies described in preceding sections give estimates of the potential changes in prices of products entering into public purchasing. The price changes were applied to give a weighted average price change for each 2-digit NACE product category (some of which, for perfectly traded commodities and for non-tradables, are zero). To estimate the potential savings in public expenditure, these price changes were input into a model, developed by the Consultants, of the total volume of public purchasing and potential changes in trade flows.

It is assumed throughout that there is no change in the total volume of public purchasing, nor of the volumes of private consumption. It is also assumed that all price changes result from a change in the cost of production, so that profit levels remain unchanged. Welfare gains are therefore measured directly by the change in public expenditure. This is essentially a comparative static approach. The longer term dynamic macroeconomic effects of the change in public expenditure and resource use on financial constraints, balance of payments, employment and economic growth are to be estimated by Commission staff using macroeconomic models.

The measurable effects of the internal market on prices and hence on public expenditure have been analysed in three components, the formulae for which are summarised in the technical appendix. The additional very important effects which cannot be quantified are listed at the end of the section.

- * a static trade effect: this arises from increased imports from low cost producers. It is assumed that the products concerned are differentiated goods with monopolistically competitive markets (apart from coal, which is treated

differently in the analysis, traded commodities are excluded) so that the lower priced imports will take a share of the market without initially affecting the price of existing products. A range of hypotheses have been made about the potential change in import penetration. The base case assumes that public sector import penetration reaches the same level as the private sector for each product. The change in import penetration has been calculated using data from the contract database, trade statistics, and the analysis of public and private sector purchases from ESA input-output tables, for each country and each product.

For each product, the static trade effect equals:

(initial expenditure) x (% price saving) x (change in import penetration proportion)

- * a competition effect: as imports increase due to the trade effect, domestic suppliers will be under pressure to cut prices to maintain market share. To the extent that there is x-inefficiency (that is, wasteful use of resources) they can do this by improving efficiency (e.g. reorganising or adopting new technology) and maintaining profit levels. If there is no x-inefficiency then either firms must merge or restructure to achieve economies of scale or any price cut is matched by loss of profits and there is no welfare gain. The existence of x-inefficiency implies an absence of profit maximising behaviour, which can only occur in non-competitive markets. The assumption is therefore made that a competition effect applies to all output in the case study sectors and similar products (where there is negligible public sector trade at present and few private sector buyers) but not at all to other products where there is a substantial private sector market.

In the previously 'non-competitive' markets therefore the competition effect equals for each product:

(initial expenditure) x (% price saving) x (1 - change in import penetration proportion)

The competition effect on prices of domestic suppliers is likely to be seen as soon as there is new trade or threat of trade. The effect on costs will take longer, since firms have to reorganise, improve procedures and possibly invest in new technology. In the intervening period there will be a loss of profits for firms, and it is this which will stimulate the efficiency improvements required.

- * a restructuring effect: the development scenarios for the case study industries outlined in the previous section lead to the reduction in average costs, and hence in prices, due to the economies of scale which were shown in Table 8. Such effects would probably take 5 to 10 years to be realised. These price reductions are estimates for a 'typical' firm and are assumed to apply equally to all countries.

The restructuring effect is estimated by:

(initial expenditure) x (restructuring factor)

The results of a series of sensitivity analyses on the import penetration factors, savings thresholds, and price differentials is shown in Table 10. These also include the effect of an assumed ± 30 percent variation in the economies of scale factors in the restructuring effect.

The total potential savings are estimated in the range 8 to 19 billion ecus. The static trade effect, which can be assumed to be achieved by or soon after the completion of the internal market in 1992, amounts to 4 to 9 billion ecus. The competition effects on domestic suppliers, which will follow very soon after, gives an additional 1 to 3 billion ecus saving. The longer term restructuring effect is estimated to be similar in magnitude to the potential trade effect.

TABLE 10 - SUMMARY OF POTENTIAL SAVINGS IN TOTAL PUBLIC PURCHASING
(Billion Ecus 1984 - 5 countries)

Component	Value (billion ecus)	% GDP	% of total public purchasing
Static trade effect *	3 - 8	0.1 - 0.3	1 - 2
Competition effect	1 - 3	0.04 - 0.1	0.3 - 1
Restructuring effect	4 - 8	0.15 - 0.3	1 - 2
	8 - 19	0.3 - 0.7	2 - 5

* Note: Savings are calculated on total purchasing (not just contract procurement). The base case estimate of the static trade effect includes:

	billion ecus
Coal	2.0
Pharmaceuticals	1.2
Other manufactured goods	2.2
Construction	1.0
Services	0.2
	<u>6.6</u>

The savings in public purchasing which have been quantified exclude some very important elements, which are outside the scope of the present study:

- * savings for the private sector purchasers of goods whose price has been reduced by increased competition. In the case study sectors, where the greatest savings apply, private sector purchases are small - there are few 'private' purchasers of power station equipment, railway equipment, and network telecommunications equipment, since all enterprises providing these services are included in this study's definition of the public sector. Nevertheless, the leverage wielded by public sector purchasers may break up restrictive trade practices (such as sole concessions and discriminatory pricing) and generate new gains from trade in products, such as office equipment, pharmaceuticals or construction, which are purchased by both public and private sectors. Such savings would, however, under the assumptions of this model, be partly offset by reductions in profit margins

- * dynamic effects on innovation and growth. The longer term restructuring effect includes an estimate of the reduction in R&D and marketing expenditure possible as a result of company mergers and collaboration eliminating duplication. On the other hand, a more effective use of the same R&D and marketing expenditure could have a far-reaching impact on innovation, investment and growth, which has not been quantified

- * external effects: the more effective use of R&D and marketing effort may have a profound effect, not just on innovation and growth, but on the survival of some sectors of European industry. In key high technology sectors such as computers, telecommunications, aerospace, transport equipment and defence goods the historical fragmentation of European industry into national preserves has made it increasingly uncompetitive, both at home and in world markets. Even though imports from outside the EC are likely to increase in the short term, major restructuring and increased competition can bring costs down and enable European industry to remain viable, compete and possibly gain new export markets in the long term.

The total estimated savings in public expenditure represent around half a percent of GDP, and this is equivalent to 2 to 5 percent of public purchasing, a very considerable saving. The dynamic effects outlined above would not only add to these savings in the long term but act as a powerful stimulant to European economic growth.

TECHNICAL APPENDIX - METHOD OF CALCULATION OF TOTAL POTENTIAL SAVINGS

1. Formulae used in the Model

Initial public purchasing = pQ

where Q = total volume of purchases from both local producers and importers

p = initial home price of both local producers and importers.

After opening up markets, expected public purchasing

$$= (p + dp_c + dp_r) (Q - M) + (p_m + dp_r)M$$

where M = new imports

p_m = price (delivered) of new imports from foreign supplies immediately after opening up

dp_c = change in price of local suppliers due to new competition

dp_r = change in price of all products due to restructuring effects

Savings = initial purchasing - expected purchasing

$$= (p + dp_c + dp_r) (Q-M) + (p_m + dp_r) M - pQ$$

$$= pM - dp_c Q + dp_c M - dp_r Q - p_m M$$

$$= (p-p_m)M - dp_c (Q-M) - dp_r Q$$

$$= \frac{(p-p_m)}{(p)} \frac{(M)}{(Q)} pQ \quad \dots\dots\dots \text{trade effect}$$

$$+ \frac{(-dp_c)}{(p)} \left(1 - \frac{M}{Q}\right) pQ \quad \dots\dots\dots \text{competition effect}$$

$$+ \frac{(-dp_r)}{(p)} pQ \quad \dots\dots\dots \text{restructuring effect}$$

define Δ = static price saving = $\frac{p-p_m}{p}$

$$\text{so } (1-\Delta) = \frac{p_m}{p}$$

θ = change in import penetration = $\frac{p_m M}{pQ}$

$$\text{so } \frac{M}{Q} = \frac{p}{p_m} \theta = \frac{\theta}{(1-\Delta)}$$

$$R = \frac{-dp_r}{p}$$

also, by hypothesis:

$-dp_c = \Delta$ for previously protected public sector suppliers
 = 0 for other supply sectors

Then:

Trade effect	$= \frac{\Delta}{1-\Delta} \cdot \theta \cdot (pQ)$	
Competition effect	$= \begin{cases} \Delta [1 - \frac{\theta}{1-\Delta}] pQ \\ 0 \end{cases}$... for protected sectors ... otherwise
Restructuring effect	$= R(pQ)$	

2. Data Used

These formulae are used for calculation of the savings for each product at 2 digit NACE (R59) level. The data sources are :

Δ = the price savings shown in table 4

(pQ) = the initial (1984) public purchasing expenditure breakdown based on input-output tables

- R = the economies of scale factors from the case studies, extrapolated to 2 digit NACE level
- θ = change in import penetration estimated as described below.

3. Estimation of the change in import penetration

For the calculations of the "Cost of Non-Europe" in public procurement, a hypothesis has to be made about the change in public sector import penetration for each product group at the 2 digit NACE level. Since no reliable data exists on the current level of public sector import penetration, and since the 1992 public sector import penetration is pure hypothesis, an assumption was made of the maximum likely change in import penetration as follows:

- * For coal: as assumed in the case study
- * For construction: 10% increase, representing border areas and some specialist construction
- * For services: 10% of business services, zero for other services (eg. maintenance, rents, health, travel)
- * For manufactured goods: After 1992 the public sector import penetration will be similar to the private sector at present. The latter is not known, but data for total import penetration of each 2 digit sector (public and private purchases) is known.

Estimates of the present level of import penetration in the public sector have been made on the basis of available evidence from the Contract data base. The implied private sector

import penetration is then calculated, using data from the analysis of ESA input-output tables for the ratio of private and public sector purchasing (using intermediate consumption as a proxy), as follows:

Taking for each 2-digit NACE category

θ_{AV} = total import penetration, from the DGII data base (1986 or latest year available)

θ_{PRIV} = present private sector import penetration

θ_{PUB} = present public sector import penetration

E_{PUB} = public purchases of the sector output

E_{PRIV} = private sector purchases

E_{TOT} = total purchases

$$E_{TOT} \times \theta_{AV} = E_{PUB} \times \theta_{PUB} + E_{PRIV} \times \theta_{PRIV}$$

whence:

$$\theta_{PUB} = \frac{\theta_{AV} - \left(\frac{E_{PUB}}{E_{TOT}} \right) \theta_{PUB}}{\left(\frac{E_{PRIV}}{E_{TOT}} \right)}$$

and hence:

$$\text{Change in import penetration } \theta = \theta_{PRIV} - \theta_{PUB}$$

4.

Technical Barriers in the EC:
An Illustration by Six Industries

Groupe MAC

Technical Barriers in the EC :

Illustrations in six industries

Executive Summary

March 1988

ACKNOWLEDGMENTS

The MAC Group would like to acknowledge the help in conducting this research provided by the following officials of the European Commission : Thomas Garvey, Ernesto Previdi, Marc Vanheukelen, and by Wolfgang Gerstenberger, Maria Brindlmayer and Andrea Forti. All views and conclusions contained in this paper belong solely to the author, and any errors, of course, remain his full responsibility

CONTENTS

	Page
I. INTRODUCTION	3
II. TECHNICAL BARRIERS IN THE EC	
A. What is a technical trade barrier what are the benefits of their removal ?	5
B. Why is it that technical trade barriers exist?	7
C. How has the European Community approached this problem?	9
III. THE EXISTENCE OF TECHNICAL TRADE BARRIERS IN SIX INDUSTRIES	
A. The incidence of technical trade barriers in six industries	12
B. Description of illustrative cases	16
1. Foodstuffs	
2. Pharmaceuticals	
3. Automobiles	
4. Building Materials	
5. Electrical Products and Machines	
6. Telecommunications Equipment.	
IV. CONCLUSIONS.	28

I. INTRODUCTION : Context, objectives and methodology of this study.

This study was motivated by the following questions : what are technical trade barriers ? What are their origins ? Why do they persist? Who wins and loses from their existence? If the reader's first reaction to these questions is "why does it matter?", he is duly forgiven. The subject of technical trade barriers has heretofore been the domain of lawyers, bureaucrats, technicians, politicians, and has rarely been in the public eye. Until now.

Technical barriers are important. In fact, technical trade barriers are one of the greatest obstacles to the completion of the internal market in 1992. That is the true reason why this study was undertaken; to call attention to the nature and persistence of technical trade barriers in a theoretically barrier-free European Community.

To cite one piece of evidence, in a widely distributed business survey, the existence of technical trade barriers was ranked as one of the most important obstacles preventing the completion of the internal market.

COUNTRY	IMPORTANCE OF TECHNICAL TRADE BARRIERS (RANK)
GERMANY	1
UK	1
FRANCE	1
BELGIUM	2

Source : CEC : "Research on the Cost of Non-Europe"; The completion of the internal market: a survey of European industry's perception of the likely effects, forthcoming.

Such results illustrate that from the standpoint of completing the internal market herein lies a problem to be reckoned with.

This study is part of the European Commission's overall research program on the "Cost of Non-Europe." Other studies have identified and analyzed technical trade barriers, but they have done so while focusing on a single industry. In requesting this study, the Commission wished a horizontal view of this problem covering a variety of sectors in order to call attention to the problem, and to piece together some general conclusions.

The objectives of this study therefore are three-fold :

- identify, on a sectorial basis, technical barriers to trade;
- examine the similarities and differences of these barriers and evaluate their consequences for trade and other indirect effects;
- develop general conclusions as to the current importance of national technical disparities as an obstacle to intra-EC trade and to EC company competitiveness on world markets.

The sectors covered in the study were chosen based on the importance and frequency of technical trade barriers as well as the availability of data. The sectors are :

- Foodstuffs
- Pharmaceuticals
- Automobiles
- Building Materials
- Electrical Products and Machines
- Telecommunications Equipment.

Given the time constraints, the MAC Group conducted this study based on data previously collected during the relevant sectorial studies developed on the cost of Non-Europe, supplemented with 25 individual interviews within the Commission and with industry experts, observers and participants. The author also reviewed existing literature on the subject.

II. TECHNICAL TRADE BARRIERS IN THE EC

A. What are technical trade barriers and what are the benefits of their removal ⁽¹⁾:

If an EC producer must alter his product to comply with industrial standards or legal regulations for commercialization in another EC country, and/or, if a producer must have his product tested and certified by the importing country, he faces a **technical trade barrier**. It is that simple.

There are three types of technical trade barriers. The first two concern the specifications of a given product and the third relates to the procedure by which product specifications are verified.

Differences between countries in industry standards, when imposed as a condition of entry, sale or use, create the first type of technical trade barrier. Here standards refer to voluntary specifications regarding product form, functioning, quality, compatibility and/or interchangeability. Standards are not legally binding and are defined by private individuals and organizations (ie. standardization bodies such as AFNOR in France,) in their own interest. The DIN system of standards used for building materials in Germany provides a good example of an industry standard. That these standards differ from the AFNOR standards in France prevents certain goods from freely moving between the two countries.

The precise way trade is hindered can be quite subtle in the case of technical standards. For certain building materials, French insurance companies will only pay for damages caused by the product in question if it meets the industry standard and has been approved as such. Architects, who can be held liable for damages, are therefore reluctant to use (foreign) products produced according to a different standard, even if their level of safety is the same.

The second type of technical trade barrier is caused by **differences in legal regulations**, where regulations are specifications similar to standards but differ in that they are legally binding often with the purpose of serving the public interest, in particular the objectives of health, safety, and environmental protection. The legal basis and the public interest of regulations distinguish them from standards. An example of a regulation is the pasta purity law in France, Italy and Greece which specifies that "pasta" must be composed of durum wheat only. A British-made pasta composed of both durum and soft wheat is prohibited from being sold in these countries under the name "pasta"--creating a formidable marketing obstacle.

By contrast to standards, the way in which a country's regulations prevent a good from being imported is unambiguous ; they make importation illegal if the good does not comply with them.

(1) Based on CEC, "Research on the Cost of Non-Europe"; The economics of 1992 : an assessment of the potential economic effects of completing the internal market of the European Community, "European Economy", forthcoming.

The third type of technical trade barrier are **testing and certification procedures** that are designed to ensure conformity to existing regulations or standards. Technical trade barriers are created when an importing country requires an additional certification procedure to that required in the country of origin. Pharmaceutical certification procedures and the type approvals necessary for automobiles are examples of this technical trade barrier. The trade hampering effects include the cost, time, and effort producers must expend to comply with these procedures.

In addition to the obvious restrictions on trade, the existence of technical trade barriers deprives the Community--both producers and consumers--of important economic benefits, both direct and indirect. Economies of scale in production gained by the acceptability of a single product throughout the Community is one important direct benefit. A second benefit is linked to the reduction in raw materials and finished goods inventory storage costs that could be realized by companies who heretofore build and distribute heterogeneous products within the EC. Manufacturing companies serving different Community markets could be significantly and positively affected by a single, barrier-free market, and competitive pressures would ensure that a portion of these benefits are passed onto customers in the form of lower prices. Some of these direct benefits are quantified in the final chapter of this paper for the specific case studies.

Indirect economic effects of removing technical trade barriers include the increase in consumer choice, and a further gain in scale economies resulting from increased foreign sales. Industry restructuring is a third important indirect benefit as more efficient European producers displace higher cost locally orientated manufacturers; which in turn would have a positive effect on the competitiveness of selected EC industries in world markets.

B Why do technical trade barriers exist ?

As described above, technical trade barriers exist when differing national regulations and/or standards prevent the free movement of goods, or when countries impose duplicative testing and certification procedures for imported goods. The more compelling question is why do they exist? And additionally, what interests are being served in their continued existence?

Two fundamental reasons account for the existence of technical trade barriers within the EC. The reasons are themselves artifacts of the historical evolution of regulations and industrial standards and practices of the Community's twelve members:

- Historical and philosophical differences among countries on the essential requirements necessary to protect public safety, health and the environment
- Historical differences in standards and testing and certification procedures.

Differences in values between countries on the essential requirements. This is the most fundamental cause of technical trade barriers. Increasingly, member countries have similar if not identical views on how to protect public health, safety and the environment. Where differences do exist, however, barriers can be difficult to remove. Often, the only resolution of these differences is through direct political negotiation among the member countries.

An example of this type of trade barrier are safety requirements on electrical cutting machines used in industrial environments. German requirements differ from French requirements because of differing philosophies on how to protect the machine user. Dangerous moving parts on French machines are completely isolated from the machine worker, so he would be protected even in the case of gross negligence. In Germany, the philosophy underlying machine design delegates more responsibility to the machine worker. Moving parts are designed to minimize their danger and are properly indicated with signing, but they are not always completely isolated from the worker.

Historical differences in standards and testing and certification procedures. The second cause of trade barriers is when technical standards, defined and respected by manufacturers, trade organizations, insurance companies, and the like, differ between two countries. Users and prescriptors of the good in question then are reluctant to use a foreign product that complies to a different set of standards. Differences in standards--often the result of historical differences in the degree of industrialization among member states at the time of admission to the Community--therefore creates its own class technical trade barriers, albeit ones which are not based in law.

A good example of the second fundamental cause of technical barriers, which also makes obvious the difficulty or impossibility of their removal, is the custom of right-hand drive in the British Isles and the Republic of Ireland. It is not illegal to own and operate a vehicle designed for left-hand drive, but a hundred years of road design and consumer habits combine to make it impossible to penetrate the automobile market with left-hand drive cars. In this case, of course, it is unlikely the difference will ever be resolved.

Another example of this type of technical barrier are the DIN versus AFNOR versus BPI systems of standards for building materials in Germany, France and the UK, respectively.

The removal of technical barriers has been and will be accomplished easily for some and with much more difficulty for others. In examining the various sectors covered in this study, two reasons appeared that explain why certain technical trade barriers are difficult to remove :

- Protection of special interests
- Protection of a strategic industry

In each of these cases, the "official" explanation or justification of barriers is based on differences in values between two countries. However, looking behind the official explanations, one or both of these reasons can be identified.

"Protection" of special interests. This is perhaps the most common reason why technical trade barriers are erected and or why they are difficult to remove. Examples of this class of barriers abound. In Italy, durum wheat used in the production of pasta is produced by a relatively small but powerful group of farmers in the southern part of the country. Pressure exerted by this group has led to the continued enforcement of the pasta purity legislation in Italy. The "official" explanation of this legislation is to protect the consumer from poor quality pasta--something, it must be added, the consumer may do for himself by not purchasing it. Other examples include the restriction against the use of the sweetener aspartame in soft drinks in France--thereby protecting the sugar industry--and the individual approval required by European PTTs for telecommunications equipment--to protect domestic manufacturers.

"Protection" of strategic industries is the second common reason why barriers are difficult to remove. Many European governments use selective procurement and certification policy as well as incompatible standards to protect industries deemed of strategic importance. The pharmaceutical, automobile, and telecommunications equipment industries are all protected by member states, in part, through the erection of technical trade barriers.

As a case in point, the automobile industry Community Directives exist for 41 out of 44 essential requirements of an automobile. The three that remain are relatively unimportant in themselves: weight and sizes, tyres, and wind screens. However, certain member states are resisting the completion of these directives for fear of losing complete control on the inflow of extra-community imports.

C. How has the European Community approached this problem ?

Before going further, it will be useful to review the Commission's approach to the problem of technical trade barriers and clarify some of the jargon that has arisen on this subject. The reader may find that a basic understanding of the often misunderstood concepts such as "the new approach", "mutual recognition", and "reference to standards" will advance significantly his appreciation of technical trade barriers.

The principle of mutual recognition derives from the "cassis de dijon" ruling which is based on Article 30 of the Treaty of Rome⁽²⁾. It simply means that a good lawfully produced and commercialized in one country of the EEC should be able to be freely transported and sold in another member country, without being modified, tested, certified, or renamed. Mutual recognition, therefore, is the first tool the Commission has at its disposal to ensure the free flow of goods.

The principle of mutual recognition breaks down legally and practically concerning each member country's obligation to protect public health, safety and the environment. Specifically, if one country maintains a different philosophy on how to protect health, safety and the environment, from another country, then it may prevent the free circulation of goods. This right is guaranteed by Article 36 of the Treaty of Rome⁽³⁾, and is a genesis of technical trade barriers.

In those instances where two countries differ concerning how to protect safety, health and the environment, the only solution to ensuring free trade is for the member countries to agree to a **harmonized** set of regulations. Harmonization takes the form of **directives** which are legal, Community wide proclamations that state the measures with which a product must comply to be commercialized in any country of the Community. If a good is produced according to these measures no national legislation can prevent its commercialization in a given country ⁽⁴⁾.

(2) Article 30 : "Quantitative restrictions on imports and all measures having equivalent effect shall, without prejudice to the following provisions, be prohibited between member states".

(3) Article 36 : "The provision of Articles 30 to 34 shall not preclude prohibitions or restrictions on imports, exports or goods in transit justified on grounds of public morality, public policy or public security ; the protection of health and life of humans, animals or plants, the protection of national treasures possessing artistic, historic or archaeological value, or the protection of industrial and commercial property. Such prohibitions or restrictions shall not, however, constitute a means of arbitrary discrimination or a disguised restriction on trade between Member States".

(4) More recently, Article 100A recognizes the right of member states to adopt yet stricter regulations than those contained in Community directives when justified by Article 36 (ie., for protecting health, safety and the environment,) and thereby prevent entry of goods which comply to the Directive but not their own regulations. However, as no actions on this basis have been undertaken, the procedure and impact of Article 100A cannot be clearly evaluated.

Article 100A, paragraph 4 : "If, after the adoption of a harmonization measure by the Council acting by a qualified majority, a Member State deems it necessary to apply national provisions on grounds of major needs referred to in Article 36, or relating to protection of the environment or the working environment, it shall notify the Commission of these provisions. The Commission shall confirm the provisions involved after having verified that they are not a means of arbitrary discrimination or a disguised restriction on trade between member states ..."

From the 1960's to the early 1980's, the European Commission went about the process of developing "harmonization directives" in all areas where the principle of mutual recognition proved ineffectual. However despite the considerable efforts of the Commission, this proved to be a failure⁽⁵⁾. Basically, directives got bogged down in defining technical product specifications, which, given the need for unanimous approval by the member states, delayed the approval process. As a case in point, the harmonization program for foodstuffs drawn up in 1973 listed far in excess of 50 directives to be put in place. By 1985 only 14 directives had been adopted.

Enter the **new approach**. In the often cited "white paper", simply entitled "Completing the Internal Market" the Commission described a new approach to the intractable problem of technical trade barriers. The new approach simply argues for a different orientation of directives--away from a detailed specification of technical standards, toward a simple outline of the principal features that products must have. These features were called the **essential requirements**, because they contain only what is essential for the protection of health, safety and the environment and exclude peripheral technical matters. In place of the detailed technical specifications, "new approach" directives include a **reference to European standards**, which are standards drawn up outside the Commission by European standardization bodies (eg CEN, CENELEC, CEPT, etc) and based on mandates included in the directives. Compliance with these standards ensures that the "harmonized essential requirements" are met, thus guaranteeing access to all EC markets.

In simple terms, Commission directives are no longer to include detailed specifications of how a product should meet an essential requirement, but simply state what that requirement is, and then refer to a European standard as a favored means of proving conformity. In theory, this reorientation should increase the speed and flexibility of the Commission and thus contribute to the reduction of technical trade barriers, which is the ultimate objective.

The new approach provides a number of benefits. It allows the Commission to delegate to standards institutes what the Commission is illequipped to do and what the institutes presumably do well: specify technical standards. Likewise, it limits the content of directives to a specification of the minimum essential requirements for protecting health, safety and the environment, that if met, guarantee a product commercial access to any country in the Community (though see (4) above). Such a narrower scope for directives should speed up the process by which they are written and approved.

(5) See Pelkmans, Jacques, "The New Approach to Technical Harmonization and Standardization", Journal of Common Market Studies, March 1987.

In parallel with the new approach, two developments of this decade should considerably improve the Commission's ability to speed up the approval of directives and to slow down the creation of technical trade barriers. In reverse chronological order, the **Single European Act** of 1987 permits the Council to adopt Commission directives with a simple majority vote, rather than the previously required unanimity.

Second, the Mutual Information Directive of 1983 obliges member states to notify the Commission in advance of draft technical regulations and standards. It also gives the Commission the power to delay the implementation of national legislation by one year in order to prepare a directive to combat the trade restricting nature of the legislation.

Having now an appreciation of what technical barriers are, their origins, and how the Commission is trying to remove them, it is appropriate to examine next some of these barriers in more detail.

III. THE EXISTENCE OF TECHNICAL BARRIERS IN SIX INDUSTRIES

A. The incidence of technical trade barriers in six industries

Although the purpose of this exercise was not to develop an exhaustive picture of the existence of technical trade barriers in each of the six industries, discussions with industry participants and Commission officials allow the author to present a partial view as to the relative existence and incidence of barriers in each industry (see exhibit 1).

EXHIBIT 1

Industry	TYPES AND INCIDENCES OF TECHNICAL BARRIERS		
	Standards	Regulations	Authorization & Certification
Foodstuffs	0	XXX	0
Pharmaceuticals	0	0	XXX
Automobiles	0	XX	XXX
Building Materials	XXX	XX	XXX
Electrical Products and Machines			
Hi voltage	XXX	XX	XXX
Low voltage	0	0	0
Telecommunications	XXX	0	XXX

Legend : XXX high incidence/impact on trade
 XX intermediate incidence/impact on trade
 0 low/non-existence.

For each sector, the table shows the type of trade barrier (see chapter 2 above) and the relative incidence or impact on trade. While highly subjective, a few features of the table are of interest. Notably, the existence of regulations is more important in the sectors which directly affect human health and safety (eg, foodstuffs) compared to those where it is less of an issues, (eg, telecommunications and building materials.) Additionally, duplicative testing and certification procedures creates technical barriers in all sectors save low voltage electrical products, the latter benefiting from a directive on low voltage appliances (76-23-EEC.)

On a sector by sector basis, the types of barriers are quite different. In **foodstuffs** because of the extreme sensitivity of public opinion in this field standards are almost non-existent and regulations abound. This, combined with the diversity of the Community's culinary traditions, creates an environment favorable for the existence of trade barriers caused by differences in regulations. In a recent study on foodstuffs, the MAC Group identified over 200 technical trade barriers of the regulation type in just ten

product sectors, and this was not an exhaustive list ⁽⁶⁾. Interestingly, in foodstuffs, few barriers are created from certification and testing procedures.

Technical trade barriers caused by regulations fall into three general categories:

- product composition laws relating to use of a generic product name
- specific ingredient restrictions
- packaging and labeling laws.

Technical trade barriers in the first category are created when a member state restricts the use of a generic product name, such as pasta or beer, to products produced according to a specific recipe. If products do not comply to the recipe, they may not be commercialized under the given product name, which presents obvious marketing obstacles to the producer/importer. Though these barriers are flagrant, they are also increasingly subject to direct and indirect legislative action. The Cassis de Dijon and Reinheitsgebot court rulings have set powerful precedents in this area.

The second and third categories of barriers are the most troublesome from the standpoint of their removal because of the recourse member governments have to Article 36. Specific ingredient restrictions, as the term implies, are those laws that prohibit the use of additives in certain products. The prohibition of aspartame in soft-drinks in France is a good example. Aspartame is a sugar substitute used in diet soft drinks in many European countries and the US (where it received approval from the often stringent FDA). The use of aspartame in soft-drinks in France was illegal, ostensibly for reasons of protecting consumer health. Industry insiders admit, however, that this restriction was in fact the result of successful lobbying efforts by sugar producers and distributors.

Like specific ingredient restrictions, packaging and labeling laws also specify requirements, which if not met, prohibit the sales of a product in a given country. These laws are often justified as means to protect consumers and the environment. Restrictions against the use of plastic bottles for mineral water in over 150 Italian municipalities is justified, argue the local authorities, for air pollution reasons. However, substitute measures could achieve the same end (eg, a deposit/recycling program) and the restriction places foreign mineral water producers (mainly French) at a severe cost disadvantage compared to local producers. The infamous Danish returnable bottle law imposes a similar transportation cost disadvantage on foreign beverage companies. Partially as a result of this barrier beer imports into Denmark account for less than 0.1% of total consumption.

(6) The MAC Group, "Research on the Cost of Non-Europe in the Foodstuffs Industry", 1987.

Due to the inherent critical nature of health and safety in **pharmaceuticals**, standards are non-existent (like in foodstuffs) and required technical specifications are upheld through national legislation. Twenty years of harmonization efforts by the Commission have fortunately given rise to eleven basic directives and two Council Recommendations, which have harmonized the criteria of drug quality, safety and efficacy. However, severe technical barriers remain in the testing and certification of drugs.

Each EC country requires a separate marketing authorization for pharmaceuticals. If a product is to be admitted to a particular national market it must first receive approval by the national registration authority. Therefore, in spite of the harmonization of approval criteria, differences exist in the authorization decisions made by national authorities. Price regulation and the placing of drugs on reimbursement lists are two other significant features in the Community's pharmaceutical industry, which, though not technical trade barriers in themselves, are used by member states to regulate the pharmaceutical industry.

Differences in standards play a small role too in the genesis of technical trade barriers in the **automobile** industry. Regulations play only a moderate role, given that 41 out of 44 "essential requirements" have been harmonized across the community. The most notable sticking point on regulatory differences are exhaust emissions, where Denmark remains steadfast on imposing stricter requirements than other Community members. It is, however, in the area of testing and type approval where the most important technical trade barriers exist in the automobile industry. More will be said about this below.

A recent study found that 70% of a sample of 50 **building material products** faced differences in norms--both standards and regulations--across the principal five countries in the Community⁽⁷⁾ ⁽⁸⁾. These differences coupled with different certification and testing methods in each country plague the construction products industry with a seemingly disproportionate number of technical trade barriers. Northern European countries such as Germany, France and Great Britain suffer the greatest differences in standards and regulations.

Perhaps more than the other sectors considered in this study, the barriers against the use of foreign products are deeply entrenched and diffused among many participants in the building products industry. Because of the local nature of building materials and methods, craftsmen in one region may simply be unfamiliar or unsatisfied with products coming from another region, much less country. In France, Spanish roofing shingles are about 50% cheaper than domestic ones, owing to the geologic depth at which the slate is found in Spain compared to France. However, roofers in France are not familiar with using Spanish shingles because they have slightly different qualities which change how they are attached to the roof.

(7) BIPE, "Le coût de la Non-Europe des produits de construction", 1987.

(8) The Commission is scheduled to submit to the Council later this year a draft "new approach" directive for buildings which should reduce technical trade barriers in the building materials industry. The directive seeks to harmonize seven essential requirements for buildings: stability, fire resistance, durability, energy economy, health/hygiene/ environment, user safety, resistance to noise.

Insurance companies also play a subtle role in creating technical barriers in this industry. Often, insurers will only insure various aspects of buildings if the building and the materials used in its construction comply with certain national standards. Architects and contractors, who could be held liable for accidents caused by faulty construction, resist using foreign products that do not correspond to the national standards, even though they may be otherwise suitable for the job.

Electrical products and machines must at a minimum be divided into two categories: low voltage products which are typically home appliances and high voltage products which are often industrial tools. Because of the low-voltage directive, technical trade barriers have been all but eliminated in this sector, which in itself is quite promising. Severe trade barriers remain however in the second product sector. These latter barriers, like building materials, are created by all three barrier types: differences in technical standards, regulations and certification and testing procedures. The case of wood cutting machinery will be discussed below.

Because **Telecommunications** equipment does not per se affect public health, safety or the environment, industry specifications are maintained through the respect of technical standards rather than legally based regulations. Moreover, these standards differ substantially from one country to another. However, due to the strategic nature of the telecommunications industry, and the fact that the state-controlled PTT is often the main buyer of equipment and thus can impose standards on the domestic industry, differences in standards and certification processes are only slowly being aligned. A recent paper developed for the Commission cites four main technical trade barriers in the telecommunications equipment industry⁽⁹⁾:

- differences in standards
- over-specification of technical requirements
- excessively costly, complex duplicative testing procedure
- lack of clear administrative processes.

Apparently, both consumer premise equipment (eg PABX, telephones, etc.) and central office computers (eg public switching systems) are equally affected. The example of PABX will be discussed in some detail below.

(9) Deutsches Institut für Wirtschaftsforschung, "The Economic Benefits of a Common Concept for Telecommunications within the European Community" 1986.

B. Description of illustrative cases

This section examines technical trade barriers in more detail through six case studies, one for each industry considered. For each case study, we describe the technical trade barrier, evaluate it with respect to its origin and "justification", and present the potential economic impact of its removal.

Contained in the six examples are two cases of technical standards, two cases of regulations and two pure cases of testing and certification. Each case offers the reader a deeper insight into the causes and impact of technical trade barriers. Exhibit 2 presents the six barrier cases studies and their classification by barrier type.

EXHIBIT 2

TECHNICAL BARRIER	TYPE		
	STANDARDS	REGULATIONS	AUTHORIZATION & CERTIFICATION
<u>Foodstuffs</u> Pasta purity law		XXXX	
<u>Pharmaceuticals</u> Registration process			XXXX
<u>Automobiles</u> Type Approval			XXXX
<u>Building Materials</u> Building tiles	XXXX		XXXX
<u>Electrical Products and Machines</u> Wood cutting tools		XXXX	XXXX
<u>Telecommunications</u> PABX standards	XXXX		XXXX

Before describing these in more detail, it will be useful to briefly review a simple three criteria test used by the Commission to evaluate the justification--as guaranteed by Article 36-- of technical trade barriers imposed by member states to protect safety, health and the environment⁽¹⁰⁾.

(10) A. Mattera, "les barrières frontalières à l'intérieur de la CEE et l'action menée par la Commission pour leur démantèlement", Revue du Marché Commun, n°307, May-June 1987.

To wit :

- Criteria of causality : there must exist a direct cause and effect relation between the trade restrictive measure and the objective or "essential requirement" being pursued.
- Criteria of proportionality : the trade restrictive effects of the measure should not be disproportionate with respect to the objective being sought.
- Criteria of substitution : if another means exists to attain the objective that does not hamper trade, then this criteria is not met. The substitution criteria is perhaps the most important of the three.

Though these criteria were designed for evaluating adherence to Article 36, which necessarily concerns only legally imposed barriers to trade (i.e. technical regulations), they can be usefully applied to any technical trade barrier, including those caused by differences in standards. How then do each of these case studies stand up to the three criteria test ?

1. Foodstuffs

Composition rules are common in the European foodstuffs industry. Among the most significant from an economic standpoint are the so called pasta purity laws in Italy, France and Greece. This case study concerns the Italian version which was adopted as law in 1967.

Very simply, the law states that in order to use the generic product name "pasta", the product must be composed exclusively of durum wheat, as opposed to the less expensive soft wheat. Historically, the law was erected to help Italian durum wheat farmers (essentially in the South) secure a market for their product. The only other commercial use of durum wheat is for couscous, a market of considerably smaller size. Interestingly, before the law was erected, "mixed pasta" made with a combination of soft and durum wheat accounted for up to 50 % of Italian pasta consumption. After the law was introduced, this proportion fell to close to zero. This barrier falls under the category of a technical regulation (see exhibit 2) and like most foodstuffs it is not associated with a testing procedure.

With respect to the three criteria test, the case of the pasta purity law is quite clear from the author's perspective. First, causality ; it is not apparent that the consumer is "protected" by the pasta purity law. The consumption of mixed pasta does not pose a health risk and there is no reason to assume mixed pasta, which is typically associated with lower quality at lower prices, would "drive out" pasta made from durum wheat. In fact, industry experts believe a substitution of 10-20 % is the most likely scenario.

Second, proportionality ; the law effectively prohibits all imports of mixed pasta from other European countries where this form of pasta is consumed and produced (e.g. England, Holland, Germany.) Imports of pasta into Italy account for less than 0.05 % of total consumption.

Finally, substitution ; to the extent that consumers need to be "protected" from mixed pasta, this can be accomplished through labeling without the adverse trade hampering effects.

Thus the pasta purity law satisfies none of the criteria that could justify its existence from the perspective of article 36 of the Treaty of Rome. What are the "costs" therefore of this technical trade barrier.

Without repeating the analysis, the MAC Group has demonstrated the direct cost savings that could accrue to consumers from the removal of this law are the order of 20-60 million Ecu per year. These costs result from the savings that could be realized from the substitution of a lower cost ingredient, in this case, soft for durum wheat, in the production of pasta.

Indirect effects are likewise significant. In the short term, imports into Italy could increase dramatically, accounting for up to 5 % of consumption. This would then decrease as local pasta producers geared up their production facilities to serve the newly created product segment. In addition, the removal of the law could speed up the current industry consolidation taking place, ultimately helping extra-community trade in the process as larger more powerful pasta concerns are formed with an increased capacity to export.

2. Pharmaceuticals

From a technical barrier standpoint, testing and certification procedures are the most significant trade obstacles in the pharmaceuticals industry.

If a pharmaceutical product is to be admitted to a particular national market within the EEC it must first be approved by the national registration authority. Each authority is free to make its own decision. Closely linked to this are the pricing and reimbursement decisions that local authorities make on an individual drug basis. Drug registration, combined with pricing/reimbursement decisions, forms a potential barrier to the unification of the community pharmaceutical market. How does this barrier stand up to the three criteria test ?

From a causation standpoint, it can be argued that the testing and certification procedures do protect public health and thus pass the first criteria. However, testing and certification procedures fail the proportionality and substitution tests. Namely, the trade distorting effects coupled with the feasibility of either centralized testing (similar to the FDA) or a mutual recognition approach lead to a rejection of this barrier based on the criteria test.

The largest direct effects of the individual testing and certification processes are increased delays and administrative costs. At the present time no country can meet the official 120-day limit. The European average is in the 18-24 month range, but delays up to three years have been reported. The cost of delays and duplication for a company wishing to introduce a product across the community as a whole can be significant. One estimate has placed these costs on the order of 0.5-0.8 % of total industry costs within the community⁽¹¹⁾. Other industry observers have suggested that this could be an underestimate.

An indirect effect of this technical barrier is the continued fragmentation of pharmaceutical manufacturing throughout the Community. The high value per weight of the product lends itself to a strategy featuring centralized production and exports. However, currently some 250 pharmaceutical plants are scattered about the Community. Companies polled on this subject revealed that their direct investment in individual countries was practically a *sin qua non* of doing business. "If we were to close down our plant in--, we'd never get another price increase there." ⁽¹¹⁾

If however the industry could consolidate, the gains could be large. Benefits in terms of both labor and capital saved could amount to 0.3-0.8% of total industry costs.⁽¹¹⁾

The overall implication is significant for the pharmaceuticals industry. Between 0.8-1.6% of total industry costs could potentially be economized if all technical barriers were removed.

(11) See a study for the European Commission by Economists Advisory Group, "Research on the Cost of Non-Europe, The Costs of Fragmentation in the European Community's Pharmaceutical Industry and Market", November 1987 (forthcoming)

3. Automobiles

Like pharmaceuticals, the principal technical trade barrier within the automobile industry is in the area of testing and authorization procedures. Since the 1970's, the Commission identified and then went about the process of harmonizing 44 "essential requirements" that an automobile must meet in order to guarantee free shipment from one country in the Community to another. Today, EC directives exist for 41 of these requirements. The requirements which remain to be harmonized are tires, weight and sizes, and windshields.

The implication of this is that type approval from an EC standpoint is not feasible. Because directives do not exist for the whole gambit of essential requirements, type approval must take place on an individual country basis. In addition, neither the majority of industry members nor certain EC governments are in favor of trying to harmonize the remaining directives. Why would this be the case ?

Certain national governments, notably France, are concerned about controlling imports originating outside the Community. If local approval did not exist and if border customs checkpoints were eliminated, France would have more difficulty in stopping, say, Japanese imports from entering the country via a neighboring country. For this reason, some member governments are not supporting efforts to harmonize the remaining three directives. National manufacturers and their distributors are also concerned about extra-community imports. They have thus joined their governments in slowing down the harmonization process.

Examining the criteria test this author finds that none of the criteria is met. Given 41 requirements are already harmonized, type approval is not necessary for protecting health, safety of the environment (causality). It thwarts the free movement of goods across community borders (proportionality) ; and public health, safety and environmental requirements could be equally well upheld through finishing the harmonization task coupled with mutual recognition of testing and certification procedures (substitution).

If automobiles could be approved in just one country and then be freely exported to other countries, the direct cost savings could range from 14-22 million Ecus⁽¹²⁾. Indirect benefits include increased consumer choice, namely the freedom to purchase cars anywhere in the Community for domestic consumption.

(12) Based on a study for the EC Commission by Ludvigsen Associates Limited "Research on the Cost of non-Europe - The EC92 Automobile Sector : Executive Summary", 1987.

4. Building Materials

Not unlike different recipes in foodstuffs, the fragmented nature of building materials used throughout Europe have contributed to a large, though predictable, body of technical trade barriers in this sector. Many examples exist where building material manufactures of one country, often working with standardization organizations, erect all three types of barriers to prevent competition from abroad. Building tiles provides a good example.

The market for glazed and unglazed building tiles is large, approximately 3.2 billion Ecus per year, owing to the common use of these products in both public and private buildings. The European market is dominated by Italy and Spain, who between them possess a 79 % share of the total volume of production (see exhibit 3).

EXHIBIT 3

PRINCIPAL PRODUCERS OF BUILDING TILES	1985 PRODUCTION (MILLION SQ. M)	SHARE OF EC PRODUCTION
Italy	300	58%
Spain	110	21%
Germany	40	8%
France	25	5%
Other EC	45	9%
Total	520	100%

Source : BIPE

In addition, the Spanish and Italian products are less expensive than their European competitors (see exhibit 4).

EXHIBIT 4

PRODUCING COUNTRY	PRICE INDICES (SPAIN = 100)*	
	GLAZED	UNGLAZED
Germany	193	249
Denmark	142	268
France	127	172
Holland	115	183
Italy	126	163
UK	98	116
Spain	100	100

Source : BIPE

Note : Price index based on 1980 export prices

In France, domestic tile manufacturers feeling pressure from Italian and Spanish competitors worked through AFNOR to create an especially stringent standard for tiles (UPEC). Any building material expert will admit this standard is overly restrictive with respect to the essential requirements it should be designed to protect.

Given this is a standard and not a regulation, non-standard tiles may still be sold in France but they may not be used in public works (about 40% of the market) and architects and building engineers are reluctant to use them. If an accident occurs as a result of the non-standard tiles, insurance companies could refuse damages claims.

The standard is coupled with a certification process, which reportedly can take from several months to a year's delay. Moreover, the product must be tested and certified on an annual basis. Together these technical barriers have effectively reduced the flow of tiles into France from its southern neighbors. Reportedly, similar standards and testing procedures are being developed in Germany, Holland, and the UK⁽¹³⁾.

Like type approval for automobiles, the technical trade barrier for tiles fails all criteria and therefore is difficult to justify on legal grounds. While this particular example is a candidate for mutual recognition, other building material products, due to their safety and public health implications, could require a harmonization of standards.

(13) A draft directive on construction materials should help to eliminate this trade barrier. See "Proposal for a Council Directive on the approximation of the laws, regulations and administrative provisions of the member states relating to construction products (Com (86) 756 final/3)

The direct costs of the trade barriers for building tiles are important. If these restrictions prevent Spanish producers from doubling their marketshare in France, (their current share is about 10%), they are costing French consumers about 3% of the value of their domestic expenditures on tiles, or \$15 million.

Indirect effects could also be pronounced. Tile manufacturing lends itself to significant scale economies. In a barrier free EC, it could be expected that significant consolidation in the tile industry would take place. Centralized production units would serve distant markets through exports programs. Overall, this should exert downward pressure on prices, further benefiting consumers.

5. Electrical Products and Machines

Given the low voltage directive has all but eliminated technical trade barriers in household appliances, it is more revealing to draw a case from the high voltage sector. The case of wood working machines has been chosen, based on a recent paper submitted to the Commission⁽¹⁴⁾.

Regulations for the commercialization of wood working machines, differ significantly in France as compared to Germany, Italy and the UK. In France, additional safety devices (protective hoods) are required and machines must be tested and approved through the Minister of Labor. In addition a separate testing and certification process is required. The testing procedure must be repeated for each type of machine to be imported and takes from six months to a year to complete. By comparison, similar tests in Italy, Germany and the UK take two to three months.

In this case, the three criteria test is less clear. It could be argued that protective hoods are necessary for the safety of the French workers. The fact that other countries do not require the same measures is a philosophical difference in the needed level of protection. One implication is that the simple policy of mutual recognition would not resolve the problem, and a harmonization would be necessary. However, the cumbersome testing procedure and delay cannot be readily justified by the criteria test.

EC suppliers of wood working machinery have reacted in different ways to this trade barrier :

- Many, notable UK suppliers, do not attempt to export to France,
- Italian manufacturers have modified their products and export only a standard model to France, thereby economizing on testing costs,
- German suppliers export only machines with an automatic feed mechanism, which circumvents the worker safety requirement.

It has been estimated that the direct impact of the French regulations and testing procedures increases the cost of imported machines by 20-30% of the machine's value. If technical regulations were harmonized at a "non-French" level, scale economy (indirect) effects on the order of 3-5 % of production costs could also be realized⁽¹⁴⁾.

(14) Gewiplan, "The Realization of a Joint Domestic Market"

6. Telecommunications Equipment

A recent paper by the DIW⁽¹⁵⁾ presents convincing evidence on the existence of technical barriers in the PABX (private automatic branch exchange) market and it is to this topic that we now turn for the sixth and last case study.

The principal thesis is that the EC market for PABX is fragmented as a result of differing national technical and regulatory standards. This arises from two sources which correspond, once again, to differences in technical standards and a costly testing and certification program :

- differences in standards and over-specification of requirements,
- excessively costly, complex and duplicative testing procedure without clear administrative processes.

Despite efforts to harmonize standards, differences still exist across major EC members. In addition, standards are imposed "... well beyond those needed to avoid network damage"⁽¹⁵⁾.

Besides differing standards, delays surrounding the approval process and the lack of a formal appeal procedure compounds the technical trade barrier ; foreign companies may not have enough confidence in the integrity of the approval process to even attempt to obtain approval for their products. Below is a table comparing the various delays and appeal procedures across major EC countries with those of the US⁽¹⁵⁾.

COUNTRY	DELAY	APPROVAL	FORMAL APPEALS PROCEDURE
Belgium	3-6 months	PTT	No
France	12 months	PTT	No
Germany	6-12 months	PTT	No
Italy	6-12 months	PTT	No
UK	3 months (min)	British Approval Board	Yes
US	less than 10 weeks	FCC	Yes

(15) Deutsches Institut für Wirtschaftsforschung, "The Economic Benefits of a Common Concept for Telecommunications within the European Community" 1986.

The three criteria test could be met, if indeed the network could be damaged by use of certain PABXs and thus jeopardize the public interest. Mutual recognition, for similar reasons, cannot be the solution, so a harmonization of standards appears too be the answer for removing technical barriers in this sector. As for testing and certification, a number of measures should be taken, among them, disassociating the PTT's from the direct approval decision, reducing the delays, and instituting a formal appeals process.

One direct impact of removing the technical barriers will be the reduction in costs incurred for PABX approval. However, the most important direct benefit of harmonizing PABX standards and eliminating the type approval procedure are the cost savings certain countries may enjoy as a result of importing lower cost equipment. The case of Germany provides a good example.

PABX manufactured prices are over twice as high in Germany as those in France. Yet, because a French manufacturer would have enormous difficulty in obtaining approval in the Bundespost, PABX exports from France to Germany are almost non-existent. The following table shows price differences for small to medium PABXs, and the direct cost savings that could accrue to German consumers if the German market were open to lower-priced French products.

PABX	VOLUME IN GERMANY (000 Lines)	PRICE/LINE (DM)		POTENTIAL COST SAVINGS (*) (000 DM)	AS % OF MARKET VALUE
		GERMANY	FRANCE		
2-29 lines	54.1	875	323	1493	3.2%
30-50 lines	133.2	826	302	3489	3.2%
51-100 lines	106.1	777	268	2700	3.3%
Total PABX	293.4			7682	3.2%

Source : Industry statistics, 1985 ; furnished in confidential interview.

* Assumptions: French manufacturers obtain 10% share of market ; one half of the price difference remains after the export market opens.

The table suggests that a direct cost reduction of over 3 % of total expenditures on PABXs (equipment only) could be realized if French manufacturers could capture a 10 % market share in Germany.

Indirect benefits are equally compelling and include :

- reducing the current fragmentation of the PABX industry allowing it to enjoy the significant scale economies in production and r&d,
- increasing the incentive to experiment, which will aid the inovativeness of the European industry,
- reducing entry barriers to encourage start-ups of small firms wishing to attack selected market niches.

All these features should increase specialization among current producers, encourage trade, and strengthen the EC industry with respect to global competitors.

IV. CONCLUSIONS

- The elimination of technical trade barriers is a *sin qua non* condition for creating a single EC market in 1992. Businesses polled on the subject view technical trade barriers as one of the two most severe obstacles to trade within the Community.
- Significant technical trade barriers exist in each of the six sectors considered in this study. Of the six specific technical trade barriers examined, none indisputably met, in the author's view, all three criteria which "justifies" a technical trade barrier.
- All member countries have similar goals for protecting health, safety and the environment. Differences on how these goals should be reached account for a large reason why the technical trade barriers exist. Two additional reasons explain why certain technical trade barriers are especially difficult to remove :
 - . protection of special interests,
 - . protection of a "strategic industry".
- In theory, the principle of mutual recognition and the (ongoing) harmonization of essential health, safety and environmental requirements should eliminate technical trade barriers. In practice, this has not yet been the case. Because of the manoeuvres of member countries, the inherently slow process of adopting EC directives, and uncertainties businesses have about legal recourse, technical trade barriers have proved extremely difficult to overcome.
- The new approach to removing technical trade barriers, and the harmonization of standards that it promotes, should speed up the process of removing technical trade barriers.
- Removing barriers will generate economic benefits to both producers and consumers throughout the Community. In the six sectors studied, the existence of technical trade barriers reduces consumer choice, delays the introduction of new products, and causes higher relative prices for similar products.

5.

The "Cost of Non-Europe":
Some Case Studies on Technical Barriers

GEWIPLAN

THE "COST OF NON EUROPE": SOME CASE STUDIES ON TECHNICAL BARRIERS

EXECUTIVE SUMMARY

FEBRUARY 1988

Gesellschaft
für Wirtschaftsförderung
und Marktplanung mbH

Friedrich-Ebert-Anlage 38
D-6000 Frankfurt a. M.-1
Tel.Sa.Nr. 069-74 04 71
Telex: 412998 gwpl-d
Cable: Gewiplan

CONTENTS	Page
Introduction	1
PART A: THE NATURE OF THE PROBLEM	4
1. Technical Specifications	4
2. Harmonization of Technical Specifications	6
3. Removing Technical Barriers	8
PART B: CASE-STUDIES	10
1. Remarks	10
2. Methodology	11
3. Results of Fact-Finding	12
2.1 Technical Specifications	12
3.2 Results	13
3.2.1 Lifts	13
3.2.2 Dishwashers	14
3.2.3 Weighing Equipment	15
3.2.4 Wood-working Machines	18
3.2.5 Fire Protection Products	24
PART C: CONCLUDING COMMENTS: THE PRODUCT POSITION IN THE MARKET	26

Introduction

In the course of the "Cost of Non-Europe" study, GEWIPLAN was commissioned to analyze the problems surrounding "Technical Barriers".

The work entailed:

- identification of existing technical barriers
- description of possible differences in technical specifications between the relevant countries, Germany, France, Italy and Great Britain
- determination of the possible impacts of a harmonization of technical specifications

From the numerous products available for which technical barriers exist, the following products were selected.

- product group: wood working machines
relevant products: - planing machines
-- single-spindle type
-- multi-spindle type
- product group: testing and measuring equipment
relevant product: - weighing machine,
especially mechanical
weighing machines for
consumer purpose (household
and kitchen balances)
- product group: low tension product
relevant product : - household dishwashers
- product group: fire protection
relevant products: - doors (inhouse)
- plates (inhouse)
- product group: electrically driven lifts
relevant products: - electrically driven
passenger lifts
- electrically driven
material lifts

The criteria applied in selecting the products were:

- already executed harmonization of technical specification
- non-executed harmonization

In order to ascertain the impact of already executed or future harmonization, case-studies were carried out with manufacturers. The Executive Summary presented is composed of three chapters:

PART A: contains a short description of the justification for the existence of technical specifications; a definition of technical barriers; and the efforts by the EC for harmonization.

PART B: This section contains the results of the case-studies.

PART C: concluding comments

PART A: THE NATURE OF THE PROBLEM

1. Technical Specifications

Technical Standards are basically designed by manufacturers themselves.

The classical form of technical standards arising from industrialization served to rationalize production. The objectives were:

- simpler production
- reduction of types
- increase of lotsize
- cheaper products

The fact that technical standards are formulated for increasingly more areas, which even the judiciary now refers to, means an extension of the aspects involving technical specifications.

We must distinguish:

- technical standards
- technical regulations
- technical certification

Technical standards are voluntarily agreed codifications of the form, functioning, quality, compatibility and/or exchangeability of methods, products, processes and services.

Technical regulations are specifications as to form, construction, performance (etc.) of products, service and sometimes even of processes and methods, included or referred to in public law, e.g. for health, safety, environmental and consumer protection.

Technical certification comprises arrangements such as technical inspection, testing and comparisons, for identifying conformity to given standards or regulations. The evidence is usually found in testing reports. For simplicity, products may carry and marketing may employ approval signs and conformity of certification marks.

2. Harmonization of Technical Specifications

Harmonization implies the existence of varying technical specifications. Technical standards are indeed voluntary agreements between firms, however, inter-firm and branch-specific aspects are frequently devised with the possible consequences that foreign suppliers are confronted with competitive disadvantages. In order to realize supra-national interests, the national organizations, such as DIN, AFNOR, BSI etc., cooperate under the framework of CEN and CENELEC.

At the end of 1983, only 147 European standards had been adopted by CEN and CENELEC together; draft standards in total numbered 290; CENELEC harmonization documents amounted to 320 and draft CEN/CENELEC harmonization documents added up to 147. On the other hand, in 1983 DIN was said to have adopted 23,000 standards, AFNOR approximately 18,000 and BSI some 13,000.¹⁾

If an internal market is to be realized, any divergences in national technical specifications must be harmonized.

1) see: Pelkmans & Vanheukelen, Coming to grips with the internal market, EIPA, 1986

Increasingly Mutual Recognition is replacing old style harmonization.

The mutual recognition principle was already referred to in the Treaty of Rome in the context of professional qualifications, and introduced relatively early in the financial sector. It began to be used widely in the technical standards field in the early nineteen eighties. However, the 1985 White Paper generalised the principle and spelt out the philosophy behind it.

3. Removing Technical Barriers

Removing technical barriers refers to activities with respect to technical standards, technical regulations and technical certification.

The actual problem regarding technical barriers is not so much the possibly different technical standards but more the technical regulations and technical certification (a well-known exception is e.g. the field of telecommunications).

As stressed previously, technical standards are of a voluntary nature; technical regulations have a predominantly legal character primarily involving the implementation of national environmental and safety measures. Internationally active companies themselves are interested in orientating the national technical standards to international practice. The expert discussions conducted made it clear that the companies consider technical standards as unproblematical with regard to an international exchange of goods. Technical regulations and technical certification are based on national considerations, whereby safety aspects, consumer protection and environmental aspects dominate. Due to the influence of these interests, technical regulations are created which differ between states, i.e. the creation of trade barriers is a possible side-effect.

Such technical barriers are of a partially prohibitive nature in the case of wood-working machines and, to a certain extent for fire protection products and weighing equipment.

PART B: CASE-STUDIES

1. Remarks

The work of GEWIPLAN is not so much to analyse and quantify the costs and benefits of technical specifications as such, but to scrutinize the effects of removing technical barriers among EC-Member States' markets in the five product groups, electrical lifts, wood working machines, consumer orientated mechanical and electro-mechanical weighing machines, dishwashers and specific products of the fire-protection sectors (doors and panels).

2. Methodology

The evaluation of public statistics in the study-relevant countries, Germany, Great Britain, Italy and France was accompanied by conducting expert discussions with individual manufacturers from each country (84 expert discussions altogether). This produced firm-specific estimations of a largely qualitative nature.

3. Results of Fact-Finding

The effects of removing technical barriers depend on, amongst other things, the market situation, competition, the product and the divergence of regulations.

3.1 Technical Specifications

The level of harmonization of technical specifications involving the products analyzed can be divided into two groups:

Product group 1: harmonization already conducted

- dishwashers (low voltage directive)
- lifts (EN-81 standard)
- mechanical weighing equipment (directive)

Product group 2: lack of harmonization measures

- woodworking machines
- fire protection products

3.2 Results

3.2.1 Lifts

As a result of the EN-81 standard published in 1984 technical barriers no longer exist in this sector. A concentration process began in the sixties and was completed in the middle of the seventies. A number of companies were bought out/stopped production. Today there are five important suppliers within the four countries. Production volume fell from 25,900 units to 21,900 units, which represents a decrease of approximately 16 % between 1974 and 1985. This was caused on the one hand by the very close correlation between construction activity and the demand for lifts and the substitution of electrically driven lifts by hydraulic driven lifts on the other. (The EN-81 refers only to electrically driven lifts.) In 1985, the share of hydraulically driven lifts amounted to 35-40 %; in 1975 this share amounted to 10-15 %. Manufacturers also do maintenance work.

3.2.2 Dishwashers

The low voltage directive has applied to this sector since 1976. Remaining technical differences (e.g. the UK's 240 volt system) create no serious problems for trade.

In the case of dishwashers, concentration also set in in the sixties. Today there are approximately 6-8 firms active in this market, whereby there are none in the UK and only one manufacturer in France. Italian production primarily involves contract production for foreign suppliers who still partially exploit the comparative cost advantages. Production of dishwashers rose in the period 1975/1980 by approximately 38 % (from 1.4 mio. units to approximately 1.9 mio. units).

3.2.3 Weighing Equipment

The EC guideline of 1/7/1982 has led to a harmonization of the technical specifications being conducted. De facto, however, considerable differences still exist particularly those caused by testing and certification requirements.

Mechanical weighing machines are being increasingly replaced by electronic scales, particularly in the case of industrial and shop scales. The demand for mechanical household scales is stagnating. Manufacturers of scales who did not switch into electronic scales have had to move into up-market niches. To survive they have had either to rely on low wages or to introduce rationalization investment.

As a result we observe:

- few important suppliers in the mechanical scales market (1-2 manufacturers per country)
- substantially identical manufacturing costs with divergent costs structure

The average manufacturing costs for personal scales amounts to approximately 7-8 ECU. The structure of the costs are comprised of the following:

10-20 % plant costs, 30-40 % personnel costs and approximately 40-50 % material costs. The size of the material costs is influenced by the

- existing model variety
- divergent national technical regulations.

The divergent national regulations primarily concern the calibration and scaling. Therefore, in France e.g. - as opposed to the other countries - there exists a calibration obligation for scales with a load exceeding 350 g. In Great Britain the units of weight must correspond to the imperial system. There are also differences regarding the limits of calibration error. In Italy and Great Britain this amounts to +/- 1 d from zero to maximum load, whereas the error limit in France and the FRG amounts to +/- 1 0.5/1/1.5 d. These divergent regulations lead to an increase in the number of components so that a manufacturer supplying all countries requires 8,000 components. Harmonization could result in reducing this number to approximately 800-1,200, which would represent a material costs saving of approximately 15-20 %. With average material costs of approximately 40-50 % - related to manufacturing costs - this would represent a savings per balance of approximately 0.2-0.8 ECU.

Possible harmonization of technical certification and technical regulations has only slight impacts because:

- manufacturer concentration has not yet taken place
- adaption investment has been carried out
- demand is stagnating.

The direct effect of harmonization will be in the order of magnitude of less than one percent.¹⁾

Indirect effects will result from possible reduction of components as well as a more efficient utilization of production capacity.

Due to the type variety (= small lot sizes) as well as the relatively large share of manual work in the manufacturer of scales (calibration), cost reduction with a rise in output is very slight. Related to manufacturing costs, costs reduction would amount to less than 3 %. With a stagnating output of approximately 10 mio. scales in Europe (approximately 50 % thereof in the relevant countries), costs savings would amount to an approximately maximum of 2 mio. ECU.

1) test costs per type: 2,000 ECU, related to an output of at least 200,000 units at 7-8 ECU, this represents a cost share of less than 1 %

3.2.4 Wood-working Machines

Harmonized technical standards do not exist.

However, different regulations only exist in France. Similar norms apply in Germany, the UK and Italy.

In July 1980, various decrees concerning the general safety of machines and devices were issued by the French government. Regulations for the formal implementation of these regulations were published in 1981 and 1982, and also came into force in 1982.

The new rules tightened both safety standards and testing procedures. Under decrees 81-170, 171, 172, 173, 408, 409, 410, and 411, there are new rules for self-certification, for a "visa d'examen procedure", and for homologation.

According to the type of machine, the costs for additional protective facilities amount to approximately 1,200-1,400 ECU per machine. These additional regulations apply to all suppliers, even the French, i.e. they are competitively neutral (upwards trend of economy of scale curve).

The consequences of the French regulations are as follows:

Tests are frequently duplicated and repeated, which imposes heavy travel and transport costs, as well as requiring complex and duplicated French-language documentation for each separate test. Test fees are 300-800 ECU per test. Making suitable assumptions about adaptation costs, production and export volumes, we estimated that compliance with no French norms would raise prices by 6.6-20 % per machine. Firms interviewed reported figures of 7-10 % extra costs.

The testing duration itself is between six months and a year. In the other countries, Italy, UK, FRG, the test duration extends to 2-3 months only.

The firms react to the French decrees in varying manners:

- some foreign suppliers did not carry out adaption investment with the consequence that no machines are exported to France
- in so far as it was accepted, manufacturers of special machines passed on the full cost of the price rise to the customer

- Italian manufacturers carried out product improvement and concentrated on exporting smaller, standardised machines to France
- German manufacturers primarily supply CNC controlled machines with automatic feeding of the workpiece, i.e. this new technique takes the safety aspect into account
- there are no noteworthy British exports to the French market

Taking the described state of affairs into account, the following direct costs of a non-realised internal market will arise:

Planing, milling or moulding machines (1986) in mio. ECU

	<u>France</u>	<u>Italy</u>	<u>UK</u>	<u>Germany</u>
Production	17.5	48.7	9.4	101.5
Imports	9.5	5.6	8.0	13.3

Imports share	54 %	11.5 %	85 %	13.2 %

Exports	6.9	31.6	5.3	100.0
Exports share in %	39 %	64.9 %	56.4 %	98.5 %

share of				
single-spindle type	60-70 %	98 %	80 %	6 %
multi-spindle type (production 1985)	30-40 %	2 %	20 %	94 %

Based on the French foreign trade data - imports - and the focal points of production in each country the following results:

French imports of planing, milling or moulding machines (in 1,000 ECU)

	1983	1984	1985	1986	share of conventional machines ¹⁾	
					in %	in 1,000 ECU
<u>Total</u>	7,256	6,770	7,872	9,528		
EC	6,907	6,587	7,442	9,030		
- Germany	4,508	4,165	5,624	5,716	6	343
- Italy	1,967	2,143	1,731	2,920	98	2,860
- UK	257	198	26	212	80	170
other countries	350	183	430	498		3,373

1) estimations

In 1986, French imports of (conventional planing, milling or moulding machines amounted to approximately 3,3 mio. ECU. The direct effect of harmonization at the French level would accordingly amount to approximately 0,2-0.33 mio. ECU. From the longer term viewpoint the complete market situation must be considered. The demand for

conventional planing, milling or moulding machines is tendentially stagnating/declining.

Consumption of planing, milling or moulding machines (in mio. ECU)

	France	Italy	FRG	UK	Total
1983	19.2	28.9	32.6	11.9	92.6
1984	16.7	20.8	10.7	10.2	58.4
1985	19.0	34.0	31.2	12.7	96.9
1986	20.1	22.8	14.7	8.3	65.9

Source: estimations

Harmonization of the technical regulations at a "non-French level" could lead to an expansion of production, particularly for the Italian manufacturers. The expense of French manufacturers, i.e. the number of French manufacturers (currently approximately 6 firms) would be reduced. The initial basis for further observation is the French production volume, which amounted to 17.5 mio. ECU in 1986. Taking into account the well-known economies of scale in mechanical engineering of approximately 3.5 % in

the case of a rise in average lot size to approximately 30-40 units, this results in cost reduction of 17.5 mio. ECU x 3-5 % = 0.5-0.9 mio. ECU.

3.2.5 Fire Protection Products

Harmonized standards do not exist in this field.

Considerable differences exist in each country regarding the demands on the products in the case of fire. The strictest regulations are in the FRG, followed by the UK, France and Italy.

Production of fire protection doors and panels
(in mio. ECU)

Production	UK ¹⁾	F	I	FRG	Total
1983	102	34	2	99	237
1984	110	33	4	100	247
1985	114	34	5	88	241
1986	116	37	7	106	266
⋮					
1992	130	85	20	140	375

1) also contains, among others, fire protection adhesives and mortar

Source: estimations, based on interviews

Trade is negligible due to regulatory divergences, which for example raise UK and German product prices in Italy, e.g. a domestic fire protection plate costs 5-6 ECU per m² in Italy; a German product costs 12.3 ECU per m²; an English product costs 9.6-12 ECU per m².

Manufacturers would incur prohibitive fixed costs if they tried to meet more than one set of specifications.

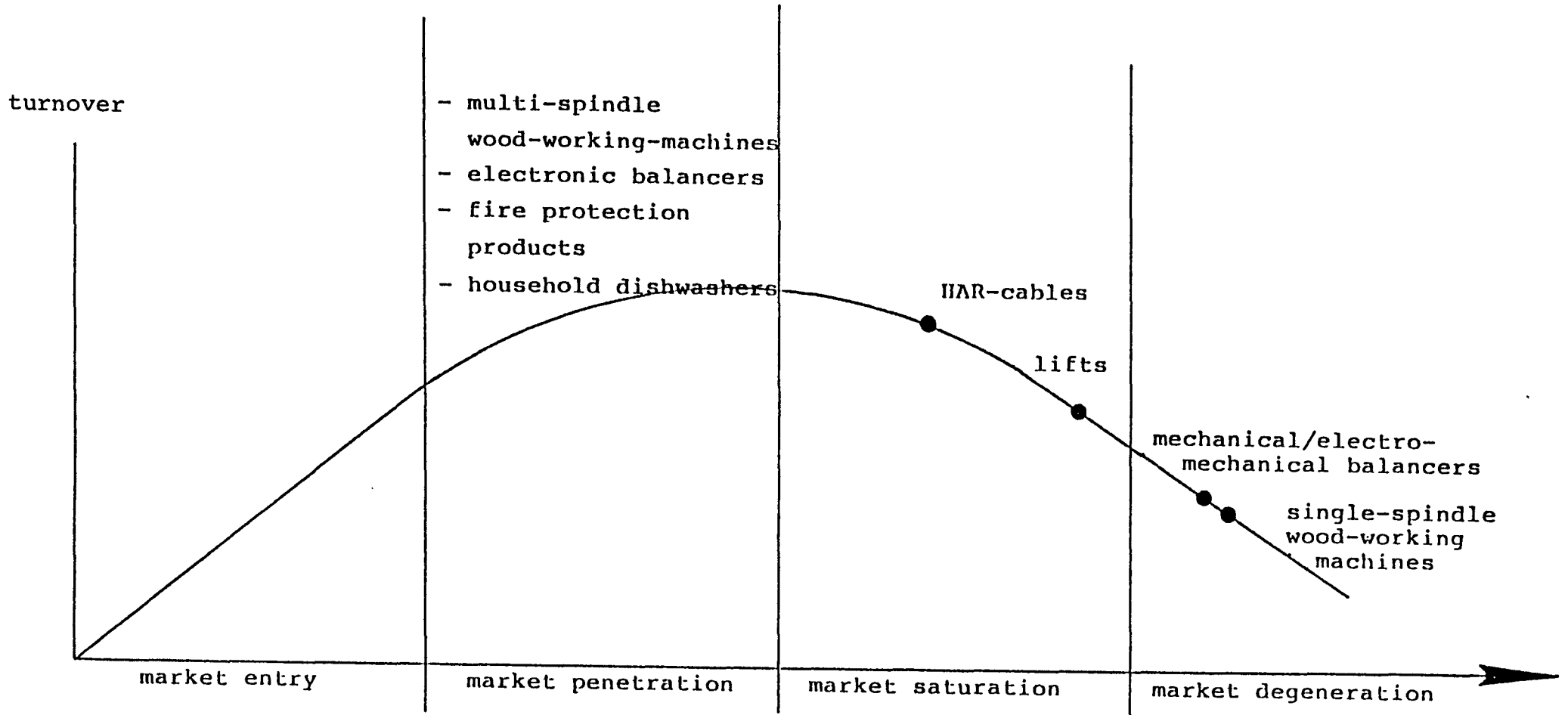
The high costs of approval (FRG e.g.: 14,000 ECU per plate type, UK approx. 2,500 ECU) have the effect of acting as a barrier to market entry, because related to a volume of approximately 500,000-1 mio. m², this represents a product price increase of less than 0.1 %. Transport costs at 10-20 % of sales price also restrict exports.

In the long run it may be assumed that harmonization will take place at the level of UK or German standards. If so the prices throughout the EEC could not differ by more than transport costs from the price at which the most competitive EEC producers could meet these specifications.

PART C: CONCLUDING COMMENTS:
THE PRODUCT POSITION IN THE MARKET

When the life cycle of the products is considered, it can be seen that most of the products for which harmonization measures have been established are on the decline. That this is possibly not purely coincidence arises from the harmonization procedure up to now. Product-specific stipulation of technical standards takes some years - even at the national level. If the multi-nationality of the procedure is taken into consideration, a period of 5-10 years was necessary to come to an agreement. In the meantime, the relevant market developed in such a way that harmonization was "overtaken" by market development. If the intention is to realize a domestic market by the end of 1992 then it is necessary to reverse the harmonization policy, i.e. the replacement of national regulations by EC regulations. This is in accordance with the "new approach" in which only cornerstone data is defined. The following was ascertained with regard to the development of each product:

Product life cycle



6.

**The "Cost of Non-Europe":
Obstacles to Transborder Business Activity
European Research Associates & Prognos**

**THE "COST OF NON-EUROPE":
OBSTACLES TO TRANSBORDER
BUSINESS ACTIVITY**

**EUROPEAN RESEARCH ASSOCIATES
&
prognos**

**THE¹ COST OF NON - EUROPE:⁴
OBSTACLES TO TRANSBORDER
BUSINESS ACTIVITY**

Executive Summary

Prepared by

Dr. Wolfgang Hager, European Research Associates

Dr. Heimfried Wolf, Prognos

in collaboration with

François de Lavergne

Dr. Andrew Millington

Inge Weidig

November 1987

Table of contents

Chapter I:	Introduction	p. 1
	Methodology	P. 1
Chapter II:	Findings from the business survey	p. 3
1.	Individual obstacles	p. 4
1.1	Industrial policy	p. 4
1.2	Company law and taxation	p. 5
	Auditing	p. 6
	Taxes	p. 6
1.3	Product/production standards	p. 9
1.4	Trade obstacles	p. 10
1.5	Social Policy	p. 11
1.6	Capital and current transfers	p. 11
2.	Large and small companies	p. 12
3.	Country variations	p. 13
	United Kingdom	p. 13
	France	p. 13
	Germany	p. 14
	Italy	p. 14
Chapter III:	Measuring the costs	p. 15
	Estimating costs by sector	p. 18
Chapter IV:	The cost to the European economy	p. 22
1.	Cooperative networking	p. 23
2.	Business expansion	p. 25

Chapter I Introduction

Our task was to analyse in qualitative and, if possible, quantitative terms the economic costs incurred in transborder business activity (TBA) in the Community which are caused by **divergent and/or discriminatory laws and regulations**. Our brief was limited to manufacturing industries.

We use the term "transborder business activity" in contradistinction to arms-length trade and define it as any relationship between two firms in different countries linked in a long-term contractual relationship, and each of which carry out at least two functions with some autonomy from each other (e.g. selling; production; research). Only one of these functions need to be the object of a special contract.

The link is often, but not necessarily, accompanied by equity holdings, e.g. a subsidiary or a joint venture. Our empirical sample was largely limited to these two forms of TBA.

In identifying obstacles to TBA we did not limit ourselves to company law and related issues, but tackled the problem from the standpoint of enterprises. The broader question therefore became: in what way does regulatory diversity in Europe either discourage firms from engaging in TBA; or cause significant extra costs, relative to purely national operations, when they do.

Methodology

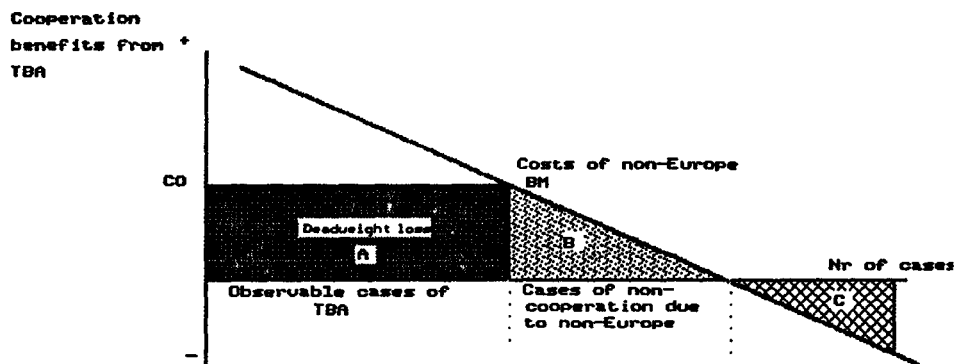
Our methodology required the scaling up of micro-economic insights to macro-economic consequences. These insights were derived from actors (both first hand through interviews; and second hand from academic surveys of business behavior); and from academic analysis on the nature of modern industrial organisation. Only at one level, i.e. the costs of "Non-Europe" to firms engaging in transborder business, was direct observation conceivable. Even here, given the time constraint, we relied on estimates of business executives interviewed. Interviews

also served to identify the chief obstacles to TBA, and their micro-economic effects on company performance.

Our empirical work was based on a standardised interview of some 70 companies in four countries (D, GB, F, I) which (collectively) had subsidiaries (or parents) in most Member States. In addition, we interviewed experts in national and EEC industrial federations and others with a working experience of our area of enquiry.

The key to our analytical approach is contained in Figure 1, which we re-use, with variants, throughout this report. We start from the assumption that the potential benefits of a contractual link between two Community firms vary from very high to negative. This is the sloping curve on the Y-axis.

Figure 1



These potential benefits are reduced by diseconomies in management and production which are caused by non-Europe. This is the part of reality one can actually observe (Chapter II), and which we tried to "measure" (point Co). Multiplied by the number of TBA cases actually existing in the Community, these costs are represented by the integral A in our graph. Chapter III presents the results of our attempts at quantification.

There is a point - BM - where these Euro-caused costs become larger than the benefits of what would otherwise be profitable cases of TBA. This creates integral B, a theoretical construct which we cannot directly observe although we

have ample empirical evidence that it exists. Integral B contains the "might-have-beens" of European industrial cooperation which were discouraged by non-Europe. To measure the cost of this loss we have developed a "theory" of the benefits of TBA adapted to the concrete situation of the Community today, defining the costs as the reciprocal, i.e. non-realised benefits. We discuss these opportunity costs in Chapter IV.

Integral C represents that part of industry where TBA would not make sense even in a Europe with uniform regulations for business. These are firms, or activities, with local markets and no need for outside technology or components, e.g. brick making; or small and very specialised firms who are in effect global monopolists in their particular niches: certain machine tool and instrument makers for instance.

Chapter II Findings from the business survey

Interviews were conducted in four major countries on the basis of a standardised interview. They were conducted between September 3 and November 11, 1987, and lasted from 1 1/2 hours to seven hours. They usually involved several of the following executives:

Chief executive Head of the legal department
Acquisitions manager Export manager
Finance manager Logistics manager

In order to increase the chance of making valid comparisons even with very small samples (15-20 companies in each country), we tried to set up interviews with companies from a limited number of sectors:

automobiles machinery/machine tools
pharmaceuticals telecommunication
textiles

In addition we interviewed several companies from the food industry, two computer manufacturers, a chemical company, a major rubber producer, and producers of professional and consumer electronics.

A third break-down planned in our sample, in addition to the sectoral and national one, was that between large companies and SMEs. Here, too, we obtained robust findings of significant differences.

1. Individual obstacles

1.1 Industrial policy

In this first item we strayed furthest from our brief to examine **regulatory** obstacles, as we are dealing here above all with the **discretionary** application of national regulation. We were interested in such things as cut-off from (para-)statel credit lines; discrimination in R&D support and in access to procurement markets for "foreign" subsidiaries; pressures to increase local content; etc. Our findings can be summarised as follows:

There was little hard evidence that governments discriminated widely against subsidiaries with foreign parents as regards access to R&D funds. However, gaining access to national programmes sometimes necessitated an extra effort to persuade authorities of the contribution to employment and exports; and the discretionary nature of decision-making left an (only slightly discouraging) margin of uncertainty.

However, national R&D programmes may be discontinued altogether if a whole sector passes into "foreign" hands (consumer electronics in Germany). On the other end of the scale, a country building up a strategic technology from scratch, i.e. one previously dominated by foreign technology, may practise outright discrimination against foreign-owned subsidiaries (telecom in Italy).

Some countries with inward investment controls (e.g. Spain) may make the take-over of attractive companies conditional on the simultaneous take-over of a lame duck.

As regards procurement, local content (employment) considerations were more important than ownership. Exceptions are newly established subsidiaries (often in hi-tech areas) who have not yet acquired a national "smell" and established working relationships with the bureaucracy.

Odd cases of "local content" maximisation could be found in the pharmaceutical industry, where price controls can be manipulated to that end. In Belgium, it was charged, authorities "rewarded" local production with higher prices. In Britain, it was suggested by non-British companies, price controls are related to total investment, including R&D. This led European companies to "overinvest" in British R&D activities: with 4% of the world market, Britain accounted for 10% of world research.

Non-Europe's competitive national industrial policies encouraged otherwise non-economic local production not just in these cases, and in the procurement case mentioned earlier, but also because of export credits. Thus German firms may upgrade local content in France in order to benefit from more generous export finance. On the other hand, products from truly integrated operations may fall below the local content barrier in any country, and hence be excluded from export credits, causing a competitive disadvantage from being "European".

More generally, some companies complained bitterly of the political risk involved in "going European" without the support of a "government" at that level. In one case, a company instituted an across-the-board cut of employment of 10% in all its subsidiaries to forestall charges of "job-killing". This economically inefficient step is the politically induced cost of the private sector doing on its own what the EC is trying in rationalising the steel sector.

1.2. Company law and taxation

Non-Europe in the field of company law, including accounting standards and fiscal law, were the single most important source of both high start-up costs and, more importantly, of dead-weight administrative costs and sub-optimal location of plant and use of resources in general.

Most broadly we can distinguish between:
different **accounting** practices, with considerable administrative costs of "translation" and integration for central management control; and the administrative costs, and effects on company flexibility, of "**fiscal suspicion**" which sees any transfer of assets and current payments, and of profits themselves, as "hidden profit distribution", i.e. an opportunity for tax evasion.

Auditing

Different auditing standards (e.g. historical cost vs. replacement cost accounting, adjustments for currency changes, etc.) are mainly a problem for integrated European multinationals (EMs). The administrative problem is magnified by the fact that companies' internal accounting (controlling) is coloured by existing legal auditing systems. Most large companies therefore have to produce three sets of figures: those conforming to the national requirements of the parent company, and which include the consolidated (i.e. "translated") accounts of subsidiaries; national accounts for each subsidiary; and a standardised, firm-specific system used by all units for controlling purposes. The work involved in producing legally required accounts is sometimes complicated by different reporting dates and periods in different Member States.

While some of the cost of "translation" can be handled by the appropriate software, experts are needed in both subsidiaries and parent companies to fine tune the system. Fees for legal consultants and, of course, external auditors, are substantial. The Fourth Company Law Directive dealing with accounting standards was mentioned only by one company as having improved the situation.

Taxes

The problems caused by "fiscal suspicion" and beggar-thy-neighbour attempts by national tax authorities to maximise their share of an EMs total tax liability have much graver consequences. They do not only cause administrative costs but influence locational decisions regarding group administration, R&D, and production.

The root cause of fiscal suspicion are above all differences in **profit taxes**, including structural elements such as R&D allowances etc. Companies are suspected to use **transfer prices** to maximise tax liability in the most favorable country. There is no doubt that this suspicion is sometimes justified, although even then there is a cost (of manipulation) to the firm; and a dead-weight loss to the economy.

Responses, notably regarding the desirability of a unified European company law, differed according to whether one talked to the tax specialists (notably external consultants) who rather enjoyed the game of "arbitrage"; and executives, notably of large companies, who recognised the cost to company management and planning imposed by fiscal suspicion. Moreover, a large part of the energies of tax lawyers were simply devoted to avoiding double taxation.

Thus, one French EM had to institute a complex system of cost-accounting at the production level to satisfy German authorities of the bona-fides of the prices charged to its German subsidiary. Difo a large German electronics company to satisfy Italian authorities. In addition, companies complained about the periodic and prolonged (up to 8 months) presence of controllers on the premises of especially German subsidiaries.

Another company pointed out that national requirements on transfer prices were inconsistent (e.g. as regards short-term variations of exchange rates), so that the company had to be in an illegal situation somewhere. In fact, "Europe would grind to a halt if national legislation were fully applied". Living with such ambiguities, however, is both costly and highly unnerving to executives.

The problem of transfer prices sometimes intersected with that of different product standards, since "home" and "export" prices for the same product could differ because of different specifications.

Many companies complained of the difficulty of charging its subsidiaries for **central R&D expenditure**. This is particularly awkward in view of the fact that, from an economic point of view (see chapter III below), technology transfer and R&D scale economies are among the most useful features of TBA.

Particular scrutiny (including at customs) is reserved for the **transfer price of software**. It was much easier, our respondents claimed, for an independent firm to "export" software at its just value than for an integrated TBA. Software makes up significant proportions of the value of an increasing number of products (machine-tools + -30%; telematics (50% +)); it is also the form in which production know-how is often transferred. If the full value of this "component" cannot be charged by the main technology holder in an integrated company or a joint venture, serious distortions result. I.a. a firm may choose to sell "embodied" software, i.e. a hard product, rather than utilising local production opportunities.

Yet a third consequence of suspicion towards "immaterial" transfers was the difficulty for central management companies to level a **management charge** on their subsidiaries. This again inhibits economies of scale in administration; and the development of Euro-centric rather than national loci of planning and know-how.

As regards Italy, many of these problems were accentuated by a second motive for suspicion, i.e. the circumvention of capital controls. This not only influenced current TBAs, but also business expansion (i.e. acquisitions; for more detail see the notes on individual countries, below).

In all, the extra administrative costs imposed by different auditing and fiscal systems was estimated at 10-30% of the relevant departments. This, to us, surprisingly high figure was cited by all large European companies. A partial exception were British companies which did not, by and large, engage in truly integrated operations. (See also section 3, below).

Many companies cited the impossibility of reducing tax liability by off-setting losses in one branch by profits in another as very costly to their operations.

One particularly serious obstacle to business expansion is the practice of tax authorities to levy capital gains taxes on firms taken over or merged, i.e. treating this as a case of "realised assets". The holding company, with both partners remaining legally in existence, is a clumsy substitute for a true merger. An exception are the Netherlands, where (foreign) companies can obtain a "ruling" before

a merger. That still leaves the problem of negotiating their exit from the previous tax residences.

A last item under the heading of company law and fiscal suspicion relates to the rigidity of many national company statutes. The growing preference of European multinationals to choose the Netherlands as headquarters had less to do with tax advantages (dividends), and more with the flexibility and pragmatism of Dutch laws, not least as regards the ability of holding companies to levy and transfer immaterial income, e.g. from royalties, trade marks, etc. Some firms have transferred from tax-friendly Luxemburg for this reason. Flexibility also extends to such things as voting rights - important in joint ventures - where tailor-made agreements between partners are accepted, provided they are spelled out in writing.

1.3. Product/production standards

While this problematique is the object of specialised studies in the Cost of Non-Europe project, our interest related particularly to its effect on integrated business planning in Europe.

We found that some large firms devoted 1/3 of their R&D budgets to the adjustment of their technology to different national settings. This obviously reduces the scale advantages from R&D which would otherwise accrue to integrated European companies. Alternatively, the innovative output of a given R&D effort would be greater. This problem applies particularly to telecommunication on the one hand and mass-produced electronic components on the other. It has little relevance in industrial plant and machinery made to customer specifications.

As regards product standards, even the most marginal divergences (e.g. labelling requirements) prevented, at the very least, efficient, i.e. centralised and flexible, stock management. Stock management, including the option to have a central European warehouse in a post-"1992" world, was particularly important to relatively small multinationals with specialised products (e.g. hospital supplies).

As regards regulations of production, the piecemeal introduction of pollution standards in Europe caused major uncertainties in investment planning and/or led to distorted locational decisions.

It is worth noting that all problems under this heading caused costs to EMs and rather discouraged them to increase the level of internal integration; while some of the same problems encouraged SMEs to seek local production partners to adapt their product to local standards; get type approval, etc.

1.4. Trade Obstacles

Again we limit our remarks to their impact on integrated business strategies.

Border delays and uncertainties are becoming increasingly relevant as just-in-time management of components is gaining in importance. TBA by EMs, with their tight logistics planning, is hampered by this even more than arms-length trade. While customs are one source of the problem, divergent social and technical regulation of the transportation industry was cited as an additional risk factor.

Intra-EEC applications of COCOM controls were mentioned by many firms in the electronics and advanced engineering sectors. The problems were hold-ups at the border; difficulties in carrying out speedy repairs (spare-parts); and differences in national COCOM lists.

Together with the familiar deadweight administrative and resource cost of border-crossing (1% of value in our estimate), uncertainty penalises otherwise efficiency-enhancing forms of integrated TBA which would allow large scale economies through decentralised components manufacture.

A particular problem is posed by Italy, which prohibits temporary imports of components for re-export in a chain of value-added, necessitating the administrative (fiscal, customs) registration of two sales. Dito for demonstration machines, test equipment and other temporary exports.

Non-Europe was also said to hamper business planning due to the discretionary and varied national administration of the common external policy by different countries (quota enforcement).

1.5. Social Policy

TBA, especially within integrated businesses, requires the exchange of some managerial and technical personnel. This raises the question of the "portability" of social security benefits, notably pension schemes, which are tailored to national fiscal systems and/or related to public schemes. In practice, the firm must pay twice, raising salary costs by 10 - 15%. Lack of "mutual recognition" of secondary and other school diplomas by dependents also reduced flexibility of technical and managerial staff.

A different problem is posed by differences in technical training in Europe. Man/machine interfaces and production in general are designed with particular skill combinations in mind. Some firms spend considerable sums to train the workforces in their subsidiaries to conform to a particular standard, and to make communication at the various technical levels possible.

1.6. Capital and Current Transfers

Here there were few general problems: most were country specific. One general problem, however, was the difficulty of gaining access to local stock-exchanges to finance a new subsidiary for medium-sized companies.

Italy, among the major countries, continues to be a special case. We deal with it under point 3 below. The main point to make is that only large and very sophisticated companies can engage in genuine TBA.

Currency risks were cited by virtually all French EMs, some of which are considering introducing the ECU as internal accounting unit. Complaints about currency risks were also occasionally made by companies in other countries. The extra problem raised for transfer prices has been mentioned. One German hi-tech

EM called for the speedy introduction of the ECU as an official means of payment.

2. Large and small companies

While there were important exceptions, TBA by European multinationals (EMs) on the one hand, and small and medium-sized enterprises on the other, could be clearly distinguished as follows:

1. Large companies always engage in some form of TBA. SMEs rarely do so.
2. SMEs are above all interested in marketing, with local production an unplanned afterthought when it occurs, e.g. via a gradual expansion of after-sales service; adaption of products to local standards; or co-production with a former sales "agent".

Large companies are more likely to systematically exploit cost advantages, notably labour and transport, and scale advantages; they are also driven by formal or informal local content considerations; more rarely by political diversification of supply risks (strikes). They also exploit investment and export incentives.
3. SMEs tend to have a relatively arms-length relationship with their production subsidiaries abroad, using long-term contracts not very different from those concluded with third parties. This reflects their relative scarcity of management resources and, in particular, international expertise.

Most EMs prefer a hands-on approach to management, not only in order to exploit all manner of technical and economic cost advantages (of which SMEs may be only vaguely aware); but also in order to pursue market strategies which are directed not only at the customers (as in the case of SMEs) but at competitors. Sophisticated financial management, including tax minimisation; use of capital markets; currency portfolio management, etc. is scarcely practised by firms with less than 2000 employees.

This makes sense in terms of relative management cost; but suggests untapped opportunities for external service providers, e.g. banks, with the requisite economies of scale.

3. Country variations

United Kingdom

The most striking peculiarity of UK companies is the extreme arms-length approach to management. Even world-sized companies seemed to look at their European subsidiaries more in terms of investment diversification than in exploiting the opportunities of continental integration. Thus, for example, the expatriation of staff was not an issue in any of our twenty interviews. R&D was pursued in parallel (duplicated) by closely related subsidiaries. "The first time we saw our colleagues was in the BRITE programme", according to an executive of a hi-tech Italian British-owned engineering subsidiary. Subsidiaries were often managed by special holdings with a handful of staff, headquartered in London - far from the manufacturing headquarters in the provinces, again confirming the financial over the industrial interest.

Given the low level of integration, non-Europe was not perceived as a great problem for British companies engaging in TBA.

France

In France, hands-on management was typical even for medium-sized enterprises. "Expatriation" of management staff was common. There was great pride in being "European". In contrast to the other three countries, being merely French was considered provincial. Like Italy, companies in mature sectors threatened by both German and extra-European competition saw the European "home market" as the only chance for survival through economies of scale. High levels of production integration brought out the problems of non-Europe more sharply than elsewhere.

Germany

German firms are reluctant players in the game of TBA. Direct exports are generally preferred over local production, except when it comes to exploiting labour-cost advantages in Britain, Spain, and Portugal. Formal and informal local content pressures also provide an incentive to produce abroad.

Machine-tool makers were particularly harsh in their comments about TBA with France, where a combination of government interference and unreliable delivery has produced a legacy of distrust. While state interference was a problem in Italy, the fact that there was not actually a government industrial policy made such interference less of a problem than in France.

Italy

Italian TBA fully confirms to the overall image of Italian industry, i.e. a private sector struggling to thrive in spite of the State.

As mentioned for France, large companies in the more traditional sectors see the extension to "Europe" as the only chance of remaining competitive. In other words, moves to rationalise European industry will not be spearheaded by the strongest country, Germany, but by relatively weaker competitors.

The major problem for Italian companies were capital controls which effectively prevent smaller firms from engaging in TBA. Getting permission to invest in a productive facility abroad is not a problem - it just takes time (3 months). Permission for an increase in capital already involves more difficult negotiations. Most difficult of all is to get permission to create a holding abroad. Only very large companies can assume the cost of "negotiating" such a permit with the relevant ministries; and to prepare lengthy annual reports to those ministries, which go well beyond normal audit requirement.

The combination of capital controls with controls on tax evasion, and hence the need to negotiate acceptable business plans with both the Finance and the Foreign Trade Ministries, was particularly felt to complicate life, even for large companies.

The extra-territorial application of Italian controls is another interesting feature: further investments by Italian subsidiaries (i.e. legally French etc. companies), need approval from Rome.

Chapter III Measuring the costs

The following table serves to illustrate the methodology we used to get orders of magnitudes of the costs of individual obstacles to TBA expressed in a comparable unit, i.e. total turnover.

Table 1

ONE FIRM'S COST

(case study)

Obstacle	interview data	published data	assumption	% of turnover
Fiscal administration	30 % due to NE		fisc admin = 15% of all admin; hence NE = 5% of all admin. white collar = 50% of salary costs; all salary = 25% of turnover 25 : 2 x 5%	0.625
Training	10 million ECU for systemic integration	turnover = ?	1/3 for diversity (NE)	0.07
R&D	25% of total for NE	Total R&D = 6.5% of turnover		1.6
Location optim.	5% savings poss.		divide by 2	2.5
Transport	10 - 15 of total due to NE		transport = 1 - 2% of turnover	0.2
Sum				4.995

Special case

Unused economies of scale	loss of 10% of \$ market	\$ market = 1/2 of turnover	reduce by half (resource saving)	2.5
Sum				7.495

The figures, which incidentally refer to an advanced auto components manufacturer, are surprisingly high; but yet higher figures could be found in state-dominated sectors (see below). The high figures reflect

- the very high "service" content of contemporary industrial production, i.e. administration, technology exchange, marketing, etc.;
- the considerable - and only partially realised - economies-of-scale opportunities which lead many companies to engage in TBA in the first place.

Of course, precise quantitative estimates were the exception, as most executives found it difficult to quantify e.g. hypothetical economy-of-scale gains. When they did quantify, however, the answers were surprisingly consistent. With these elements in hand we needed to make a series of - increasingly heroic - estimates to scale up our results to some level of sector, groups of sectors, and GNP.

The first step was to estimate an average level of cost for each obstacle and each industry for each country separately. The results are not reproduced here. The second step involved aggregating the country results, taking into account the peculiarities of our not always representative samples. This was done in an iterative round-table discussion among the principal interviewers. The rankings of the importance of various obstacles correspond roughly to 1 = less than 1% of turnover to 4 = 4% and above of turnover. (see table 2 overleaf)

These figures aggregate not just apples and pears but apples and cheese. Thus the cost of "company law" sums both the administrative cost, and induced scale-diseconomies. Both averages would be higher if there had been more truly integrated companies in our sample. Or, taking the example of trade-barriers, the figures may refer to actual transport costs; difficulties for just-in-time production-integration; or COCOM- induced problems for supplying and servicing advanced machine tools - problems which do not arise for more conventional producers.

Table 2

	pharma	telec	auto	textiles	machinery
industrial policy	4	3-4	3	0-1	1
company law (1)	2-3	2	3	0-2	2
"social"regul.(2)	2	1-2	2	0-3	0
techn. standards	4	4	2-3	1	1-3
other trade barr.	2	3	2	1	1-3
technology trade	2	1-2	0	0	0
int. payments	*	*	*	*	*

(1) includes administrative costs and sub-optimal production

(2) includes lay-off regulations, education, and "expatriation"

* taken in isolation, payments restrictions ranked high only in Italy

Leaving these caveats aside, we felt that our sectors fell into three broad groups:

I Pharmaceuticals and telecommunications

These were highly regulated and protected industries with a high incidence of obstacles of almost all kinds, especially "industrial policy" and "technical standards". We estimated the total cost of non-Europe to firms in this group engaging in TBA at 9% of turnover.

II Automobiles

This group, together with firms in consumer electronics, a large rubber manufacturer and food processors, were hampered by industrial protection; difficulties to adjust the labour force in response to market shifts; economy-of-scale losses

due to quite marginal differences in technical standards; and substantial "administrative" costs if they were highly integrated. Total cost of TBA was estimated at 6% of turnover, i.e. higher than both average profits, or average R&D expenditure of firms in these sectors.

III Textiles and machine tools

This group had in common: high specialisation; a relatively low integration at the component level; subsidiaries which either served marketing and service purposes; or produced fairly independently parts of the product range; few problems with technical standards. Total cost of TBA = 1.7% of turnover.

Estimating costs by sector

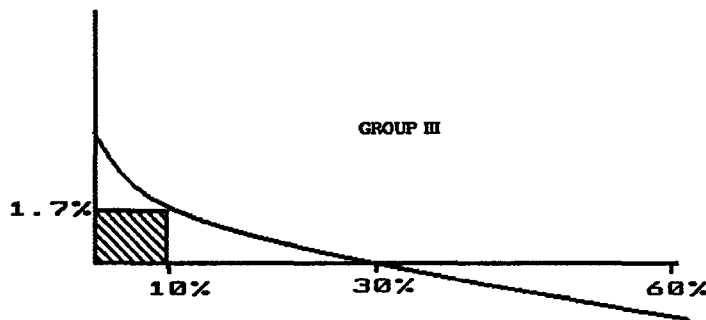
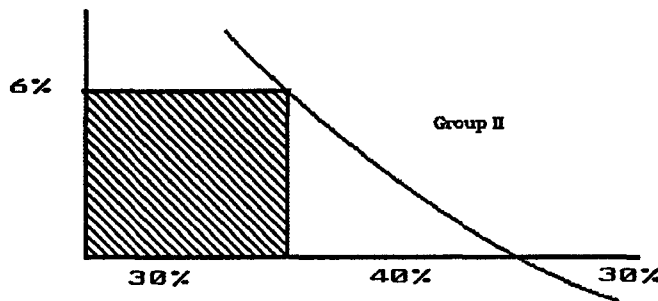
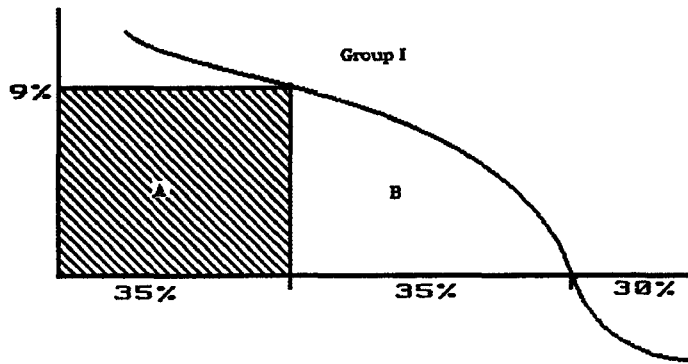
Our next step was to estimate, "on the back of an envelope", the points on the X-axis of our graph, i.e. the proportion of turnover in each group which was generated in a TBA context forming the base-line for integral A ; the proportion potentially suited to TBA but discouraged by non-Europe (base-line B); and the proportion which would remain "local" under any circumstances (C). This latter category included local component suppliers as well as local repair and other services.

Table 3: Cooperation and potential

<u>Industry</u>	<u>TBA</u>	<u>potential TBA</u>	<u>efficient local</u>
pharma	30%	40%	30%
telec.	40%	40%	20%
auto	30%	40%	30%
auto (US owned)	60%	10%	30%
textiles,			
machinery	10%	30%	60%

With these assumptions our standard graph can be drawn in three illustrative versions.

Figure 2 **Cost of non-Europe : sectoral profiles**



We can also quantify more precisely the contents of integral A, which is
cost of TBA x total turnover x % of turnover involved in TBA

Since we are ultimately interested in the costs for industry as a whole, we do not make this calculation separately for our five sectors, but for three groups, "assigning" each two to four-digit industry to one of the three groups. Since the EEC does not publish very detailed industrial statistics, and only on a country basis, we took our data from the OECD's **Industrial Structure Statistics 1984 (1986)**. That, however, omits countries such as France, so that we make our calculation for a single country, Germany.

Group I

3522 pharmaceuticals	19 billion DM (rounded)
3825 Office & computing machin.	15
3832 Communications equipment	55
3841 shipbuilding	8
3842 railroad equipm.	1
3845 aircraft	9
Total	107

Group II

31 Food etc.	172
35 Chemicals (exc.351,3522)	200
3833 Electrical appliances	15
384 Transport (exc.see I)	152
Total	539

Group III

32 Textiles etc.	66
33 Wood products	36
34 Paper etc.	57
351 Industrial chemicals	106
36 Non-Metalic Min.Prod.	40
37 Basic Metal Ind.	90
381 Metal products	80
382 Machinery (exc.3825)	142
383 Elec.machinery (exc.3832) and 3833)	63
385 Professional goods	16
39 "Other"	8
Total	704

The integrals A thus become:

Group I

$35\% \times 107 = 37$; $37 \times 9\%$ (cost of TBA) = 3.4 billion DM

Group II

$30\% \times 539 = 162$; $162 \times 6\% =$ 9.7 billion DM

Group III

$10\% \times 704 = 74$; $74 \times 1.7\% =$ 1.3 billion DM

Total manufacturing 14.5 billion DM

Scaling up these results to the Community level needs taking account of the relatively large share of manufactures in German output; the relative strength of specialised (group III) sectors and weakness of some group II industries like electrical appliances, etc. In addition, the "military industrial complex", which belongs into the high-cost group I, is largely hidden in groups II and III. On the other hand, making more precise calculations on the four-digit level for all countries would be tantamount to creating a false illusion of precision for what are, after all, py-

ramidal guesstimates. Nevertheless, we feel that a loss of 30 billion ECU for the Community as a whole is a conservative estimate. To this must be added the contents of integral B, i.e. the non-realised TBA benefits to which we now turn.

Chapter IV The cost to the European economy

We turn in this last chapter to integral B in our basic graph, i.e. the cost to Europe of TBA which is discouraged altogether because of obstacles. This cost must be inversely related to the benefits of transborder business activity. So the more upbeat formulation of the question asked in this chapter could be: What (further) contribution could TBA make to the prosperity and integration of the European economy?

If in what follows we stress exclusively the benefits of TBA, the "classical" objections to business cooperation which were stressed in an earlier ERA report is not presumed to be invalidated: collusion, and other forms of anti-competitive behaviour, may reduce welfare; slow down technological innovation; and lead to firms which are too large to respond quickly to the economic environment. We do so partially in order to simplify exposition; and partially because the present period is not like any other:

- industry is experimenting with new forms of organisation which overcome many of the drawbacks of large size
- the completion of the Internal Market cannot succeed without TBA
- Europe is exposed, as never before, to competition from world-scale firms.

The exchange of goods and services on an arms-length and ad hoc basis, i.e. "trade" in a text-book sense, between independent firms in two different countries, is becoming the exception rather than the rule: **Contractual relationships between links in the "chain of value added" are becoming an essential feature of the modern economy.**

Transborder business links of this kind can involve one or all of the elements of the chain of value added, from basic research to R&D, organisational know-how, production or procurement of intermediate and final products, to marketing and other services.

The decision on the organisational "mode" of supplying a given link of the chain of value added involves a complex optimisation problem where firms seek to:

- minimise
 - information/search costs
 - transaction (negotiation on price and specification) costs
 - market risks (on supply and demand side) and
- maximise
 - market control
 - control over uses of technology
 - economies of scale.

A first conclusion to draw with regard to TBA in Europe is to point out the importance of the geographic space in which this optimisation problem can, or cannot, be tackled efficiently; and point to the evident properties of TBA as **creators of markets** for intermediate products, services, and, above all technology.

The benefits of TBA in the Europe of the 1990s appear more sharply if we distinguish between two patterns of industrial organisation: "cooperative networking" and "competitive expansion".

1. Cooperative networking

Cooperative networking can exist without equity participation. In practice, it is usually associated with minority shareholdings between partners; and even with 100% equity control (cf. results from our British sample; and for SMEs in general). In organisational terms, the differences to "competitive expansion" is that networking implies very loose management control at best; and that the link between two partners, and even between a parent and its wholly owned subsidiary, is narrowly focussed on e.g. the supply of a certain component, technology, and/or service (marketing).

This being said, cooperation between fairly autonomous, geographically and functionally specialised economic units in "networks", provides a combination of

strategic control and flexibility, and hence efficient short-term market responsiveness which is becoming the essence of modern business organisation. As an alternative to both centralised management and arms-length trade, it is an instrument for coping with two features of the contemporary economy: the globalisation of markets; and the speed of technological change.

Both lead to information overload. Thus it may become difficult for central management to know what technology is available at the production and product level in each of its hundreds of specialities; and where to sell "surplus" technology which is generated internally.

The information problem caused by technological and geographic (market) complexity is directly reflected in another cost, i.e. transaction costs. Although networking, even among equity linked firms, always involves negotiation on prices and specifications, these can be routinised in long-standing relationships with built-in elements of mutual trust. In this latter context one sometimes speaks of the "hostage function" of minority share-holdings.

Another, frequently observed, pattern is for two large firms to pool risks, and achieve economies of scale by developing or producing a component or other input, or sharing a service such as marketing. This form is often referred to as "strategic alliances". While it may have more than its share of anti-competitive dangers, it does provide a highly capital-saving way for firms to achieve world-competitive technology and scale; and to extend their market presence geographically so as to reap general economies of scale.

Last but not least, given the known hesitations of companies to engage in arms-length technology transfer (patent sales; licensing) which would compromise monopoly rents, cooperation - which allows such transfers (often on a barter basis) - tends to increase the diffusion of technology.

These micro-level effects are linked to specific macro effects. Information cost reduction and risk reduction combine to increase potential investment opportunities, hence raise total investment in the economy. Capital saving increases the overall productivity of capital. And technological excellence, combined with

rapid market responses to local opportunities and shifts in requirements, translates into a better defense of the home market against foreign competitors.

While these advantages are valid at any level, from sub-national, i.e. regional, to global cooperation, information costs and other barriers to transactions are relatively high in the European Community.

Information/transaction barriers are, of course, not higher in an absolute sense - geographic proximity and decades of living in a common market favour intra-European over extra-European links in this respect - but relative to the pay-off in terms of the size of individual national markets for a given "investment" in information/learning. This pay-off is likely to be much greater when extending business activity to the United States.

2. Business expansion

While virtually all larger businesses today engage in some form of networking, the creation of an integrated European economy also requires more robust forms of TBA. These involve the **extension of direct control from the management in the firm in one country over productive resources in another.**

The wholly-owned subsidiary, whether greenfield or the result of a take-over, is the typical instrument of expansion. Mergers are either a polite circumlocution of the same thing; or, more rarely, involve a genuine centralisation of two centers of control.

Business expansion is economically beneficial if it asserts competitive advantages of a firm more quickly and more effectively than is possible by trade alone. These competitive advantages may lie in technology and/or production know-how; management know-how; marketing skills, etc.

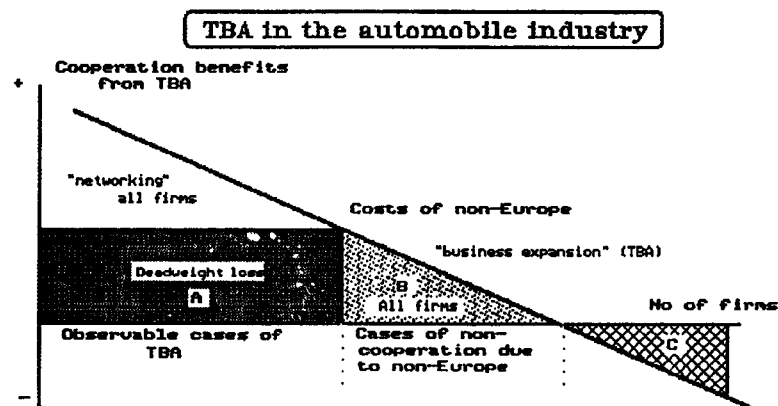
In theory trade, i.e. exports by firms having such advantages, will also serve to deplace inefficient competitors, with the winner reaping the economies of scale of the large market. In practice, however, this process is slow, with the eventual losers staying in the market while running down their financial and technological

assets. More importantly, adjustment may be inhibited by countervailing national subsidies and other forms of local protection.

This points to the single most important task of transborder "business expansion" for the completion of the Internal Market: the **rationalisation of industry**. Overcapacity is a typical feature of too much of European industry. It exists both in mature industries whose adjustment is delayed by national policies; and, occasionally, in high-tech industries fostered by other national policies. Equally, the two ills of Europe's R&D effort: duplication of national programmes; and preferential national procurement, will not disappear with legislation, but only when the nationality of the firms themselves will be sufficiently confused to make nonsense of national preference. No one in Europe can buy a national Airbus.

The difference between networking and business expansion is illustrated by the automobile industry. All manufacturers and component suppliers are cooperating; i.e. they are situated in the upper triangle of figure 3. Partial economies of scale in R&D and manufacture (e.g. engines) are achieved. But virtually all are in the lower triangle as regards business expansion. Rationalisation has taken place within the national context.

Figure 3



In practice, "networking" and expansion are often present simultaneously in business links, with the relative emphasis on de-centralisation and control shifting according to the strategic necessities of a technology (maturity) and a market.

To sum up, transborder business activity is a pre-condition for the functioning of a modern exchange economy. Its relationship to the overall 1992 project is therefore one of an accelerator or inhibitor of the positive effects, both static and dynamic, expected from trade and services liberalisation in general. As such it is a parameter to be put before the entire welfare function established for the 1992 project.

In turn, the likelihood of TBA increasing beyond present levels not only depends on the realisation of the White Paper's targets for company law, but on advances in the liberalisation and de-regulation of trade and services.

7.

The "Cost of Non-Europe"
for Business Services

Peat Marwick McLintock

THE COST OF NON-EUROPE FOR BUSINESS SERVICES

EXECUTIVE SUMMARY

Prepared by Peat Marwick McLintock

Dated: April 1988

1. INTRODUCTION

This study is part of a research programme undertaken at the European Commission by the Directorate General for Industrial Affairs and the Internal Market, under the title the Cost of Non-Europe. The studies in this programme investigate the costs to the Community economy of the continued fragmentation of the internal market, each study addressing a particular sector or type of cost. This study addresses the cost of non-Europe for business services. By implication the study also assesses the economic benefits which are implied by the removal of barriers to trade in business services envisaged through the completion of the internal market by 1992.

The main elements of the study were to:

- examine the process of externalising services, that is contracting services out to specialist firms and investigate the degree of externalisation in the European Community,
- examine whether the existence of barriers within the internal market limits the ability of firms to purchase the most cost effective business services provided within the Community, and to provide estimates of the extra costs borne by enterprises,
- estimate the benefits from completing the internal market, both for enterprises purchasing business services, and for the business services sector itself.

Business services include the technical, professional and operational services generally consumed by firms rather than households and are those commonly defined as business services for most statistical purposes in European countries. They exclude financial services such as banking, insurance and securities.

This executive summary outlines the main findings of the study. The broad findings of the existing research helped shape our questionnaire and the conclusions were tested and in the main confirmed by our sample interviews. Despite our small sample, therefore, we felt happy with the overall trends in our conclusions.

2. METHODOLOGY

2.1 General

The original research for the study was based on two sets of face-to-face interviews and the completion of two corresponding questionnaires. One set related to the demand side, the users of business services, and consisted of a sample of companies in sectors spread across the economy from Benelux, France, Germany, Italy and the United Kingdom. The other related to the supply side of the question, and consisted of interviews with companies which provide business services. In order to draw on a broad spread of experience we interviewed trade associations rather than individual firms in those sectors, generally at the national, but in some cases at an international, level.

The demand questionnaire on which the interviews have been centred covered a number of aspects of service provision:

- the demand and supply of business services: the range of services employed, the source of supply (whether internally or externally supplied), the extent to which externally supplied services are imported, and the domestic availability of services,

- decision making and trends in the demand for business services from outside sources: the factors underlying the decision to externalise (i.e. shift the provision of a business service function from in-house to an external supplier of those services), or to internalise, the process of decision making, recent trends, and the effect in terms of cost implications and employment turnover of these trends,

- the internal market for services: perceptions of barriers to trade which exist in the business services market, and the effects of removing barriers on the demand for business services and on the overall economic activity.

The supply side questionnaire had four points of emphasis:

- the extent to which services are traded internationally,
- the trend towards externalisation,
- the importance of trade barriers in the internal market,
- the likely effects on cost and demand for business services as a result of the completion of the internal market.

In addition to the supply side and demand side surveys we carried out a literature search which provided statistical information about the business services sector, insight into the economics of the externalisation process, as well as price and income elasticities. Further information about the business services sector in Europe came from the Peat Marwick McLintock factsheets, prepared for DGIII, which gave indications of the turnover in the main business service categories.

Finally, for guidance on the quantitative analysis of the cost of non-Europe for business services some existing econometric research was consulted, as was Peat Marwick McLintock information relating to comparative cost structures within Europe in certain business service sectors.

2.2 The survey

Wide ranging interviews were carried out with 100 companies which are users of business services and 20 trade associations representing business service suppliers. These were more or less evenly spaced between France, Germany, Italy, Benelux and the United Kingdom.

2.2.1 Demand side

The companies selected constituted a sample representing a wide spectrum of industries. They were of sizes ranging from small family run businesses to the larger corporations. They ranged from companies operating only in local markets to multi-national organisations with

links worldwide. Around one-third of the sample consisted of small and medium sized enterprises. One-third of the sample had a turnover of less than 5m ECU in 1986, and a similar proportion had turnover in excess of 250m ECU.

In all 61% of the panel was made up of service sector companies (of which around one-third were the financial services sector): the remaining 39% were companies in the manufacturing sector.

Nearly two-thirds of the sample functioned in some capacity in at least one Community state other than their own. Around half the sample operated additionally in non-EEC markets, North America being the most frequently mentioned.

2.2.2 Supply side

The trade associations covered commercial communications (2), engineering and related services (5), management consultancy (4), computing services (3), various operational services (such as security) (3) and legal services (2).

3. THE USE OF BUSINESS SERVICES

Having established the characteristics of the company sample the questionnaire then sought to establish the nature of the demand for, and sources of supply of, business services.

3.1 Degree of externalisation by service

Table 1 summarises the degree of externalisation of each category of business service.

Table 1 Degree of externalisation of business services

<u>Sector</u>	<u>Degree of Externalisation</u>			
	(% of Total Sample)			
	<u>Purely External</u>	<u>Combination</u>	<u>Purely Internal</u>	<u>Subsidiary</u>
Engineering & Related Services	55	29	14	2
Management Consultancy	36	25	36	3
Advertising	48	25	25	2
Public Relations	10	31	59	0
Computing Services	21	54	24	0
Research & Development	13	22	58	7
Financial Review	48	18	32	2
Operational Services	59	17	21	3
Legal Services	40	38	21	1
	—	—	—	—
TOTAL	40	27	31	2
	==	==	==	==

Some 40% of business services used by our sample were entirely sub-contracted, 31% were provided exclusively in-house, 27% were provided in combination and 2% were provided by a parent or subsidiary company. This broad picture conceals considerable disparities between the individual business service sectors.

Operational services followed by engineering and related services had the highest degree of pure externalisation. Financial review and advertising services also had an above average degree of pure externalisation. Public relations, research and development, and computing services had the lowest degree of pure externalisation.

The services with the highest degree of pure internalisation (in-house provision) were public relations and research and development, with management consultancy also above average in this category.

Those services most often done by combination of in-house and external provision include computing services, legal services and public relations. Provision by subsidiary or parent companies represents everywhere an insignificant proportion of total provision.

3.2 Degree of externalisation by country

Table 2 shows the degree of externalisation for each country in the survey.

Table 2 Degree of externalisation by country

	<u>Externalisation</u>	<u>Internalisation</u>	<u>Combination</u>
	%	%	%
France	57	31	12
Germany	32	47	21
Italy	48	35	16
Netherlands	39	18	43
United Kingdom	35	22	43
	—	—	—
TOTAL	40	31	27
	==	==	==

Based on our sample, France has the highest percentage of exclusively externalised business services (57%) and the lowest degree of combined provision (12%). Italy follows a similar pattern with 48% of business services externalised and only 16% provided in combination. The United Kingdom and the Netherlands have very similar externalisation profiles. Both have a below average degree of in-house business service

provision and a considerably above average level of combined business service provision (40%). Germany has the highest percentage of in-house provision of business services, with correspondingly below average levels of both pure externalisation and combined provision.

3.3 Degree of externalisation by company size

The very smallest companies internalised a very high percentage of business services (45%) (see Table 4). This drops sharply for medium sized firms which externalised a high proportion of business services (54%) and internalised only a very low proportion. For larger companies a larger proportion of services were internalised and the degree of externalisation drops (as it becomes economic to bring services in-house). However, perhaps reflecting an awareness of the wider benefits of externalisation, the percentage of combined provision is above average for the larger firms. These broad findings bear out the conclusions of the current literature on business services.

Table 3 Degree of externalisation by size

<u>Employment</u>	<u>Externalisation</u>	<u>Internalisation</u>	<u>Combination</u>
	%	%	%
0 - 50	36	45	19
51 - 500	54	21	24
501 - 1,000	39	30	31
1,001 - 5,000	39	35	26
5,000+	36	33	31
	—	—	—
TOTAL	40	32	28
	==	==	==

3.4 Trends in externalisation

A significant increase in the last five years in the amount of services bought from external companies was reported by 53% of demand side respondents. A significant re-internalisation of business services was reported by over 4%. The services most frequently mentioned in the context of a higher degree of externalisation in recent years were:

- marketing and sales promotion,

- computing services,
- taxation advice,
- legal services,
- consultancy,
- external audit.

The reasons cited for an increased trend towards externalisation included changes in company policy in favour of externalising all non-core activities. In a number of cases this was as a result of a strategic review of all company operations. Other reasons mentioned included cost cutting (implying that companies see externalisation as a money saving option), the need to reduce the workforce to a minimal sustainable level, and the need for flexibility arising from using services provided on a contract basis. Organic growth was also mentioned as a factor in increasing externalisation. The implication here is that companies find expansion easier by sub-contracting rather than by building up internal resources, particularly in the absence of the internal expertise necessary to start the process.

In the handful of cases in which services were being re-internalised the reasons cited included cost-cutting (as the company grew to a size at which services could be provided economically in-house) and company policy for reasons of control.

The supply side interviews confirmed these trends.

3.5 The externalisation decision process

3.5.1 Decision factors

Companies were questioned on all aspects of their decision making with particular reference to externalisation decisions taken in the recent past in order to ascertain the likely effect of a reduction in the cost of business services or any other changes resulting from the completion of the internal market.

Table 4 ranks the general factors underlying the selection of external business service suppliers. The table shows that although cost and availability are undoubtedly important factors in the selection of externally provided business services, the quality of these services is ultimately more important. This has clear implications when assessing the likely benefit that result from eliminating barriers in Europe.

Table 4 Service supplier selection factors (%) (1)

	<u>Very Important</u>	<u>Quite Important</u>	<u>Less Important</u>
Quality	70	8	0
Cost	32	50	4
Availability	39	27	4
Tradition	0	16	51

(1) Expressed as a percentage of total panel (multiple responses allowed)

3.5.2 Decision processes

The evidence of the survey is that in many cases a strategic decision is taken to externalise non-core activities after the general benefits of such an approach have been assessed often by external review of operations. In the majority of cases, however, and particularly prevalent in France, Germany and the UK, it would appear to be a management philosophy which has evolved as a means to cost cutting and reducing the workforce to a sustainable minimum, possibly in response to the painful experience of many countries in the world recession of the early 1980s. Given this underlying philosophy, individual cases are then decided on their own merits. The initial externalisation of a service, or the externalisation of a one-off need, is often subject to some form of cost-benefit analysis. Established contracts are managed via the business's usual annual operating process. In the few cases where inertia is given as a reason for externalisation it is often in areas of very long standing externalisation, such as for legal services.

3.5.3 Externalisation and economic performance

Firms had great difficulty quantifying either cost or employment effects suggesting that very little subsequent analysis of decision outcomes is made to assess whether externalisation decisions had been justified in practice. However, interviewees usually had overall perceptions of the costs and benefits of externalisation:

- cost: Over half the sample were unable to say whether savings had been achieved or not. Of those companies able to answer the question, 84% claimed that expected services had been realised and 89% found that the quality of services matched expectations. In the cases for which estimates of cost savings could be made these averaged between 10 and 15% for each business service (although the point was repeatedly made that cost is often not the prime motivation for externalisation).

- employment: Some 38% of the sample reported that contracting out of services had enabled them to reduce their own staff, compared to 14% who reported no change in the level of employment. The picture is not as straight forward as these figures might suggest. Frequently, externalisation appears to occur as a natural part of the organic growth process of a company. In these cases, representing 12% of the sample, job growth is foregone as companies sub-contract rather than recruit. Altogether, therefore, from the point of view of the client company there are negative effects on the employment levels which would have occurred without externalisation. It is difficult to quantify "average" employment effects from the survey since estimates (when they do exist) range from a "handful" of staff to "substantial" numbers where externalisation is undertaken as part of a general cost cutting exercise.

Clearly, however, there is a potentially positive effect on employment of externalisation arising from:

- additional company growth from externalisation benefits,

- additional employment by business service companies.

Average job losses were between 0.6% and 0.9% of the total workforce. This average is somewhat distorted by the exclusion of firms reporting either no job losses, foregone job growth, or those unable to quantify jobs lost.

The overall conclusion is that externalisation undoubtedly has an effect on employment, at the very least shifting employment from client companies indirectly to the business service sector. The net effect is not quantified by this survey, but the overall effect is unlikely to be significant relative to the size of the workforce.

3.5.4 Motivations for externalisation by business service

Particular examples of externalisation which had taken place in the last five years were examined to identify which sectors have featured in recent trends towards externalisation (discussed in Section 2.1.3)

The reasons which emerge can be classified into the categories shown in Table 8 together with a broad indication of the frequency of occurrence.

Clearly the list is not exclusive: externalisation may be motivated by more than one of these factors. The list is also not exhaustive but it does include all the factors which occurred frequently. There is also clearly an overlap between some of the motivations.

The cost motivation for externalisation is straightforward to interpret and applied particularly to operational services. Lack of internal expertise generally applies to areas which require a high degree of specialist knowledge and therefore includes computing services, marketing (often in overseas markets), research and development and consultancy. While cost saving is the single most important motivation, altogether cost motives account for only a third of cases of externalisation.

Table 5 **Motivations for externalisation by business services used**

<u>Motivation</u>	<u>Main Sectors</u>	<u>Frequency</u> %
Cost saving	Operational, IT, Marketing	26
Lack of internal expertise	IT, Marketing (overseas), R&D, Consultancy	18
Desire to cut employment/ fixed costs	IT, Operational services	10
Need for external perspective	Consultancy, IT, PR	10
Flexibility	Marketing, Consultancy, IT	10
Economies of scale	Operational, Legal, Marketing	8
One-off exercise	Consultancy, Audit, Recruitment	7
Lack of internal resource	IT	7
Need for higher quality service	Operational, IT	5

Other sectors such as engineering and related services and legal services, although falling into the specialist category, are already widely externalised and do not feature in this analysis of recent trends.

4. BUSINESS SERVICES AND THE INTERNAL MARKET

In this section we examine the issue of trade in business services within the Community and trade barriers encountered. We begin with the experience of the demand side in obtaining an adequate supply of business services domestically (4.1) and the extent to which they go beyond their national borders for services (4.2). We then address the nature and significance of barriers to trade in business services both from the demand side (4.3) and supply side (4.4) experience. Finally, we consider these barriers in the context of the volume of intra-Community trade (4.5).

4.1 Domestic availability of services

Some 26% of companies reported that they had tried to contract out a service but had failed to find a suitable domestic supplier. These companies were concentrated particularly in Italy, but also in the Netherlands. In the former case difficulties appear to be largely associated with recent changes in company accounting procedures for which the domestic accounting profession is not yet fully prepared. The most frequently mentioned services included:

- audit,
- consultancy,
- taxation advice,
- specialist software,
- marketing in foreign markets,
- foreign legal and tax advice.

With the exception of areas such as audit, tax and consultancy, in which countries such as the UK and the US appear to have developed internationally recognised expertise, services which are unavailable locally usually relate either to the need for local knowledge of a foreign market or are of a highly specialist nature (such as the example of research and development in a specialist field) of a type not generally available.

4.2 Purchases of services from foreign owned companies

In the sample 68% of firms bought some of their externally provided services from a foreign-owned firm. The services affected are generally those mentioned in 4.1. It was frequently stated that nationality is irrelevant in the selection of sub-contractors and that work is given to firms purely on the basis of the most favourable tender. Specific reasons given for using a foreign firm were:

- policy to use local firms by overseas subsidiaries,
- the reputation of foreign firms (in terms of cost and quality) in certain fields, mainly audit, consultancy and computing services,
- the need for advice on foreign markets or legal and taxation systems.

Reasons were also mentioned for not using foreign owned firms. These included:

- adequacy of locally available services,
- language, cultural and geographical barriers,
- government procurement policies (discriminating against contracts with a significant element of foreign sub-contracting)
- lack of information about the availability of foreign services.

The conclusion of this section of the survey is that there is already considerable cross-border provision of business services within the EEC and that generally firms were not averse to using those services, their main concern being to obtain the best available product. It was not, however, possible to tell from the replies how important lack of information was and whether the use of foreign firms would have been larger if their existence were known.

4.3 Barriers to trade in business services: demand side view

Only 17% of the sample recognised barriers to business services, over half the sample stating that they were aware of no barriers. For those companies recognising barriers, the most common reasons fell into the "fact-of-life" category and included mainly language and cultural differences or proximity. Availability of information and shareholder or official pressure to buy domestically were also mentioned.

The ranking of those barriers which were recognised is given in Table 6.

Table 6 Importance of selected business service barriers

<u>Barrier</u>	<u>Rank</u>
Financial	1
Administrative	2
National Standards & Regulations	3
Legal	4

Financial barriers (such as exchange controls) and administrative barriers (such as paperwork) were regarded as marginally more important than barriers related to differences in national standards and regulations and legal barriers. These results are, however, based on a very small sample and should be treated with appropriate caution.

Larger companies with offices throughout the Community indicate that barriers were not really regarded as obstacles, given the systems and structures which had evolved for trade within the Community.

4.4 Barriers to trade in business services: supply side view

The overall picture from the supply side is that most business services are perceived by their suppliers to suffer from some barriers even though they are not considered to be of great significance. Two of the services on the other hand could think of no barriers at all (beyond problems such as cultural and market differences, which we are not classifying as trade barriers), these being management consultancy and operational services.

Table 7 Barriers to trade in business services

<u>Sector</u>	<u>Nature of Barriers</u>	<u>Overall Significance of Barrier</u>
Commercial Communications	Satellite broadcasting barriers Differences in advertising law (regarding permissible advertising material) Limitations on media time for advertising Lack of access to equity markets (Germany) Qualifications of professionals	Generally regarded as reasonably free market
Engineering & Related	Government procurement Technical standards Licensing of professionals Tax treatment	i) Engineers: barriers quite significant ii) Architects: barriers very restrictive
Management Consultancy	None	No barriers of significance
Computing Services	Government and PTT procurement of computer services	UK reports this barrier only
Research & Development	Bias in government procurement	Reported by Germany (demand side interview)
Operational Services	None	Largely unregulated market
Legal Services	Freedom to practice	Not generally recognised by professional bodies as significant

In four sectors barriers are recognised but are not viewed as very significant impediments to the exchange of services - namely commercial communications, computing services, research and development and legal services. The associations generally replied that the significance of these barriers for individual service companies would depend on the nature of the services they provided. Some would be affected quite significantly while others hardly at all. The view of

all these four services is that the removal of barriers will have some, if quite a limited, effect on the ability of service providers to sell in other European countries.

Some specific points should be made in relation to individual services:

- in advertising, the development of satellite broadcasting is creating a new medium of international broadcasting which allows cross-border television advertising. As cross-boarder advertisements are not currently allowed for there could be a significant raising of barriers in the near future unless changes are made to the current regulations,
- with regard to legal services, the profession does not regard the most fundamental restriction on cross-border services, that is the existence of entirely separate legal systems in each member state, as a trade barrier but as a fact of life. This is understandable given that the removal of such a restriction could only be a long term aim. Nevertheless, there are examples of lawyers being restricted in practising even when appropriately qualified,
- while we did not formally interview representatives in the accountancy profession, it is common knowledge that within certain member states accountants are prohibited from offering non-auditing services to their audit clients. Moreover, non-auditing activities have become an important growth market for most large firms. However, in practice there is said to be only a moderate inconvenience in setting up legally separate firms for consultancy and tax services. In no countries have firms been prevented from providing all the services which they would like to offer.

The remaining sector, engineering and related services, appears to suffer most from barriers, which were described as a significant limitation on competition. This is reflected in the degree of trade in these services, which is quite limited within the Community. The barriers which have most effect are the licensing of professionals and

bias in public procurement. While these professions are significant exporters Table 5 shows that very little of the export market is within the Community. Instead exports are concentrated on developing countries which lack the skills to perform these services themselves. In countries where qualified professionals do exist (which would include the whole of the Community) such services are imported to a very limited degree. Bias in public procurement is an important barrier, given that public bodies are significant purchasers in relation to infrastructure projects. While both consulting engineers and architects feel that barriers are significant, the latter group appears to find them particularly restrictive.

Finally, one should note that there were some more general problems reported by some sectors, although they are not business service barriers directly. In particular the high costs of air transport and telecommunications created by an imperfect market were raised by several respondents. Some also reported restrictions on access to foreign exchange and the repatriation of profits.

4.5 Extent of intra-Community trade in business services

Supply side respondents were asked for information regarding the significance of exports for domestic suppliers. This information, combined with data taken from a series of service sector factsheets is presented in Table 8.

Table 8 Internationalisation of business services

<u>Business Service</u>	<u>Location of Business Service Clients</u>		
	<u>(% of turnover)</u>		
	<u>Domestic</u>	<u>Other EEC</u>	<u>Non-EEC</u>
Engineering & Related	55	4	41
Consultancy	90-95	2-5	2-5
Commercial Communication	50	40	10
Computer Services	90	5	5
Research & Development	N/A	N/A	N/A
Financial Review	N/A	N/A	N/A
Operational Services	98	1	1
Legal Services	N/A	N/A	N/A

Source: Supply side interviews and PMM factsheets

Business service sectors divide into three clear categories:

- engineering and related services and commercial communications, where roughly half the turnover of business services is for foreign clients. In the case of commercial communications, most exports are within the Community, against only a small proportion of engineering and related services (where developing countries are the biggest export market),
- consultancy, computer and operational services in which there appears to be very little international trade,
- research and development, financial review and legal services, on which there is no data available on export shares of turnover.

The picture given by Table 5 roughly bears out our demand side interviews. Those services which are not traded significantly according to the table were generally contracted to local firms, with the exception of consultancy. For this service, Table 5 is probably misleading since international consultancies generally have subsidiaries or partnerships in European countries. "Foreign" services of this kind would therefore not be registered as exports. This also applies to financial review, on which there are no figures in Table 5. Foreign accountancy services are very widely used in the sense that the "Big Eight" firms are international partnerships, though this would not be reflected in export figures.

The highly domestic orientation of operational services was also reflected in our demand side interviews.

4.6 Conclusion

Most business service trade associations recognise the existence of barriers. While they feel that their significance is somewhat limited this view does seem at variance with the demand side perception

of barriers, whereby most firms know of no barriers and the few that do acknowledge their existence believed them to be either insignificant or marginal.

The following seem the most likely explanations of this dictonomy:

- the associations say that only some of their services are affected and these have not touched upon our demand sample significantly,
- barriers are not fully recognised by users of business services and despite prompting, are taken as facts of life,
- many services are not sophisticated and can easily be provided by local firms, such that consumers of services may not feel deprived by having local supply only (though it could mean a more restricted choice and possibly higher prices). It is perhaps significant that those services for which consumers most often turn to foreign suppliers are specialised, sophisticated services not available in the local market.

The general impression from the interviews is that the latter two explanations are most likely. Interestingly companies did not tend to regard the purchase of foreign services as a natural option, even though many imported foreign inputs in the goods sector in substantial quantities.

5. THE COSTS OF NON-EUROPE FOR BUSINESS SERVICES

5.1 Background and methodology

In order to quantify the economic and financial costs of non-Europe for business services we used a number of sources. The literature review and the Peat Marwick McLintock factsheets provided background statistical information about the business services sector and the underlying economics of externalisation. The factsheets also discuss the current state of internationalisation of business services within the Community. The demand and supply side surveys and some existing econometric studies provide the mechanisms by which to quantify the effects of completion of the internal market.

Four factors complicate the analysis of the cost of non-Europe in the case of business services:

- relative lack of statistical information,
- absence of existing studies in the area of service sector trade barriers,
- poor perception of barriers by questionnaire respondents,
- complexity of quantifying indirect effects for an intermediate service.

Given these difficulties the emphasis in this section is on a discussion of the elements of the costs of non-Europe supported by quantitative assumptions as to the range and likely values of these effects. These effects are summarised below in Table 11.

5.2 The size of the business service sector

The Peat Marwick McLintock factsheets yielded estimates as to the size of the business service market in the Community. Turnover figures are shown in Table 7.

Table 7 Business services turnover, 1986

<u>Sector</u>	<u>Turnover</u> bn ECU
Engineering & Related Services	7.5
Consultancy	3.5
Advertising (1)	57
Public Relations	2
Computing Services	13
Research & Development	15
Financial Review	13
Legal Services	13
 	<hr/>
TOTAL	124.0 =====
(1) including media costs	

Business services are an important sector in the Community economy. The sector is also one of rapid growth even when compared to other service industries.

5.3 Effects of the removal of business service barriers

Respondents in the demand-side questionnaire were asked about the likely effects of removing business service barriers.

5.3.1 Changes in demand for business services

Even in the cases in which barriers were recognised over half of the respondents did not consider that removal of these barriers would affect purchases of business services.

5.3.2 Price sensitivity

Companies were asked to assess the price reduction for business services which would be required to induce additional purchases. Although average response was in the region of 10% there was a considerable spread from 5% to 20% plus.

5.3.3 Effect on company sales

Of those companies recognising barriers to trade in business services 41% considered that removal of those barriers would have no effect on sales and 44% thought that sales would increase by up to 5%. The remainder anticipated larger increases.

Almost equal weight was given to the following factors as explanations for anticipated sales increases:

- reduction in product prices,
- improved competitiveness,
- ability to enter new markets in Europe,
- generally faster market growth.

5.4 Cost of non-Europe

We have divided the costs of non-Europe for business services into four sources:

- i) The higher costs of business services which results from limited competition.
- ii) Lower output across the economy which results from these higher business service input costs.
- iii) Lower demand for business services which results from higher costs and more limited range of business services.
- iv) Lower levels of (cost-saving) externalisation which result from higher costs, and more limited range, of business services.

The completion of the internal market for business services can therefore be expected to produce the following corresponding benefits:

- i) Savings due to reduction in business service prices.
- ii) Increase in output across the economy.

- iii) Increase in output of business service sector.
- iv) Savings due to increase in externalisation of business services.

In the commission's model of direct and indirect effects, the i) above is a direct effect of removing business service barriers. Effects ii) to v) are the indirect effects on the economy as a whole of the completion of the internal market for business services. One should stress however that these are effects of removing business service barriers in isolation. In reality completion of the internal market as a whole will result in changes in many sectors, which will impinge on the business service sector.

5.4.1 Reduction in business service prices

One of the fundamental arguments for an internal market is that opening sectors to increasing competition will result in efficiency gains and cost savings which will then be passed on to consumers (in the case of business services to intermediate consumers). A reasonable assumption therefore, is that business services prices might gravitate to those of the state which is currently the most efficient producer, or at least move part of the way to that level.

There is very little comparative information on the cost structures of business services which limits the analysis which can be undertaken. The information which is available relates only to general consultancy, accountancy and tax consultancy. The figures suggest that if all prices when converted using purchasing power parity to reflect differing local overheads in different markets, and if all producers of business services were to reduce costs to that of the most efficient a maximum reduction of 15% might be expected. If all prices were to fall to the current average level (a working lower limit assumption) then a reduction of 3% might be expected.

However, this rather simplistic analysis needs to be tempered with the conclusions of the demand-side and supply-side surveys. One of the main conclusions of the demand side survey was that quality of business services was a major factor in determining demand - frequently

costly services were used when cheaper were available for reasons of quality. Such behaviour tends to support the view mentioned in many of the supply-side interviews that competitors are not likely to enter new markets on a price cutting basis, but rather by offering an improved product. Clearly this does not imply that business services clients will not be better off; it does however make it very difficult to qualify the gains to be made.

This view is further supported by the fact that when companies do go to foreign companies for business services it is invariably because of availability or quality reasons and not for reasons of cost.

It must also be stressed that very few respondents on the demand side recognised any barriers other than "fact-of-life" type barriers (such as language, proximity etc) to prevent them already from obtaining the best possible service in Europe. This was borne out by those on the supply-side of the business service sector, most of whom did not foresee a significant fall in price.

Combining these survey results with the fact that the statistical comparison of cost is limited by lack of data and narrowness of coverage it seems reasonable to assume that the 3% price fall mentioned below might be seen as the most likely estimate of cost reductions to be expected from the completion of the internal market in business services. Based on existing turnover and a price reduction of 3%, the cost savings to users of business services will be around 3.5 bn ECU.

The gains in efficiency made from access to better quality services may be considerably greater but they cannot be quantified. It is also clear that there will be differences between sectors. Sectors in which substantial barriers exist (e.g. legal services) may witness larger price falls than advertising which already has a high degree of internationalisation.

5.4.2 Increase in output in all sectors

Any reduction in the price of business services or improvement in quality will ultimately have a positive effect on demand for the final output of business service consumers, and for goods generally.

Several factors must be considered, however when the extent of this increase in demand is assessed. Firstly, externalised business services represent only a small through increasing proportion of a firm's total costs (typically in the region of 3%). Secondly, the hypothesis of section 5.4.1 is that prices of business services will not fall greatly. Thirdly, and confirming the first two points, demand side respondents did not expect a large increase in general sales as a result of the removal of barriers to business services. Even in instances in which business service barriers were recognised, effects on general sales were not perceived to be significant. The general effect on sales of around 0.1%, and maybe less seems reasonable. A range of between 0% and 0.2% (0 to 3 bn ECU) might be the lower and upper limits.

5.4.3 Increase in business service output

A relative price reduction and general increase in economic activity will, via price and income multipliers, increase the demand for business services. The conclusion of the demand side survey is that price elasticity is low. Competition is mainly on quality, and respondents indicated that an average 10% price reduction would be required before any increase in demand for business services would be realised. However, there was a considerable spread around this average. There is no econometric work which includes a price or income elasticities of business services but there are figures for the service sector as a whole which we have used as a base for estimating business service elasticities. Income elasticities in the service sector seem typically in excess of 1%. Our survey results point to a very low price elasticity but a reasonably high income elasticity of demand for business services, most probably higher than for services as a whole which includes income inelastic government services. Long run price elasticity of 0.2% and a long run income elasticity of 1.4% was a reasonable working assumption using these figures. The increase in demand for business services derived from a relative price reduction and income growth and range between 0.7 and 2.5bn ECU.

Table 8 Elements of the costs of non-Europe

<u>Element</u>	<u>bn ECU</u>
Fall in prices of business services	0 - 3.5
General sales growth	0 - 3.0
Growth in business service sales	0.7 - 2.5
Savings due to increases in externalisation	0.1 - 0.2

5.4.4 Increases in externalisation

Increased competition in the business services market will reduce costs, improve quality, increase availability and improve the information and marketing of business services, consequently increasing the degree of externalisation (that is the number of services externalised). The demand side survey has revealed that this leads to cost savings. The true opportunity cost of non-Europe from this source is the net gain, since externalisation implies a transfer of jobs and income from the consuming sector to the business service sector.

The demand side survey suggest that of those firms recognising business service barriers (a small proportion) only about half, representing 8% of the sample, expected to contract out more services on their removal. This small figure is again consistent with the finding that business service barriers are not substantial. The increase in externalisation from this source is therefore unlikely to be very significant and overall business service demand is unlikely to rise by more than 1% from this source (on the basis of demand side questionnaire responses). This represents a maximum gain of 1.25bn ECU for the business service sector and, on the basis of 10 to 15% savings stemming from externalisation, and on the fact that business services account for only 3% of total costs, it accounts for a 0.1-0.2bn ECU saving on the cost of business services to consumer companies.

5.5 Conclusions

Table 9 summarises our estimate of the costs of non-Europe.

Table 9 Estimates of the cost of non-Europe

	<u>Direct effects</u>	<u>Range (bn ECU)</u>
i)	Higher costs of business services	3.5
	<u>Indirect effects</u>	
ii)	Lower output in whole economy	0-3.0
iii)	Lower demand for business services	0.8-2.5
iv)	Higher costs from foregone externalisation	0.1-0.2

The corporate sector has for several years been in a process of externalising many of its business services and this process is clearly continuing. Moreover this process is economically beneficial, largely because of the higher quality of service which specialists are able to provide, but in some cases also because there are cost advantages.

In contrast to the purchase of goods as inputs into their products, firms are not inclined to look abroad for the provision of business services. It is clear that some trade barriers exist for several services, even though they have limited effects in impeding trade. In general, however, these barriers are not acknowledged by service users, largely because of their tendency to rely on domestic provisions. Trade in most business service sectors is low; service companies are heavily dependent on domestic markets, which have been growing strongly in most countries. This fragmentation of the market is not only unusual in comparison with the goods sector and some other services, it also seems at odds with the varying strengths and weaknesses of different countries in each sector.

The continued fragmentation of the market has effects on both providers and users of services. For providers it hinders the expansion of their services and reduces the range of services they provide in other countries. As a result it has some effect of inflating prices (effect i) above).

However it has more significant implications in terms of the quality and range of service available, which is a more significant determinant of whether business services are purchased from outside. Thus the use of external business services is lower in a fragmented market (effect iii) above). This in turn means that the benefits of the foregone externalisation are lost (effect iv) above) and output as a whole is reduced (effect ii) above).

8.

The "Cost of Non-Europe"
in Financial Services

Price Waterhouse

Price Waterhouse International Economic Consultants

THE COST OF 'NON-EUROPE' IN FINANCIAL SERVICES

EXECUTIVE SUMMARY

MARCH 1988



Price Waterhouse



EUROPEAN COMMISSION
THE COST OF NON-EUROPE FOR BUSINESS SERVICES

EXECUTIVE SUMMARY

- Contents -

	<u>Page</u>
1. INTRODUCTION	1
2. METHODOLOGY	3
3. THE USE OF BUSINESS SERVICES	6
4. BUSINESS SERVICES AND THE INTERNAL MARKET	14
5. THE COST OF NON-EUROPE FOR BUSINESS SERVICES	22

CONTENTS

	PAGE NO.
SECTION 1: INTRODUCTION	1 - 2
SECTION 2: METHODOLOGICAL ISSUES	3 - 4
SECTION 3: MACROECONOMIC AND SECTORAL ANALYSIS	5 - 7
SECTION 4: ANALYSIS OF THE STRUCTURE OF FINANCIAL SERVICES MARKETS	8 - 9
SECTION 5: QUANTIFICATION OF THE EFFECTS OF REGULATIONS	10 - 18
SECTION 6: ESTIMATING THE GAINS FROM EUROPEAN ECONOMIC INTEGRATION	19 - 27

SECTION 1: INTRODUCTION

1.1 This report was prepared by Price Waterhouse and represents the results of an economic study of the costs of "Non Europe" in financial services. The study's geographical coverage was as follows:

Federal Republic of Germany, France, Italy, the United Kingdom, the Benelux countries and Spain.

1.2 The principal objectives of this study were to:

- . assess the importance of financial services to the Community economy;
- . analyse the present organisation of the market for financial services;
- . evaluate the economic impact of completing the internal market in financial services.

1.3 For clarity and ease of reference, the organisation of the main report is described below and a brief outline of each section is given in this executive summary.

- . In Section 2 a review of methodological issues is presented.
- . This is followed in Section 3 by a macroeconomic and sectoral analysis with the object of evaluating the importance of financial services to eight economies of the Community under review.
- . In Section 4 an overview of the present structure of the financial services market is set out. The focus of this section is on regulatory barriers which have the potential to affect the establishment of financial service institutions in overseas markets or the potential to affect cross border trade directly.
- . In Section 5 an analysis of the scope for quantitative assessment of the effects of completing the internal market is considered.
- . Finally, in Section 6, the estimation of the economic impact of integration is presented. Detailed analyses relating to a number of important areas of the study have been included as appendices to the main report.

1.4 In view of the complex and sensitive nature of the information and analysis in this report it is important that disclosure of specific parts of the study are not made out of context.

- 1.5 It should be appreciated that certain key assumptions were made in the conduct of our field work and in the preparation of this report. These include, inter alia, the assumption that the central aim of the Commission is to create a framework for a free and competitive internal market in financial services whilst at the same time ensuring adequate standards of consumer protection. The intention is that this will be achieved through a legislative programme which is aimed at stimulating cross-border trade and encouraging investment and establishment in foreign territories.
- 1.6 It is also envisaged that the economic climate thus created will lead to an intensified interest in Pan-European acquisition and merger opportunities and that this will need to be supported by an appropriate regime of freedom for capital movements. Our analysis considers the likely economic consequences for the Community of this scenario.
- 1.7 An evaluation of the likelihood of progress towards an integrated financial services market or the likely responses from national governments to opening up of the financial markets is outside of the scope of the study. Similarly, an evaluation of the likely response of producers in different countries to the assumed integrated market is outside the scope of this economic study.
- 1.8 It should also be recognised that in the achievement of the economic goals, summarised above, any significant changes in the pattern of market concentration may need to be kept under review in the early stages leading up to the following liberalisation in order to alleviate market distortion effects which undermine the aims of the 1992 initiative. This will have a wide range of implications for Commission competition policy, for example in the approach adopted towards multi-national industry groupings and the balance of investment opportunities between Community and external providers of financial services.
- 1.9 We would like to thank the Steering Committee for advice provided to the consultancy team during the course of the study and for input made by external advisors. We would also like to thank all individuals and institutions who provided information, during this study.

SECTION 2: METHODOLOGICAL ISSUES

2.1 The purpose of this section is to resolve three methodological problems:

- ° to provide a comprehensive operational definition of financial services.
- ° to identify producers and users of financial services.
- ° to clarify the link between liberalising the market for financial services and liberalising capital movements.

2.2 Definition of Financial Services

It was agreed with the Commission at the outset that financial services should be defined to include the provision of a financial service or the sale of a financial product or both and that the following activities should be included in the definition.

- ° international, commercial and private banking
- ° corporate financial services
- ° offshore banking and money market activities
- ° broking
- ° funds management
- ° assurance, insurance, and reinsurance
- ° consumer credit
- ° building societies
- ° stock exchange services.

A description of the financial products and services covered by each of these activities is outlined in the main report. The activities can be grouped under three headings:

- ° banking and credit services
- ° insurance services
- ° brokerage and securities services

These categories have been used, as far as possible, throughout the study, and particularly in the macroeconomic and sectoral analysis and in the analysis of the market. In the examination of the scope for a quantitative assessment of the effects of completing the internal market, representative services have been selected from each of the above groups of activities.

2.3 Identification of Producers and Users

It was necessary from a methodological viewpoint to decide how to treat the identification of producers and users in the sectoral analysis. It was also clear that, in identifying producers and users of financial services, segmental differences between countries would need to be recognised. In addition it was decided that only primary users could be identified.

This methodological decision implied the need for sectoral analysis to be undertaken on a country-by-country basis. It also highlighted the need to attempt to identify differences in the type and range of services offered by different institutions in different member countries. This issue is considered at some length under the section on macroeconomic and sectoral analysis in the main report. It should also be appreciated that in the analysis of the economic impact of integration in Section 6, consumers are defined as including all consumers including private, commercial and institutional groups.

2.4 The Link Between Trade in Financial Services and Capital Movements

An important methodological issue examined related to the link between trade in financial services and exchange controls. In view of its importance and complexity we consider this issue in detail in Appendix 3 of the main report. The main question addressed is the extent to which freedom of trade or overseas establishment can yield consumer benefits despite the persistence of controls on capital movements. The Commission's objective is a regime of freedom of capital movements as well as freedom to establish and trade, with home country prudential regulation being recognised in the first place. However it is important to assess also the consequences of a partial or intermediate stage in the achievement of this objective.

Our analysis indicates that maintenance of strict exchange controls may well inhibit the full consumer benefits from freedom of trade and freedom of establishment. This is principally because financial institutions will not be able to take full advantage of the economies of a wider market. Although an attempt to maintain a regime of strict regulation may well run into difficulties under a system of home country control, it is not certain that these regulations will create competitive disadvantages for home financial institutions. Market segmentation rather than global loss of competitiveness may often be the consequence.

Under host country regulations, the result of freedom of establishment may be very little improvement where uncompetitive market structures exist or may result. In contrast, the prospect for welfare gains from a liberalisation of exchange controls does not seem to depend so heavily on freedom of establishment, at least for financial services of a wholesale type.

At present the persistence of exchange controls prevents the free flow of capital from moving to the countries with the highest rates of return. Even if there were no differences between the efficiency of the financial services in various member states, the removal of exchange controls could therefore be expected to have beneficial effects.

SECTION 3: MACROECONOMIC AND SECTORAL ANALYSIS

3.1 In this section aggregate data is presented for each of the countries in the study to indicate the relative economic importance of the financial services sector. Data will be found covering:

- . employment;
- . value added;
- . output;

In the main report we also present information on the demand for financial services by households, companies and government. In addition data is presented on external transactions in financial services and on the profitability of the banking and insurance sectors.

3.2 Employment in Financial Services

Total Employment

Table 3.1 shows that employment in the banking, finance and insurance sectors in the countries studied exceeded 3.1 million in 1985. Banking and finance employed in excess of 1.7 million; and there were more than 700,000 employed in insurance (Note 1). Banking, finance and insurance represented 3.5 per cent of total employees in the eight countries in 1985. Individually, most countries were close to this average except Luxembourg at 7.7 per cent and Italy at 2.5 per cent.

**Table 3.1: Employment in Banking and Insurance by Country
1985 (See Note 2)**

Country	Banking and Finance	Employment ('000)		Total as % of Total Employees
		Insurance	Total	
B	89	30.0	119	3.9
D	604	230	834	3.7
ES	n.a.	n.a.	292	3.9
F	448	154	602	3.4
I	n.a.	n.a.	379	2.5
L	9.9	0.9	11	7.7
NL	111	42	153	3.5
UK	527	245	<u>772</u>	<u>3.6</u>
TOTAL			3,162	3.5

Source: Statistical Office of the European Commission (S.O.E.C.)

- Notes:**
- (1) These figures exclude Italy and Spain for which there is no breakdown between employment in insurance and banking.
 - (2) These data exclude agents not acting as principals in the financial sector.

3.3 Value Added

In the subsequent economic analysis, value added represents the sum of compensation of employees and profits accruing to the resources employed. It is an important indication of the economic significance of financial services. The table below shows value added for credit and insurance.

In the National Accounts data, transactions are classified by branch and by sector. Branches consist of units of homogeneous production engaged in the production of a single product or group of products and sectors are based on the institutional arrangements in force. The sectoral data shows a breakdown between credit and insurance and is broadly comparable with the employment data. Data on value added by both branch and sector are shown in the table below. The data on value added is provisional and may be subject to revisions.

In 1985, value added at market prices in credit and insurance on the basis of branch data represented 6.7 per cent of GDP. The countries with the highest contribution were Luxembourg (14.0%) and the UK (12.6%). The lowest percentages were in France Netherlands and Germany.

Table 3.2: Value Added in Credit and Insurance in 1983 & 1985

Country	1985 ECUm (Branch)	% GDP	1983 ECUm (Branch)	% GDP	1983 (ECUm) (Sector)	% GDP
B	5,966	5.9	4,442	4.9	4,584	5.1
D	44,417	5.5	40,925	5.7	41,874	5.7
ES	13,929	6.1	8,889	5.1	9,131	5.1
F	29,277	4.5	22,156	3.9	28,462	4.9
I	26,998	5.6	24,051	6.0	25,027	6.3
L (Note 1)	535	14.0	535	14.0	535	14.0
NL	8,537	5.4	8,049	5.4	8,207	5.5
UK	<u>70,240</u>	<u>12.6</u>	<u>53,896</u>	<u>11.2</u>	<u>30,004</u>	<u>5.9</u>
Total	199,899	6.7	162,943	6.2	147,824	5.6

(1) 1982 data

Source: S.O.E.C.

3.4 Output/Turnover in Financial Services

In this analysis a number of turnover measures are related to GDP as further indicators of the significance of financial services in each member state.

Table 3.3: Insurance Premiums, Bank Loans Outstanding and Stock Market Capitalisation as % of GDP

Country	Insurance Premiums 1984	Bank Loans 1984	Stock Market Capitalisation (Note 2)
B	3.9	142 (Note 1)	92
D	6.6	139	89
ES	2.5	99	69
F	4.3	93 (Note 1)	85
I	2.2	96	75
L	3.1	6,916	11,125
NL	6.1	130	165
UK	8.1	208	149

Source: S.O.E.C, Sigma, O.E.C.D., F.I.B.V

(1) 1982 data

(2) End 1986 data

Table 3.3 shows that relative to GDP the banking and securities markets were by far the largest in Luxembourg and that the insurance market relative to GDP was largest in the UK.

SECTION 4: ANALYSIS OF THE PRESENT STRUCTURE OF THE FINANCIAL SERVICES MARKETS

4.1 This section focuses on regulatory barriers and how they are implemented. In particular, attention is given to those barriers affecting the establishment of a financial service in a foreign state and affecting trade directly. In this section we use "foreign" to refer to other European Community countries as well as to countries outside the EC.

4.2 Regulatory Barriers to Trade and Establishment in Banking

In general there are no overt barriers to the establishment of foreign banks in the countries surveyed.

Foreign banks must in general comply with the same procedures as domestic banks. This does not imply that successful entry by a foreign bank is easy since the costs involved in meeting the requirements for establishment of branches and subsidiaries may be considerable. There is however control over the acquisition of domestic banks by foreign entities in all the countries in the study and some details of licensing requirements in each country are outlined in the main report.

In all countries except the UK, branches of banks are required to maintain their own minimum endowment capital. Some countries also impose solvency ratios. While it has not proved feasible to quantify the impact of differences in such ratios a study carried out by the Economists Advisory Group reflected a consensus in the banking world that lack of harmonisation in this area constituted a barrier to trade.

Moreover, there are often restrictions on the services which may be offered by a branch or subsidiary of a foreign bank.

The overall conclusion drawn in this section is that barriers lie not in overt rules or practices but in national practices that apply equally to all banks. Clearly differences in national practices may make some countries more attractive than others for foreign banks wishing to establish operations.

4.3 Regulatory Barriers to Trade and Establishment in Securities

Exchange controls may be a significant barrier in this market sector. Many of the operators in this market are banks and the points made earlier in relation to freedom of trade and establishment in banking apply equally.

The major obstacle to establishing a presence in a foreign securities market would appear to be regulations which prevent foreigners being licensed as brokers. However, this may not be a significant drawback if securities may be dealt directly between banks. Some difficulties may be encountered for companies which wish to offer only security trading, in markets such as Germany and Belgium, where full banking licenses can only be obtained if a full range of services is offered. There are some signs of an easing in this position though. There are also restrictions on the establishment of offices to solicit secondary market business and on dealing directly with the public to execute such business. In addition to exchange controls there are some restrictions on the balance sheet holdings of foreign securities. In addition, in a small number of countries discriminatory taxes are levied on purchases of foreign securities.

4.4 Regulatory Barriers to Trade and Establishment in Insurance

The position in insurance is similar to that in banking. In general there is freedom to establish but restriction on trade without establishment.

Generally a permanent presence is required in the importing country in order to sell insurance. This position may change following a recent case brought to the Court of Justice by the Commission. Compulsory insurances are exempt from the ruling but member states may insist that insurers have a permanent presence. Some of the eight countries again have discriminatory tax measures against foreign insurers.

4.5 Exchange Control Restrictions on Trade in Financial Services

Free movement of capital is allowed in Germany, the Netherlands, Belgium and Luxembourg, although there are reporting and authorising procedures in force for certain transactions. France and Italy are in the process of liberalising controls while they remain in Spain. Exchange controls have been removed in the UK. As we indicated earlier, exchange controls form an important barrier to trade in financial services where they continue to be applied.

SECTION 5. QUANTIFICATION OF THE EFFECTS OF REGULATIONS

5.1 Introduction and Review of Approaches

The object of this section is to determine the scope for a quantitative assessment of the effects of completing the internal market in financial services. In particular, the section provides quantitative measures of the effect of regulation, and of the lack of Community wide competition.

In the main report we present a quantification of the impact of regulation on the basis of a set of prices for selected financial services and products. We believe, however, that such an approach is on its own not sufficient and we have therefore obtained additional measures of the effects of regulation from other sources.

In attempting to quantify the effects of regulation we considered a wide range of approaches including the following:

- . Comparative prices of specific products/services;
- . Value added/output ratios;
- . Survey data on net margins;
- . Indirect measures of impact of specific regulations.
- . A case study of the impact of deregulation.

The rationale and the limitations of each of the above approaches are discussed below.

(1) Comparative Prices of Specific Products/Services

In reviewing comparative prices as a measure of the effect of regulation or market segmentation, there are both conceptual and technical difficulties to be resolved.

A conceptual difficulty with using price differences as a measure of the effect of regulation is indicated by the fact that there are significant price differences within national markets although suppliers in these markets are faced with the same regulations. It is, therefore, unlikely that the removal of regulatory barriers to trade would result in a single price. It is also important to realise that there are market as well as regulatory barriers to trade. An example of a market barrier is the information required to gain entry. We formed the opinion that price divergence within countries may well be due to information barriers as well as to legislative obstacles.

In addition to this conceptual difficulty there are severe technical difficulties in measuring prices. Firstly, there is the question of comparability of products. For example the price of motor insurance for the same class of insurance etc may differ as a reflection of differences in the underlying risk. The issue of comparability of price data is particularly important and the difficulties in obtaining strictly comparable data are discussed in detail in the main report. A second problem arises due to the effect of cross subsidies between financial services products.

In our analysis, we have selected a range of products/services in such a way as to attempt to minimise these factors. There are also severe practical difficulties in obtaining price comparisons as relative prices can change rapidly and clearly given significant price variations within countries there is also a danger that price divergences between countries may reflect sampling errors.

(2) Value Added/Output Ratios

In considering value added to output ratios we have attempted to quantify the effect of market segmentation by measuring the resources used in producing a unit of output. In many service industries the ambiguity of the concept of output, and the difficulty of measuring it, has often led statisticians to turn to resource inputs themselves in order to overcome these difficulties. It should be appreciated that the measure of output used has to be conceptually independent of inputs.

There are also deficiencies in using value added/output ratios as an indication of efficiency and these are discussed in detail in the main report. These deficiencies are likely to be particularly severe in making comparisons between individual financial institutions. Aggregation over all institutions, and the use of time series for cross-country comparison will tend to reduce limitations in this respect. Notwithstanding the residual problems which have been recognised we believe this provides a useful aggregate check on the micro data.

(3) Survey Data on Net Margins

An alternative approach to examining prices is to look at differences in the costs or profits obtained by different financial institutions in the different countries. In particular, an examination of margins in the banking sector and of cost-to-output ratios in such sectors as insurance can be of use in evaluating the effect of regulations. This represents a micro cross-check on the value added to output ratios considered above.

(4) Indirect Measures of Impact of Specific Regulations

It was recognised at the outset of the study that the impact of selected specific regulations could also provide useful input into the quantification of the effect of regulation. This, however, would only measure static effects. In addition, it would only measure the impact on institutions who decided to "pay the cost" of meeting the regulations. Our judgement is that such an approach is very unlikely to prove worthwhile. For illustrative purposes we have however reported on the results of selective research on the impact of specific regulations in the banking and insurance sectors.

(5) Case Studies of Impact of Deregulation within a National Boundary

A potential approach to quantifying the effect of regulation is offered by individual case studies on the price impact of deregulation within a national boundary. This could be a useful additional source of input into the evaluation of the effects of removing or reducing regulations in Europe. We have, therefore, taken as a case study the example of deregulation of the UK securities business.

The remainder of this section sets out the quantified data for comparative prices, value added/output ratios, survey data on net margins, indirect measures of the impact of specific regulations, and the case study of impact of deregulation.

5.2 Quantification of Comparative Prices

In the following paragraphs we present a quantification of comparative prices for a range of financial services products in the eight countries. We present details of prices in the banking and credit sectors, in insurance, and in the securities and brokerage sectors. In particular, we analyse details of prices for the following services/products:

- . cost of commercial loans;
- . cost of consumer credit;
- . cost of mortgages;
- . cost of credit cards;
- . cost of purchasing foreign exchange drafts and travellers cheques;
- . cost of letters of credit;
- . cost of current bank accounts;
- . cost of term insurance;
- . cost of home and contents insurance;
- . cost of motor insurance;
- . cost of fire and theft insurance;
- . cost of public liability insurance;
- . and cost of stock exchange transactions.

Our selection of products was designed and agreed with the Commission to overcome some of the difficulties referred to earlier in Section 5.1.

Many of the prices have been obtained directly via a sample of financial providers. As we have already noted however, it is important to treat comparative price data with care. Prices of financial services change frequently and the data presented represents a "snap-shot" at a given point in time. Also of critical importance is that for a wide range of financial services there is a substantial variation in possible prices on offer, and in many cases there is cross-subsidisation between different financial services.

Another important issue relates to how representative the chosen products are, of the output of the financial services sector as a whole. This is a difficult issue to judge but given the large number of different services chosen which cover both private consumer and commercial services in the banking, insurance and securities sectors, these services are believed to be broadly representative. The services covered do not include advisory services. The reason for this is methodological in that it was not felt possible to obtain prices for standardised advisory services. The sources of the data presented are indicated.

It should be appreciated that we have attempted to present information in a standard manner for the same financial services products in different countries. In certain cases regulatory or market practices have prevented this and these cases are discussed in our main report. We have also attempted to standardise the presentation for different types of financial services products.

A key issue in interpreting the price data is that we have attempted to focus on the cost of the service provided by the financial institutional and have adjusted the figures to remove the influence of interest rate differentials. The impact of interest rate differentials is considered separately in Section 6. In the table overleaf we define the financial services and products for which prices were obtained. As many of the products represent the margin over wholesale money market rates the prices do not represent the cost to the consumer. This is consistent with our economic modelling requirements. The data would not be suitable as a definitive measure of consumer prices in different countries.

TABLE 5.1

"Standard" Service	Description of Service
Banking Services	
Commercial Loans	Annual cost to a medium size firm of a commercial loan of 250,000 ECUs. Measured as excess over inter-bank rates.
Consumer Credit	Annual cost of consumer loan of 500 ECUs. Excess interest rate over money market rates.
Credit Cards	Annual cost assuming 500 ECU debit. Excess interest rate over money market rates.
Mortgage	Annual cost of home loan of 25,000 ECU. Excess interest rate over money market rates.
Commercial Draft	Cost to a large commercial client of purchasing a commercial draft for 30,000 ECUs.
Travellers Cheques	Cost for a private consumer of purchasing 100 ECU's worth of Travellers Cheques.
Current Cheque Account	Annual cost assuming 200 cheques P.A., 20 standing orders, 50 cash withdrawals, 20 credits.
Letter of Credit	Cost of letter of credit of 50,000 ECUs for three months.
Insurance Services	
Term Insurance	Average annual cost of term insurance.
Home Insurance	Annual cost of fire and theft cover for house valued at 70,000 ECUs with 28,000 ECUs contents.
Motor Insurance	Annual cost of comprehensive insurance, 1.6 litre car, driver 10 years experience, maximum no claims bonus.
Commercial Fire and Theft	Annual cover for premises valued at 387,240 ECUs with stock and contents at 232,344 ECUs.
Public Liability Cover	Annual premium for Engineering company with 20 employees and annual turnover of 1.29 million ECUs. Includes employer liability cover.
Brokerage Services	
Private Equity Transactions	Commission costs of cash bargain of 1,440 ECUs.
Private Gilts Transactions	Commission costs of cash bargain of 14,000 ECUs.
Institutional Equity Transactions	Commission costs of cash bargain of 288,000 ECUs
Institutional Gilt Transactions	Commission costs of cash bargains of 7.2m ECUs.

Prices of a number of the financial services examined in the eight countries are presented below. Additional details are presented in the main report.

Table 5.2: Comparative "Prices" of Purchases of a Range of Financial Services in the Eight Countries

	B	D	ES	ECU F	I	L	NL	UK
<u>Banking Services</u>								
Commercial Loans	4,500	5,000	5,625	4,375	5,125	5,000	6,750	6,875
Consumer Credit	12	46	27	40	43	14	26	43
Credit Cards	94	84	66	37	99	46	75	61
Mortgages	480	575	800	653	350	499	343	290
Foreign Exchange								
Drafts	43	53	120	63	50	54	22	47
Travellers Cheques	7.3	5.0	7.0	7.5	6.6	5.0	7.2	5.0
Current Accounts	0	117	2	10	240	8	0	112
Letters of Credit	<u>575</u>	<u>425</u>	<u>750</u>	<u>438</u>	<u>515</u>	<u>600</u>	<u>550</u>	<u>510</u>
<u>Insurance Services</u>								
Term Insurance	380	225	294	285	392	355	195	150
House Insurance	118	144	135	195	253	220	164	266
Motor Insurance	494	436	758	413	942	671	354	316
Commercial Fire and Theft	1,296	2,023	1,765	3,587	4,896	1,204	1,412	1,797
Public Liability Cover	968	1,257	1,364	1,852	1,508	934	714	798
<u>Securities Services</u>								
Private Equity Transactions	14	11	17	9	10	11	22	23
Private Gilts Transactions	65	108	180	69	21	72	148	77
Institutional Equity Transactions	1,727	2,302	3,453	1,292	2,014	2,302	1,726	719
Institutional Gilt Transactions	21,583	5,395	8,993	8,844	10,791	3,597	4,640	n/a

Source: Survey Results

- 1) Consumer credit in Italy assumed to be equal to the average of Germany, France and UK
- 2) The London Gilt market is now on a net of commission basis
- 3) Mortgages in Luxembourg assumed to be equal to average in other Countries

Caution must be exercised in interpreting the above price comparisons, and the analysis in the report concerning cross subsidisation and the problems in price comparability must be noted. It is also important to stress as indicated earlier that many of the products represent the margin over wholesale money market rates and therefore the "prices" do not represent the cost to the consumer. This is consistent with our economic modelling requirements but the data would not be suitable as a measure of consumer prices. Prices are also exclusive of consumer taxes.

5.3 Value-Added to Output Ratios

The value-added to output ratios provided in the main report gave some indication of the resources used to produce a unit of output, since value-added represents the return to labour and capital before allowance for depreciation and excluding transfers. In the case of banking, the measure of output generally used is loans outstanding. This is not entirely satisfactory since it does not take account of a number of elements affecting the output of banks such as differences in risk attaching to loans, the extent of deposit and money transmission services, and a number of off-balance sheet transactions. The comparisons made using aggregate data across countries tend to reduce some of these difficulties but nevertheless problems remain. Taking insurance as an example the use of premiums as a measure of output masks the problem that for some policies the premium may cover more than one year and in others may partly represent a pure investment sum.

Insurance

Value-added in the insurance sector does not include interest and dividend earnings which, for national accounts purposes, are regarded as transfers. The value-added to premiums ratio in 1983 was highest in the UK at 25.5% and lowest in France at 6.0%. However, when net interest earnings are taken into account the UK percentage falls to 1.1% and that of France rises. Belgium's percentage was highest at 32.2% in this case. When dividend earnings are also added to the value-added figure Germany emerges with the lowest ratio and Belgium remains the highest.

Banking

In the banking sector the value-added to loans ratio (including interest earnings) was lowest in the UK and the Netherlands at 3.0% and highest in Italy at 6.3% on average over the period 1978-84.

5.4 Survey Data on Net Margins/Costs

This approach represents a micro cross-check on the value-added to output measures considered above. The data relating to 1982 shows that the gross earnings margin in large banks was highest in the UK at 4.72% of assets and lowest in the Netherlands at 2.9%.

A sample of the accounts of insurance companies in different countries was evaluated to establish the ratio of expenses to premiums. Non-life insurance management expenses and commissions were the largest percentage of premiums in Belgium at 39.6% and lowest in the UK at 21.2%.

In life insurance the percentage was highest in Spain and lowest in the UK though it was possible to identify life business separately in the published accounts for only three countries.

5.5 Indirect Measures of Specific Regulations

This section summarises the main findings of studies carried out by EAG (1) on "the impact of prudential regulations on banking" and by Carter and Morgan (2) on the impact of regulation on insurance.

Banking

Banks in different countries may be required to observe a combination of minimum absolute capital requirements, gearing ratios, own funds/risk assets ratios, fixed asset ratios and large loan ratios. The EAG study indicated that it would not be possible to provide quantitative comparisons of the effects of these requirements but on the basis of the opinions of those interviewed it was felt that in the three major banking countries, the UK, France and Germany, French banks had a significant advantage over the other two. Banks in the UK probably enjoyed a slight competitive advantage over those in Germany.

Insurance

In life insurance the degree of regulation varied between countries. The supervisory authorities generally control the mortality rates to be used in premium calculation (apart from the UK) but controls in some cases cover interest rates, the calculation of expense overheads and the distribution of profits. The study carried out in 1986 by Carter and Morgan showed that the mortality rates used in the calculation of term insurance were in most cases 2-4 times more conservative than in the UK. The UK is the only country in which the mortality rates used are based on insured lives rather than population averages. As an example, pure premiums for a 20 year term using UK and Belgian mortality rates and 6 and 4% interest rates were calculated. This showed a difference of 227% of which only one 25th was accounted for by the interest differential.

From this it can be seen that the measurement of the effect of specific regulations is difficult to quantify and more importantly, is likely to under-estimate the costs of "Non-Europe".

5.6 Case Study Example of the Impact of the Deregulation

The impact of deregulation of the London Stock Exchange has been taken as an example of the effects of regulation. The effect may be seen by examining commission rates, the number of market makers, equity dealing spreads and the depth of markets for different types of shares. These are considered in detail in the main report. Overall, the case study indicated that while there were small increases in commissions for small transactions, for the institutional transactions sector, commission rates fell by between 20 and 36 per cent. It is not certain however if these price reductions will remain given the level of capacity in the market.

- (1) An Evaluation Of The Consequences Of The Existence Of Different Prudential Ratios For Competition Between Credit Institutions In The European Community, EAG Report 1986, Report Prepared for European Commission.
- (2) Carter R.L., Morgan E.V. Freedom To Offer Life Insurance Across EEC State Boundaries, EAG Report 1986.

SECTION 6: ESTIMATING THE GAINS FROM EUROPEAN ECONOMIC INTEGRATION

- 6.1 In this section we present our estimates of the gains from European economic integration. In particular we consider two aspects of this important issue. Firstly, we examine our estimates for the microeconomic gains from integration of European financial services markets. Secondly we review the macroeconomic welfare gains from integration of the European capital markets. In this connection we also consider the gains from risk pooling and equalisation of interest rates.
- 6.2 Our estimates of the costs of "Non-Europe" are based primarily on assumptions of the likely movement of prices in an integrated financial market. Earlier in this study, data on the existing prices of financial products was presented. The data indicated a wide range of prices both within and between countries and it is clear that while prices for certain financial services were lower in some countries, the prices of other services were higher than in the other countries examined. Later in this section we consider our assumptions for the likely prices of financial services in an integrated market.
- 6.3 At present in a non-integrated Europe the various barriers to the completion of the internal market in financial services result in different prices being charged in the different countries. The net effect is as if there were a set of tariffs protecting the producers of financial services in the high price countries.
- 6.4 From this perspective the evaluation of welfare gains (i.e. net economic benefits) from the completion of the internal market involves an exercise similar to the calculation of the gains (in terms of consumer surplus, etc.) from a move to free trade, or the establishment of a customs union.
- 6.5 In our main report we consider in detail a methodology for moving from assumptions of the likely range of future price changes to economic welfare gains. In this executive summary we focus on our assumptions for future prices and the results of our calculations.

Future Price Levels

- 6.6 The level by which prices of financial services will change in an integrated European market is by definition speculative and difficult to verify. Our analysis in this report is intended to provide a basis for producing estimates of the potential change in the value added element of prices that could be expected. In particular our estimates are guided by a number of factors including data on existing price differentials, value added/output ratios, net margins/cost data and the extent of specific regulations. Our future price scenarios are also guided by the case study example of the impact of deregulation within national boundaries.

- 6.7 The study of price reductions resulting from deregulation within a national market summarised earlier, referred to the UK securities market. This case study indicated that while there were small increases in commission for small transactions, for institutional transactions commission rates fell by between twenty and thirty six per cent. In arriving at an estimate of the costs of barriers, we have utilised scenarios where prices for the financial services sector are assumed to decline by between one and twenty six per cent in different countries. Again we stress that these assumed "price" reductions do not represent absolute reductions in consumer prices as in the banking sector they are based on prices or costs in excess of money market rates. The implied reduction in real consumer prices in these cases would be significantly less than the assumed price reductions used in this study. In view of the difficulties inherent in estimating likely price movements we have also considered in the main report the sensitivity of our findings to alternative price assumptions.
- 6.8 It is possible to construct a wide range of possible price scenarios which could emerge in an integrated market. For example one could assume that prices would fall to the level of the lowest existing price observation. Indeed there would be some grounds for assuming that the expanded market opportunities presented by an integrated European financial services market would enable prices to fall below existing lowest prices, as economies of scale are exploited. In this study we have taken a more conservative estimate of the potential gains which could be secured.
- 6.9 Our price scenarios are based on assuming a range of price reductions. In order to highlight the reasoning behind our future price scenarios it is useful to consider the existing price differentials. The points raised regarding relative prices in Section 5 of the report should be noted in interpreting the analysis in this section. In the main report we also analyse some of the other factors referred to in 6.6 above.
- 6.10 The price comparisons are based on assuming for each category of financial services (e.g. banking, insurance and securities) a weighting for each of the financial services prices presented within the category, based on estimates of the relative economic importance of the particular service. Details of the weighting system used are presented in the main report.
- 6.11 In table 6.1 comparative "prices" for financial services in the eight countries are presented. In particular we present calculations of differences in prices compared with the average of the four lowest price observations together with figures for the implied potential price falls and assumed potential price falls. The costs of current accounts are excluded in recognition of the widespread belief that these are very significantly affected by cross subsidisation. The cost of credit cards and letters of credit used represent the particular examples referred to and defined in Section 5.

- 6.12 The comparative costs of insurance products and stock exchange transactions are also presented in the table overleaf. These include both consumer, company and institutional transactions. The particular examples used in the calculations were described and defined in Section 5.
- 6.13 We believe the assumption that prices would fall to the average of the four lowest observations as measured by the implied weighted price reductions would still tend to overestimate the economic gains from integration. There are a number of reasons for this including the fact that the value added figures used in our economic model include value added incurred in producing financial services which are sold outside of the Community and also services at present subject to intense international competition.
- 6.14 In addition, differences in prices undoubtedly reflect in part differences in underlying risks which are unlikely to be affected by European integration.
- 6.15 In view of these factors and the recognised difficulties in obtaining comparative price figures we have therefore scaled down these implied price reductions to arrive at the assumed reductions which have been used in our estimates of economic welfare gains. In particular we have used a range of assumptions of between 40-60 per cent of the implied price reductions. We have also in our estimates of the economic gains from integration constructed a range of assumed potential price falls of five percentage points above and below our estimates. As indicated earlier these are based on our analysis of existing price levels and are also guided by our analysis of margins, cost structures and the extent of specific regulations. A more detailed analysis of the reasoning behind these price assumptions is included in our main report.

Results of Impact of European Integration

- 6.16 Using the assumptions regarding future price changes it is possible to estimate the impact of European integration. In the table on page 24, estimates of the economic impact of European integration of financial services as measured by the change in consumer surplus are presented for each of the countries examined. The estimates indicate that the gain in consumer surplus would be in the range 11-33bn ECUs. The lower estimate is based on a lower assumed price reduction while the higher estimate is based on a scenario of greater price reductions.

**TABLE 6.1: DERIVATION OF PROPOSED FALLS IN FINANCIAL PRODUCT PRICES AS A RESULT OF
COMPLETING THE INTERNAL MARKET**

UNWEIGHTED "PRICES" (1) COMPARED WITH AVERAGE OF FOUR LOWEST (See Footnotes Overleaf)

	Belgium	Germany	Spain	France	Italy	Luxembourg	Netherlands	United Kingdom
Banking								
Commercial Loans	-4.6	6.0	19.2	-7.3	8.6	6.0	43.0	45.7
Cost of Consumer Credit (4)	-41.0	135.9	38.5	105.1	121.0	-26.9	30.8	121.5
Cost of Credit Cards	79.0	60.0	25.7	-29.5	88.6	-12.4	42.9	16.2
Cost of Mortgages (5)	31.3	57.3	118.8	78.5	-4.3	36.5	-6.3	-20.7
Cost of Letters of Credit	21.8	-10.0	58.9	-7.2	9.1	27.1	16.5	8.1
Cost of Foreign Exchange Drafts	6.2	30.9	196.3	55.6	23.5	33.3	-45.7	16.1
Cost of Travellers Cheques	35.2	-7.4	29.6	38.9	22.2	-7.41	33.3	-7.4
Implied Potential Price Fall (2)	16.0	33.0	34.0	25.0	18.0	16.0	10.0	18.0
Assumed Potential Price Fall (3)	8.0	13.0	20.0	13.0	9.0	8.0	5.0	9.0
Insurance								
Cost of Contents and House Insurance	-15.9	2.7	-3.7	39.0	80.4	56.9	16.9	89.7
Cost of Motor Insurance	30.0	14.7	99.5	8.7	147.9	76.6	-6.8	-16.8
Cost of Fire and Theft	-8.7	42.5	24.4	152.8	245.0	-15.2	-0.5	26.6
Cost of Public Liability	13.4	47.3	59.9	117.0	76.8	9.5	-16.3	-6.5
Cost of Term Insurance	77.6	5.1	37.4	33.2	83.2	65.9	-8.9	-29.9
Implied Potential Price Fall	31.0	10.0	32.0	24.0	51.0	37.0	1.0	4.0
Assumed Potential Price Fall	16.0	5.0	19.0	12.0	26.0	19.0	0.5	2.0

TABLE 6.1 CONTINUED

	Belgium	Germany	Spain	France	Italy	Luxembourg	Netherlands	United Kingdom
Securities								
Cost of Private Equities	35.9	6.8	65.0	-12.6	-2.9	6.8	113.6	123.3
Cost of Private Gilts	14.4	90.1	216.9	21.5	-63.0	26.8	160.6	35.6
Cost of Institutional Equities	26.4	68.5	152.7	-5.4	47.4	68.5	26.3	-47.4
Cost of Institutional Gilts (6)	284.1	-4.0	60.0	57.4	92.0	-36.0	-17.4	-47.4
Implied Potential Price Fall	53.0	11.0	44.0	23.0	33.0	9.0	18.0	12.0
Assumed Potential Price Fall	26.0	6.0	26.0	12.0	17.0	5.0	9.0	6.0

PRICE FALLS FOR TOTAL FINANCIAL SERVICES SECTOR

Implied Potential Price Fall	23.0	25.0	34.0	24.0	29.0	17.0	9.0	13.0
Assumed Potential Price Reduction	11.0	10.0	21.0	12.0	14.0	8.0	4.0	7.0
Assumed Range of Price Reductions (7)	6 - 16	5 - 15	16 - 26	7 - 17	9 - 19	3 - 13	1 - 9	2 - 12

Caution must be exercised in interpreting the above data. See footnote to Table 5.1.

- (1) While the data is referred to as "prices" it should be noted that the data in the banking sector refers to the cost over money market rates and therefore do not represent the cost to consumers. Data is also exclusive of consumer taxes.
- (2) Implied price fall is calculated as weighted average of price comparisons compared with average of the four lowest observations. The weighting system used was designed to attempt to reflect the importance of the different services in value added. Details are presented in the main report. Also of significance is the fact that where prices are below the average of the four lowest it is assumed that no increase in prices would result from integration.
- (3) Assumed price fall is calculated as a percentage of implied price fall (see main report for details)
- (4) Cost of Consumer Credit in Italy assumed to be equal to the average of Germany, France and the UK.
- (5) Cost of mortgages in Luxembourg assumed to be equal to the average in the other countries.
- (6) Cost of institutional gilts in the UK assumed to have the same price difference as institutional equities.
- (7) Assumed range is derived as five percentage points above and below the assumed price reduction.

6.17 In the event of the consumer surplus gains being used as a measure of economic welfare gains we believe it would be prudent to use the mid-point in the range as the upper estimate of economic welfare gains. The results represent a snapshot of the position before and after integration. The figures also assume a competitive market structure after integration and indicate the net gains in consumer surplus country-by-country but do not make any assumptions about the redistributive effects between producers in different countries. Thus the results indicate the benefits to the consumers in each country and the overall gain in consumer surplus to the Community, after all of the benefits of integration have been achieved.

Table 6.2

Estimated Gain in Consumer Surplus Resulting from Integration of European Credit and Insurance Markets

	ECUs <u>M</u>	
	<u>Range</u>	<u>Mid Point*</u> <u>Estimate</u>
B	366 - 1,081	685
D	2,264 - 7,074	4,619
ES	2,376 - 4,040	3,189
F	2,105 - 5,330	3,683
I	2,516 - 5,542	3,996
LU	16 - 73	44
N	86 - 796	347
UK	<u>1,415 - 8,837</u>	<u>5,051</u>
	11,144 - 32,710	21,614

* Mid point refers to mid point in assumptions regarding price range and not the mid point in estimated gain in consumer surplus.

6.18 The extent to which the above estimates represent a gain in economic welfare depends on the assumptions made regarding the extent to which the price reductions used result in a loss in producer surplus. The particular framework which we have adopted would indicate that it would be necessary to subtract from this gain in consumer surplus some estimates of the likely decline in producer surplus. In so doing we recognise that it could be argued that this results in an underestimation of the gains from European economic integration but consider that a conservative approach is more likely to represent the real situation as barriers are removed. In an appendix to our main report we present a methodology for estimating economic welfare gains.

Macroeconomic Implications

6.19 In addition to estimating the microeconomic impact of integration of the European financial services sector it is also necessary to consider the macroeconomic welfare gains from integration of European Capital markets. In particular it is important to consider the gains from risk pooling, and equalisation of interest rates. These issues are summarised in subsequent paragraphs.

Conclusions Regarding Risk Pooling by Capital Markets

- 6.20 Our analysis of risk pooling indicates that the European capital markets are not integrated in the sense that rates of return do not fully reflect all diversification possibilities. Furthermore, investors who are restricted to domestic assets can not achieve as good a trade-off between risk and return as if there were freedom to choose from foreign assets.
- 6.21 In terms of the importance of greater portfolio diversification possibilities, some estimates can be obtained by computing the expected rate of return on an internationally diversified portfolio with the same risk as the actual risk of the market portfolio in the particular country. The difference between this and the actual market return represents the annual gain in rate of return which could result from integration. For example, using data from previous research (Levy & Sarnat) an appropriately levered international portfolio could generate mean returns almost three-quarters as high as the mean return on the EEC-6 market portfolio, for the same risk. In fact research indicates a mean levered return, for the same risk, over 11% per annum higher. More recent US research, referring to the US rather than EEC-6, also suggests very substantial gains from international diversification.

Equalisation of Risk Free Rates

- 6.22 At present the existence of exchange controls prevent the free flow of capital from moving to the countries with the highest rates of return. Even if there were no differences between the efficiency of the financial services industries in the various Member States, the removal of exchange controls could be expected to have beneficial effects through the convergence of real interest rates.
- 6.23 Given information on the marginal efficiency of capital and the real interest rates prevailing in the different countries, it is possible to quantify the gains from a move to common interest rates. A caveat should be recognised in respect of the assumption that the removal of exchange controls would necessarily equalise the real rates of interest across Europe. Until there is a much tighter exchange rate mechanism in the EMS, and one covering all of the countries, convergence of real interest rates will remain imperfect. In order to consider the potential benefits it is nevertheless useful to consider the economic impact of an equalisation of interest rates, resulting from the integration of European capital markets.
- 6.24 The size of the welfare gains to be achieved from equalisation of real interest rates depends both on the size of the differences and on the responsiveness of the demand for capital to interest rate changes in different countries.
1. Levy, Sarnat "International Diversification of Investment Portfolios" American Economic Review 1970.

6.25 The table below shows estimates, for real interest rates, of the responsiveness of the demand for capital to a one percentage point decline in the real cost of capital and deviations from the equilibrium real interest rate. The equilibrium rates are derived on the basis of an assumption that interest rates would tend over time to equalise. This analysis is based largely on O.E.C.D. (1) research and is described in detail in the main report. It is important to stress that real interest rate reductions will also affect consumer's income and welfare.

Table 6.3

Welfare Gains from the Equalisation of Real Interest Rates					
	Real Interest Rates Short Term	1986 Long Term	Changes in Demand for Capital * ECU BN	Deviations From Equilibrium Short Term Interest Rate	Deviations From Long Term Interest Rate
	Percentage Points				
	1	2	3	4	5
B	9.4	6.9	16	1.3	0.8
D	7.6	6.4	135	-0.4	0.3
ES	5.7	3.6	33	-2.3	-2.5
F	8.6	6.3	80	0.6	0.2
I	8.8	6.2	104	0.7	0.8
L	9.4	6.9	0.6	1.3	0.8
NL	8.2	7.4	28	0.2	1.3
UK	7.9	5.9	96	-0.1	-0.2

* As a result of a 1 percentage point decline in interest rates.

Sources: Real Interest Rates - Central Banks

6.26 The potential welfare gains from equalisation of interest rates can be calculated using the deviations of real interest rates from equilibrium (columns 4 + 5 above), the estimates of the change in the demand for capital shown (column 3) and using the formula outlined in our main report for the approximation of the loss of non-integration. In view of the primary focus of this study on the microeconomic gains and the nature of the methodology described above we have not presented the results of the macroeconomic gains of interest rate equalisation in this report. The results using this methodology, however, indicate a much smaller welfare gain compared with our estimates of microeconomic benefits.

(1) See "Internationalisation of Financial Markets: Some Implications for Macroeconomic Policy and for the Allocation of Capital". Furao, M. Hanozaki, M; OECD Working Paper, November 1986.

Conclusion

- 6.27 Our research indicates that there are significant potential gains to be secured in terms of increases in consumer surplus and economic welfare, resulting from integration of the European financial services markets.

As we have indicated though, extreme caution must be exercised in interpreting any quantification of the potential gains as the results will of necessity be speculative. Viewed in this context our estimates indicate that the gain in consumer surplus would be of the order of 11-33bn ECUs. If the consumer surplus calculations are used as a measure of the net economic welfare gains we believe it would be prudent to use the mid-point in the price range namely, 22bn, as the upper estimate of the potential welfare gains. These gains represent the potential microeconomic benefits of integration of the main European Community financial services markets.

- 6.28 In addition to the above gains, it is also likely there will be macroeconomic welfare gains from integration of the European capital markets. The gains from risk pooling by capital markets could generate mean returns almost three-quarters as high as the return on existing market portfolios. Also of importance is the potential gains from equalisation of interest rates.
- 6.29 The gains from integration will result from the dynamic effect of economic integration and not simply as a result of removing the costs of meeting some of the existing regulations. In all countries consumers will benefit from European integration but some producers will come under pressure to survive in the single market. It is important to stress however that these benefits would only occur in a competitive market.
- 6.30 In this study the importance of financial services in terms of output and employment was indicated. The critical macroeconomic importance of capital markets was also highlighted. From an economic standpoint, in view of the potential benefits of European integration of both financial and capital markets it is important that steps are taken to rapidly complete the internal market in financial services within the framework of free competition between and within member states.

Price Waterhouse

9.

The Benefits of Completing the Internal Market
for Telecommunication Services in the Community

INSEAD

I N S E A D

Institut Européen d'Administration des Affaires
European Institute of Business Administration
Europäisches Institut für Unternehmensführung
Institut Privé d'Enseignement Supérieur

Boulevard de Constance
77305 Fontainebleau Cedex, France
Telephone (6) 422 48 27 Telex 690389F

The Benefits of Completing the Internal Market for Telecommunication Services in the Community

Executive Summary

Submitted to the European Commission

Dec. 1987

Executive Summary

The Benefits of Completing the Internal Market for Telecommunication Services in the Community

1. Industry Background

1.1 Goals of European Integration in Telecommunication Services

One of the objectives of the European Community in completing the internal market by 1992 is to eliminate all current barriers to trade. This does not only apply to goods, but also to services (including telecommunication services), an issue specifically addressed in the EEC's Green Paper on the development of the Common Market for telecommunication services and equipment (COM (87) 290 Final). The purpose of the Green Paper is to initiate a wide-ranging discussion on those issues and to help in the establishment of a coherent Community-wide framework in the ongoing changes to the present system of telecommunications regulations.

1.2 The Product

Telephone services are based on telephone networks, which link various parties through fixed (or mobile) networks electronically with each other, so that interactive exchange of information (voice, message, data, image) is possible. They are generally provided by national telecommunication administrations, who exercise the monopoly for providing these services. Table 1.1 gives an overview of the size of these services in different Community countries. Most of this revenue is from voice (85 - 95 percent). The rest is accounted for by telex and data services,¹ as well as TV

1 Telex revenue ranges from 5 to 6 percent of revenue in Belgium, Italy, the Netherlands and Portugal, to 3 to 4 percent for Germany and the U.K. Revenues from Data services are probably equivalent to this sum. See ITU Yearbook 1987.

programme transmission. With the introduction of ISDN, data and image transmission should increase significantly. Important applications can also be expected with respect to value added network services (VANS), such as message storage, processing and distribution; code and protocol conversion between different data processing systems; information retrieval services, for example from videotex data bases; information processing services, for example through electronic data interchange; safety and alarm services etc.

Table 1.1: Income from Telecoms Service Provision (1985)

Country	Operating Income in mill. ECU
Belgium	1,405.45
Denmark	1,075.90
France	13,428.15
Germany	15,123.62
Greece	720.58
Italy	8,351.00
Ireland	623.54
Luxemburg	82.07
Netherlands	2,538.72
Portugal ¹⁾	678.90
Spain	3,154.35
United Kingdom ²⁾	14,244.99
Total	61,714.31

1) CCT and CLT 2) BT only

Source: Telefonica/ITU
Exchange rates as of 1985

1.3 Trade in Telecommunication Services

The international telecommunications network infrastructure has traditionally been produced jointly by the national Telecommunications Administrations so that trade in telecommunication services does not really take place. For connecting

international traffic, neighboring carriers will forward (transit) traffic onward to its final destination and vice versa and are therefore reimbursed accordingly. For traffic that may transit a number of countries or go via alternative routes, some elements of competition are introduced since the possibility to play off one transit country against another can lead to rate reductions. The access to competing satellite networks creates a similar incentive.

Trade does, of course, take place on services transmitted via the telephone network or produced in direct conjunction with it, as in the case of VAN^s services. The attractiveness of telephone tariffs may, for example determine where the "host computers" for data banks are located. With the increasing internationalization of the economies, the growing importance of tourism and international financial services, demand for international telecommunication services is increasing so that the telecommunication administrations see this as an important source of revenue. Increasingly, domestic carriers will set up international companies in another carrier's territory, not only to assist its customers, but also to explore the potential for economic activities in that country.²

1.4 Barriers to Integration

In the 1985 White Paper by the Commission (COM (85) 310) the costs of physical and technical frontiers are identified as basic obstacles to completing the internal market by 1992. The main advantage of reducing these frontier costs would be a greater integration of markets, in other words making them more competitive, while at the same time allowing increasing specialization and utilization of economies of scale. In telecommunication services provision economies of scale are

2 Cable and Wireless, the parent company of the British carrier Mercury has bought a network in the U.S.; Ameritech, one of the seven large American regional carriers has bought the VAN carrier AirCall in the U.K. etc.

already realized at a national level since, except for the U.K., we have only one operator and one physical network (for the moment ignoring the sizeable networks of public utilities and the military).³ Increased integration could therefore bring about only limited scale effects, unless one envisaged rather unrealistically the merger of a number of national and geographic telephone networks. But a harmonization of the different regulatory procedures may be possible and has important economic effects, as European governments are attempting to adjust their national regulatory structure to the effects of the "telematics revolution."

Each of these regulatory parameters affects a number of markets either on the input side (affecting the national base of telecoms equipment manufacturers) or on the output side (affecting the performance of individual sectors or the services available to individual customers). If the market for inputs is harmonized in such a way that a uniform European-wide market with competitive procurement practices results, sizeable savings as a consequence of product and production rationalization are possible⁴. The same applies to the market for customer premises equipment, where barriers to entry and restrictive certification practices so far inhibit the full Community-wide market integration and the benefits that can be derived from such a policy.

On the output side, performance can also be increased through more cost effective service provision, fewer restrictions on network utilization and the availability of additional, Community-wide standardized services. These effects may be due to (a) lower cost per given output and (b) better network utilization through more rational pricing. Concerning the first effect, our study shows that differences in operating practice may significantly affect productivity and the cost

3 There are several network operators in Italy, Denmark and Portugal, but their responsibilities are strictly delineated according to geographic or functional lines.

4 See the INSEAD report on the benefits of completing the internal market for telecommunications equipment in the Community.

at which services are provided. Some administrations have had to pursue a restrictive investment policy so that there exists excess demand; manning levels had to be kept high in spite of large productivity advances in network services, because rationalization and the associated shedding of labor was politically not feasible.

Concerning the second effect, we found that most administrations have also kept long distance tariffs artificially high in order to cross-subsidize other services, and postal and parcel services. Such decisions not only raise tariff levels, but also influence tariff structures (i.e. the ratio of connection to call charges, the cost relation between local and long-distance calls, between switched and fixed network services, etc), thereby further distorting input decisions for telecom users. As a consequence, restrictions must be placed on the utilization of the network (especially for the use of leased lines), so that service provision on the basis of the available network infrastructure, for example value added services, may be hampered.

Both effects raise production costs, thereby making "the nervous system" of modern economic societies more costly and less effective. Furthermore, by making especially long distance communication unnecessarily expensive, the incentive to broaden the arena of competition and to integrate neighbouring areas into one market is hampered, reducing the potential effects of integration.

1.5 Recommendations of the Green Paper

The recommendations of the Commission are set out in points A-J of the Green Paper along with a set of lines of action and an acceleration of existing action lines such as the Community programs RACE and ESPRIT. The aims of the Green Paper to bring about a more coherent framework in the ongoing regulatory change, to encourage the development of new services in a more competitive framework and to establish (and utilize politically, for example in international trade

negotiations) a wider European Market for telecommunication services. The acceleration of existing action lines is intended to speed up and to support this process.

2. Scenarios to Analyze the Likely Effects of a Unified European Telecommunications Service Market

2.1 A Status Quo Scenario

In order to have a reference point against which to analyze the effects of the completion of the internal market, a status quo scenario as an "antimonde" is necessary. The basis of this is to assume that the recommendations of the Green Paper had not been made, but other developments would still take place.

In our study we have noted the high degree of service integration already achieved between the national telecommunication operators, for example through the Conference of European Post and Telecommunication Administrations (CEPT) and its Coordination Committee on Harmonization (CCH), and the activities of the ITU and its International Telephone and Telegraph Consultive Committee (CCITT). Standards for new services and interconnection continue to be harmonized as, for example, in the case of videotex, teletex and facsimile services. Joint interfaces developed in that context allow the creation of private telecommunication services on the basis of public networks (via leased lines). On the international side, especially over longer distances, some competitive effects are already being felt so that the high price cost margins on international calls are likely to be reduced further. On the input side production continues to be rationalized due to the current industrial restructuring. The trend of regulatory reform in the individual countries will also continue though in a much less harmonized manner than that envisaged by an acceptance of the recommendations of the EEC's Green Paper.

2.2 A Scenario in Accordance with the Recommendations of the Community's Green Paper

When comparing the status quo scenario with the recommendations of the Green Paper we notice that the EEC goes further in its recommendations concerning:

- the provision of competitive "non-reserved" services by private firms (Proposition C),
- open network provision on the basis of non-discriminatory terms (Proposition E), and
- a more liberalized market for CPE (including receive-only satellite earth stations (ROES) in combination with more Community-wide standard setting) (Proposition F).

Important are also the insistence on stronger anti-trust rules (Propositions H and I) and the recommended separation of regulation from operation (Proposition G) which should give important support to those competitive activities that are permitted to take place in competition with the public telecommunication operator (PTO).

2.3 A Scenario of Full Service Competition

A scenario of network competition in long-distance services seems highly unlikely in the Community. However, it must be noted that this is already possible in the very large U.K. market moving in this direction. This together with increased international competition might be enough to suggest a third scenario of full network competition. Even if politically unrealistic, it also represents a useful reference point against which to compare the scenario based on the current Green Paper.

3. Estimating the Costs of Non-Europe

3.1 Identifying the Effects of the different Policies

We are mainly concerned about the economic effects of alternative scenarios, and therefore attempt first to analyze those effects which directly reduce telecommunication costs, to be followed by an investigation of the effects on changes in service offerings and their indirect effects on the economy as a consequence of more rational and less restrictive tariff policies.

There are several (direct) cost reducing effects that might be identified as a result of completing the internal market. The first effect refers to the benefits of joint, open procurement. They have been identified in two separate expertises for the Commission.⁵ Depending on the divergence of current domestic market prices from competitive market prices, tariff levels could be reduced between 2 to 8 percent as a result of more competitive purchasing.

The second direct effect is related to differences in operational efficiency. We have attempted to estimate these effects by comparing productivity between different telecommunication administrations and with an analysis of total factor productivity for different administrations over time.

The third direct effect relates to the consequences of a more rational tariff policy, when the recommendations of the Green Paper to move tariffs closer to cost take place. These effects will be larger with the introduction of network competition, as the current political opposition to tariff rebalancing is overtaken by more direct economic pressure.

The fourth direct effect relates to CPE equipment, as a consequence of a more liberal certification policy in a larger market. The other effects are more indirect in nature, but

5 See the studies by WS/ATKINS and INSEAD.

may be equally important, since they concern the range of service offerings. This is not only the case with respect to CPE, where a large product variety is expected, but especially with respect to VANS and services offered in competition to "reserved" monopoly services. Both aspects are directly related to a refinement of the regulatory structure, i.e. a "narrowing" of the remaining monopoly area and a more effective interfaces between the regulated "reserved" and the "non-reserved" competitive area.

3.2 Productivity Comparisons

The aim of a productivity comparison is to see whether one telecommunication administration, say the Spanish one, could produce the same output in the U.K. as BT actually does but using fewer resources. Such a comparison relates bundles of national outputs to their corresponding national input indices or alternatively compares pairs of output with input ratios. Scale effects must also be considered. If they are important, an administration with a small territory may be more efficient, but operate at a lower scale level. Differences in X-inefficiency also play a role.⁶

The effects of externally imposed constraints, for example concerning procurement or employment rules, must also be taken into account. They may prevent an organization from achieving the same degree of operational efficiency as an organization which does not operate under such constraints.

Productivity comparisons are difficult to carry out because inputs, outputs and production structures differ across administrations even for such a homogeneous product as telecommunication services. Simple (partial) measures of productivity such as mainlines or revenue per employee (Tab. 3.1) are only a first step, since they ignore differences in the degree of vertical integration. A PTO may install and

6 X-inefficiency refers to those unexploited efficiency gains which an organization could make by moving to its production possibility frontier.

maintain telephones with its own staff or subcontract this service to private companies; it may or may not operate CATV networks; it may produce value added services together with its other activities or have a separate subsidiary for this purpose (Fig. 3.1).

To account for these differences, the most important input and output variables must be combined into a total factor productivity index based on weighted input and output variables.⁷ They allow a series of binary comparisons between countries.

Table 3.1: Main line per Full-time Telecommunication Staff
1984

Country	Main Lines	Staff	<u>Main Lines</u> <u>Staff</u>
Belgium	2951.327	28.394	103
Germany	14602.734	207.693	118
Denmark	2465.993	17.395	141
United Kingdom	20192.894	241.817	85
France	22086.000	167.130	132
Netherlands	5800.000	27.760	208
Italy	16520.763	108.782	151
Norway	1618.200	17.302	93
Spain	8881.727	71.199	124

Source: ITU

⁷ The comparisons are based on weighted standardized input and output variables. Outputs are standardized in terms of local and long distance calls which means that all other outputs have to be converted to this measure; inputs are standardized for an average worker, material and capital input are related as far as possible to a physical measure (either relative prices or costs are used as weights.)

Figure 3.1: Range of Work Undertaken by PTOs

xx = only by administration; x = partly by administration;

Country	Installation		Maintenance		Exchange		External Plant		Manufacture	R&D
	Busi- ness	Resi- dence	Busi- ness	Resi- dence	Main- tenance	Construc- tion	Main- tenance	Construc- tion		
Belgium	x	x	x	x	xx		x			
Denmark	x	x	x	x	xx	x	xx	x		x
France	x	xx	x	x	xx	xx	x	x		x
FR Germany	x	x	x	x	xx	x	xx	x		x
Italy (SIP)	xx	xx	xx	xx	xx					
Netherlands	x	x	x	x	x	x				
Norway	x	xx	x	xx	xx	x	xx			
Spain	xx	xx	xx	xx	xx	x	x	x	x	xx
UK (British Telecom)	x	x	x	x	xx	x	xx	x	x	x

Source: BT and Telefonica

Table 3.2 shows the results of this more complex exercise. As a standard of comparison we have used British Telecom, setting its productivity level at 100. Norway was also included because of data considerations. This more comprehensive analysis changes the previous ranking obtained with a partial productivity measure in Table 3.1 dramatically. At the same time, even when accounting for most inputs and outputs, significant productivity differences remain. They show that Norway and Denmark, which have much smaller networks than BT appear more productive⁸. Telefonica and SIP now seem to be less efficient than BT and the Bundespost.

The results vary with the output measure used. The Bundespost performs better if short-haul calls are used as output weights but worse when using long distance calls. The ambiguity arises because the pricing structure of output

⁸ Denmark actually has four different telephone companies.

differs significantly between the two countries. BT, in addition, has a larger number of international calls while SIP only supplies domestic calls.

Table 3.2: International Comparison of Telecommunications
Total Factor Productivity

Output measure	UK (1986)	Germany (1985)	Denmark (1985)	Spain (1986)	Italy ¹ (1986)	Norway ² (1986)
With constant returns to scale						
a) short haul	100	125.6	137	90	97	189
b) long haul	100	97.6	144	82	58	122
c) number of calls	100	91.2	171	-	-	
With increasing returns to scale						
a) short haul	100	132	240	131	121	324
b) long haul	100	105	251	120	79	218
c) number of calls	100	98	256	-	-	-

1) SIP only;

2) Norway included because of data availability.

These measurements fail to consider the effect of economies of scale, i.e. productivity differences due to network size. Assuming increasing returns to scale (assuming cost elasticities of 0.8, i.e. proportional increase in inputs by a factor of 0.8 doubles output) the productivity advantage is even larger for the smaller networks of Spain and Norway, but also helps to bring Spain and Italy in line with BT.⁹

9 Obviously, further refinement on these measures are necessary, especially to account for differences in standard or service, waiting time for connections, national topography or social obligations. All the data and measurement concepts employed in computing Table 3.2 show room for improvement and therefore these results are obviously provisiona.

These calculations so far suggest significant productivity differences between the PTOs, perhaps as a consequence of differences in production technology and the degree of x-inefficiency, as well as the result of important outside constraints on the PTOs that prevent a movement to the least cost frontier.

The next question was whether productivity differences exhibit the same pattern over time. We measured total factor productivity growth for those countries, where data were available (U.K., West Germany) and collected and interpreted available studies for other countries (U.S.A., Canada, France, Italy). The results (Table 3.3) show not only large differences in (average) productivity growth, but also very sharp year-to-year fluctuations. The cause of these variations is due to different rates of movement of input and

Table 3.3: Rates of Growth of TFP for Selected Countries

Year	Canada			France	UK	Germany		USA
	IC 1)	NTC 2)	All	DGT	BT	DBP TFP1 3)	TFP2 4)	AT&T 5)
1965					4.7			2.9
1966					2.5			4.3
1967					2.5			3.3
1968					1.3			4.4
1969					1.5			3.8
1970					4.8			0.6
1971					-0.1	0.1	0.1	1.1
1972					1.4	0.4	1.1	4.0
1973	5.3				1.5	-1.6	0.5	4.3
1974	7.1				-2.0	1.7	2.9	3.7
1975	7.8	9.7	7.9		-1.5	2.7	3.6	2.8
1976	2.2	8.4	2.5	6.7	2.4	5.9	6.7	4.4
1977	0.7	9	1	6.3	5.3	7.7	8.4	3.6
1978	3.5	13	3.8	6	6.4	11.4	11.8	4.8
1979	4.8	19	5.2	4.8	1.2	5.1	5.9	4.2
1980	6	20	6.5	8.5	-5.4	1.9	2.8	
1981	3.9	9	4.1	8		1.5	2.2	
1982				4.2		0.0	0.7	
1983				6		0.5	1.2	
1984						2.0	2.6	
1985						-0.4	0.2	
Average	4.6	12.6	4.4	6.3	1.7	2.6	3.4	3.5

Notes:

1) Terrestrial Carriers
 Alberta Government Tel.
 Bell Canada
 British Columbia Tel.

2) Non-terrestrial Carriers
 Teleglobe
 Telesat

3) Usual Method
 4) Method DE1
 5) Bell System

Source:
 Canada: Denny et al. (1982).
 France: Daniels et al. (1985);

USA: Christiansen et. al. (1985);

output indices within and among the countries. The interesting point is that the German growth in total factor productivity (TFP) almost parallels the evolution in the U.K. from 1974 up to 1980. France seems to differ significantly from the other countries, with substantially higher productivity growth, at least since 1980.¹⁰

What do these measurements tell us about international productivity differences? They suggest that at least compared to the U.K., the U.S. and Canadian environment seems to have supported a higher productivity growth rate. But network size and speed of expansion also play a role. To analyze these two factors we note that productivity growth can be divided into two components:

- shifts of the production function as a consequence of superior production techniques (technical or organizational change), and
- better use of inputs with increasing scale, which has a more than proportionate effect upon output growth (economies of scale) (see Fig. 3.2).

Thus, if Q . is the rate of growth of telecom output, A . the rate of technical progress, X . the rate of growth of inputs and E the scale elasticity, the following relationship holds $Q. = A. + EX.$. Keeping this relationship in mind, we have analyzed the relation between total growth rates of the telecommunication network in the different countries and productivity growth (Table 3.4). Productivity growth in the German network seems to have been faster than in the British system (2.6 percent p.a. compared to 1.65 to 2.1 percent, depending on whether the last observation is included). But the German output also grew faster than the British over much of

10 But the French method of computing total factor productivity growth included an extra contribution to net operating capital. Once this measure was included in the analysis for West Germany, the average growth rate in TFP between 1971 and 1985 rises from 2.6 percent to 3.6 percent and is then in line with the French growth rate during the same period.

the same period (13.19 percent p.a. for 1970 to 1985 compared to 8.74 percent p.a. for 1964 to 1980), suggesting that the Bundespost also benefitted more from scale effects.

Table 3.4: International Telecom TFP Growth Comparisons

	Input %growth p.a. (X.)	Telecom %output growth p.a. (Q.)	TFP growth (Q.-X.)
United Kingdom (1964-80)	6.64	8.75	2.11 (1.65)
Germany (1970-85)	10.59	13.19	2.6
Canada (1973-81)	5.3	8.74	3.44

Figure 3.2: Changes in Telecom Costs as a Function of Scale and Technical Change

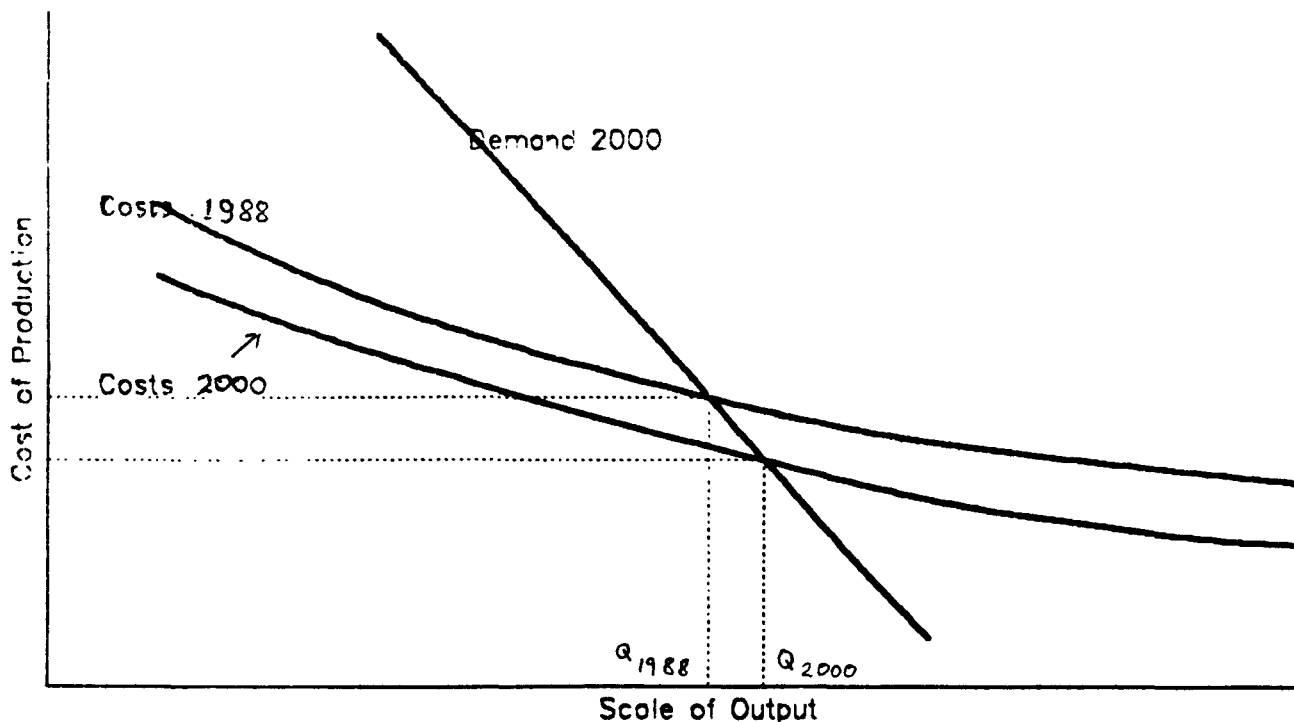


Table. 3.5: Relation between Scale and Technology Shift

Scale elasticity:	Production function shift factor:	
	A _G	A _{UK}
1.45	-2.16	-.87
1.30	.58	.12
1.124	1.287	1.287

The shift in the production function implied by different scale elasticities may be computed given historical values of both Q. and X.. Table 3.5 shows that the scale elasticity at which Germany and British technical progress would have been equal is 1.124, implying at the same time an identical yearly "technology shift" of 1.287 percent. This shifts the production function 50 percent faster than the historical Canadian rate of .83 percent p.a.. It is unlikely that German and British technical progress was so much higher than Canadian. Instead, and keeping in mind the higher scale elasticity estimates for the US and Canada seems to suggest that the true scale elasticities are higher than 1.124, so that it is necessary to reduce the estimated German and British coefficient of technical progress. Because if Germany and Britain had scale elasticities similar to those estimated for the United States and Canada, i.e. 1.3 and 1.45, and also had the historical Canadian rate of technical progress (.83 percent p.a.), productivity growth would have had to be roughly 25-50 percent higher than it actually was. This too suggests that the outside constraints put on the British and German system may have been more significant than in the situation of Bell Canada.

The importance of creating conditions under which the full effects of technical progress can be implemented in a telephone network should not be underestimated. This can be

illustrated by assuming a 1 percent higher productivity growth rate between 1988 and 2000. With a 12.75 percent higher productivity rate in 2000, 11.3 percent less inputs would be needed to produce the same output, as illustrated in Fig. 3.2, Taking the price elasticity of telephone demand also into account enhances this effect. Calculations in the study show that with a price elasticity of $-.6$ and a unit cost elasticity of $-.2$ the ultimate effect on telecom output (an increase from Q_{1988} to Q_{2000} in Fig. 3.2) is 7.7 percent. Higher scale and price elasticities raise this number, lower ones reduce it. Keeping the overall service revenue of 61b ECU of 1985 in mind suggests that the resource savings due to higher productivity rates are substantial, while the extra traffic generating effects would also result in resource savings (due to economies of network fill) and in extra service output.

3.3 Influence of the Tariff Structure

The overall role of telecommunication tariffs is

- to provide means for obtaining efficient use of existing capacity, for example through peak-load pricing,
- to give signals for new investment and
- to yield revenue on past investment.

Greater network efficiency is not only achieved through lower cost per given output, but also through better utilization as a consequence of a more rational pricing structure, since current telecommunication tariffs diverge significantly from costs. As a consequence the price signals to the users of the telecommunications network are distorted, causing the users to make allocatively inefficient decisions.¹¹ For example, to

11 Over longer distances, he may make less use of telecommunication services than the true economic costs would suggest. This leads not only to an underutilization of the productive resource telecommunication, but also to a reduction of the potential geographic market size. These indirect effects - a lessening of the potential competition - may be an important side effect that has so far been overlooked in this discussion.

these allocative costs for the telephone user, and the dynamic cost of insufficient market expansion, one has to add the dynamic costs to potential service producers whose entry is prohibited, because of the danger of cream-skimming through arbitrage.¹² While arbitrage may hurt an administration financially, its prohibition also prevents the innovative offerings of certain services, or the spreading of others, because "shared use and resale" of such services, which could lead to arbitrage, is not permitted. Those enterprises that have developed certain telecom applications in-house or between their subsidiaries (or cooperating partners, for example in the case of airlines, banks, etc.) are allowed to sell these services to third parties only under certain restrictions and sometimes not at all. That implies not only a significant barrier to entry for VAN services based on the telephone network, but also discriminates against smaller users that cannot develop or utilize these services in-house because of their small scale.

Only a rebalancing or "harmonization" of tariffs can reduce the arbitrage incentive, so that the current restrictions which are based on the use of leased lines (i.e. "no connection to the switched network, no use for third parties") can be removed. Tariffs may be harmonized on the basis of cost (implying a "rebalancing", i.e. a lowering of long-distance, and in some countries leased line, tariffs and a raising of local calls to reduce the losses or in relation to the tariffs of a major service - dialed voice. While this second option brought about a volume-related tariff on leased lines¹³ and also reduces the danger of arbitrage, it still

12 This refers to the incentive that any potential suppliers of telecoms services (either on the basis of leased lines or competitive physical networks) would want to enter mainly in the lucrative long distance market, thereby "skimming" the cream needed to subsidize the deficit services - rentals and local calls. The fact that the tariffs between the different long distance services (i.e. dialed services, leased lines, data services, broad band transmission rates) differ significantly may also lead to skimming because of the potential to arbitrage.

13 This is the option which the Bundespost has chosen.

leaves the allocative problem unresolved, because tariffs now diverge significantly more from costs than with a rebalancing on the basis of costs.

To identify the importance of tariff distortions and to obtain a rough estimate of the current cost of this policy, the economic measure is the consumer surplus foregone.¹⁴

Table 3.6 shows the four important tariff components, i.e. for connections, rentals, local and trunk calls in ECU for switched voice services in all the EEC countries. We observe indeed a wide variation in tariffs that seems inconsistent with what is perhaps a more uniform cost structure across countries that must surely be prevailing, even in the absence of telecoms services being traded. Connection charges range from a low of 31 and 36 ECU in Germany and France, where the use of second telephones has been encouraged in an essentially saturated network, to the cash-poor administrations of Ireland, Italy and Greece, where the residents must pay most of the initial cost of a telephone connection in the connection fee.

¹⁴ The consumer surplus is how much buyers would have been willing to pay over and above what they actually paid for services. The measure therefore is to compare tariffs with costs and to assure that the loss and gains are proportional across countries.

Actual connection costs are probably in the neighborhood of 250 to 400 ECU, showing that in all countries some externality effects (i.e. the benefits to existing subscribers if a new subscriber joins) are still taken into account.¹⁵

Comparing rental rates with the actual depreciation costs for the local loop (independent of installation costs) suggests that they are also being subsidized from call charges. The marginal costs for maintaining and depreciating old established lines are perhaps 6 to 8 ECU per month per line, with 8 to 10 ECU in rural areas. The marginal costs for new lines are more in the neighborhood of 15 to 20 ECU, given today's very much higher wage costs. Marginal costs of local (measured) calls are about .03 to .04 ECU per minute, with the initial minute being somewhat higher. This suggests a marginal cost for 3-minute local call in the neighborhood of .1 ECU or slightly above, depending on cost conditions and the size of the local calling area. Table 3.6 indicates significant deviations below this figure for Spain, Greece, Portugal, and the Netherlands, but also somewhat higher rates for the U.K. and Italy. Some of these differences may be explained by the wide variations in calling area size indicated by the average number of exchange lines there.

Most important in terms of a typical telephone bill are charges for trunk calls (50 - 500 km), since they make up 50 to 70 percent of telephone costs. Marginal costs per additional minute in the neighborhood of 0.1 ECU (with the initial minute being about .03 - .05 ECU higher), suggest a marginal cost for a 3-minute call of .3 to .4 ECU.

Only the Netherlands and Denmark come close to this range (mainly because of the short trunk distances involved) with the U.K., Belgium and Spain somewhat above. The big

¹⁵ To make more people join the network, new subscribers receive their connection often significantly below actual connection cost, the rest being paid back in call charges.

Table 3.6: Major Tariff Variables in the EEC (1987)
in ECU
(includes VA charges where applicable)

Country	Connections	Monthly Households	Rentals Business	Local Call (LC) Tariffs (3 min)	Call Area Size ¹⁾
Great Britain	150	9.00	14.02	0.21	221
Italy	151	4.48	11.54	0.20	9
Belgium	116	10.50	10.50	0.14	78
Ireland	235	11.20	15.10	0.14	78
Luxemburg	58	5.78	5.78	0.12	na
France	36	5.67	13.82	0.11	120*
West Germany	31	10.80	10.80	0.11	135
Denmark	189	9.88	9.88	0.10	na
Netherlands	97	9.81	9.81	0.06	5
Portugal	66	7.98	7.98	0.05	1
Greece	199	2.23	2.23	0.03	5*
Spain	83	6.66	7.03	0.03	na

	Tariff for Trunk Calls (3-min.)		Intern. Call Index (3 min) ²⁾	Intern. Leased Lines ³⁾	TC1 LC	TC2 LC
	up to 100 Km (TC1)	max. Dist. (TC2)				
Great Britain	0.56	0.56	0.57	1162	2.7	2.7
Italy	1.62	1.72	0.94	3500	8.1	8.6
Belgium	0.69	0.69	0.80	1625	4.9	4.9
Ireland	1.26	1.26	0.88	1878	9.0	9.0
Luxemburg	---	---	0.67	1702	--	--
France	0.85	1.59	0.65	1541	7.7	14.5
West Germany	1.00	1.66	0.48	2352	9.1	15.1
Denmark	0.36	0.36	0.41	1312	3.6	3.6
Netherlands	0.26	0.26	0.41	1743	4.3	4.3
Portugal	1.19	1.19	0.90	2889	23.8	23.8
Greece	0.97	1.15	0.89	2582	32.3	38.3
Spain	0.06	1.07	1.00	2481	20.0	35.6

1) measured in average number of exchange lines in 1 000

2) refers to calls between Madrid and corresponding country, i.e. calls from Denmark are 41 % of the tariff in the reverse direction

3) rental and connection charge in \$ for eight private circuits to adjacent country and two transatlantic. IBM 1987, reproduced in Financial Times Business Information

distortions arise in Italy, Ireland, West Germany, Portugal, Spain and Greece, especially over the longer distances. It is here where much of the negative allocative effects and the large welfare losses take place, because the elasticity for long distance calls ((-0.3 to -0.6) is significantly higher than for local calls (-0.02 to -0.2).

As a consequence, an adjustment of tariffs for trunk calls nearer to cost, for example by more than 50 percent in the case of W. Germany, could easily lead to a 20 percent increase in call volume. In the case of international calls, where the deviation of prices from costs is greater, and elasticities are higher (-.8 to -1.5), the allocative distortion and the associated welfare losses are even larger. To raise the charges for local calls on the other hand causes a much smaller proportionate traffic loss. The positive benefits for efficient resource utilization (defined in terms of consumer surplus forgone) from such a move are clear. Effects on the distribution of benefits across the population are best dealt with by explicit, rather than cancelled subsidies.

There have been a number of studies to estimate the welfare gains from a move towards marginal cost pricing. Neumann et al., who have carried out such a study for Germany, concluded that a move from the 1979 German pricing structure to a marginal cost pricing structure would have resulted in a welfare gain of 2b DM, almost 10 percent of income from voice services. This figure is confirmed by our more recent calculations.

3.4 Influence on Service Offerings

Two of the Green Paper's recommendations are bound to influence the variety and range of service offerings if they are fully accepted. The first concerns the proposal to allow competitive services in competition with the "reserved" services provided for by the telephone administrations (they too, of course, may provide competitive services but it is in "reserved" services where they have an exclusive right). The other one concerns open, non-discriminatory network provision which should help to enhance

access for the value added network market, especially if it is combined with a tariff harmonization that allows the abolition of current restrictions on network use. The effect of the first is not only to increase service offerings, but also to allow some elements of "network" competition to creep in, even if only in an indirect way, if that may serve as a check on X-inefficiency of the PTO's.

It is the effect of the second, however, that is of interest here, as from a more harmonized, liberalized VANS market, additional service offerings are bound to arise. The precise effects are difficult to quantify, depending on the actions of the PTO's themselves in this service area. It suffices here to outline some of the likely effects, like

- the elimination of geographic space as a barrier to the spreading of certain services;
- the spreading of existing services from within organization or large centres throughout the economy;
- the creation of larger geographic markets for already existing services;
- the creation of new services made possible by the "economic" linkage of computers through telecommunications, for example through electronic data interexchange;
- the further integration of office functions and the integration of design, manufacturing and component production, leading to the "Office" and the "Factory of the Future" with CAD, CAM, FMS, etc. and their huge potential for electronic data interexchange;
- the increasing cheapness of band-width will alter significantly the cost of transmission, especially for image.

3.5 Influence of Harmonization

Products and services which are standardized may become more valuable if they are compatible with each other or if they can be made compatible (through interfaces) at relatively low cost. But the competitive process might not always lead to such compatibility. In order to correct for these market failure effects, governments must become involved in helping to set up standard-setting institutions. An industry run

approach alone, which could achieve the same result, brings with it the danger of cartelization. It is in this connection that the attempts of the Green Paper to increase harmonization has to be seen. The economic effects are likely to work similar to those observed in VANS:

- reduction in barriers to entry results in increased market size. This will accelerate market growth and thereby also create learning and scale effects (for example in mobile radio);
- lower barriers to entry imply a lessening of monopoly power, reduced price/cost margins and therefore increase market volume.

4. Results of the Scenarios

4.1 A Status Quo Scenario

The reference scenario, against which to compare the effects of the completion of the internal market will have to be a status quo scenario, in essence the "anti-monde". Network monopoly has only been abandoned in Great Britain. The fact that private cable networks have been allowed to operate in a number of countries might increase the likelihood that private ROES antennae for satellite reception will also be liberalized, as envisaged in the Green Paper.

Some countries have already adopted the Green Paper recommendation of separating the regulatory authority from operating companies or plan to do so in the near future, thereby creating fairer competitive conditions with private firms. Some PTO's have set up separate companies to participate in competitive markets (for customer premises equipment, VANS, information services, etc.). Tariffs will continue to diverge significantly from costs. As a consequence, all PTOs still maintain restrictions on the use of leased lines. Both effects will limit the development of value added and information services. In the CPE market, liberalization is progressing only slowly, especially concerning the first telephone apparatus. Except for perhaps in Denmark and Great Britain, industrial policy goals in procurement still play an important role. This means that PTOs are forced to support their domestic

industries, sometimes at a considerable cost. This is characterized by a small reduction in the degree of public ownership of the PTO, a weakened link to mail service and a slight reduced network monopoly.

This overview of the status quo development shows already some moves towards the recommendations of the Green Paper, with the most important issues remaining in the area of tariff policy, network access and a liberalization of the CPE market. Improved performance as a consequence of liberalized procurement policies, increased operational efficiency and a move towards a more business like environment remains also a crucial issue.

4.2 Recommendations of the Green Paper Fully Realized

4.2.1 The Effects of Open, Competitive Procurement

One of the objectives of the completion of the internal market by 1992 is community-wide competitive equipment market. At the moment, the procurement recommendation 84-550 stipulates that only 10% of public contracts are opened to international tender. If this quota is raised to 40 or 50%, as suggested in the Green Paper, the barriers to entry that exist as a result of the current preferential procurement rules would be significantly lowered. A complementary INSEAD study¹⁶ shows, that depending on the current national procurement policies, savings of 1 to 3 bn ECU in 1985 prices may be realized, to that tariffs may be lowered between 2 and 8%. Since these effects are already accounted for on the equipment side, they must not be double counted on the service side.

However, as we have seen in the discussion about productivity development, lower tariffs also imply a higher traffic volume. That traffic which can be accommodated on current network capacity (due to economies of fill) implies high profits for the PTO that are equivalent to resource savings. On the traffic that has to be accommodated through extra network

¹⁶ The Benefits of Completing the Internal Market for Telecommunications Equipment, Fontainebleau, Dec. 1987.

investment, a 10% profit margin will be used as an indicator of extra benefits. With an overall service revenue of 61 bn ECU for 1985 a 3 bn cost reduction as a consequence of lower equipment prices could lower tariffs by roughly 5%. Ignoring the temporary benefits of economies of fill, and concentrating only on the extra traffic and network size effects results in annual benefits of 0.75 bn ECU; (i.e. 70 percent of 1.5 bn ECU extra traffic revenue because of lower tariff plus an 1 percent overall cost reduction as a result of lower unit costs with increasing network size).

4.2.2 Keeping the Arena of "Reserved Services" Small

The Green Paper recommends that the legal monopoly area for "reserved services" is defined more narrowly. In the extreme it might only entail basic dial ed telephone services while giving up the monopoly on all CPEs. But, even with the emergence of ISDN and increased data and image transmission - the voice segment of the market (as much as 70 percent of total "public" or commercial telephony markets), remains as a "reserved area" for the PTOs. These effects of a small reduction in the size of the regulated area are difficult to assess. Much will depend on the amount of "non reserved service offerings" as a response to "reserved services" and the interface and interaction between them. We expect some service enlargement, and more significantly, some substitution effect (where private supplies offer a close substitute to "reserved" dial ed voice service). But there will be little incentive for increased productivity performance, as leased line tariffs are set in such a way that substitution effects, and the associated incentive effects to increase performance, will be limited arbitrarily. Our discussion of VANS above suggests also that a more liberal use of "reserved" network services will tend to encourage VANS as well. We state these positive effects without being able to quantify them.

4.2.3 Competitive "Non-reserved" Services: CPE and VANS

Regarding the prevision of competitive "non-reserved" services we are mainly concerned with CPE, VANS and services that arise out of the ONA concept. If uniform EEC-wide type

approval according to minimal standards was possible for CPE and based exclusively on the safety of the user (avoidance of first-party harm) and the network (avoidance of second-party harm), a sizeable enlargement of the CPE market, increased product variety and considerable cheapening of products could be expected. Cheaper and more versatile terminals will also generate extra traffic, as more terminal functions may become integrated, leading to a substitution effect from physical communication, but also to a market extension effect, because competition is possible over a wider range. Our interviews and the development in the US suggest as a consequence a slightly higher growth rate in traffic, so that compared to a status quo scenario, a 2-3 percent overall increase in telephone traffic seems plausible. With unchanged telephone tariffs and the same price elasticity that we discussed above, this would mean 0.6-0.9 bn ECU extra network revenue p.a.

Since some of the initial traffic increase will benefit from economies of fill and economies of scale, some tariff reductions might be possible, leading to a further tariff stimulus. There will also be some additional investment in CPE devices that may help to reduce telephone use, for example related to telephone answering machines, electronic mail, etc., which may have an offsetting effect.

The direct effects of 0.6-0.9 bn ECU additional traffic will again have to be considered in terms of opportunity costs. This can be interpreted in terms of 0.2-0.4 bn ECU due to economies of fill and economies of scale plus the extra 10 percent profit obtained from this additional service revenue, perhaps 0.05-0.1 bn ECU, resulting in economic gains of 0.25-0.5 bn ECU. The indirect effects of a larger and more diversified CPE base and the associated resource savings in their application could be a further 0.2 bn ECU.

Concerning VANS, exact figures about the European market size are rather vague; even for the U.S.A. only approximate figures are available. A Frost & Sullivan (1984) forecast predicts the market for VANS in Western Europe of \$ 5.7 bn (in 1984 prices) by 1990. Of this, \$ 2.5 bn is for tele-

communication services; text and message services are expected to earn \$ 1.256 bn, and on-line data bases \$ 1.3 bn. The estimates for revenues accruing to PTO (50 percent) are overly optimistic, however. Our interviews and literature research suggest that most value added networks currently spend at most 10 - 15 percent of their sales volume on PTOs' services, making them less vulnerable to high tariffs and restrictive use of the telephone network. Predicting such high growth rates for services with relatively little value added (compared to costs of carrier services) suggests that the more price elastic application segment of VANS will eventually dominate the market growth.

To achieve such figures would require not only a full implementation of the Green Paper, a very cooperative approach by the PTTs, but also an increasing coordination of standards and interfaces at the European level. We would attribute at least half of this growth in transmission volume, namely 1.2 bn ECU to achieving the goals of the Green Paper. In terms of opportunity cost, the effects of economies of fill and scale are 0.25 b ECU, plus 10 percent profit on extra network services, i.e. 0.12 b ECU, in total .3 - .4 b ECU. Since these gains only occur in 1990, we can, under status quo consideration, estimate the benefits that would have been possible in 1985, had these recommendations been in place, as closer to 0.1 bn ECU p.a.

In addition to liberal network use and cheap transmission facilities, a further aspect crucial for the growth of VANS is that of "Open Network Architecture" ONA. It allows providers of VAN services an easier access to the public network, employing all the tools of traffic economy in the process, as well as the utilization of the increasing intelligence in the network (such as reversed charging, closed user groups, diagnostic and control options). If the ONA Concept is successfully implemented, we envisage that a number of VAN services, and also information and add-on services that have only a marginal application at the moment (for example, because of high transaction costs), may increasingly become economical. This might also lead to private households becoming more interested in these services, especially on the higher income end, thereby

greatly increasing the volume for such services and the amount of revenue generated within the network. As a consequence, the estimate of 2.5 bn ECU network revenue for VANS mentioned above could be increased by another 50 percent by 1990. Employing the same calculations as above, yields benefits in the neighborhood of .2 bn ECU by 1990, and 0.05 bn in terms of the 1985 calculation.

4.2.4 Other Effects

The Green Paper also envisages an improved regulatory structure through the separation of the regulatory from the operational responsibility and a strengthening of the antitrust provisions. This should facilitate the interface of competitive services with "reserved" services, thereby encouraging entry and a widening of service options, whose quantification is, however, beyond the scope of this research report. Similar effects are expected as a result of increased standardization efforts in services. Increased compatibility would have a cost-reducing effect in terms of resources saved, as well as a market enlargement effect as a consequence of lower service costs. Again we have not attempted to quantify these effects here.

4.2.5 No Provisions for Increased Performance and Tariff Rebalancing

In this "Green Paper" scenario there is little incentive to harmonize tariffs, implying that many of the current allocative costs of tariff distortions are maintained or perhaps even increased, not to speak of the associated dynamic costs. This latter possibility is indeed a real one, as technical change is occurring much faster than tariffs are being adjusted. Furthermore, the existing differences in operating efficiency between different networks will barely be affected by the current regulatory change. This would imply that further welfare and efficiency gains in addition to the above mentioned are still possible. It is for this reason that we explore next a scenario of full network competition, even so this seems at the moment politically unfeasible.

4.3 Full Network Competition

The potential of network entry or an improved regulatory structure will give established telephone administrations an incentive to adjust tariffs and to improve performance, an incentive which is often missing under the current regulatory structure. The size of the expected tariff adjustment depends on the difference between the current and future amount of cross-subsidization.¹⁷ The cost estimates and the divergence from cost from section 3.3 suggest that a sizeable tariff rebalancing with associated welfare benefits would be possible. In countries, where trunk calls are priced very high and local calls are considerably underpriced, welfare losses might well be above the 10 percent welfare loss as a proportion of total call volume. These effects, excluding the already partially rebalanced U.K. segment, indicate welfare effects in the neighborhood of 4 b ECU p.a. for the EEC as a whole.

The amount of the productivity improvement as a consequence of network competition is difficult to estimate. The productivity comparisons carried out above suggest sizeable productivity differences between PTOs. Our comparisons of the Bundespost and BT with Bell Canada in Section 3.1 suggested that a 25 to 50 percent higher annual productivity growth rate may be possible for these two PTOs. With productivity growth rates currently ranging from 1 to 2 percent, an increase of at most 0.5 to 1 percentage point p.a. seems possible. Equal effects may be possible for Belgium, Italy and Spain.¹⁸ In terms of resources saved, this is equivalent to .5 b ECU p.a. If one assumes that these productivity gains are fully passed on in further tariff reductions beyond the rebalancing effects already mentioned above, a further exploitation of network economies could lower tariff annually by 0.15 percent, yielding extra resource saving of 0.1 bn ECU p.a.

¹⁷ If access charges to the local loop are levied on entrants, a certain amount of cross-subsidies may continue.

¹⁸ We have no view (yet) on the Netherlands, Portugal, Greece and Ireland.

4.4 A Summary

Table 4.1 summarizes the main results of the two scenarios. The major difference between the two is the greater effect of a competitive procurement policy and of tariff reform under network competition. Without a network monopoly, entry, even if only on the fringes, forces PTOs towards a more cost conscious procurement and operating policy and, as we see under point 6, a policy of tariff rebalancing. The example of the Swedish PTO - Televerket - shows that such policies are also possible without network competition, but our interviews in the different countries suggest that industrial and regional policy considerations, labor market obligations and union pressure prevent the PTOs from carrying them far enough. The increased pressure the EEC is putting on tariff harmonization is therefore a step in the right direction, as is the policy on VANS and ONA. But only if the regulatory framework can be strengthened to increase performance and if the PTOs are released of the other policy task by pursuing them through more direct policy tools (taxes, subsidies, retraining, etc.) will more rational tariff and operating policies result.

The likely effects of the Green Paper towards the completion of the internal market by 1992 are of a sizeable magnitude, but the remaining policy problems are large enough to warrant further efforts, before the market for telecommunications services are truly integrated in such a way, that their full technology potential can be realized on an EEC-wide basis.

Table 4.1: Effects of Regulatory Reform on European
Telecommunication Services (1985)

Measures/Effects	Green Paper Effects	Full Network Competition Effect
1) Lower equipment cost Implies lower tariffs and through network expansion, utilization of economies of fill and scale	2-4 bn ECU p.a. (not to be double counted) 0.75 bn ECU p.a.	4bn ECU p.a. slightly larger
2) Keeping Arena of "Reserved Services" small Implies increased product spectrum and market enlargement effects	not estimated	not estimated
3) More competitive "Non-reserved Services"		not estimated
3a) easier CPE certification, increased product variety, lower CPE prices, increased network use (by 0.6 - 0.9 bn ECU)	0.25 - 0.5 bn ECU direct plus 0.2 bn ECU indirect resource savings (p.a.)	
3b) liberalized VANS	0.3 - 0.4 bn ECU by 1990 i.e. 0.1 bn ECU p.a.	larger, because fewer network restrictions
3c) open network provision	0.2 bn ECU by 1990 i.e. 0.05 bn ECU p.a.	not estimated
4) Improved regulatory structure, facilities entry, competitive interface	not estimated	same
5) Standardization, competitive interface	not estimated	same
6) Tariff Reforms (closer to cost)	marginal effects (no EEC instruments as yet)	4 bn ECU p.a.
7) Improved operating efficiency	marginal effects (no EEC instruments as yet)	0.6bn ECU p.a.

10.

**The Benefits of Completing the Internal Market
for Telecommunication Equipment in the Community**

INSEAD

I N S E A D

Institut Européen d'Administration des Affaires
European Institute of Business Administration
Europäisches Institut für Unternehmensführung
Institut Privé d'Enseignement Supérieur
Boulevard de Constance
77305 Fontainebleau Cedex, France
Telephone (6) 422 48 27 Telex 690389F

The Benefits of Completing the Internal Market for Telecommunication Equipment in the Community

Executive Summary

Dec. 1987

Submitted to the European Commission

1. Industry Background

1.1 Goals of Integration

One of the objectives of the European Community in completing the internal market by 1992 is to eliminate all current barriers to trade in telecommunications equipment. The 1985 White Paper by the Commission identifies the costs of physical and technical frontiers that need to be eliminated. The "Green Paper on the Development of the Common Market for Telecommunication Services and Equipment" spells these issues out in detail. Upon closer analysis, it is mainly "technical frontiers", due to different national equipment and network standards and certification requirements and nationalist procurement policies, which account for the delay in achieving an effective internal European market.

1.2 The Products and their Markets

Telecommunication equipment is used to construct a telecommunications network infrastructure, for example with the aid of transmission and switching equipment and to have access to such networks with the aid of customer premises equipment (CPE). These three categories therefore make up the most important market segments, in addition to a small set of miscellaneous products. Table 2.1 gives an overview over these four markets in Western Europe for the year 1986. These data are based on market surveys by the consultancy firm Frost & Sullivan since no official statistics with a similar breakdown by products and countries exist. Table 1.1 indicates the dominance of central office (CO) equipment with almost half of the market volume. The total market in 1986 is estimated at \$ 15 bn, to reach \$ 19 bn by 1990.

Table 1.1: European Telecom Equipment Market (1986)

	in Mill \$	in Percent
Switching Equipment	7050	47
Terminal Equipment (CPE)	3600	24
Transmission Equipment	1950	13
Other Equipment	2250	15

Source: Frost & Sullivan, E 882, 1987

The next significant market, according to the Frost & Sullivan definition, is terminal or CPE equipment with roughly 24 percent of total value, followed by transmission with 13 percent and a set of miscellaneous products with 15 percent. The overall market size was estimated to be 15b US \$ in 1986, growing to 19b by 1990.

Different consultancy reports come to different agreements about the size of the market and the weight to be given to different product groups (Tables 1.2 and 1.3). The problem is apparent in Table 1.2, which represents the individual European markets on the basis of another consultancy study, in this case by Arthur D. Little (WTIP). Its market estimate for the EEC Market of the 12 with 17.5b is already above the Frost & Sullivan Study's market estimate of \$ 15b for all W. European countries.

Table 1.2: Telecommunications Equipment Market in the EEC, U.S. and Japan

	1984		1986*	
	\$bn	% of total	\$bn	% of total
Belgium	0.7	1.0	0.8	0.9
Denmark	0.3	0.4	0.4	0.4
France	3.1	4.4	4.2	4.6
Ireland	0.1	0.1	0.1	0.1
Italy	1.4	2.0	1.7	1.9
Germany	2.9	4.1	3.6	3.9
Greece	0.2	0.3	0.2	0.2
Netherlands	0.6	0.8	0.6 ²⁾	0.7
Portugal	0.2	0.3	0.2 ²⁾	0.2
Spain	1.3	1.9	1.6	1.7
UK	3.3	4.7	4.1	4.5
(Sub total)	(14.0)	(20.0)	(17.5)	(19.1)
US	26.4 ¹⁾	37.7	34.5	37.8
Japan	6.8 ¹⁾	9.7	7.9	8.6
EC, US, Japan total	47.3	67.4	59.9	65.5
World total	70.0	100.0	91.3	100.0

Source: Arthur D. Little (WTIP)

1) 1985; 2) 1984; * 1986 estimate is in 1985 US dollars.

Table 1.3: Telecommunications Equipment Markets in the Principal OECD Countries, 1984 (in Mill US \$)

	public switching	private switching	public transmission (incl. broadcast)	CPE
World Market	10000	9420	14590	6495
France	730	251	650	448
West Germany	457	492	690	400
U.K.	687	361	460	250
Italy	710	129	400	131
USA	2850	5400	5220	2830
Japan	627	808	1520	316
Canada	327	210	210	72

Source: Rausch (1987, p. 20)

Other market studies include much of the office equipment market in their figures for CPE equipment (thereby raising its significance), even if such equipment is only occasionally linked to a telephone network. These distinctions are nevertheless important because different procurement rules hold in the CPE market, as much of the CPE tends to be procured by private individuals (except for main telephones) so that restrictive certification rules and incompatible standards matter more than in the publicly procured switching and transmission market. Already, an increasing amount of switching activity is carried out at the customers' premise in so-called private branch exchanges (PABX). This segment is being enlarged through the introduction of local area networks and other data services. As a consequence, 20 to 30 percent of the switching market may in the future lie outside the public procurement realm and be subject to different, more open procurement conditions.

1.3 Economies of Scale and Benefits from Specialization

The three main product categories to be analyzed, CO, transmission, and CPE equipment, all allow different degrees of international specialization, due to varying economies of scale in equipment production. Economies of scale are highest for CO equipment. Over 50 percent of value added consists of software cost that are independent of market size for given switches. AT&T's Western Electric has the capacity to produce 7m access lines p.a. at one plant in the USA, compared to a total market demand below 1m access lines p.a. in some large European countries. Even if a plant also produces large private branch exchanges (PBX), for which some component, software and testing tools might be simultaneously used, the European scales are still small, suffering from a cost disadvantage that is equivalent to 20 - 30 percent, when comparing a plant of 7m lines capacity p.a. to one of 1m lines p.a..

Table 1.4: The Presence of Major Central Office Equipment Suppliers in Different European Countries (EEC and EFTA)

	E E C									E F T A				
	B	DK	E	F	UK	IRL	I	NL	P	D	A	CH	S	N
Ericsson		XX	XX	XX	XX	XX	XX	XX				XX	XX	
GTE							XX							
Alcatel	XX	XX	XX	XX		XX	XX	XX	XX	XX	XX	XX		XX
ATT-Philips								XX						
GEC-Plessey					XX									
Siemens	XX								XX	XX	XX	XX		
Italtel							XX							
Northern/STC					XX						XX			
Teli													XX	

That even scales of this size are not possible is indicated in Table 1.4 which shows the distribution of CO manufacturers across Europe. Some of them have often more than one plant per country, with the smaller countries actually accounting for only a very small market demand.

The production of CPE products especially in PABX equipment is also characterized by significant economies of scale. They are less important in the case of handsets and simple key telephones, as the absence of software costs, (which could inflate fixed costs) increases the significance of variable costs. In addition, more components are standardized, off the shelf types, allowing access to international specialist suppliers. As a consequence, we observe usually a much lower concentration ratio in this sector. This impression is reinforced by Table 1.5, which shows the current distribution of CPE suppliers.

Table 1.5: The Major Suppliers of CPE Equipment in Different European Countries

	E E C									E F T A			
	B	DK	E	F	UK	I	NL	P	D	A	CH	S	N
Ericsson	XX	XX	XX	XX	XX	XX	XX	XX			XX	XX	XX
IBM	XX			XX	XX	XX			XX				
GTE						XX	XX						
Alcatel	XX	XX	XX	XX		XX	XX	XX	XX	XX	XX		XX
Philips	XX	XX	XX		XX		XX	XX	XX			XX	
Siemens/GTE	XX	XX	XX				XX	XX	XX	XX	XX	XX	
Northern/STC		XX			XX		XX			XX	XX	XX	
TIE				XX	XX								XX
Nixdorf									XX	XX	XX		

Other Suppliers

Sweden:	STA/Teli
Austria:	Kapsch, Schrack
Switzerland:	ASCOM
Denmark:	JTAS
Spain:	Amper, Elasa, Telefonica, Eletronica
France:	Matra-CGCT, AOIP, Barphone, SAT
Great Britain:	Plessey, GTC, Morris
Italy:	Matra, Jeumont-Schneider, Dial, Telit, Olivetti, Safnot
Netherlands:	NEC, Nitsuko
Portugal:	CAEP
West Germany:	DeTeWe, Hagenuk, Krone, Bosse

The significance of economies of scale in the production of transmission equipment (Table 1.6) is somewhere between CO and CPE products. For the production of cables, large plants (relative to the size of national markets) are required to fully utilize all the benefits of large scale production, but the scale penalties are not so large as in the case of CO equipment. While set up costs are high, fixed R&D costs are small by comparison, making the ratio of fixed to variable

costs that much lower. Microwave transmission equipment is similar to CPE in its scale economies, especially for more standardized components, like repeaters and amplifiers.

Table 1.6: The Major Suppliers of Transmission Equipment in Different European Countries

	E E C									E F T A			
	B	DK	E	F	UK	I	NL	P	D	A	CH	S	N
Ericsson		xx	xx	xx		xx		xx			xx	xx	xx
Alcatel	xx		xx	xx		xx	xx	xx	xx	xx		xx	xx
Marconi		xx			xx		xx						
Philips	xx	xx		xx	xx		xx	xx	xx				
Siemens	xx	xx				xx	xx	xx	xx	xx	xx		xx
		xx	xx			xx							xx

Other Suppliers

Sweden:	Relicana, STA/Teeli, Naika, NEC
Austria:	Kapsch
Belgium:	ACEC
Spain:	Indelec, AEG (Rail)
France:	Matra
Great Britain:	GEC, Plessey, STC
Portugal:	CAEP
West Germany:	ANT
Switzerland:	Northern Telecom

In summing up, most equipment production is characterized by significant scale economies that would lend itself to extensive international specialization.

1.4 Limits to International Specialization

Taking the four major markets together (CO, transmission, CPE and other products), we currently find highly protected national markets within each EEC member country. There is little intra-EEC trade, but a fair amount of exports to

countries outside of the EEC (exports are roughly 23 percent of output, but only 30 percent of this goes to other EEC markets). Exports and imports are distributed fairly unevenly, with W. Germany being the greatest exporter to non-EEC countries, followed by France and the UK; the UK is the largest importer, followed by W. Germany, Italy and the Netherlands. Total imports, at the moment, account for much less than 10 percent of final demand, a further confirmation of the national orientation of these markets. In addition to a small amount of intra-EEC trade, more than 50 percent of imports come from the USA and Japan.

The reasons for this peculiarly "closed" market structure are threefold: selective procurement and certification policy, incompatible standards and "input specificity".¹

Selective procurement policy is related to the insistence of national governments - for industrial policy reasons - on maintaining a "technology base" in such an advanced manufacturing sector as telecommunication equipment. As a consequence there are not only high barriers to entry for other suppliers, but also high barriers to exit for firms who want to centralize their multinational operations in one or two places. Even if the significance of economies of scale for certain products increases significantly, and there are strong signs for this especially in CO equipment, national or multinational manufacturers might not be allowed to rationalize and to close some national plants in order to reap the available benefits of economies of scale and international specialization. Instead, they are forced to maintain a production site and a technology base in each national market.

1 The supplier delivers a good or a service which is specifically customized to the user's specification, for example to allow compatibility with previous investment in a complex network system.

Restrictive certification policy and incompatible international standards are sometimes also used as instruments of such a "technology base" policy, but often they are related more to a specific technology orientation of an administration, often in close accordance with domestic manufacturers, who use their influence in certification and standard setting to raise entry barriers for outsiders.

"Buyer or input specificity" is especially relevant for CO equipment. It makes it difficult to open up these national markets quickly, given the high adjustment costs of moving from one type of system or standard to another. The degree of buyer specificity is less strong for transmission equipment, because the interfaces between different types of equipment have already been more or less internationally standardized, allowing specialist suppliers to survive in different national markets. The same can be said for CPE equipment, except that here too nationally different certification standards play a role.

2. Results of the Analysis on the Costs of Non-Europe

2.1 Status Quo Forecast

When analyzing the benefits of European integration, an "anti-monde" to the completion of the internal market by 1992 must be constructed as a reference point. This reference scenario is based on what would happen if current industry trends were to continue without the extra stimulus of Community policy: We notice that significant structural changes are already taking place in the face of stagnant national markets, with increasing international competition to better exploit the available economies of scale, even as much of each country's industry remains nationalistic in output. This would imply that some of the expected benefits of completing the internal markets will be realized in any case. Furthermore, the market already has such an international dimension, that the large equipment suppliers

tend to look more at market aggregates when deciding their new product policy and their overall, long term strategy, rather than just looking at individual national markets.

2.2 A Scenario in Accordance with the Recommendations of the Community's Green Paper

The next step is to assess the policy effects that would arise out of an implementation of the recent Green Paper's Recommendations and to differentiate them against status quo developments. Under the assumption that the Council of Ministers will act for these recommendations to take place before 1992 we would expect the current regulatory change to take place in a more consistent framework with a preference for a wider arena for competition and the availability of more standardized European-wide services.

The likely effects of such a scenario have to be distinguished between those recommendations applying to the market for public procurement (mainly CO and transmission equipment) and that for customer premises equipment.

2.3 A Scenario of Full Service Competition

The Commission does not question the right of the telecommunication administrations to maintain their monopoly provision of infrastructure services. Nevertheless, recent developments in the UK suggest that a scenario of full network competition ought also to be considered. It represents a useful reference point against which to compare the status quo scenario and that based on the current Green Paper.

3. Methodology to Estimate the Costs of Non-Europe

3.1 Price Comparisons as Indicators of Selective Procurement Policy and Incompatible Standards

3.1.1 Observed Price Variations

From the consultancy study on public procurement (WS/Atkins), plus our own interviews and market surveys, we have obtained estimates of the prices for different equipment types currently being paid in Europe and compared them with "competitive world market prices".. The resulting differences in prices may - as a first approximation - be used as an indicator of the potential savings that could arise with the competitive effects of the completion of the internal market by 1992. However, as the main study shows, these differences must be analyzed more thoroughly before such interpretations are justified. On the one hand, there may be quality differences associated with current price disparities. On the other, the products being compared differ in their features and functions. Furthermore R&D costs are often paid out of a separate budget so that some prices reflect only variable manufacturing cost. The same is true for many export contracts that form the basis for the observed "competitive world market prices". The price deviations in Table 3.1 must be seen with these caveats in mind.

Table 3.1 also summarizes the 1985 construction budgets of the telephone companies in the EEC member countries on the basis of the ITU statistics. These figures often also include a fair amount of expenditure for buildings, cabling and vehicles as a comparison with the total market estimate of ADL indicates. In most countries, the ITU figures would seem to overestimate the actual public market by 20 to 30 percent as a comparison with tables 1.2 and 1.3 shows. The figures for Italy and W. Germany are clearly out of line and must be adjusted downward, to be more in line with the figures in

Table 3.1: Total Telecom Equipment Investment and Observed Price Deviations (Public Market, 1985)

Country	PTO investment		percent price deviations	
	ECU million	CO	transm. (% more than)	CPE
Belgium	500.00	120	60	40
Denmark	350.00	30	30	40
France	3,800.00	50	30	40
Germany	5,200.00	100	50	80
Greece	325.00	n.a.	n.a.	n.a.
Italy	3,100.00	100	30	40
Ireland	200.00	n.a.	n.a.	n.a.
Luxemburg	15.00	n.a.	n.a.	n.a.
Netherlands	550.00	50	n.a.	60
Portugal	235.00	n.a.	n.a.	n.a.
Spain	1,600.00	50	40	30
United Kingdom	3,400.00	40	30	40

Total	19,275.00			
=====				

Source: Price deviation:Country Interviews, investment:ITU

Table 1.2. The next three columns in Table 3.1 represent estimated price deviations from competitive world markets. They are highest in central office (where they are, as in the case of Belgium and W. Germany, sometimes more than twice the "competitive" price level). The deviations are lower for CPE and transmission equipment.

Some of these price deviations are transitory, however, and have to be interpreted with great care. The UK has for a long time been among the high-price countries, but BT has since 1982, with a more open internationally oriented procurement policy, been able to bring down its equipment prices significantly when it decided to abolish its system of "Court suppliers". Belgium too tried in 1987 to abandon its relative high domestic pricing policy, which it needs to sustain current R&D and export activities in the equipment industry (almost 50 percent of Belgian output is exported,

one of the highest ratios in Europe). The relatively low deviations in France may also be explained by paying separately for R&D.²

As a consequence, these deviations are at best indicators of a structural imbalance between different national markets and the associated policy of differential pricing. A complete move to competitive world market price levels may therefore not be realistic, as the amount of R&D necessary to sustain technical developments in the industry could be significantly curtailed.

3.1.2 The EEC Green Paper fully Implemented

3.1.2.1 The Effects on the Public Market

Two effects are likely to be dominant in the public market: One of them arising out of increased Community-wide standardization, another arising out of increasing the proportion of public procurement contracts that fall under the earlier EEC Directive 77/62³ and its more recent recommendation 84-550.

Concerning standardization, the most important effects will be felt in central office equipment, where a number of different non-compatible systems currently exist. Comparing the EEC's role in addition to that already carried out by the other international standard-setting bodies would lead us to suggest some price reductions in future switching costs if more of the interfaces can already now be standardized and greater interworkability of different systems is achieved. Our interviews suggest that savings in the neighbourhood of 5 to 10 percent out of a total European CO switching market of

2 The D&T will very often first pay for the development of a prototype and therefore for most of the initial R&D, so that subsequent equipment tenders can be priced on a different basis.

3 According to the recommendation 84-550, only 10 percent of public procurement contracts in telecoms equipment have to be advertised internationally; that proportion is to be raised to 50 percent as an interim proposal before a full opening of the market by 1992.

about 5bn ECU would be possible, i.e. 0.25 - 0.5bn ECU p.a. because of greater compatibility. Indirect dynamic effects out of the subsequent increased competitive pressure have to be considered as well. They might in the medium term lower central office costs by another 5 percent, so that the total effect could be as high as 0.4 - 0.7bn ECU p.a.

For transmission equipment we expect much smaller effects of the Community's policy on standardization as much has already been achieved through other effects. It is only the indirect effects as a result of more competitive procurement that might help to reduce transmission costs by 5 percent. Similar arguments hold with respect to CPE equipment and other components.

The second effect concerns the opening of the public procurement sector in telecommunication equipment mainly regarding network equipment. The EEC recommendation 84-550 foresees that 10 percent of total tenders are advertised internationally. If this is used selectively, in other words applied only for those products, for which the domestic industry does not have to be protected, or where the size of the order is so small to not attract international offers, the effect could be quite minimal. On the other hand, if it was used to the strategic advantage of the telephone administration, for example in the area of central office equipment, the effect could be quite large. This latter potential could be seen quite clearly by the recent struggle for the takeover of the French equipment manufacturer CGCT with a national market share of only about 15 percent.

For this reason we shall make two assumptions. The first assumes that the 10 percent rule is very restrictively applied. The second assumes that the envisaged opening up reaches 40 to 50 percent of public contract volume by 1992 and is used to the greatest advantage of the purchaser.

In the first case, the effect would essentially be zero. In the second assumption, the effect could be quite significant, as is evident from the figures obtained in Table 3.2 on the basis of the price deviations in Table 3.1. The possible price reductions are calculated on the assumption that the deviations from world market prices overstate the difference to a viable long term competitive price level by 20 percent. Nevertheless, significant savings might still be possible. The savings would be largest in the high price countries Belgium, Germany, Italy, but also significant in France and the Netherlands. They would be relatively small in Denmark and the UK.

While the assumptions underlying Table 3.2 are somewhat crude and estimates have not been attained for all countries, the potential savings as a consequence of opening up 40 - 50 percent of the public market could be as high as 3bn ECU (out of a total of 17.5 ECU).

What is the likelihood of the full exploitation of a 40 to 50 percent open procurement rule? Given the magnitudes involved and the restructuring necessary to achieve such savings, considerable political opposition could be expected. This would make it very difficult for the PTOs to adapt an aggressive open procurement rule. If they were able to do so, recourse could nevertheless be taken to extra government funding from other public sources to maintain the current level of activity and employment in the industry. As a consequence, the 3bn ECU savings estimated in Table 2.2 represents only the maximum price reductions possible, together with the 0.4 - 0.7bn ECU from an effective European-wide standardization.

But both effects are not likely to be achieved in practice because of the political opposition to a restructuring so that the savings associated with the implementation of the recommendations of the Green Paper concerning a more open procurement policy will be significantly lower. Instead, most

Table 3.2: Maximum Price Reductions for Major Product Groups (1985)

	Total Market (m ECU)	Possible Price Reduction				Possible Price Reduction			
		CO (30%)	in %	in m ECU	Atkins	in %	in m ECU	Trans-mission (23%)	in %
B	800	240	50	120.0	60	144.0	184	25	46.0
DK	400	120	10	12.0			92	10	9.2
F	4200	1260	20	252.0	40	504.0	966	10	96.6
D	3600	1080	40	432.0	70	756.0	828	20	165.6
GR	200	60					46		
I	1700	510	40	204.0	50	255.0	391	10	39.1
IR	100	30					23		
NL	600	180	20	36.0			138		
P	200	60					46		
E	1600	480	20	96.0			368	15	55.2
UK	4100	1230	15	184.5	50	615.0	943	10	94.3
TOTAL	17500	5250					4025		

	Total Market (m ECU)	Possible Price Reduction				Possible Price Reduction				Total Reduction in m ECU
		CPE (23%)	in %	in m ECU	Atkins	in %	in m ECU	Others (23%)	in %	
B	800	184	15	27.6	20	36.8	184	15	27.6	221.2
DK	400	92	15	13.8			92	15	13.8	48.8
F	4200	966	15	144.9	43	415.4	966	15	144.9	638.4
D	3600	828	30	248.4	38	314.6	828	15	124.2	970.2
GR	200	46					46			
I	1700	391	15	58.7	0	0.0	391	15	58.7	360.4
IR	100	23					23			
NL	600	138	25	34.5			138	15	20.7	
P	200	46					46			
E	1600	368	10	36.8			368	20	73.6	261.6
UK	4100	943	15	141.5	0	0.0	943	15	141.5	561.7
TOTAL	17500	4025					4025			

administrations will be obliged to apply open procurement rules much more selectively in areas where structural adjustments costs are lower and receive more political support. But even this would still require a fair amount of prodding by the Commission, a policy not necessarily conducive to the spirit of collaboration needed to reach agreement on other issues, such as standardization and joint certification.

3.1.2.2 Private Markets

Table 3.2 already included estimates of potential price reductions in the market for CPE equipment and other telecommunications equipment. These effects are partly related to the increased competitive effects in the public market, since the telecommunication administrations will act as a competitive distributor in these other markets as well.

There is, however, also a significant dynamic effect to be considered, namely that of market enlargement and product diversification as a consequence of Community-wide certification according to minimal certification criteria. The likely dynamic implications are illustrated by the recent growth in the liberalized US CPE market. As a consequence of private purchasing, depreciation rates dropped considerably, simple handsets were replaced much more frequently than before, leading to significantly larger turnovers. Similar tendencies, though perhaps less dramatic, occurred in PABX and key systems. As a consequence of faster depreciation, sales have been rising significantly above the previous trend. In addition, the increased competition reduced equipment prices faster making telecommunications applications much more attractive and leading to increased network utilization as well.

To sum up, the potential dynamic efficiency gains in the CPE market arise mainly through influencing the innovation process and the associated market growth effects as a result

of lower entry barriers. If that can be combined with a larger market, allowing firms to innovate faster while at the same adapting a much more aggressive pricing strategy to gain a long term market share, the increased competitiveness will have further innovative and price reducing effects that may yet further stimulate total demand for both CPE equipment and network use.

On the basis of these considerations, the dynamic effects could be equivalent to 50 percent of the static potential for price reductions identified in Table 3.2 (i.e. 50 percent of .7b ECU). In addition, one could envisage an increase in the market volume of CPE equipment by 10 to 20 percent above the current growth trajectory. If a profit margin of 10 percent of this market growth is used as an indicator of the extra economic benefits, a further economic gain of up to .1bn ECU could be achieved.⁴

3.1.4 The Effects of Full Network Competition

We have argued above that the recommendations to open up the public procurement market might not be carried out because of political opposition from equipment suppliers, unions and the regions affected by the subsequent rationalization of the industry. If network competition were introduced however, the PTOs would have to behave very differently. Given the threat of market entry, they could no longer afford to purchase at preferential rates, thereby weakening their competitive position, but would have to purchase on commercial terms, as has been illustrated by the changing behaviour of BT and the American long-distance carriers. Only in this case would the full effects of open procurement be realised that we indicated in Table 3.2. The effects of network competition, even if at the moment relatively unrealistic, provide at least another reference point against which to adjust the results of the recommendations of the Green Paper.

⁴ A 10 percent market increase is equivalent to .4bn extra sales, yielding 0.05bn ECU extra benefits, a 20 percent increase yields 0.1bn ECU.

3.2 An Integrated Approach

Our analysis so far rested on the interpretation of price deviations as a consequence of segmented European markets. Prices in some markets are significantly higher than in others and firms use the different price-cost margins in each market to sustain their overall production operation. In a truly integrated market there would be a movement towards a one-price area in which prices should not differ significantly from one area to another or to other outside markets. Sizeable savings would only be possible if they were realized through higher productivity in production, increased specialization because of utilization of economies of scale and scope and a reduction in the number of products available overall (even though it is likely that there will be increased product variety in each national market as a consequence of increased international trade. Only in such an environment will a price drop of the magnitude suggested be feasible without the firm's in the industry going out of business or being unable to maintain their R&D effort necessary to sustain current and future levels of research and development and product innovation.

To model such an evolution and to compare the outcome with the results so far, we have analyzed the production structure of the major equipment firms (CO, CPE, transmission) and considered what happens under different assumptions about scale and price elasticities if a number of countries are involved in an integration and rationalization process that may be characterized by the completion of the internal market by 1992.

The basic idea behind this model, which follows very much an earlier study on the specialization arising from international trade in the presence of significant economies of scale, is derived from Dixit and Norman (1980). Their basic assumption is that if significant economies of scale are present which are not exploited in national markets, any

enlargement of the market (i.e. through a customs union) will allow further rationalization to take place. The surviving firms will be able to move along their declining long-run average cost curve, thereby passing significant productivity savings on to consumers, until a new equilibrium is reached.

The size of a market is described in conjunction with scale economies by the number of firms it can support. In order to keep the model simple we assume equal sized firms. We must therefore abstract from the actual size distribution of firms observed above to an "equivalent number" of equal sized firms. Following the data in tables 1.4 and 1.5, we have used the following numbers for a typical (large) EEC member country:

Central Office Equipment	2
PABX Equipment	3
Telephone Handsets	4

The price elasticity of demand is brought in by assuming that the size of the market depends not only on the number of supplying firms but also on their output per head of population.

If we can assume that the market expansion effects of the completion of the internal market by 1992 is equivalent to a customs union of six equal sized European countries, then integration increases the market size available to a national firm by a factor of 5.⁵ National producers now face a five times larger market, but five times as many competitors. With a relatively low price elasticity (-.53) and 10 firms per market, we can show that at the new equilibrium there will be 33 firms remaining (instead of the previous 60). As a consequence, output per head, the measure of benefit in this model, increases by 30 percent. The

5 This is only an approximation as a comparison with table 1.2 shows. The market expansion effects for a French or W. German manufacturer would be smaller, but larger for an Italian or Spanish firm.

benefits of integration are then directly consumed in telecom's output and in other output (as there is to be no excessive profits).

Further simulations show that the gains in consumption (in other words, the benefits to the economy) as a consequence of greater specialization are greater, the smaller the number of firms in the closed national market and the greater the expansion of the market. This would imply that small countries, for example Belgium, the Netherlands or Portugal, will gain more from market integration than large countries if they start out with the same number of firms. While this is not normally the case in other industries, it does seem to be true in telecommunication equipment, as Tables 1.5 - 1.7 show. On the other hand, they may have no national producer left at all, a consequence which they may not be willing to accept for industrial policy considerations.

As long as price elasticity is below 1 and the number of initial firms large, the larger the number of firms that will remain in the industry. If price elasticity is above 1, and the number of firms is small (an indication of significant economies of scale), the proportionate change in the number of firms increases. In other words, a high price elasticity indicates that the tradeoff between specialized and uniform products favours the lower cost uniform products. As a consequence, the proportional reduction in the number of firms as a result of a market enlargement increases much more in those markets where economies of scale are especially important (for example CO equipment), while the effects are somewhat smaller for those products, where economies of scale are exploited earlier. The lesson is clear, however. The eventual industry structure that emerges depends very much on the interaction between economies of scale and demand preferences (as indicated by the relevant price elasticity):

- If a national market can support very few firms, because economies of scale are high, then the benefits of integration are very high, as in the case of CO equipment. But welfare gains drop very quickly as the initial number of firms increases and economies of scale effects lose their importance.

- If the price elasticity of demand is high, even monopolists will find it in their interest to bring prices closer to cost so that the proportionate change in the number of firms is smaller and the benefits (i.e. the change in telecom consumptions) declines.

In other words, the big consumption gains as a result of integration occur in those sectors where, because of the fewness of firms, the degree of monopoly is high and, because of "input specificity", price elasticity is low. This indicates not only the assumptions underlying the model, but also what we will have to look for in the real world. In other words, it is not sufficient to just look at price differences, economies of scale, and the benefits of integration, but also at what pricing policies are currently pursued by those equipment suppliers who have a degree of market power and at the trade-off between economies of scale and specialization.

3.3 An Assessment

We attempted to identify the effect of the completion of the internal market by first analyzing the determinants of the current industry structure, secondly observing significant price differences within the EEC (compared to the rest of the world), and on this basis predicted the likely effects of the full implementations of the Green Paper on market prices and

volume. The figures were based on two main scenarios: firstly, a status quo scenario where current trends continue; and, secondly, based on the Green Paper, a comparative scenario allowing for the effects of standardisation and with two levels of procurement liberalisation, one at 40%, the other at 100%. The gains from standardisation (because of better exploitation of economies of scale) were estimated at 0.85 billion ECU to 1.1 billion ECU. The additional gains from competitive procurement are estimated at 2.2 billion ECU under the 40% scenario and 3.7 billion ECU under the 100% scenario. So, totalling all effects, these can vary between 3.05 billion ECU and 4.80 billion ECU, depending on the degree of openness of the procurement market.

Table 3.3: Possible Effects Under the Green Paper Scenario
(in billion ECU)

Products	Effects of standardisation:		Effects from procurement liberalisation			
	Static	Dynamic	40% liberalized		100% liberalized	
			Static	Dynamic	Static	Dynamic
Central office switching	0.25/ 0.5	0.2	0.8		1.3	
Transmission		0.2	0.4		0.5	
Customer Premises Equipment		0.1	0.4	0.2*	0.7	0.3*
Other		0.1	0.4		0.7	
Total	0.25/0.5	0.6	2.0	0.2*	3.2	0.5*

* Market expansion effects

These findings were supported in a theoretical model that analyzes the tradeoffs between market enlargement,

economies of scale and price elasticity and the likely equilibrium that would result in terms of industry structure.

Nevertheless, the positive results so far should not hide further stumbling blocks to integration. It seems that national industry objectives and differentiated standards will continue to play a role for a time to come. The full fruits of integration can only take place, if some common agreement between the governments concerned can accompany this restructuring, for example, about where centers of R&D and the relevant national technology base ought to be located (as in the case of the Airbus Consortium), etc.

4. Other Points

The major effects of completing the European market in telecommunications equipment ought not to be seen just in the industry itself, but also in the users of these products, that means telecommunication network operators and the users of their services:

- The more efficient and the more flexible and versatile such services can be provided, the greater will be the productive benefits at the higher levels of production.
- The more competitive and the more flexible the interlinkage between demand for old and new services and equipment suppliers can be made, the faster the process of innovation, the quicker the benefits of the technology potential inherent in modern telecommunication equipment can be passed on to the economy as a whole.

Obviously, the effects of more innovative network provision are significantly related to the benefits of more efficiently organized input markets. But telecoms equipment is only one of the inputs; labor, buildings and land are others, for which preferential "purchasing" or payment criteria often

play a role as well, leading to additional sources of cost inflation. An analysis of the increased efficiency potential in this sector must therefore also see to what extent savings in the other input markets are possible and how they can be realized and activated. The result would be not only to reduce the production cost of a key input into the economy, but also to free resources for other, more productive uses.

Opening up an effective internal EEC market to outside suppliers also implies something about the degree of international specialization to be realized. Those markets that have already opened their telecommunications equipment sector to outside competition (such as the U.S. and to some extent the UK) have found that in the less sophisticated product markets, for example in simple telephone sets and key telephones, Far Eastern suppliers have a definite cost advantage and have therefore gained important market shares. Is this result also to be expected with the completion of the internal market? If there was no suitable transition period and the domestic suppliers were not adequately prepared, such a scenario is certainly likely. But our interview evidence also suggests that already now assembly costs for these types of product tend to be very low (below 10 percent of f.o.b. price). As a consequence, there is little reason to assume that even for those products a fully rationalized production system cannot be set up within the Community, which can compete effectively with low-cost suppliers from the Far East in order to maintain a significant EEC presence in these markets as well.

5. Conclusion

In summing up we find significant savings as a result of moving towards the completion of the European Community in telecoms equipment. The reasons are insufficient exploitation of scale and specialization economies as a result of limited national markets and the insufficient competitive pressure

because of protective procurement policies. Trade is also hampered by insufficient standardization and excessive certification requirements in the CPE market. In all telecom applications, the geographical enlargement of the telecommunications equipment market would have important consequences. To move from a national regulatory framework to at least an EEC-wide regulation would help to exploit some of this potential as it creates right away a larger unified market. As a result a number of marginal applications will come into the realm of profitability, allowing further experimentation with technology and demand.

For this reason the issue of the unified European market in telecommunications equipment must not be seen as a threat but rather as a potential. The potential lies not only in increasing the available market area and therefore making certain applications profitable, which otherwise would have to be foregone, but it also stimulates the competitive pressure at each of the different levels of equipment production and utilization. Increased competitiveness means painful restructuring for some, but it also means lower prices and an increased application potential for others with important demand expanding effects. Furthermore, since telecommunications equipment is to a large extent an intermediate input, these competitive effects will be felt throughout the Community by creating a larger and wider activity of application. "The relevant geographic markets" would be extended so that regionally or nationally concentrated markets may become more competitive within a more international framework. The benefits of this are obvious. It seems therefore worthwhile to take on some of the current restructuring costs which are necessary to get there not only for component and product suppliers but also for the network providers and their staff.

11.

The EC 92 Automobile Sector

Ludvigsen Associates Limited



LUDVIGSEN ASSOCIATES LIMITED

105/106 NEW BOND STREET LONDON W1Y 9LG GREAT BRITAIN
TELEPHONE (01) 493 7711 TELEX 261376 LOFBND G FACSIMILE (01) 491 8997

**Report to the Commission
of the European Communities**

THE EC92 AUTOMOBILE SECTOR

EXECUTIVE SUMMARY

Ludvigsen Associates Limited
March 1988

P150

THE EC92 AUTOMOBILE SECTOR
EXECUTIVE SUMMARY

CONTENTS

	Page
I. OBJECTIVE AND WORKPLAN	1
II. BACKGROUND STUDIES AND EC92 PARAMETERS	2
A. US Internal Market Characteristics	2
B. Existing Internal Barriers	3
C. Project Parameters for EC92	4
III. DIMENSIONS AND CHARACTERISTICS OF THE EUROPEAN MOTOR INDUSTRY	6
A. Industry Economic Volume	6
B. Trade Flows	8
IV. DESIGN AND ENGINEERING COSTS AND SAVINGS	9
V. AUTOMOBILE PRODUCTION SCALE ECONOMY	11
A. Vehicle Cost Structure	11
B. Analysis of Production by Platforms	14
C. Auto Production Economies of Scale	16
VI. DIRECT/DEFERRED EFFECTS OF EC92	21
VII. DYNAMIC EFFECTS OF EC92	28
ANNEXE I	395
SUMMARY OF QUANTITATIVE RESULTS	395

I. OBJECTIVE AND WORKPLAN

A. OBJECTIVE

The objective of the work undertaken by Ludvigsen Associates Limited (LAL) under contract to the Commission of the European Communities is the identification and quantification of the economic benefits that will accrue to the EC automobile industry and to its customers through the removal of the fiscal, physical and technical internal barriers that now divide the Community's Member States.

The project has the aim of 'assessing the specific costs imposed on the Community automotive industries as indeed on consumers as a result of the currently fragmented nature of the EC automobile market.' The sector studied is defined as including the design and manufacture of volume-produced passenger cars in the European Community, the sale of such EC-built cars abroad, and the sale within the Community of passenger cars from all sources.

The principal focus of the work is on two phases of auto industry activity: design and engineering, and manufacturing and assembly. These were selected in consultation with the Commission as having the potential to make important contributions to the benefit of EC92, especially in the area of scale economies, and also because they are of continuing interest and value to the Community and the Commission.

Also referenced in the project are selected findings from a Preliminary Study that LAL conducted under contract to the Commission from January to April 1987. This encompassed a comprehensive search of the existing knowledge on the cost of Non-Europe in the auto industry. In parallel LAL carried out a study of the principal influences on the evolution of the open internal market in automobiles in the United States. A summary of the findings is provided in Section II.A.

B. WORKPLAN

The main elements of the workplan are reported upon in this Summary in the Sections indicated. They are as follows:

- A. A programme of questionnaires and interviewing of auto manufacturers and suppliers to ensure that the findings are current and in conformity with industry practice. The results are summarised in Sections II and IV.
- B. Determination of the overall economic dimensions and constitution of the sector in the Community in the study base year 1985. Findings are reported in Section III.
- C. Specific study of the design and engineering costs in the industry, reported and analysed in Section IV.
- D. Research into the cost structure and the economies of scale of the production of components and assembly of cars in the EC industry, as described in Section V.
- E. Computation in cost and price terms of the immediate direct effects, deferred direct effects and indirect dynamic effects of the changes caused by the postulated EC92 conditions, reported in Sections VI and VII.

II. BACKGROUND STUDIES AND EC92 PARAMETERS

As background elements to the present study this section provides reports on three aspects of the work: a summary of the findings of the US market investigation carried out in the Preliminary Study, an overview of the types of barriers experienced in EC85 by the auto industry, and the parameters for EC92 that have been used in the conduct of this study.

A. US INTERNAL MARKET CHARACTERISTICS

The United States automobile industry distributes its products today in essentially the same open integrated market that the industry entered when it was founded at the beginning of the 20th Century. For its first thirty years the American motor industry had the benefit of a laissez-faire attitude on the part of the expansionist federal government.

Federal regulation was imposed on the USA motor industry concerning certain of its business, marketing and labour practices during the Great Depression. The industry adapted successfully to these, and indeed was able to turn some of those regulations to its advantage. For example, it secured the suppression of internal technical barriers when state vehicle design laws were essentially superseded by the introduction of federal motor vehicle safety regulations.

The USA motor industry experienced a substantial technical disruption of its national market as a result of the adoption of emissions control. This occurred as a consequence of the state of California's success in convincing the federal government that for specific health reasons it should be allowed to have stricter exhaust rules than the federally-established standards of the other states. Subsequently the values of the standards have converged and the technical requirements across the nation have become similar.

It has been evident from the study that the provision of the USA Constitution giving the federal government the power 'to regulate commerce...among the several states' has played a key role in ensuring the maintenance of an open internal American market, especially as that provision has since been interpreted and extended by the courts.

Also important, according to the study, is the ease with which a company in one American state can register to do business in other states. This facilitated the evolution of enterprises that thought and acted in national terms.

The USA study has shown that an open internal market is effectively maintained although the states retain significant legal and economic powers. These include the power to impose taxes on businesses and individuals resident in the state in order to pay for those services that the state renders. The states impose taxes in significantly different ways, including sales taxes that range from nought to 7 percent and vehicle use taxes that are based on differing criteria.

The ability of Americans to think and act in national terms has been enhanced by excellent low-cost communications. This has included the rail system, an efficient national telephone system, an integrated highway network, and a competitive deregulated airline system. Without this infrastructure the establishment and operation of national networks of design, production and sales would have been much more difficult in all industries, including the motor industry.

In the USA the trend of legislation has led to a relatively balanced relationship between the manufacturer and the dealer in the auto franchise system. This has given more freedom to the dealers, and less power to the car makers and importers, than is generally granted in Europe.

Best viewed as a form of modified selective distribution, the relationship between maker and dealer in the USA is such that a highly competitive open market exists for both new and used cars that offers the consumer a very wide choice. The Federal Trade Commission is active at the national level to ensure the maintenance of that freedom of choice.

B. EXISTING INTERNAL BARRIERS

As a consequence of the substantial extent to which it is an integral part of the lives of all the citizens of the Member States, the automobile industry is presently affected by a very broad spectrum of internal Community barriers. These barriers were defined and researched as part of the Preliminary Study and the current project to provide a basis for the work and a reference to the assumptions on which it is founded.

LAL's researches undertaken among Community auto industry suppliers and manufacturers provided detailed information on many internal barriers in the three categories that are dealt with in the Commission White Paper on the internal market: fiscal, physical and technical barriers. In this Executive Summary some specific barriers are indicated in selective outline form according to those categories, as follows:

1. Fiscal Barriers

- * Taxation levels on car sales that differ in virtually all of the EC Member States, from 12 percent in Luxembourg to 200+ percent in Denmark and Greece.
- * Policies on the refunding of VAT for company purchases of vehicles that differ from country to country.
- * Maintenance by some Member States of price regulations and/or margin controls.
- * Distortion of competitive conditions by excessive aid to 'national champion' producers in the form of Member State grants, loans, equity injections and debt writeoffs.
- * Inconsistent application of standards for imposition of annual use taxes on cars, and differing tax levels.
- * Use of fiscal incentives in some Member States (West Germany, Netherlands) to encourage sales of vehicles built to differing emissions and noise standards.
- * Inconsistent levels of taxes on motor fuels.

2. Physical Barriers

- * Border crossing documentary and inspection requirements, with attendant delays having consequences in the loss of time and money in the shipping of components and vehicles.
- * Customs and immigration checks on personal movements within the Community.
- * High cost of regulated air travel within the Community, imposing an implicit physical barrier on the volume of travel for business purposes.
- * Differences in communications standards between Member States that present physical barriers to cooperation in vehicle development and production.

3. Technical Barriers

- * Lack of a single EC-wide Type Approval procedure, requiring costly and time-consuming duplication of cars and tests.
- * Exhaust emissions standards which are not definitively fixed at a common level with agreed dates for implementation.
- * Unique national vehicle equipment requirements such as side repeater flasher lights in Italy, reclining driver's seat in West Germany, dim-dip lighting in the UK, yellow headlamp bulbs in France and unique rear reflectors in West Germany.
- * Maximum speed test required for some but not all Member States (West Germany, Italy, Spain).

C. PROJECT PARAMETERS FOR EC92

To provide a basis for study, LAL drew upon the research findings to set the assumptions and parameters for the work; these are published in full in the Final Report. The intent in this Executive Summary is to provide highlights of those key points which have had a significant effect upon the findings. They include as well some of the project assumptions concerning events that will occur as a consequence of EC92. The summary highlights are as follows:

The EC negotiates agreements and understandings with its global trade partners as an unified entity. These **unified external trade policies** are arrived at so that national restraints, regulations, agreements and understandings on auto imports may be phased out progressively. The level of **local content** that qualifies an automobile to be considered EC-produced is assumed to be 70 percent of the factory cost by value (project assumption).

A new regime permits **EC-wide business operations** by a single corporate entity. EC member governments cease providing **extraordinary aid** to 'national champions'. **National and local aid** to enterprises is still permitted, but brought by EC actions within ranges that do not threaten to distort trade. **Competition policies** and activities in the Community are strengthened and refined to ensure that EC92 does not lead to the formation of monopolies that will tend to defeat the achievement of higher scale efficiencies.

Unilateral use of **price controls** by Member States is suppressed by legislative actions taken by Community members in response to requirements of internal market completion. **VAT applicable to the sale of autos** is approximated at levels ranging from 14 percent to 20 percent. The application of **VAT on the sale of used cars** is harmonised.

Vehicle use taxes are approximated by the EC at a level which does not distort trade. An EC action achieves harmonisation of **taxes on motor fuel** throughout the Community at levels per 1,000 litres of 340 Ecu for leaded petrol, 310 Ecu for unleaded petrol, 177 Ecu for diesel fuel and 85 Ecu for liquid petroleum gas (project assumption).

Future technical regulations directly affecting the design of autos are phased in simultaneously by all EC Member States, with adequate lead time, at values agreed either unanimously or by majority under the Single European Act.

Testing and certification standards and procedures for automobiles to be sold in the Community take effect EC-wide and permit EC Type Approval to be achieved through a single national application. Tests and standards for **acceptability of replacement parts** are harmonised among Member States.

Flexibility of use of **hire purchase** of automobiles is enhanced throughout the Community by EC measures taken to liberalise competition in services. **Liability insurance** requirements are consistent among Member States. Procedures for **registering** in one Member State a vehicle purchased in another are made routine, as are terms for **temporary vehicle use** in other than the state of registration.

Research and development activities take place using **technical standards and communications** that are common to all the EC industry suppliers and manufacturers. Standards are agreed and implemented throughout the Community, among the assemblers and suppliers, for the **CAD systems** that are used in the design and engineering of vehicles and parts. Manufacturers and their suppliers reach agreement on a protocol for the **coordination of in-factory electronics** throughout EC vehicle production plants.

Car marketing patterns in Community countries shift under the influence of the new tax regimes and the phasing out of internal market limitations on third-country BU imports. Vehicle makers and distributors exert central control of their **sales and marketing** for all of the Community from a single headquarters.

Parts distribution is streamlined and centrally controlled. All **dealer training** activities, including service training, are conducted on a pan-European basis. Vehicle makers provide a **Eurowarranty**, fully valid at all their EC dealers.

III. DIMENSIONS AND CHARACTERISTICS OF THE EUROPEAN MOTOR INDUSTRY

Broadly EC auto manufacturers account for in excess of 85 percent of registrations in their home market. In 1985 Europe was the world's second-largest car market, and by 1986 it had overtaken the USA to become the largest single market. In 1985 the EC manufacturers accounted for 37 percent of world passenger car production.

While the EC car and component manufacturers have shed significant amounts of labour in recent years to gain competitiveness, they still directly employ in excess of 1.7 million people across the Community. The EC motor industry absorbs between 5 and 8 percent of all industrial output and accounts for approximately 20 percent of production of steel and machine tools, 15 percent of rubber production and 5 percent of all glass output.

A. INDUSTRY ECONOMIC VOLUME

In view of the very substantial economic role on the part of the EC auto industry, it was judged necessary to make a fresh determination of the industry's dimensions in the study base year of 1985, the most recent for which adequate EC-wide data are available. An analysis was conducted to determine the retail value of the car markets in Europe, net and gross of tax, and the retail value of car and car component production in the various producing countries.

The findings of the analysis are summarised in separate tables for cars and components. One shows the volumes of cars produced (Table 1). Another defines the total value of this production in billions of Ecu for both retail and wholesale markets (Table 2). Another table defines the value in billions of Ecu of European component production, showing also the value of components used for national production (Table 3).

Table 1: AUTOMOBILE VOLUMES (1985)

Units: millions	PRODUCTION	%	SALES	%	VARIANCE
Germany	4.17	35.9	2.38	24.9	1.79
France	2.63	22.6	1.77	18.5	0.86
Italy	1.39	11.9	1.75	18.3	(0.36)
Spain	1.23	10.6	0.56	5.9	0.67
UK	1.05	9.0	1.83	19.1	(0.78)
Belgium	0.99	8.5	0.39	4.1	0.60
Netherlands	0.11	1.0	0.49	5.1	(0.38)
Portugal	0.06	0.5	0.10	1.0	(0.04)
Denmark	0.00	0.0	0.16	1.7	(0.16)
Greece	0.00	0.0	0.08	0.8	(0.08)
Eire	0.00	0.0	0.06	0.6	(0.06)
Total	11.63	100	9.57	100	2.06

Table 2: AUTOMOBILE VALUES

All in billion Ecu

COUNTRY	PRODUCTION	-----MARKET-----	
		Retail	Wholesale
Germany	34.6	19.3	16.1
France	13.9	12.9	12.2
UK	7.3	14.6	12.3
Italy	6.6	12.0	9.2
Bel/Lux	7.1	2.3	2.6
Spain	5.2	4.2	2.9
Netherlands	0.8	3.5	2.4
Denmark	1.1	0.9	-
Eire	0.8	0.6	-
Greece	1.1	0.9	-
Portugal	-	0.6	0.4
Non-Add	(3.5)*		
Total	72.0	72.4	60.5

* Allowance for double-counting of production, i.e. completed cars shown in both Belgian and German figures.

Table 3: COMPONENT VALUES

All in billion Ecu

COUNTRY	TOTAL PRODUCTION	LOCAL USE
Germany	19.7	19.0
France	10.0	8.3
UK	4.7	4.5
Italy	3.8	3.6
Bel/Lux	2.4	5.2
Spain	2.6	3.1
Netherlands	0.5	0.6
Denmark	-	-
Eire	-	-
Greece	-	-
Portugal	-	-
Total	43.7	44.3

One of the principal findings of this analysis is the substantial importance and dimension of the German car and component industry within the EC. The value of German car production at 34.6 bn Ecu represents over 48 percent of the total EC output. This reflects the high-value mix of German production and the relatively low-value mix of French, Spanish and Italian production. The total value of the German production of components, at 19.7 bn Ecu, represents 45 percent of the total European output.

The production values of the French car and component industries are also of significant size at 13.9 bn Ecu and 10.0 bn Ecu, representing 19.3 percent and 22.9 percent of their respective EC markets.

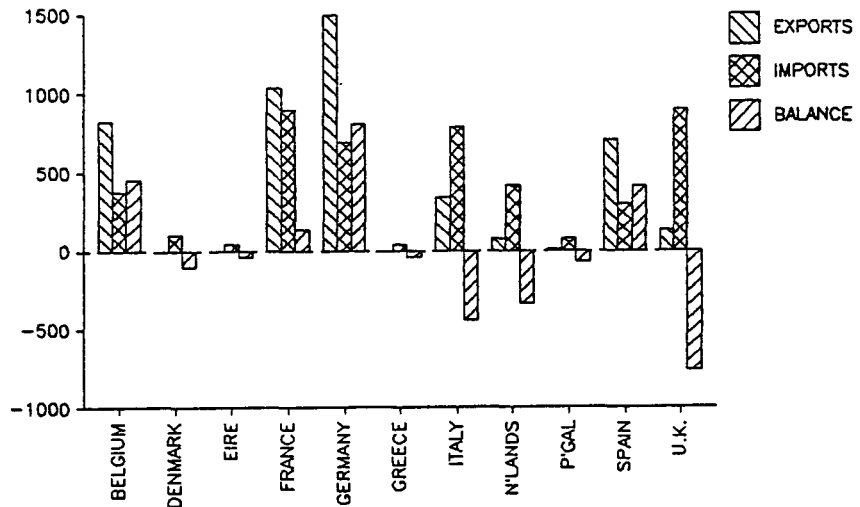
B. TRADE FLOWS

In 1985 the EC manufacturers exported 2.01 million cars to external markets worth 19.1 billion Ecu. The major markets for these were the EFTA countries with 0.69 million, closely followed by the USA with 0.64 million vehicles. The EC countries imported 1.1 million cars worth 5.41 billion Ecu. The major exporter to the EC was Japan with 0.8 million cars.

The graphs below show that the dominance of Germany in production/sales terms was also reflected in 1985 in terms of both intra- and extra-EC trade. The high value mix of German cars is especially marked in terms of extra-EC exports, in which Germany accounts for 67 percent by value of total EC exports.

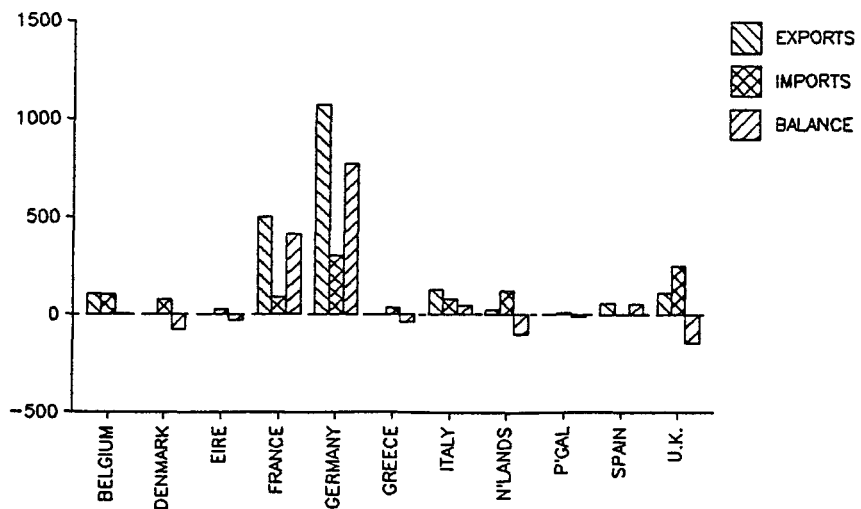
TRADE FLOWS AND BALANCES
INTRA EEC (CARS 000's)

Figure 1



TRADE FLOWS AND BALANCES
EXTRA EEC (CARS 000's)

Figure 2



IV. DESIGN AND ENGINEERING COSTS AND SAVINGS

As shown in the Section V.A analysis of car cost structure, the overall cost of designing and engineering a vehicle to the production-ready stage is a small proportion -- typically 5 percent -- of the total cost of building the production vehicle. The proportion tends to fall to a lower level for cars that are in very large-scale production, and for cars of relatively simple design.

Four distinct phases exist within the design and engineering process: project definition, detail design, engineering development, and submission for homologation and type approval. In each of these four areas a potential effect on costs arises from the changes in legislative workload that will derive from the creation of EC92.

The cost of project definition is relatively extremely small, since it involves only a few people. The cost of detail design is inevitably greater, although it is still essentially a question of paying for man-hours. The more complex the issues of technical legislation that must be addressed, the higher will be the cost of detail design. It is unlikely, however, that technical conformity alone will absorb more than 15 percent of the total detail design effort and thus cost.

Costs increase rapidly when vehicle engineering enters the stage of development, since, for the first time, a significant investment is required in hardware, in the form of component test rigs and operating prototypes.

EC92 implies a common set of technical regulations, and common procedures for vehicle homologation and type approval, applied uniformly throughout the Community. A benefit of such complete technical harmonisation will be the simplification of homologation and type approval procedures.

Given common technical regulations throughout the EC, the submission of vehicles and data to the type approval authorities in each member state would constitute needless duplication. Current type approval exercises frequently require more than 100 prototype and pilot-build vehicles. A typical cost for a hand-built prototype passenger car is 100,000 Ecu. In manufacturer interviews, it was suggested that a saving of at least 20 such prototypes could be made if type approval could be applied for and obtained in a single country. This would result in a direct cost saving of at least 1 million Ecu, plus further savings in manpower.

Estimates of the staff reductions which might become possible in the event of 'unified' homologation, by whatever method, varied from 15 to 40 percent, among department staffs numbering from 50 to 100 engineers.

The design and engineering cost savings which can be achieved through technical and regulatory harmonisation (including EC-wide homologation) will depend on the level at which such harmonisation takes place. For example, to harmonise

Community technical requirements on the basis of a 'highest common factor' which includes all current national requirements (other than those which are mutually exclusive) would increase car unit costs by 2 to 5 percent, according to manufacturer interviews. The cost impact would be relatively the highest on the smallest, simplest and cheapest cars.

The larger proportion of the added cost in this case -- as for the car production process as a whole -- would be accounted for by the higher direct cost of purchasing the extra components needed. According to the interviews, an added cost would also be generated by the need to design and engineer all the elements of every car model to the 'highest common factor' of Community standards. Such cost increases would, however, be offset in whole or in part by savings achieved through simplified homologation and type approval procedures.

Investigation of the design and engineering cost aspects has shown several ways in which EC92 can contribute to savings in this area. EC harmonisation to encourage design cost reduction could proceed along two principal lines, as follows:

One line would be a move toward harmonisation of the national technical 'break points' in fiscal regulations. At present, design and engineering (and production) efforts are forced to be divided among too many specialised car versions by the many 'break points' created by different national fiscal approaches to car purchase and ownership taken by EC member states. A more nearly harmonised fiscal approach could substantially reduce the design and engineering load on the major EC car producers, permitting a smaller number of variants to be engineered to higher standards.

A second line of action suggested by the design and engineering interviews should be in the removal of fiscal and customs barriers, to ease the process by which car manufacturers could exchange common components across internal European borders. This is part of the study findings relating to variable cost savings; it is seen as having a potential for engineering cost reduction as well.

This section of the study showed opportunities for design and engineering cost savings in EC92, as well as certain possible offsetting cost increases. The net effect of the savings is estimated to be 10 percent of the design and engineering cost, or 0.5 percent of the vehicle cost. This saving is incorporated in the calculations in Section V.C.

It should also be noted here that LAL assumes in this study that the EC car industry will reinvest part of the savings achieved in EC92 in more active advanced R&D to keep European cars at the forefront of world technological trends. The amount and disposition of this reinvestment, assumed to be one percent of costs, is addressed in Section VI.I.

V. AUTOMOBILE PRODUCTION SCALE ECONOMY

The research and analysis undertaken in this project have shown relatively few instances of immediate direct effects of the implementation of EC92 that are unique and distinctive to the auto industry. The removal of border controls, for example, will reduce transportation costs, an effect which is generic to EC industry as a whole and which, as such, is covered by separate Commission research.

The principal auto industry effects are those which will be delayed in their implementation, because they will only be realised after the industry has taken actions that the improved internal market conditions will facilitate.

Important cost reductions are expected from the improvements in production economies of scale that will occur when EC92 conditions permit more extensive transborder interpenetration of individual parts, components and assemblies, and built-up vehicles. The levels of scale efficiency achieved in the industries of the USA and Japan have been referred to in this work, as have the best levels currently achieved in Europe.

In this section of the Executive Summary the topic of production scale economies is addressed in three elements. The first element (Section V.A) establishes the segments being studied and the variable and fixed costs of a typical car in each segment. It also discusses the research and findings that show the variations in cost with changing production volume that occur in the making of these cars.

In the second element (Section V.B), the concept of car platforms is introduced as a means of analysing the differences between the annual production volumes of EC85 and EC92. The findings of the platform study and the cost variations are combined in the third element (Section V.C), together with the engineering findings and other fixed cost considerations, to show the overall savings achieved in EC92.

A. VEHICLE COST STRUCTURE

The essential linkage in the production cost element of the study between the cost of components and the economies of scale that are achievable with built-up vehicles is the factory cost structure of the vehicle itself. Because the distribution of passenger car costs differs significantly according to the size and category of the vehicle, separate structures were evolved to suit the five main volume segments for cars that are made and marketed in Europe. The segments, and typical vehicles in each of them, are as follows:

Utility	Small	Lower Medium	Upper Medium	Large
Panda	VW Polo	VW Golf	Peugeot	GM Omega
Renault 4	Fiesta	Escort	405	Renault 25
Cit. 2CV	Renault 5	Fiat Ritmo	Sierra	Fiat Croma

The total cost structure is divided into variable cost and fixed cost elements. These are discussed in the following sections of this Executive Summary.

1. Variable Costs

The variable cost benefit of EC92 at the supplier level was researched and analysed by means of two parallel programmes. One programme consisted of a direct sourcing and pricing activity, gathering data on price/volume relationships of a comprehensive menu of parts used in automobiles. The other programme made use of structured interviews of component producers to gain insight into their actions and attitudes.

a. Component Cost Research and Analysis

A professional automotive component purchasing organisation was engaged to contact European suppliers to obtain price quotes on the supply of their products at annual volumes of 50,000, 100,000, 200,000, 300,000, 500,000 and 1,000,000 car sets. Approximately ninety items were selected for this research, as being representative of the range of components and sub-assemblies found in European cars.

A study finding was that the incremental volumes used for the research appear, at the high end of the volume scale, to represent the maximum potential output per component now prevailing in Europe. The European supply industry was found to be not tooled or equipped to provide many of the major components at rates beyond levels of 500,000 sets per annum.

An immediate impetus toward greater volume would be generated if car makers were to curtail the practise of awarding the supply of a single part or assembly to several suppliers. The research shows, however, a continuing reluctance among EC auto makers to source major componentry from a sole supplier.

b. Car Variable Cost Structure and Volume Variation

For the purpose of this research the variable cost element of a car has been divided into seven categories, using groupings that are in accord with motor industry practise. The categories are power train, body in white, electrical, chassis, interior, exterior, and paint and assembly.

Although a strict definition would include indirect labour as an element of fixed cost, a necessary simplification has been the decision to show all labour as an element of variable cost. Thus labour is included in the variable cost of producing each group of components shown, with the exception of the separate paint and assembly category.

Making use of industry data and research findings, as detailed in the full report, a base variable cost structure for each of the five segments was established. This is shown in tabular form (Table 4).

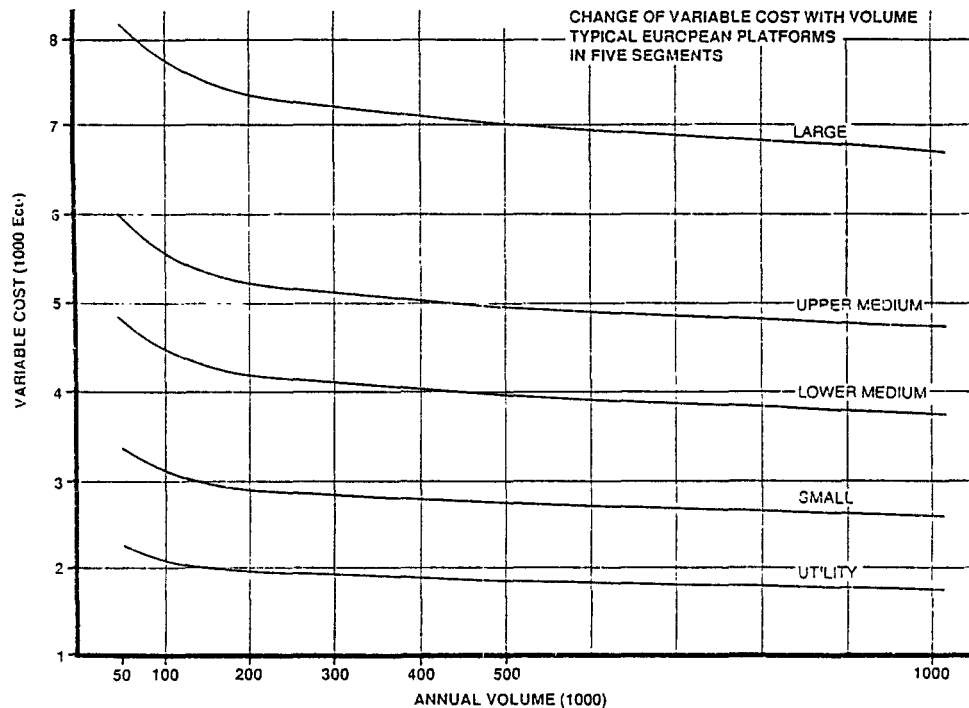
Table 4

UNIT VARIABLE COST STRUCTURES IN FIVE EUROPEAN SEGMENTS

Variable Cost Element (Status: Ecu 1985)	Utility	Small	Lower Med.	Upper Med.	Large
Engine and Transmission	575	715	810	1040	1550
Electrical	130	225	450	680	1160
Chassis	355	540	855	1040	1545
Interior	250	370	610	835	1235
Exterior	70	110	205	315	465
Body in White	445	535	550	730	925
Paint and Assembly	255	340	485	575	850
Total Variable Cost	2080	2835	3965	5215	7730

From the base costs, the component cost/volume data researched and other industry data have been employed to obtain a view of the typical overall scale volume effects on the costs of volume-produced passenger cars in each of the five study segments. The changes in the variable costs in each segment that occur with changing annual volume are shown in graphical form (Figure 3).

Figure 3



2. Fixed Costs

Again following EC auto industry practise, the fixed costs associated with car production have been researched under seven categories, as follows: tooling, engineering, warranty, marketing, selling, administration and other fixed costs. Base typical fixed costs for the five EC car segments have been established, and are shown in tabular form (Table 5).

Table 5**UNIT FIXED COST STRUCTURES IN FIVE EUROPEAN SEGMENTS**

Fixed Cost Element (Status: Ecu 1985)	Utility	Small	Lower Med.	Upper Med.	Large
Tooling	265	350	305	580	680
Engineering	160	210	275	360	505
Warranty	90	135	175	265	355
Marketing, Selling, Administration, Other	655	680	710	755	830
Total Fixed Cost	1170	1375	1465	1960	2370

B. ANALYSIS OF PRODUCTION BY PLATFORMS**1. Platform Survey**

The vehicle platform was selected as the basic analysis parameter for the study of vehicle variable costs. An unique 'platform' is defined by the motor industry as a single vehicle floorpan design to which common components are attached in the areas of running gear, suspension, and steering. With relatively minor changes, the floorpan may be varied in length without departing from the concept of an unique platform.

It was determined during the research that the analysis of car production according to platforms offers the only method that provides a direct correlation with the data obtained on the cost/volume relationships of car components. In principle, the most tooling-intensive parts of a platform are common to it and to the vehicles built on it. Thus in theory all the mechanical parts of a platform will be alike in all the car models it carries, making component volume equal to platform volume. This provides a direct and clear relationship that is not possible with the study of either marque or model output.

In this phase of the work the base-year 1985 European market was analysed in terms of the typical number of platforms produced in each segment and the number of car production facilities that are required to reach the total industry volume. This aspect of the platform analysis is detailed in full in the Final Report.

An EC85 basis for comparison with EC92 conditions was obtained by selecting platform volumes achieved by the typical car models that prevail in each segment, and adjusting for non-typical volume factors. The selected method has generated platform numbers and volumes that are taken for the purposes of this study as being representative of industry practise in EC85 (Table 6).

Table 6**EC85 PLATFORM PRODUCTION VOLUMES BY SEGMENT**

Segment	Number of Platforms	Volume Per Platform	Total Production
Utility	3	110,000	330,000
Small	6	440,000	2,640,000
Lower Medium	6	525,000	3,150,000
Upper Medium	6	315,000	1,890,000
Large A	6	140,000	840,000
Large B	3	70,000	210,000
Total	30		9,060,000

2. Factors Affecting Changes in Platform Production Volumes in EC92

In the preceding section, analysis has been conducted of EC85 platform production volumes by segment and typical platform production volumes in EC85. In EC92 the European platforms will be produced according to a different pattern, as a consequence of two main factors: sharing of platforms between makers, and strong specialisation in particular segments by producers.

EC92 conditions will substantially facilitate the sharing of platforms between and among makers, following trends that are already evident and that are forecast to prevail in EC92 (industry interviews). The elimination of physical barriers to joint engineering work, the establishment of common production protocols, the greater ease and lower cost of travel by engineers and executives, and the more rapid and assured movement of parts and assemblies throughout Europe will contribute to this sharing of platforms.

In addition, in EC92 conditions car and component makers will be able to implement more fully a policy of specialising in particular product segments to gain longer annual production runs and hence higher manufacturing efficiency. Such trends are already evident among EC car producers in vehicles such as the Fiat Uno in the Small segment and the VW Golf in the Lower Medium segment.

Taking into account the factors described, and extrapolating from current trends by considering the best performances being achieved by manufacturers in EC87 in the various segments, LAL has forecast the EC92 conditions for platform numbers and volumes (Table 7). To permit direct comparison with EC85 conditions in the subsequent calculations, the total production volumes for both sets of platforms are held at the same level.

Table 7**EC92 PLATFORM PRODUCTION VOLUMES BY SEGMENT**

Segment	Number of Platforms	Volume Per Platform	Total Production
Utility	2	160,000	320,000
Small	4	650,000	2,600,000
Lower Medium	4	800,000	3,200,000
Upper Medium	5	380,000	1,900,000
Large A	4	220,000	880,000
Large B	2	80,000	160,000
Total	21		9,060,000

C. AUTO PRODUCTION ECONOMIES OF SCALE

This section describes the methodologies that have been employed for the analysis of the economies of scale and, subsequently, the automobile cost and price changes that are forecast to occur in the change from EC85 to EC92 conditions.

The work described in this section is based on the assumption that no change in overall industry volume occurs in the first iteration of the effects of EC92. Volume changes in later iterations are possible according to the indirect dynamic effects experienced, described and quantified in Section VII.

1. Variable Costs

By applying the findings concerning EC92 platform volumes to the trend data established on variable costs, the total level of car variable cost under EC92 conditions has been established. The change from EC85 thus established can be attributed to the direct effects of EC92, because the overall level of Community production is assumed to remain static. Thus the identified cost savings arise from the structural changes in production for which the catalyst and prime mover is the introduction of EC92 conditions.

The cost/volume graph of variable cost (Figure 3) has been used to establish the levels of variable cost per unit that are applicable at the platform volumes postulated to prevail when EC92 conditions are in existence. The findings, detailed in tables in the full report, show that overall the change to EC92 produces a 2.36 percent reduction in aggregate variable costs, valued at 898.9 million Ecu.

2. Fixed Costs

The selected approach to quantifying the impact of EC92 on fixed costs is to apply to the fixed cost structure the findings on platform volumes, and to establish the impact that these changes in production methods will have on overheads and fixed costs. The specific effects of the

projected EC92 platform changes on the fixed cost categories are outlined in the following sections on tooling costs, engineering costs, warranty and other fixed costs.

a. Tooling Costs

The principal tooling cost savings will result from the economies of scale caused by higher platform volumes in EC92. These savings will take effect at both the component and car producer/assembler levels.

It is envisaged that the development of large basic parts suppliers capable of an order of magnitude higher production volume will be accelerated by EC92. The economies of scale associated with this development will reduce fixed as well as variable costs.

In EC92 the automobile manufacturers will continue to produce a large number of superficially different models, with discrete external sheet metal, while at the same time they share more common platforms. For this study it has been assumed that approximately 50 percent of tooling costs relate to areas which can be commonised, and thus where direct economies of scale will be realised.

Table 8: TOOLING COST COMPARISON

	Utility	Small	Lower Medium	Upper Medium	Large	
EC85 Unit Cost (Ecu)	265	350	305	580	680	
EC92 Unit Cost (Ecu)	221	291	250	525	551 (a)	631 (b)
Total Tooling Costs						
	Utility	Small	Medium	Lower Medium	Upper Large	Total
EC85	87,450	924,000	960,750	1,096,200	714,000	3,782,400
EC92	70,720	756,600	800,000	997,500	585,840	3,210,660
COST SAVING (000 Ecu)						571,740

b. Engineering

As a consequence of the move to EC92 the benefits in terms of engineering fixed cost reductions are threefold, as follows:

(1) Scale Economy Improvements

As a direct result of the reduction in the number of platforms being utilised, the fixed cost element of engineering will be spread over a higher production volume per platform, bringing about economies of scale. The relevant saving will be reduced by the approximately 50 percent of the componentry of the automobile that is in those areas which will continue to be differentiated.

(2) Component Commonisation

An indirect consequence is forecast to flow from the greater use of common components. This will occur because the actual cost of designing the automobile will fall as a 'learning curve effect' is experienced by using already tried and tested components/designs.

It may be taken from the preceding elements of this study that up to 20 percent of automobile components could be commonised. If the use of common engineering design and testing for these components yields a 25 percent saving in terms of design time/costs, the total engineering cost saving will be in the region of 5 percent.

(3) Staff/Overhead Savings

An element of the fixed cost of engineering which must be borne by the finished vehicle is the cost of retaining an in-house engineering/product maintenance department. As a result of the simplification of type approval procedures and the greater use of common components it would be reasonable to expect some savings in this area, as discussed in Section IV. These savings would be in the order of 0.5 percent.

Table 9: ENGINEERING COST COMPARISON

Fixed Engineering Cost Per Unit	Utility	Small	Lower Medium	Upper Medium	Large	
EC85 (Ecu)	160	210	275	360	505	
EC92 (Ecu)	127	166	215	311	390 (a)	447 (b)
Total Fixed Engineering Cost						
	Utility	Small	Lower Medium	Upper Medium	Large	Total
EC85	52,800	554,400	866,250	680,400	530,250	2,684,100
EC92	40,640	431,600	688,000	408,500	414,720	1,983,460
COST SAVING (000 Ecu)						700,640

c. Warranty

The cost of providing warranty cover on automobiles should be reduced by the effects of the change to EC92, as a result of three factors. First, the longer annual production runs should enable the cost of any service failures to be spread more widely, resulting in a lower unit cost. Second, the use of well tried and tested common components and designs should further reduce such failures, especially during the warranty or early-life failure period of a vehicle.

Third, in EC92 the direct communication between dealer and manufacturer will remove a tier of administration in dealing with warranty claims, and also remove an added administrative

cost on the sale of warranty parts in cases where the manufacturer deals directly instead of through a national importer. Overall warranty cost savings in the region of 10 percent could therefore be expected.

Table 10: WARRANTY COST COMPARISON

Warranty per Unit			Lower	Upper		
	Utility	Small	Medium	Medium	Large	Large
EC85 (Ecu)	90	135	175	265		355
EC92 (Ecu)	81	122	158	239		320
Total Warranty Provision						
	Utility	Small	Lower Medium	Upper Medium	Large	Total
EC85	29,700	356,400	551,250	500,850	372,750	1,810,950
EC92	25,920	317,200	505,600	454,100	332,800	1,635,320
COST SAVING (000 Ecu)						175,330

d. Other Fixed Costs

(1) Administration and Other Overheads

At present the manufacturers indirectly finance the costs that dealers incur by holding stocks of their automobiles. This is because the national importers, which are often owned and run (albeit with a degree of autonomy) by the manufacturers, directly finance the dealers' inventory. Since the cost of finance is an overhead to be borne by productive output, any steps which are taken to reduce these stocks and the resulting finance costs will reduce the overhead cost of producing automobiles.

If by exploiting the potential of EC92 for improved shipping and communications the manufacturers and the national importers succeed in reducing the stock inventory period in Europe by one month, the saving to the producers, in their cost of financing, could be as much as 213,333,000 Ecu.

(2) Selling and Marketing

An immediate cost reduction in sales and marketing will be a consequence of the increased interpenetration of the market by car makes and models in EC92. The model ranges offered by makers throughout the EC will differ country-by-country less than they do in EC85. This will allow increased pan-European advertising, promotion and launching of automobiles, which in turn will allow the fixed cost element of preparing the relevant promotional material to be reduced.

It is estimated that a saving of 5 percent in the cost of advertising could be obtained by the centralisation of advertising/marketing budgets and the greater use of common material. This is expected to generate savings in the region of 42,476,000 Ecu.

Table 11: SUMMARY OF FACTORY FIXED COST SAVINGS (000 Ecu)

Tooling	571,740
Engineering	700,640
Warranty Provision	175,330
Administration/Finance Costs	213,333
Advertising	<u>42,476</u>
COST SAVING	1,703,519

The total saving thus achieved represents 11.5% of total factory fixed costs.

3. Non-Factory Costs/Overheads

Other costs, including those of distributing vehicles from the factory to the marketplace, have an impact on the price at which the car is sold to the dealer and eventually to the consumer. Though not a principal focus of the study requested by the Commission, such costs require a brief review.

The principal overhead in this category is the cost of maintaining national importer organisations in the respective EC Member States. The direct business relations between manufacturer and dealer which will be stimulated by EC92 conditions will significantly reduce this cost to the manufacturer by allowing relatively slimmed-down national offices to replace national sales companies. An initial costing of the magnitude of the potential savings in this area suggests a level of 1,600 million Ecu.

Potential savings also derive from an attribute of the current delivery chain, from producer to consumer, which directly impacts upon the retail price. Referred to is the practise of adding a company charge at each point of transfer. In addition to the variable and fixed cost savings on ex-factory costs/prices already discussed, a company cost is also incurred as part of the delivery charge from the storage compound to the customer.

In EC92 the direct communication between dealer and producer will lead to the dealer taking up functions that were previously within the domain of the national importer. This is likely to include order and payment for vehicles in advance at the factory gate and dockside collection where required. The removal of the intermediate role of the national importer will reduce this layer of cost, which under EC85 conditions has a magnitude of more than 400 million Ecu.

VI. DIRECT/DEFERRED EFFECTS OF EC92

The findings of the project have been organised in accord with a specified EC Commission format, which provides for responses showing the effects of given topic areas in key EC countries and in the Community as a whole. The study findings reported in this section are organised according to the Commission format.

A. SHARE OF VALUE ADDED IN FINAL DEMAND

This establishes the percentage of the retail value of car and component sales within the EC and Member States that is represented by the value added by the home country producers.

Table 12 (percentages)	West					Total
	Germany	France	Italy	UK	Other	
	31.6	21.1	20.2	17.9	4.2	20.6

The findings were determined by applying the gross value added (GVA) percentage to the retail value of production retained within each home market and comparing the resulting value to the retail value of total sales in that market.

The results show clearly that the high GVA percentage applicable to West German production, when combined with the low value of import penetration, gives a relatively high percentage of GVA in final demand for Germany.

B. SHARE OF VALUE OF PRODUCTION IN TOTAL DEMAND

This establishes the share of retail sales in the home market that is accounted for by home production.

Table 13 (percentages)	West					Total
	Germany	France	Italy	UK	Other	
	79.5	71.2	60.2	51.2	15.8	59.1

C. SHARE OF VALUE ADDED EXPORTED

This establishes what percentage of value added is exported.

Table 14 (percentages)	West					Total
	Germany	France	Italy	UK	Other	
	48.6	38.9	26.0	28.4	79.5	46.5

The findings confirm that West Germany is very export-orientated and also that the other EC producing countries, which are dominated by Belgium and Spain, produce principally for the export market. It also shows the very important role the home market plays for UK and Italian producers and thus the threat which further import penetration would pose to the home producers in these countries.

D. CHANGE IN UNIT COST OF PRODUCTIVE LABOUR

Table 15 (percentage reduction)	West					
	Germany	France	Italy	UK	Other	Total
	8.9	12.3	13.3	9.7	12.2	11.00

The LAL study of automobile costs indicates that under EC85 conditions labour accounts for approximately 22 percent of variable costs. Although considerable variation between individual countries does exist, it is anticipated, on the basis of interview findings and LAL analysis, that the introduction of EC92 conditions will further enhance trends in labour utilisation which are already being observed, such as the use of robotics and the increased automation of previously manually performed tasks. LAL concludes that under EC92 conditions the share of vehicle variable cost attributable to labour will fall from 22 to 20 percent across the car segments.

By analysing the manner in which variable costs move in the transition from EC85 to EC92 across the five car segments, and by weighting this change by reference to the significance of each segment in the total production of each country, the above reductions in unit labour costs have been established.

E. CHANGE IN DIRECT UNIT COST OF PRODUCTION

Total unit cost of production has been taken as including variable cost plus those fixed costs directly attributable to production.

Table 16	West					
	Germany	France	Italy	UK	Other	Total
Reduction (%)	2.93	4.49	4.94	3.09	4.25	3.50
Attributable to:						
Labour savings	1.55	2.53	2.84	1.75	2.49	1.97
Intermediate	0.15	0.32	0.34	0.01	0.12	0.17
Tooling savings	1.23	1.64	1.76	1.33	1.64	1.36

The total cost saving in percentage terms is a consequence of those reductions in labour unit costs, lower costs of producing and/or procuring components, and also to those reductions directly attributable to the changes in platform volumes.

The greatest change occurs in the Italian automobile industry, where a high level of labour content gives greatest scope for productivity gains and also where output is heavily concentrated in those product segments where considerable scope for economies of scope occur.

F. CHANGE IN TOTAL UNIT COST OF PRODUCTION

This finding reflects the total EC92 change in unit costs/prices. It includes those fixed costs/overheads that are not directly attributable to production, but are included within the ex-factory cost of vehicles in each segment.

Table 17 (percentage reduction)	West					Total
	Germany	France	Italy	UK	Other	
Total	4.34	5.54	5.68	4.30	5.32	5.00
Attributable to:						
Pure Cost	4.80	4.90	5.00	4.80	4.90	5.09
Restructuring	(0.46)	0.64	0.68	(0.50)	0.42	(0.09)

The magnitude of change is greater than for production costs alone because the fixed cost element of total unit costs experiences a higher percentage change in the transition from EC85 to EC92 conditions. However the change differential between countries is lower because the segments exhibit similar platform volume behavior from one country to another.

Pure cost savings are defined as those savings which would occur as a result of the development of platform sharing, technical advances and other changes brought about by the move to EC92. This excludes the changes in overall segment volumes brought about by a restructuring of production. The overall impact of the restructuring has been to reduce the potential benefits because the restructuring involves a shift in emphasis towards the high-volume lower and upper medium segments. The greatest pure cost reductions occur in the lower volume segments, where the potential economies of scale are greatest. The variations between countries reflects the different segment mixes in their car production.

G. CHANGE IN LABOUR PRODUCTIVITY

Table 18 (percentage improvement)	West					Total
	Germany	France	Italy	UK	Other	
	9.93	14.42	15.76	10.87	14.09	12.58

Labour productivity is defined as output of vehicles per person employed in the industry. The change in labour cost per unit produced, outlined above, is assumed to occur as a result of the reduction of manning levels. Given the underlying assumption of static production volumes, this brings about the improvements shown in labour productivity.

H. CHANGE IN CAPITAL PRODUCTIVITY

Table 19 (percentage improvement)	West					Total
	Germany	France	Italy	UK	Other	
	16.64	17.63	19.33	18.50	17.41	17.48

Tooling costs have been used as a proxy for productive capital investment. This is judged to be valid because the tooling cost per unit is effectively the aggregate capital investment amortised over the number of automobiles a manufacturer produces. Given that the study assumption at this stage is that the volume produced remains static, any changes in tooling cost per unit reflect the change in aggregate capital invested and thus in productivity.

I. CHANGE IN PRODUCTIVE INVESTMENTS

Productive investments are taken as consisting of the book value of tangible fixed assets plus the level of research and development expenditure. Reductions in the level of capital investment will be possible in EC92 because the increased level of platform sharing will facilitate more efficient utilisation of plant and machinery. To produce the same volumes and model variations in EC92 as those achieved in EC85, fewer production machines will be required.

Table 20 (percentage reduction)	West					Total
	Germany	France	Italy	UK	Other	
Scenario A	14.95	16.73	18.30	16.97	16.12	16.15
Scenario B	12.90	14.90	17.30	14.20	14.90	14.30

In Scenario A, R&D expenditure stays at constant levels. In this Scenario, the change in productive investments will be the change in capital productivity weighted for the importance of tangible fixed assets. In Scenario B, auto manufacturers will take advantage of the cost savings arising from the move to EC92 conditions to invest one percent of total costs in advanced research and development in order to maintain their products at a high level of international technological competitiveness.

Amounting to 600 million Ecu, the resulting R&D funding is assumed to be distributed amongst producing countries in proportion to the total costs which each accounted for in EC85.

R&D development expenditure has two effects which can be classified into direct and deferred. The direct effect of such expenditure is to reduce auto manufacturers profits, raise ex-factory prices and depress demand. There is, however, a deferred consequence which encourages such expenditure to take place. This is the R&D

expenditure which can lead to improvements in the utilisation of both raw materials and machinery, reducing the unit cost of production, reducing the price of the car and hence increasing demand in the longer term.

As R&D is an ongoing process it is not usually possible to identify a specific cost benefit as stemming from a defined item of expenditure. Because many of the benefits of R&D are qualitative it is very difficult to quantify its impact on demand.

J. EC MARKET VOLUMES

Table 21 (absolute increases in units sold)	West					Total
	Germany	France	Italy	UK	Other	
Domestic market:						
Scenario 1 (000)	72.3	42.8	45.2	35.3	24.8	220.4
Scenario 2 (000)	51.7	32.9	41.1	29.6	17.8	173.1
EC-XII market: (excluding domestic)						
Scenario 1 (000)	70.3	63.9	21.9	5.7	76.7	238.5
Scenario 2 (000)	45.6	53.4	14.5	2.9	54.3	170.7
Extra-EC-XII market:						
Scenario 1 (000)	55.9	33.4	8.7	5.8	12.5	116.3
Scenario 2 (000)	38.7	21.6	5.1	2.9	8.4	76.7
EC-Producer Totals:						
Scenario 1 (000)	198.6	140.2	75.9	46.8	113.9	575.4
Scenario 2 (000)	136.0	107.9	60.7	35.4	80.5	420.5

The changes shown for Scenario 1 in units sold in the home market, the EC-XII market (excluding home country sales) and the Extra-EC-XII market are a consequence of the application of an elasticity of demand factor to the percentage change in production prices calculated above.

The changes shown in Scenario 2 in units sold assume that the non-EC producers will respond to the new EC market conditions and reduce their own prices. Their price reductions are expected to be mid-way between the EC85 position and that calculated for EC92.

Studies of demand behaviour have indicated that the automotive elasticity of demand factor for the European Community countries is typically in the region of -1.2 (Ref. Prof G Rhys). This factor has been employed for the purposes of this study.

Strictly speaking this factor may not be appropriate when applied to exports of automobiles outside the EC. This is due to the fact that each export market will have a different elasticity of demand for imports from the EC.

In the absence of specific information on the elasticity of demand in foreign markets, LAL consider the application of the -1.2 factor is preferable to not providing results for this important source of sales.

In Scenario 1, to assist in the quantification of the effects of price changes on the structure of consumer demand in the EC, recourse has been made to the following assumptions:

1. That Extra-EC producers of automobiles are unable or unwilling to respond to EC producer price decreases.
2. That a process of substitution of demand takes place in favour of EC automobile producers so that existing purchasers of non-EC produced cars will change their purchase decision to EC-produced cars in proportion to the percentage decline in their prices.

K. CHANGES IN NON-EC IMPORTS

Table 22 (percentage reduction in sales)	West					Total
	Germany	France	Italy	UK	Other	
Scenario 1	39	100	100	35	23	42
Scenario 2	24	84	90	19	13	28

The findings for both pricing scenarios shown in Table 21 illustrate that the price reduction in EC-produced cars developed above for EC92 has the effect of reducing the sales volumes of non-EC producers' imports. The percentage reduction in sales for Scenario 2 is lower due to the non-EC producers responding to EC92 by reducing their prices.

The largest degree of change is forecast in those countries where non-EC imports represent a small percentage of sales in EC85. Thus the effect is most notable in France and Italy, where non-EC imports would effectively cease to hold any meaningful market share.

Full appreciation of the basis for this forecast may be derived from a study of the market conditions that obtain in the affected countries. In Italy, non-EC imports account for only 9 percent of total imports and less than 5 percent of sales. Of the non-EC imports, 60 percent are from East European producers and a further 33 percent are from the developing countries. These producers, often utilising antiquated technology, compete chiefly on price. Thus it is reasonable to postulate the virtually complete elimination of such demand.

France is another country with a low percentage of non-EC imports and a significant East European content in those imports. Thus similar results to those of Italy will occur.

The 'other' EC countries have a high non-EC import penetration; in Scenario 1, 26 percent of all imports are from outside the EC-XII, of which 76 percent are from Japan and a further 4 percent from EFTA countries. These producers are not competing solely on price and therefore the reduction in imports from those sources in response to EC price reductions will be less marked.

In respect of France and Italy it is possible that the impact of price reductions may be overstated. This is because the import quotas for Japanese automobiles may distort the pattern of demand. In the absence of a specific study on the impact of such quotas it would be prudent to regard the results as the best estimates of what is achievable.

VII. DYNAMIC EFFECTS OF EC92

The cost savings described and computed in Sections V and VI consist of the deferred direct consequences of introducing EC92 conditions. They are the savings/efficiencies that result from the actions taken by the auto industry to make full use of the potential of EC92. As noted they have been calculated on the basis that total EC market volume remains static; thus they omit the dynamic effects that are a consequence of the price reductions that the lower manufacturing costs make possible.

In this section, the dynamic consequences are analysed and discussed. In a sense, the dynamic consequences are infinitely iterative. Each dynamic improvement has the potential to reduce costs further, and thus to trigger a further dynamic improvement. In order to simplify analysis, LAL eschewed the creation of a multi-period dynamic model of single-market Europe because beyond the initial period it would be increasingly difficult to distinguish between direct EC92 consequences and those effects that stem from secondary developments.

It is evident that as a result of the initial direct benefits of EC92 a multiplier effect will be triggered that will be felt for a number of years. In successive stages this multiplier effect will take the following form:

1. The EC92 conditions liberalise internal trade and stimulate commonisation of parts and platforms, leading to lower costs.
2. Due to intense competition and underutilised total industry capacity, the cost savings will be passed on to the consumer through lower real prices, less an allowance for intensified advanced R&D activity.
3. The increased price competitiveness of EC-produced automobiles vis-a-vis non-EC production leads to increased demand for vehicles from EC production, both inside and outside the Community.
4. The greater EC volumes produced as a result of (3) will allow additional economies of scale to be achieved and exploited and, as a result, a further stimulation of demand will occur.

A domestic direct/dynamic cycle very similar to this, built on an initial advantage of lower net labour costs, allowed the Japanese motor industry to make the inroads into world markets that it achieved, beginning in the 1970s. Now, however, the Japanese compete more on quality, style, technology and reliability than on the price differential that gave them their market entree.

In part as a consequence of the appreciation of the Yen, Japanese makers have restructured their product lines for export. As a result their penetration has been steadily moving up-market, well into the lower and upper medium

segments, and is forecast to be directed even higher. Thus it is conceivable that under EC92 conditions the European volume producers will be able to regain the grip on the 'value for money' auto market that seemed, in the early 1980s, to be lost to them forever.

For these effects to take place as outlined, the demand for EC automobiles must be sufficiently price elastic to give the manufacturers and their distributors an incentive to pass on cost savings to the retail level. Studies by Prof Garel Rhys of University College at Cardiff, Wales indicate that the European market price elasticity of demand is approximately -1.2 to -1.3 for consumer goods and for automobiles is in the range of -1.0 to -1.5.

LAL has elected to take a prudent view by selecting a figure of -1.2 for auto price elasticity across the EC market. On this basis, for every 1.0 percent decline in price, demand will increase by 1.2 percent. This price elasticity factor was employed in generating the responses to EC Commission requirements as described in Section VI. It triggered significant changes in the pattern of demand/trade.

The dynamic effects are also highly relevant with respect to the total impact of EC92 on auto industry employment. The response in Section VI dealing with labour productivity in EC92 envisaged that improved labour productivity would occur, with a concomitant reduction in the labour requirement. This finding, however, was based on the direct effect assumption that production remained static in the move to EC92.

As the dynamic effects of EC92 are realised, a proportional increase in the requirement for labour will occur. The price elasticity calculation indicates that the 5 percent reduction in price arrived at as a result of the direct effects will (multiplied by the 1.2 elasticity) increase demand for vehicles produced in the EC by at least 6 percent initially. If employment is recouped at the same rate, the employment reduction that would be assumed from the productivity improvement of EC92, would be approximately halved.

A further recoupment of employment is seen as having the potential to occur in EC92. It will be accelerated as the multiplier process outlined earlier begins to take effect. In EC92 demand may prove to be more price elastic than the -1.2 factor taken for this calculation. Also, the improved export potential of EC production resulting from the price reduction may outperform the selected price elasticity factor.

In concert, these considerations offer the potential for a European car industry in EC92 which is a substantially more rationalised and vigorous international competitor, and which at the same time maintains a level of employment that is little changed from the present.

Annexe I

SUMMARY OF QUANTITATIVE RESULTS

HYPOTHETICAL CHANGE IN UNIT COSTS

1. Variable Cost savings can be broken down as follows:

	Million Ecu
Labour Cost	826.6
Other variable Cost	72.3
Total	898.9

This reflects the positive impact of improved labour productivity on variable costs despite representing only approximately 20 percent of variable costs, and highlights the difficulties of reducing costs in an area with a high raw material content.

2. Fixed Cost savings can be broken down as follows:

	Million Ecu
Tooling	571.7
Engineering	700.7
Warranty Provision	175.3
Administration/Finance	213.3
Advertising	42.5
Total	1 703.5

The Engineering total includes savings that result from rationalised type-approval procedures.

3.	Million Ecu	% of Category
Variable Cost Saving	898.9	2.36
Fixed Cost Saving	1703.5	11.50

This indicates that it is in the area of fixed costs that the benefits of the completion of the internal market will be most significant through economies of scale.

4.	West					
(percentage reduction)	Germany	France	Italy	UK	Other	Total
Total	4.34	5.54	5.68	4.30	5.32	5.00

Attributable to:

Variable Cost	1.44	2.16	2.37	1.42	1.97	1.73
Fixed Cost	2.90	3.38	3.31	2.88	3.35	3.27

This represents a saving in value terms of 2602.4 million Ecu.

12.

The "Cost of Non-Europe"
in the Foodstuffs Industry

Groupe MAC

The Cost of "Non-Europe" in the Foodstuffs Industry

Executive summary

January 1988

Groupe MAC - 11 Bd Latour Maubourg - 75007 PARIS - TEL. : (1) 45.55.91.78

Paris	Boston	San Francisco
Londres	Chicago	Buenos Aires
Barcelone	Washington	Hong Kong

ACKNOWLEDGEMENTS

The MAC Group would like to acknowledge the help provided by Gwen Cozigou and Pierre Buigues of the European Commission and by Professor Jacques Pelkmans of the European Institute of Public Administration in Maastricht, Holland, in conducting this research. All views and conclusions contained in this paper belong solely to the authors, and any errors, of course, remain their full responsibility.

Preface

The European Commission retained the MAC Group to study the completion of the internal market by 1992 in the foodstuffs industry. Four reports and an executive summary resulted from this effort :

Report I : Identification of barriers and selection of pilot barriers

Report II : Analysis of pilot barriers (Volumes I and II)

Report III : Extrapolation of benefits

Report IV : Consolidation of the European food industry : An implication of the 1992 Common Market.

Executive summary

Contents

1. Introduction

A. Objectives of the study 3

B. Summary of conclusions 4

2. Methodology and scope

A. Design of the study 6

B. Definitions and assumptions 8

C. Product sectors and pilot barriers 9

3. Findings

A. Trade barriers in the foodstuffs industry 12

B. Benefits of removing barriers 19

**C. "Missed opportunities" and EEC
competitiveness** 29

1. Introduction

A. Objectives of the study

This study was motivated by the European Commission's "white paper"⁽¹⁾ and was designed to answer the following question : What will be the impact of the "1992 Common Market" on the foodstuffs industry ?

In this context, the 1992 Common Market means a European Community in which any foodstuff produced and commercialized in one member country may be freely commercialized in any other member country. Non-tariff trade barriers represent one of the main obstacles to the 1992 Common Market. Evaluating the impact of removing these barriers was therefore the principal objective of this study.

Two corollary objectives followed from the principal objective. The first was to evaluate and quantify the total net benefits to the EEC from eliminating trade barriers; and the second was to identify the countries and product sectors that would be most significantly affected.

(1) "Completing the Internal Market," June 1985.

B. Summary of conclusions

- **Europeanization in the foodstuffs industry is facing a critical transition. In ten product sectors, this study identified over 200 non-tariff trade barriers. Recent years have witnessed an increase rather than a decrease of barriers.**
- **Creating a single market in the foodstuffs industry will engender significant benefits. Within the sectors studied, the positive impact will be on the order of 500-1000 million European currency units (Ecus) in annual cost savings. These benefits represent two to three percent of total industry value-added, and correspond to a one- to two-year gain in industry productivity. The benefits are, however, highly concentrated; over 80% can be traced to the elimination of six barriers.**
- **The indirect effects of a single market are likely to considerably enlarge the benefits that result from the removal of trade barriers. One-third of the primary 50 product/markets studied will enjoy major positive effects, the most important of which will be an increase in consumer choice. On a case-by-case basis, some industry restructuring will occur, intra-community trade will increase, and in a few cases extra-community competitiveness will be enhanced.**
- **The "missed opportunities" of not achieving the 1992 Common Market are great. Trade barriers reinforce a national focus among food concerns that, in turn, creates a fragmented industry. While few EEC food companies have built strong competitive positions across a majority of EEC markets, several non-EEC companies have succeeded in doing so.**
- **Removing trade barriers will encourage EEC food concerns to increase their geographical coverage and market leadership, both measures necessary to ensure future EEC competitiveness. As a consequence, a wide-scale industry restructuring and consolidation among the largest companies could take place.**

- **While dismantling trade barriers is a necessary prerequisite for exploiting these opportunities and maintaining EEC competitiveness, it is not the only one. The overall impact will be hindered or enhanced by commitment changes in related trade barriers, rules on competition, the regulation of financial markets, and the attitudes of member governments.**

- **Although not sufficient in itself, the advent of a single European market in the food industry will be necessary to :**
 - **reverse the observable trend of an increase in trade barriers within the EEC ;**

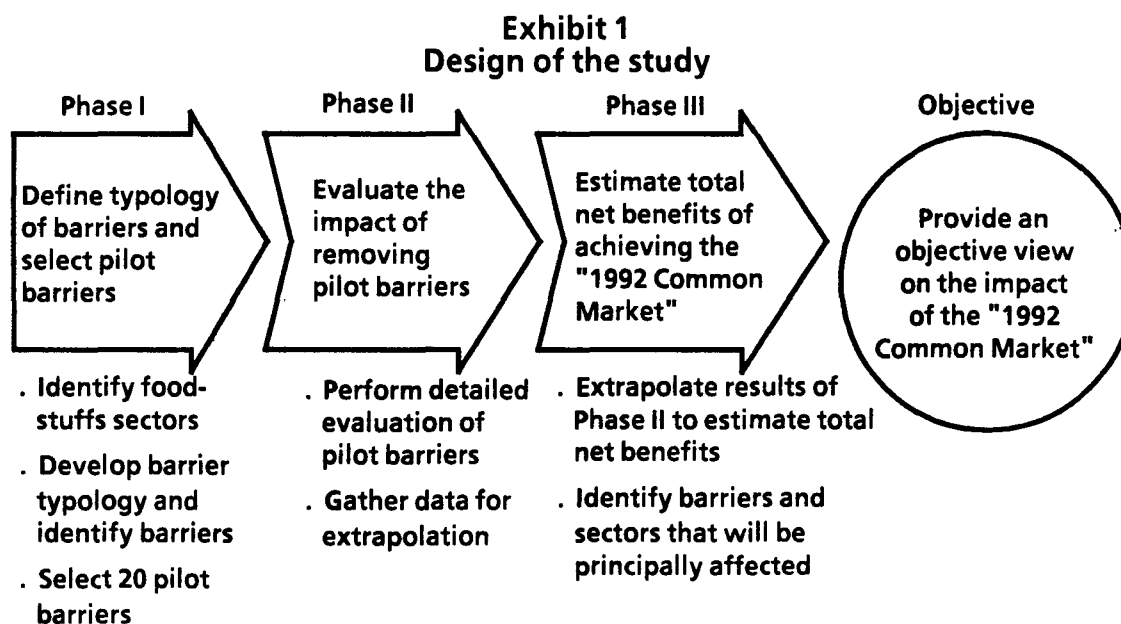
 - **allow market forces to provide consumers with a wider choice of products at a lower cost ;**

 - **influence positively trade, investment, and the structure of the EEC food industry to reinforce its competitiveness in the European and world markets.**

2. Study methodology and scope

A. Design of the study

The study was conducted in three phases, as illustrated in Exhibit 1.



The absolute size and diversity of the foodstuffs industry make it especially complex to analyze thoroughly. Therefore, the study was designed to begin with a detailed analysis of high-impact trade barriers in a limited number of sectors, followed by an extrapolation of the analysis to estimate a more general impact.

During the first phase, ten foodstuff sectors, which became the focus of the study, were evaluated and selected. Next, specific barriers were identified and classified according to barrier type. The objective of this exercise was not to produce an exhaustive list of all trade barriers, but rather to identify the most significant ones. Finally, 20 pilot barriers were chosen from among the more than 200 barriers identified to serve as case studies for the next phase of the study.

In the second phase, the 20 pilot barriers were evaluated based on existing industry information and over 200 interviews with major companies and industry experts.

The effects of removing each of these barriers were classified into three categories :

- **Immediate direct effects** :
Principally a measure of the fall in production or distribution cost as an immediate result of removing a barrier.
- **Deferred direct effects** :
Direct effects of eliminating a barrier which appear gradually over time. An increase in competition or the realization of scale economies are examples of this second category of effects.
- **Indirect dynamic effects** :
Long term effects such as changes in intra- or extra-community trade, increased consumer choice, industry restructuring, etc.

During the study's final phase, the net benefits of removing the pilot barriers were extrapolated across barriers, countries, and the ten product sectors to arrive at the total net benefits of achieving the 1992 Common Market. The direct effects of removing the barriers were quantified, and the indirect, longer term effects were analyzed in a qualitative manner.

B. Definitions and assumptions

Throughout the study, a barrier is defined as a generic impediment to trade, or a regulatory discrepancy, within the EEC. Purity laws or specific ingredient restrictions are both examples of barriers.

A specific barrier is a combination of a barrier with two other dimensions : product sector and country. An example of a specific barrier would be the "Reinheitsgebot" or the beer purity law in Germany ; a second example would be the restriction against using aspartame in soft drinks in France.

A pilot barrier is a specific barrier that was selected to be studied in-depth in Phase II of the study, to understand the net benefits of removing the barrier.

Net costs are the total direct and indirect costs incurred by the existence of a barrier. Net benefits of removing a barrier are defined as equal to the elimination of net costs. In this study, the terms net cost and net benefits will be used when referring to the existence and the elimination of barriers, respectively.

Finally, the costs of non-Europe are equal to the sum of all net costs across the barriers and product sectors covered.

The reader should be aware of two important assumptions made in this study about the removal of barriers. The first relates to what is meant by removing a barrier. In general, this means that a good produced in one country may no longer be impeded from traveling freely and being commercialized in another. This is the basis of the principle of mutual recognition, which in a strict sense only concerns intra-Community trade. However, for some of the cases, in evaluating the effects of removing barriers, the study assumed that barriers are removed within as well as between countries in the EEC. As an example, the study assumes that the beer purity law is lifted in Germany both for domestic brewers as well as for importers. Such an assumption is stronger therefore than the simple mutual recognition principle, and is akin to an assumption of a total harmonization of regulations.

The second assumption is related to the first in that the study does not take a position on whether the removal of trade barriers (or the harmonization of regulations) could undermine public health, safety, or the environment. These potential "social costs" are not explicitly evaluated, even though member states often justify the existence of trade barriers for reasons of protecting the consumer and the environment.

C. Product sectors and pilot barriers

The ten product sectors studied were selected based on the importance to EEC trade, the absolute size, and the likelihood of containing important trade barriers. In addition, the study focused on downstream, rather than upstream, products in order to avoid the complications introduced by the Common Agricultural Policy and its related support programs. For this reason the product sectors were chosen from the four processed food sectors : breads and cereals, confectionery, beverages, and other grocery products. Excluded from the study's scope were : meats, fish, fruits and vegetables, dairy products and eggs. The former group of processed food sectors accounts for about 40% of total food expenditures in the 5 largest EEC countries.

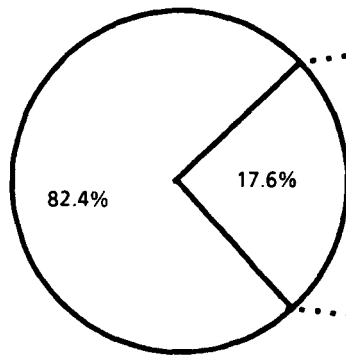
The ten product sectors selected include :

Food sector	Selected product sectors
Breads and cereals	* Biscuits and cake
Confectionery	* Chocolate and confectionery
	* Ice cream
Beverages	* Beer
	* Mineral water
	* Soft drinks
	* Spirits
Other grocery products	* Pasta
	* Soup
	* Baby food

As shown by Exhibit 2, these sectors account for about 18% of total EEC household food expenditures :

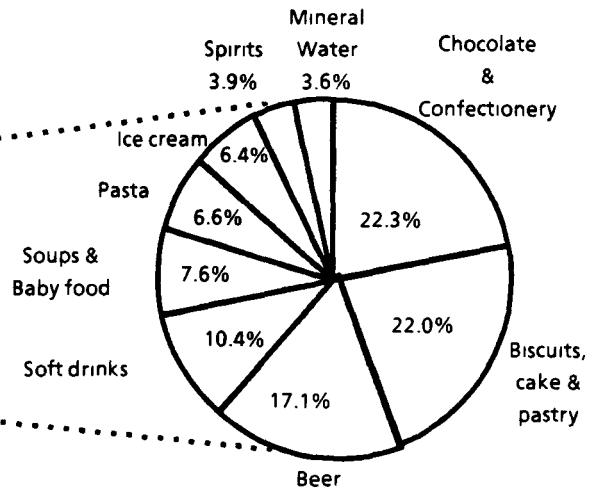
Exhibit 2

1985 total EEC household food expenditures (377 Billion Ecus)



Source : Eurostat 1985 data

Ten product sectors (66 Billion Ecus)



Pilot barriers were selected from among the over 200 barriers identified in the first phase of the study. Each barrier was classified with respect to its likely impact on trade, consumer choice, production costs, and industry structure. In selecting the 20 pilot barriers, high-impact barriers were favored, and care was also taken to ensure adequate coverage of the largest five EEC countries, the ten product sectors, and the different types of barriers.

Exhibit 3 contains the list of 20 pilot barriers selected during Phase I, and analyzed during Phase II. Six to eight interviews of industry players and experts were conducted to evaluate the impact that removing each barrier would have.

Exhibit 3 Pilot barriers

1. Beer purity law in Germany
2. Pasta purity law in Italy
3. Aspartame restriction in soft drink industry in France
4. Vegetable fat restriction for chocolate in France
5. Vegetable fat restriction for ice cream in Germany
6. Juice content limit in soft drink industry in Italy
7. Recycling law for beverages in Denmark
8. Wort excise tax in beer industry in UK
9. Health registration requirement for baby food in Spain
10. Bulk transport regulation for mineral (spring) water in France
11. Saccharimetric content law for beer in Italy
12. Chlorine restriction for biscuits and cake
13. Carotene restriction for biscuits and cake in the UK
14. "German water bottles" for mineral water in Germany
15. Tax differences for Dom Rum in France
16. Label detail for soup in Spain
17. Plastic containers for mineral water in Italy
18. Wort tax method for beer in Belgium
19. Import certificates for spirits in Italy
20. Double inspection for spirit imports in Spain.

3. Findings

A. Trade barriers in the foodstuffs industry

i. Over 200 barriers exist in the ten product sectors

Over 200 specific barriers were identified in the ten product sectors studied. The barriers identified are diverse, so it is useful to classify them into five categories :

1. Specific ingredients restrictions
2. Content/denomination regulations
3. Packaging/labeling laws
4. Fiscal discrimination
5. Specific importing restrictions

Specific ingredient restrictions. These barriers prohibit the consumption of a product containing specific ingredients, such as additives, pesticide residues, or vitamins. An example of this type of barrier, which is generally erected by a country under the auspices of protection of consumer health, is the restriction of aspartame in the French soft drink industry.

Example : Aspartame

Aspartame is a non-nutritive sweetener used for the "diet" segment of the soft drink industries in North America and in most EEC countries. Aspartame can not be used, however, in soft drinks in France or Spain. One result of the restriction is that in France a mass diet segment does not exist. If the barrier was removed, it is estimated that such a segment would emerge, ultimately capturing 10%-15 % of the soft drink market.

Content/denomination regulations. These barriers prevent a producer from using a generic name unless its product conforms to certain content requirements. The most well-know content law is the reinheitsgebot, or beer purity law, in Germany.

Example : Beer purity law in Germany

The Reinheitsgebot, in effect for four and a half centuries, stipulated that beer containing substances other than hops, malted barley, yeast, and water could not be sold in Germany under the name "beer". Partially as a result of this law, the German beer market is highly fragmented--over 1200 breweries exist--and imports make up only about 1% of consumption. Recently, the European Court of Justice ruled that imported beer containing other substances can use the beer product name.

Packaging and labeling laws make up the third category of barriers. These laws affect all aspects of packaging, including the shape, materials, size, recycling and disposal, as well as labeling requirements.

Example : Labeling laws

Despite the Community labeling directive (79/112/EEC), several EEC countries operate with different label requirements, which implies that an EEC producer is effectively prohibited from using a uniform label for its EEC sales. In Spain for instance, labels must contain the followed information :

- ***Definition of the product***
- ***List of ingredients***
- ***Net weight***
- ***Number of units***
- ***Consumption date ("best-before" date)***
- ***Conservation instructions***
- ***Manufacturer's lot number***
- ***Importer's name***
- ***Manufacturer's name***
- ***Country of origin***
- ***Health registration number.***

Certain of these requirements (notably the health registration number) differ from the Community labeling directive, and thus form a subtle but effective barrier to trade.

Fiscal discrimination is the fourth type of barrier examined. The only fiscal laws considered in this study are only those that might disadvantage an importer vis-à-vis a local producer. While wide differences in excise and VAT taxes between neighboring countries (e.g., Denmark and Germany) will ultimately have a large impact on the ability to create a single market, they are not considered in this study. For other reasons, differences in excise taxes among different types of alcoholic beverages were not included. An example of a fiscal law that could discriminate against importers is the wort taxation method for beer.

Example: Wort tax method for beer

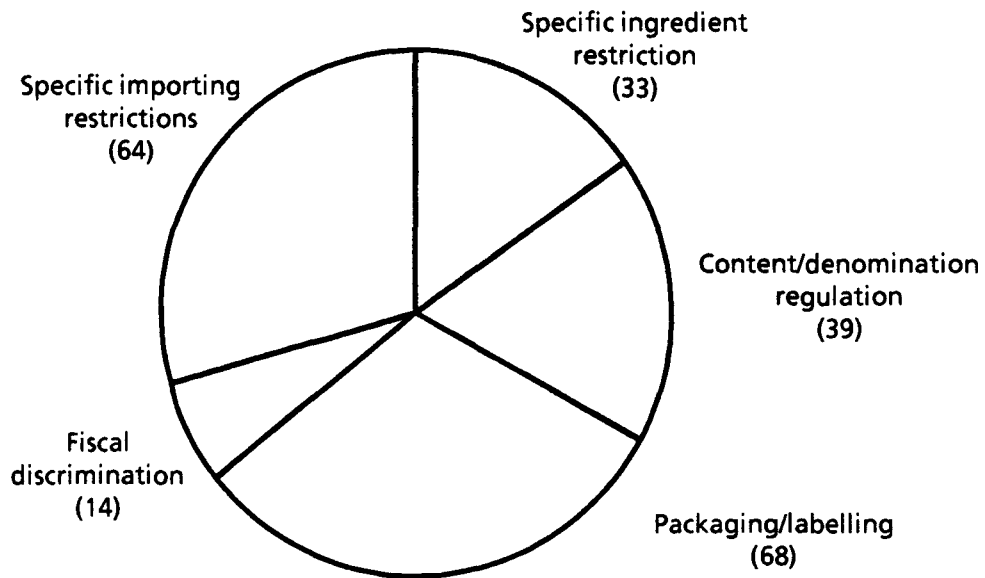
Five EEC countries levy excise taxes on beer prior to fermentation, less a set wastage allowance. Excise taxes for imports into these countries is levied on the final product. If a domestic producer can routinely beat the pre-set wastage factor, it may derive a cost advantage compared to an importer.

Specific importing restrictions. This final barrier type captures many of the diverse and subtle types of discrimination that a producer/exporter must undergo before the cross-border commercialization of goods. In the words of one barrister, these are all the barriers that "make life difficult for the producer/exporter". Included in this category are import licenses, health registration requirements, border inspections, and product testing.

Excluded from this study are delays resulting from the monetary compensatory amounts scheme. While clearly significant based on the responses from company interviews, they are not considered, because they are inextricably linked to the Common Agricultural Policy and thus could not be analyzed in isolation.

Barriers were found in each of the ten product sectors and in each major EEC country. Interestingly, a significant number of barriers were found in each of the barrier categories, which reflects the appropriateness of this typology (see Exhibit 4).

Exhibit 4
Distribution of specific barriers by category
(Total number of barriers : 218)



Source : MAC Group interviews.

ii. The number of barriers is not diminishing

Of concern to EEC food producers and exporters is the fact that the number of barriers does not appear to be decreasing; on the contrary, new barriers appear each year as A. Mattera reports, "modern restrictions on free trade are the new types of frontier barriers whose proliferation is one of the most disturbing features of the last few years". (1)

(1) "Protectionism inside the European Community," Journal of World Trade Law, Vol 18, N° 4 (July/August 1984).

Several of the 20 pilot barriers have emerged and evolved over the past few years. The health registration requirement for food products in Spain was implemented at about the time Spain entered the Common Market. As one EEC producer/exporter put it, "our products were readily acceptable by the Spanish government up until the time Spain joined the EC. Now we have to go through the registration procedure."

Other barriers are becoming more widespread over time. For instance, 150 municipalities in Italy now ban the use of plastic bottles for soft drinks and mineral water. This ban limits the ability of some foreign producers to export to these communities because transportation costs for glass bottles make it uneconomic. Moreover, despite the EEC Directive on liquids, which encourages competition between glass and plastic containers, this ban may be extended throughout all of Italy by 1991, and Germany reportedly is considering a similar law.

iii. Barriers are not easily eliminated

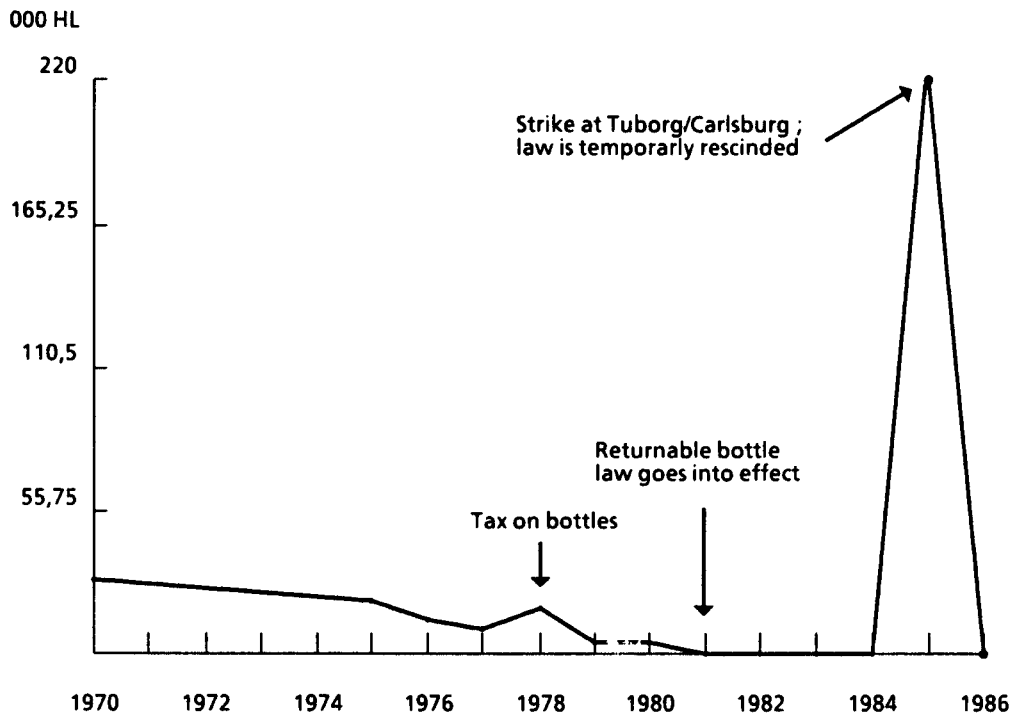
Legal attempts to remove barriers have had some striking successes--such as Cassis de Dijon, and Reinheitsgebot--but in many cases, manoeuvres by the enforcing states can drag out the process for years. The history of the recycling laws in Denmark provides a telling example.

Example : Recycling laws in Denmark

In 1977, the Danish government enacted decree 136, which banned the imports of soft drinks in non-refillable containers. Three years later, the European Commission ruled against decree 136 --reasoning that it violated article 30 of the Treaty of Rome--and the Danish government promptly replaced it with decree 397, which banned the sale of soft drinks and beer in non-refillable bottles, imported or domestic. While on the surface it would appear this does not discriminate against importers, the transportation costs of two-way bottles makes them impractical over about 200 km--a distance easily surpassed when exporting to Denmark.

Beer imports into Denmark had been dropping since the mid-1970s. In 1981, after article 397 was enacted, what low level of beer imports that remained was further reduced by a factor of 10 (see Exhibit 5). Denmark has the lowest level of beer imports of any member of the EEC.

Exhibit 5 Beer imports into Denmark



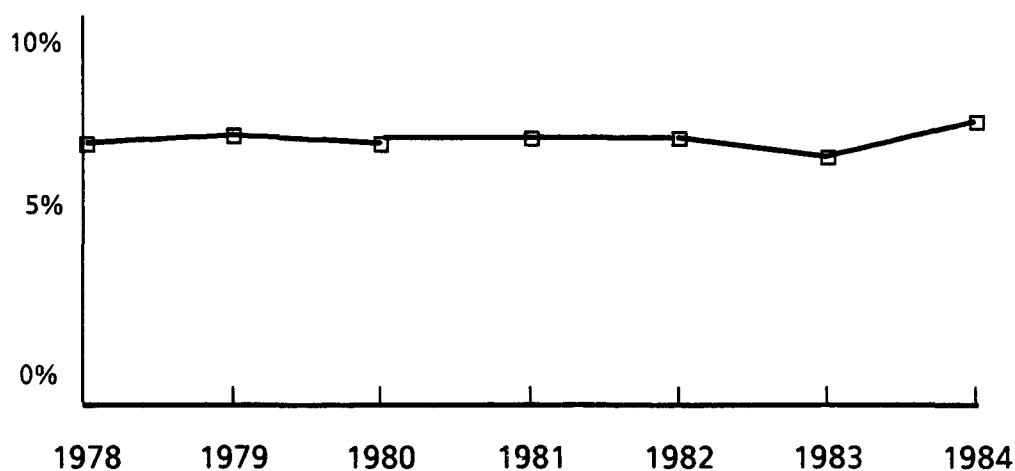
Source : CBMC.

In 1982, the European Commission opened a new case against decree 397, but before it could be referred to the European Court, the Danish government introduced decree 95, which modified decree 397 by permitting the sale of non-refillable containers, but only in limited volumes and only if a return and mandatory deposit system on non-refillables was introduced. Decree 95 went into effect in April 1985. This last substitution of one decree for another has succeeded in keeping the case out of court at least to the date of this writing.

iv. Partially as a result of trade barriers, intra-EEC trade has been stable.

Intra-EEC food imports represent about 6% of consumption in the community (see Exhibit 6). This proportion has been stable over the years. It can be surmised that if it were not for trade barriers, the relative amount of intra-EEC trade would be higher.

Exhibit 6
Intra EEC imports as a proportion of consumption



Source : Eurostat : Food, beverages and tobacco imports of EEC 9.

In theory, Article 30 of the Treaty of Rome ensures free trade among member states of the EEC. In practice, this is not fully the case. What, therefore, is the cost of "non-Europe" ?

B. Benefits of removing barriers

i. The direct benefits of removing trade barriers are significant

The total direct benefits of removing trade barriers in the ten product sectors covered are estimated to be 500-1000 million Ecus per year. This total represents 1% to 2% of total food sales (at manufacturers' prices) or 2% to 3% of total industry value added. Such a savings corresponds to a one- to-two-year productivity gain for the sectors concerned. (It is appropriate to state the benefit in terms of a productivity gain, because it is a benefit that occurs year after year.)

a.) Direct benefits result from three types of cost reductions

Quantifiable direct benefits are classified into three categories:

- use of less expensive ingredients,
- reductions in labeling or packaging costs,
- elimination of "red-tape".

Use of less expensive ingredients is the principal source of quantifiable direct benefits engendered by the removal of barriers. The restriction against the use of soft wheat in pasta in Italy demonstrates such a costs savings.

Example : Pasta purity law

Pasta can be made from two types of wheat--duram or soft. In Italy, France and Greece, pasta made from soft wheat is not permitted. In other countries--and in Italy during the 1960s before the law was established--pasta can be made from both duram wheat and from a combination of duram and soft wheat, the latter being less expensive by 10%-15%. Industry experts believe that if the Italian law were removed, the penetration of the soft/duram combination could reach 10%-20% of total pasta consumption, reaching 2 billion Ecus by 1992. Taken together, these estimates suggest that the direct cost savings from the substitution of a less costly ingredient could be 20-60 million Ecus in 1992. The direct cost savings from removing similar pasta purity barriers in France and Greece increase the total net benefit to 35-100 million Ecus per year.

Net benefits due to the substitution of less costly ingredients are also significant for beer purity laws and for laws concerning the use of vegetable fats in ice cream and chocolate.

The second type of direct cost savings is the reduction in labeling and packaging costs. In most cases, however, resulting cost savings are comparatively low, with one exception--the restriction against plastic containers in some 150 Italian municipalities. It is estimated that, due to the 10% to 30% cost savings realized by using plastic bottles instead of glass, removal of this barrier could engender a savings of 5-15 million Ecus by 1992. In addition, if the ban on plastic is extended throughout all of Italy, the cost savings could rise to 115 million Ecus. As an order of magnitude, if these savings were all passed on to consumers, it would be the equivalent of a 10% rebate on every bottle of mineral water purchased.

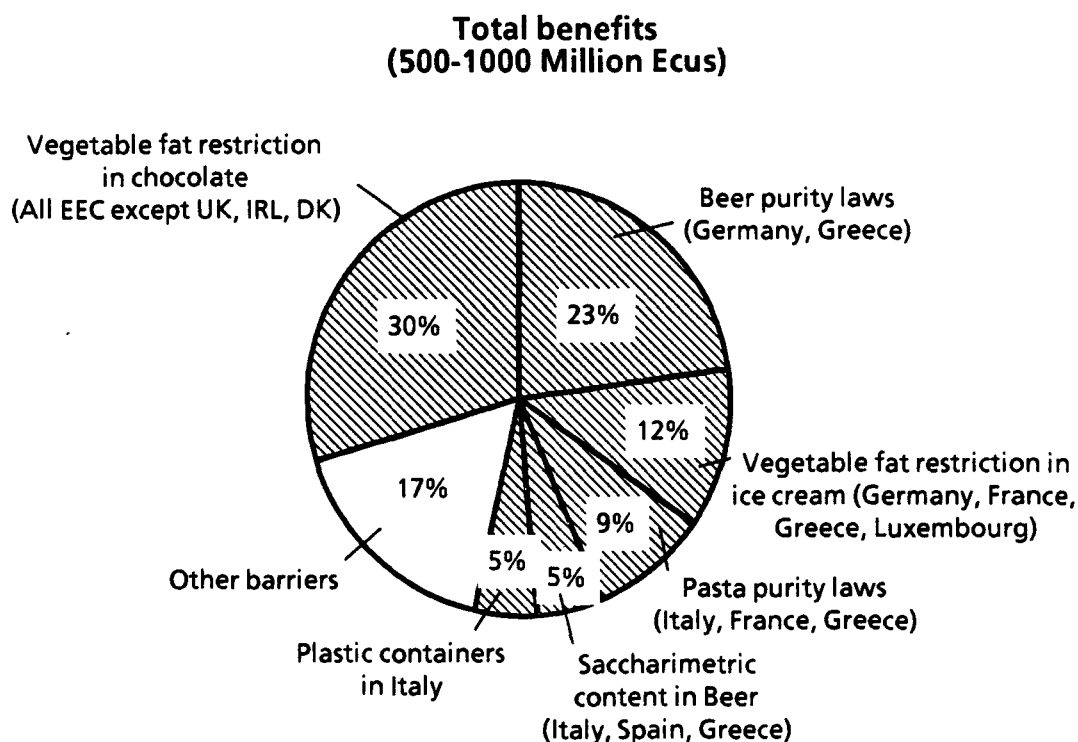
Potential cost savings to producers from using a common EEC label for exports are minimal, mainly because producers/exporters would choose to use country-specific labels, even without the various restrictions, for marketing reasons. As one exporting producer put it, "Foreign languages in Spain are not well understood. We would always use a Spanish label to make sure our product is understood and stands out." Another producer made a comment echoed by many others polled on this and other barriers: "The requirement to have a separate label for Spain is insignificant compared to the other marketing and distribution obstacles we face."

The third type of cost saving is the elimination of "red tape" surrounding the importing process. These cost savings are, in general, difficult to quantify. However, an estimation is possible regarding the double inspection that spirit imports must undergo by Spanish customs authorities. While the total quantifiable benefit is small --0.6 million Ecus per year-- it represents just over 1% of the value of spirit imports, and thus reduces the attractiveness to spirit producers of mounting an export campaign to Spain.

b) Immediate direct benefits are concentrated.

Quantifiable direct benefits are highly concentrated within the ten product sectors studied. Over 80% of quantifiable benefits could be generated by the removal of six types of barriers (see Exhibit 7).

Exhibit 7
Concentration of immediate direct benefits among specific barriers



The restrictions on vegetable fat in chocolate and ice cream alone account for over 40% of the estimated benefits. Other high-impact barriers are the purity laws for beer and pasta, the saccharimetric content restrictions in beer, and restrictions on the use of plastic containers for mineral water and soft drinks in Italy.

c) Deferred direct effects are low.

Reductions in most of the pilot barriers considered would stimulate imports. Any increase in imports has a positive influence on the degree of competitive rivalry in an industry. It is not surprising, therefore that an increase in competition would result from eliminating eleven of the fifteen pilot barriers. The subsequent effect on end-user prices is more difficult to estimate, and is tempered by the fact that for many of these industries, profit margins are so low that significant price reductions are unlikely. This is the case, for example, for beer in Germany and for chocolate in France.

The effect on scale economies--which is the second type of deferred direct effect--is less frequent across the sample of pilot barriers. Removing barriers would have an appreciable effect on scale economies for only three out of the fifteen pilot barriers. The Danish recycling law provides an example of how scale economies could be achieved. Very simply, if the requirement to use refillable bottles were dropped, beer exporters into Denmark could avoid the down-time in their bottling plants that is necessary to switch to refillable bottles.

d) Removing barriers could engender some costs.

For each pilot barrier analyzed, consideration was given to possible costs that would be incurred by its removal. In all cases, the types of costs centered on production, such as labor or raw material suppliers. For example, if aspartame could be used in French soft drinks, sugar producers might suffer from reductions in demand. For two reasons, however, the net impact of these costs is arguably zero. First, many of the suppliers affected are raw material producers outside the EEC. Cocoa producers and some sugar producers fall into this category. From a pure EEC standpoint, then, these effects would occur outside the Community, and can be assumed to have a negligible impact on EEC social welfare (and might, in fact, have a positive impact, notably on the EEC balance of payments). Second, for affected suppliers within the EEC, their loss is another's gain, so it can be argued that what is at stake is the distribution of social welfare, not the absolute size. If beer imports from the Netherlands into Germany were to displace some German brewery workers, their local unemployment would be balanced by increased employment in the vicinity of the exporting Dutch breweries, whose volumes would increase.

ii. The largest benefits from removing barriers are the indirect effects

Although quantifiable direct benefits are significant, amounting to 2% to 3% of total industry value-added, it is in the area of indirect benefits where the removal of trade barriers could have the most profound impact. In total, one third of the fifty product/markets ⁽²⁾ considered in the study would be significantly affected, including :

- Beer in Germany, Italy and Spain
- Pasta in Italy and France
- Soft drinks in France and Spain
- Chocolate in Germany, France, Italy and Spain
- Ice cream in Germany and France
- Mineral water in Germany and Italy
- Spirits in Spain.

a) The most frequent benefit is the broadening of consumer choice

The broadening of consumer choice, emerged as the most frequent indirect effect. Removing barriers would significantly increase consumer choice for sixteen of the fifty product/markets considered. In ten cases, this would result from an increase in imports. Beer imports into Germany, for example could increase from 1% to 5% of total consumption as the German market opens up to large European breweries in close proximity to key population centers. In six other cases, consumer choice could be enhanced through product-line extensions by existing domestic producers. Spanish chocolate producers might begin substituting high-grade vegetable oils, mainly palm oil, for butter fat in selected lines of chocolate products if that barrier were removed.

(2) Formed from the ten product sectors and the five largest EEC countries.

Product/markets that could benefit from a particularly significant increase in consumer choice are summarized below:

<u>In these product/markets...</u>	<u>...Consumers would be able to consume the following products</u>
Soft drinks in France and Spain	Diet soft drinks
Pasta in Italy and France	Less expensive pasta products
Beer in Germany	Wider range of imported beers
Beer in Italy and Spain	Lighter beers

b) Ten product markets could experience a significant increase in trade

Closely related to the increase in consumer choice is the indirect effect of an increase in trade. While some trade increase would result from the removal of nearly every barrier studied, ten product/markets would experience moderate to large increases in imports. In two sectors, the increase could be substantial, with imports rising from negligible levels to 3%-5% of domestic consumption. These are the beer market in Germany, discussed above, and the pasta market in Italy, where removing of the pasta purity law could engender an influx, at least in the short term, of pasta made from soft wheat from neighboring countries.

c) Removal of barriers could improve the efficiency of selected industries

Improvement of the efficiency of a domestic industry is a third important indirect effect of removing barriers. Nine out of fifty product/markets should experience moderate to large effects, including industry restructuring and consolidation.

Removing trade barriers in the Italian pasta industry and the German beer industry could significantly increase the efficiency of these sectors by reinforcing the industry consolidation currently taking place.

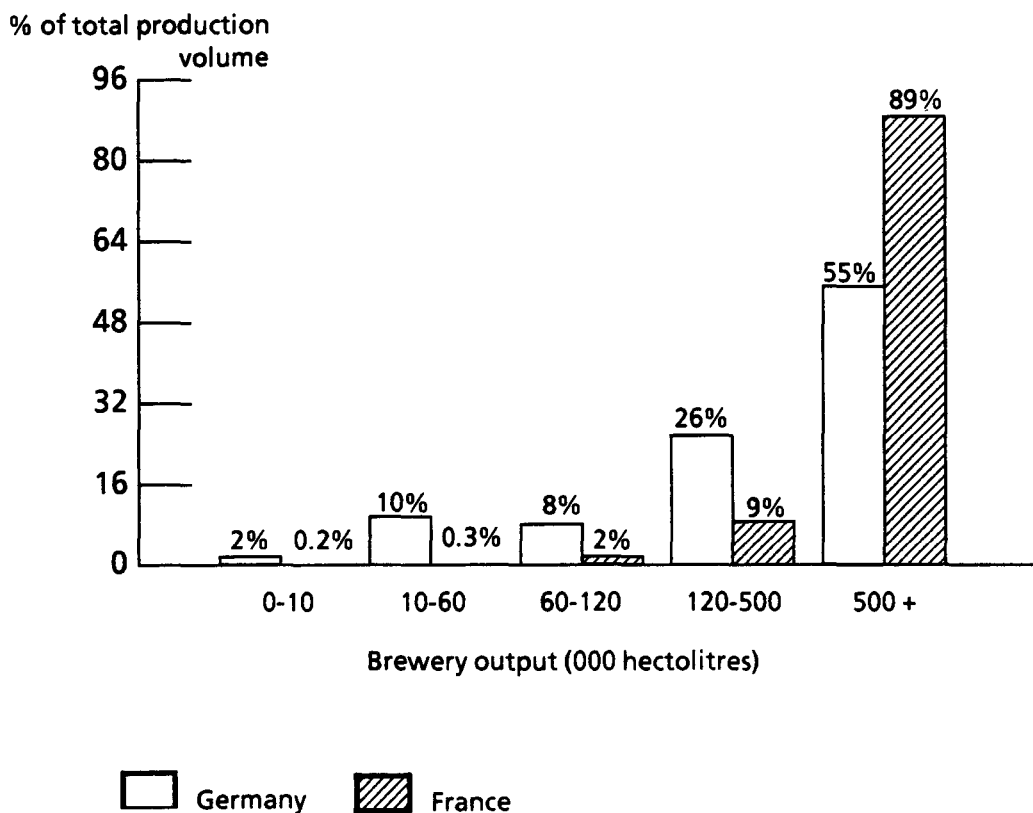
Example: Consolidation of the German beer industry

The beer industry in Germany provides a striking example of how the removal of a barrier could help further consolidate an industry already going through consolidation. There are currently about 1200 breweries in Germany, accounting for 75% of all breweries in the EEC. Moreover, two thirds of these breweries are located in Bavaria, where the tradition of drinking only locally brewed beer is strong.

As might be expected, the German beer industry is consolidating; each year about 3% of the breweries are closed. Some breweries are rumored to be trying to establish the first national branded beer in Germany through acquisition and consolidation of smaller breweries.

The relative fragmentation of the German beer industry is demonstrated by a comparison with that of France, shown in Exhibit 8.

Exhibit 8 Distribution of beer production by brewery size



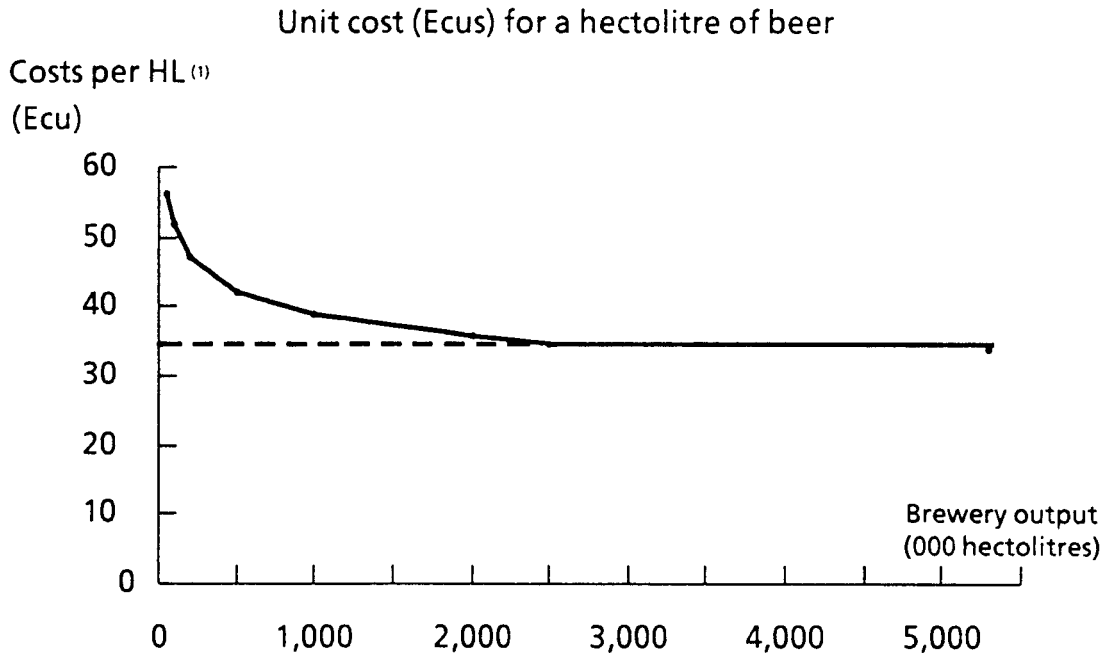
Source : CBMC.

In Germany, 45% of output is produced by breweries whose volume is less than 500,000 hectolitres, compared to just 11% for France.

With the relaxation of the purity law, the consolidation process in the German brewing industry will be augmented. It is estimated that foreign breweries will begin exporting to Germany, which could displace up to 20 small and medium sized breweries. Domestic producers, sensing this threat, could step up their consolidation efforts, which could lead to the displacement of an additional 30 breweries. Structural changes in the German retail trade could reinforce these effects, as growing retail chains seek out producers willing to supply branded beer on a nationwide basis and promote it with media advertising.

Such a consolidation will most likely affect the medium-sized German breweries (100,000 - 500,000 hectolitres). Small breweries will probably be able to continue servicing local market niches, whereas medium and some larger breweries will be too large to play a niche strategy and yet too small to benefit from the considerable scale economies in beer production (see Exhibit 9).

Exhibit 9 Economies of scale in beer brewing



Estimation :

- 5.300 KHL is minimum efficient scale for a brewery (Scherer F.M. ch. 1. (M75) The Economics of multiplant operations, Cambridge (MA))
- 5% cost disadvantage for a brewery 1/3 this size
- Cost data for smaller breweries : Schwalbach; Weinenstephan ; interviews.

⁽¹⁾ Production, sales and marketing, administration ; transportation costs are not included.

Given these scale economies, the industry restructuring will ultimately generate a cost savings, as a larger proportion of beer will be produced by scale-efficient breweries. In total, the net benefits from removing the German purity law are on the order of 100 to 200 million Ecus per year, or 3% to 7% of beer industry value-added.

d) Extra-community effectiveness is the least significant effect

The least important indirect effect from the removal of trade barriers would be an increase in extra-community effectiveness, where this is taken to mean the competitive position of EEC food companies vis-a-vis their non-EEC counterparts. In two product/markets--mineral water in Italy and beer in Germany--removing trade barriers could possibly strengthen the domestic country's ability to compete in the long term. In both cases, the market is highly fragmented, and a global producer does not yet exist. An industry consolidation, resulting in part from the removal of barriers, might produce large competitors capable of developing strong competitive positions within and outside the EEC.

Pursuing further the question of extra-community competitiveness requires an evaluation of how EEC food companies are positioned competitively within what could become the largest unified market in the world--the EEC. This question forms the basis of the next and final chapter.

C. "Missed opportunities" and EEC competitiveness

Exploring the question of missed opportunities required an expanded scope of study beyond the product sectors and barriers examined so far. The primary conclusion from this broader view is that there could be significant missed opportunities in not creating a single market in the foodstuffs industry, and that removing trade barriers is a necessary (but not sufficient) prerequisite for capitalizing on these opportunities.

i. The world food industry is consolidating, and global food groups are being created.

The last ten years have been a remarkable period for the world food industry. From 1976 to 1986, over a hundred major mergers of \$50 million or more took place in the food industry. Moreover, the pace of merger activity seems to be quickening. From 1984 to 1986, nine acquisitions of over \$ 1 billion occurred:

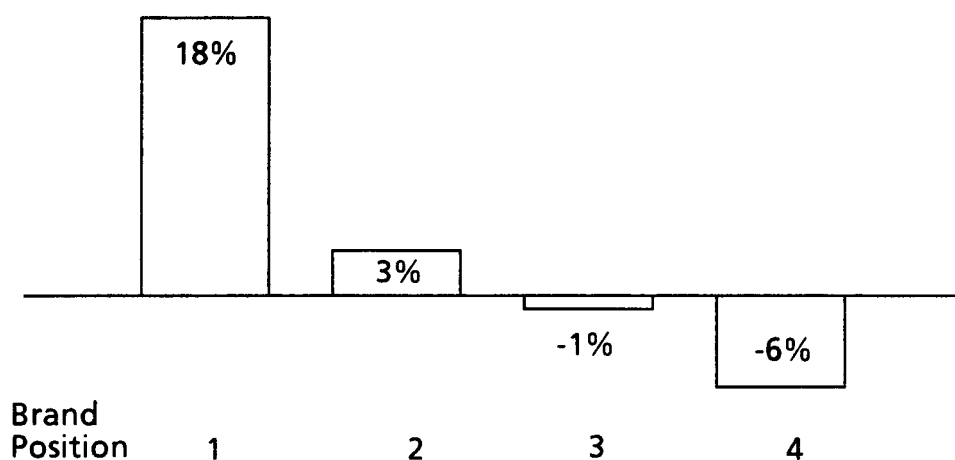
Date	Acquiring company	Country	Sector	Target company	Country	Sector	Price (\$ million)
5/84	Beatrice Foods	USA	Diversified food products	Esmark	USA	Diversified food products	2840
9/84	Nestlé	Switzerland	Diversified food products	Carnation	USA	Dairy ; diversified food products	3000
5/85	RJ Reynolds	USA	Tobacco	Nabisco	USA	Biscuits ; canned foods	4907
9/85	Phillip Morris	USA	Tobacco	General Foods	USA	Diversified food products	4750
12/85	Hanson Trust	UK	Diversified products	Imperial Group	UK	Food and tobacco	2800
1/86	Guinness	UK	Brewery	Distillers	UK	Spirits	3481
4/86	Allied Lyons	UK	Diversified food products	Hiram Walker	UK	Spirits	1860
6/86	Coca-Cola	USA	Soft drinks	BCI Holdings	USA	Bottler	1000
7/86	Coca-Cola	USA	Soft drinks	JTL Corp	USA	Bottler	1400

Global food corporations are being formed through acquisition of increasingly larger companies. In these days of debt financing, nearly any large food company could become the target of a takeover bid.

US companies, by and large, have led this consolidation trend, and they continue to dominate the world food industry. Over thirty US food companies have annual sales of \$1 billion or more. With the exception of Unilever and Nestlé, the world's top ten food groups are US-based firms. Given their importance in the food industry, and given the comparable size of their home market to that of the EEC, it is useful to examine more closely the evolution of the US food industry and the strategies of major players.

In the last five years, US food companies have been pursuing a two-fold strategy in their domestic market: become the dominant brand in a product sector, and achieve nationwide coverage. The logic underlying this strategy is straightforward. Within a product sector, profitability of brand leaders is greater than that of "second-tier" brands (see Exhibit 10), and nationwide coverage maximizes volume over which fixed costs (such as advertising, R&D, and marketing)--critical for the food industry--can be amortized, leading to further increases in profitability:

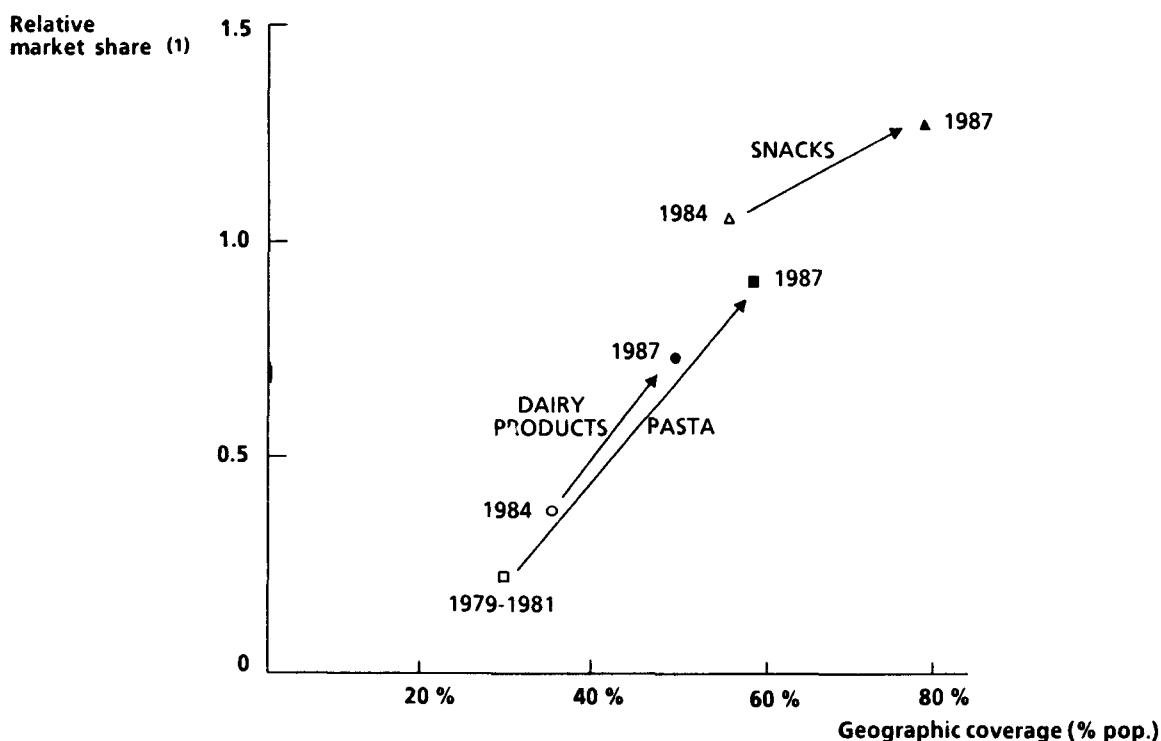
Exhibit 10
Return on investment for different brand positions



Source : PIMS Database, Strategic Planning Institute, Cambridge, Mass, USA.

In recent years, US food groups have been reevaluating their product portfolios. Rather than dominating a region with a diverse range of unrelated products, they are now focusing on achieving nationwide brand dominance with a selected product range. As a result, US companies have been acquiring new companies and, more importantly, "swapping" business units with each other to realize their dual objectives. One top-ten US food manufacturer is a case in point (see Exhibit 11):

Exhibit 11
Portfolio adjustments by a US food manufacturer



The company's two strategic thrusts are to dominate a selected number of product sectors and achieve nationwide coverage. In the last several years, through acquisition and "swapping", it has established leadership in snacks, dairy products, and pasta.

(1) Relative market share for a company is equal to its market share divided by the market share of the market leader. If the company is the market leader, the relative market share is equal to its market share divided by the share of the next largest competitor.

Statements in its 1986 annual report underscore the brand dominance/nationwide strategy :

"We are expanding our leading snack brands...towards nationwide distribution."

"We purchased (a leading dairy company)...picking up many well-known brands and broadening our geographic reach substantially"

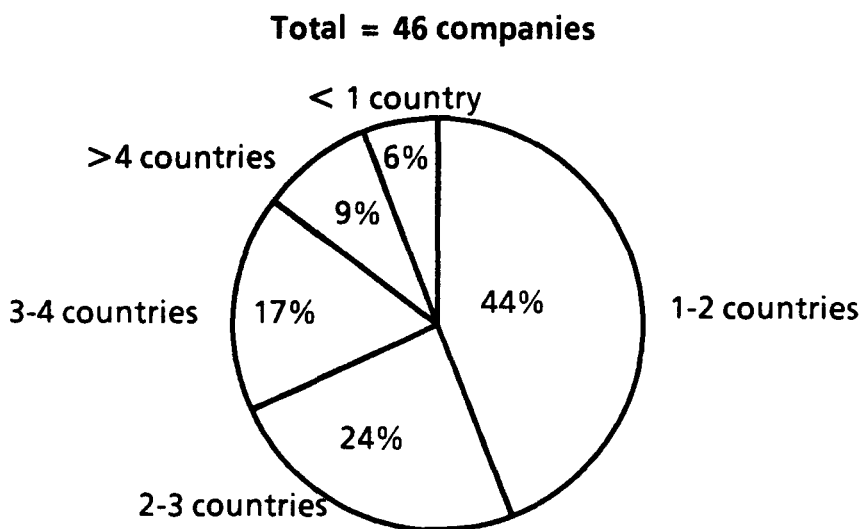
"We've gone most of the way... in launching our flagship... pasta brand across the country."

Given this trend in the US, what is the current trend within the EEC among European food groups ?

ii. European food companies are nationally focused

By contrast to the US experience, EEC companies operating in the Common Market do not follow an "EEC-wide" strategy. Out of a sample of 46 major EEC-based food companies, half have a presence in only two or less countries.

Exhibit 12
Average major countries per product line
for EEC-based⁽¹⁾ companies



(1) Major countries are EEC-5: France, Germany, Italy, Spain, UK. ; EEC-based companies are those whose world headquarters are in the EEC.

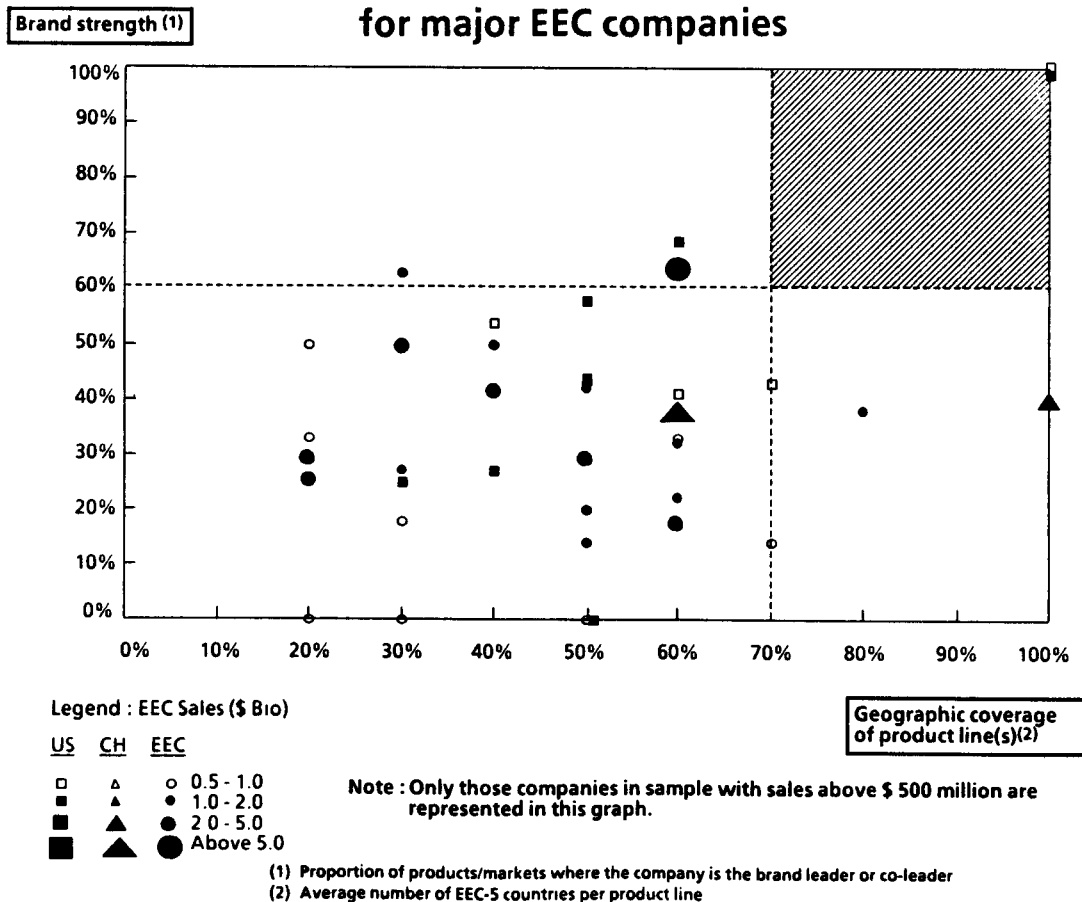
Only about one in ten companies follows an EEC-wide strategy with a presence in the five largest EEC countries. EEC food companies have by and large remained nationally focused, which, in the broader context of the Common Market, translates into regional coverage. Moreover, EEC companies tend to diversify into new product sectors within their home country, rather than diversifying across countries in a limited number of product categories.

iii The European food industry will likely undergo a restructuring and consolidation

As a result of a national focus, few major EEC companies enjoy high brand strength with wide geographic coverage. Instead, many companies operate in one or a small number of countries, with both strong and weak brand positions.

Exhibit 13 arrays thirty-eight large EEC food companies across two dimensions: geographic coverage and brand strength. The shaded area in the upper right corner represents the desirable position of high brand strength and wide geographic coverage. This is the comparable position that US firms have been targeting in the North American market.

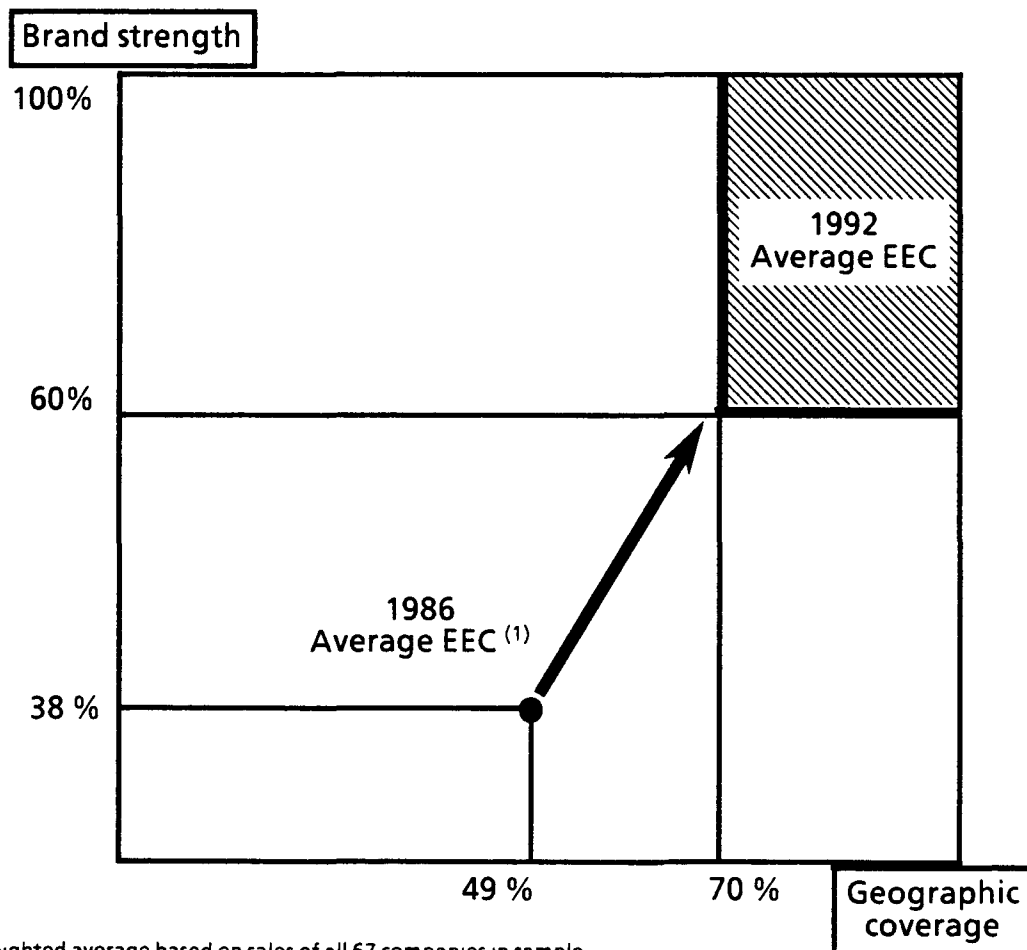
Exhibit 13
Brand strength versus geographic coverage
for major EEC companies



It is apparent from Exhibit 13 that very few companies operating in the EEC have reached the desirable quadrant, where they would have a dominant brand position in most or all major EEC countries. Obvious historical reasons account for this result. Differences in taste, culture, and language--not to mention the national characteristics of the retail trade--have all explicitly contributed to the national focus, and thus to the relative fragmentation of the EEC food industry. But additional, less tangible factors, such as trade barriers and governmental "protection" of domestic companies from foreign competition and control, have also played a role. With the creation of a single market in 1992, all of these elements will be decreasing in importance.

As the single market is increasingly realized, it is reasonable to expect EEC food companies to seek to substantially increase both their brand strength and their geographic coverage to reach the desirable position. Exhibit 14 plots the average food company operating within the EEC and indicates the relative increases required across the two dimensions.

Exhibit 14
1986 Average position for companies operating in EEC markets



(1) Weighted average based on sales of all 67 companies in sample.

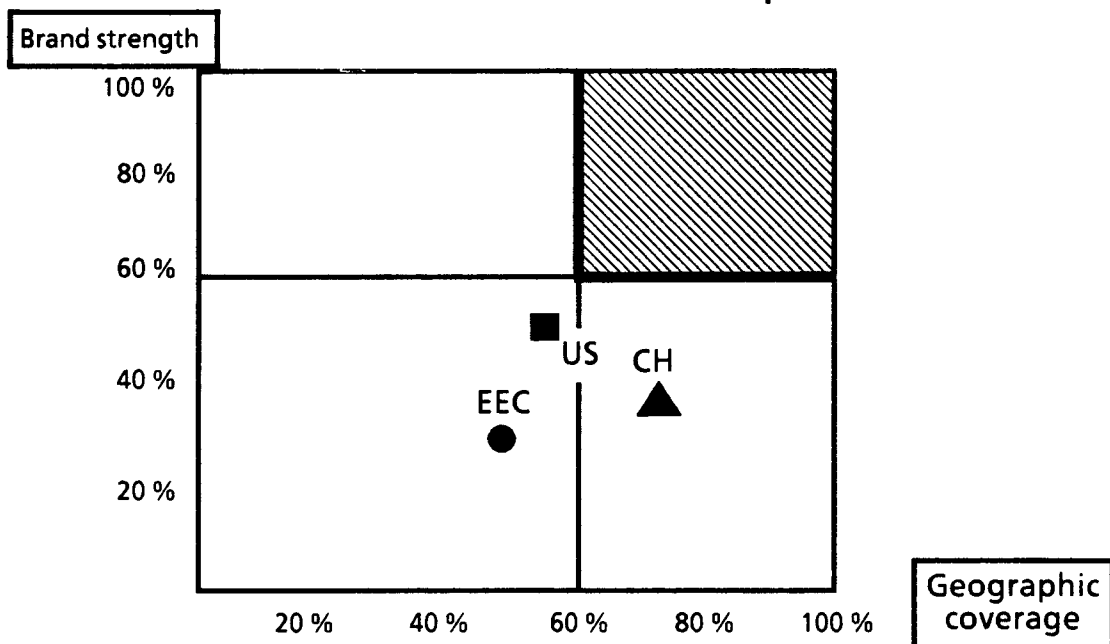
Such movements, however, could trigger--as they did in the US--a major consolidation and restructuring of the food industry. EEC companies will begin initiating mergers or "swaps" of competing companies within their home country as well as across borders to achieve brand dominance and broaden geographic coverage (1).

Given the potential for consolidation of the food industry, complex questions emerge: Which companies seem poised to undertake such a restructuring? Within the Common Market, how do EEC-based food companies compare with their non-EEC counterparts?

iv. EEC-based food companies may get left behind

The data suggest that EEC-companies are weaker than non-EEC companies, on the EEC market itself. This is true from a brand strength and a geographic coverage standpoint. In Exhibit 15, the average score for US, Swiss, and EEC food companies operating in the EEC are plotted on the brand strength/geographic coverage matrix.

Exhibit 15
Brand strength versus geographic coverage
for EEC versus non-EEC based companies (2)



^ (1) Interestingly, this scenario for the future of the European food industry is not inconsistent with the findings of Jürgen Miller and Nicholas Owen. In their article "The effect of trade on plant size", Miller and Owen found a positive correlation between growth in trade and the size of plants in twelve German manufacturing industries. However, it should also be noted that such a scenario is only one possible result. Many factors specific to the European market, such as different cultures, tastes and languages could mitigate such an outcome.

(2) Weighted average based on sales.

* M. J. SCHWALBACH éd., Industry Structure and Performance, Sigma Berlin

Both US and Swiss companies operating in the EEC are closer to reaching the desirable quadrant than domestic companies. Though they represent one third of the companies in the sample, non-EEC companies control nearly half of the strong brand positions within major EEC markets. They account for over 60% of total equity devoted to the food business. Non-EEC companies have also been very active in making food acquisitions within the Common Market.

It appears, therefore, that in the context of a restructuring of the EEC food industry, non-EEC firms could be in a relatively stronger position compared to EEC-firms, and thus could become relatively more successful than their EEC counterparts.

iv. Removal of trade barriers is a necessary but insufficient condition for ensuring EEC competitiveness.

While removing trade barriers is a necessary prerequisite for achieving the benefits the "1992 Common Market", and for ensuring the continued competitiveness on a global scale of the EEC food industry, it is not enough.

The removal of trade barriers will have a direct benefit on the order of 2%-3% of total industry value-added. Indirect benefits will be significant, and will serve to increase consumer choice and improve the efficiency of selected industries.

The existence of trade barriers, both those that were the subject of this study as well as others, has also served to protect potentially weak domestic companies, and has encouraged strong companies to expand only domestically rather than attempt cross-border expansion. These results of trade barriers have reinforced the relative fragmentation of the EEC food industry. Removing these barriers should decrease or eliminate these tendencies.

However, other critical factors have a major impact on achieving the full benefits of the "1992 Common Market". Among the most important are rules on competition, and in particular merger and acquisition laws. If there were to be a natural trend towards consolidation in the food industry, and at the same time mergers were restricted, EEC firms could be prevented from exploiting the full benefits of the Common Market. Given that EEC firms are relatively behind their non-EEC counterparts, such restrictions could widen this gap.

Regulations on financial markets must also be considered. Global companies no longer rely on local financing, but seek funds on a global basis. Restrictions in cross-border financing could serve as a further impediment to EEC companies seeking to expand across borders.

Finally, the attitudes of member governments are very important. In many cases the attitudes are a deciding factor in the success or failure of a major cross-border merger. Prevailing nationally-based attitudes could be a major (albeit invisible) obstacle to EEC companies seeking to expand their geographic coverage and grow to reach a global scale.

13.

Le "Coût de la Non-Europe"
des produits de construction

B.I.P.E.
avec ses partenaires d'Euroconstruct



Bureau d'Informations et de Prévisions Économiques

**LE "COUT DE LA NON-EUROPE"
DES PRODUITS
DE CONSTRUCTION
Note de synthèse**

Etude réalisée pour le compte de la Commission des Communautés Européennes
par le Département Construction du B.I.P.E. associé à ses partenaires du
groupe européen de prospective EUROCONSTRUCT

MARS 1988

SOMMAIRE

	page
INTRODUCTION.....	1
I - DONNEES MACRO-SECTORIELLES: MARCHES ET ECHANGES....	3
I.1 - Marchés nationaux.....	3
I.2 - Commerce extérieur.....	3
II - ANALYSE DES BARRIERES.....	6
II.1 - Méthode de travail et résultats d'ensemble.....	6
II.2 - Barrières liées aux normes, agréments et avis techniques.....	6
II.3 - Obstacles de nature socio-économique.....	10
III - SCENARIO D'ACHEVEMENT DU MARCHE INTERIEUR.....	12
IV - QUANTIFICATION DES EFFETS.....	16
IV.1 - Méthodologie.....	16
IV.2 - Effets directs.....	18
IV.3 - Effets indirects.....	21
CONCLUSION.....	24
ANNEXES	
Annexe 1: Nomenclature des produits de construction...	26
Annexe 2: Produits sélectionnés pour les enquêtes.....	27

INTRODUCTION

1 - La spécificité des produits de la construction suggère, a priori, deux argumentations contradictoires quant à l'ampleur du coût de la Non-Europe dans ce domaine.

- La première considère la très forte dimension culturelle de la filière construction. Les modes de vie, la répartition des revenus, les préférences esthétiques imposent des particularismes nationaux, régionaux, parfois locaux dans le mode de construire. Chaque ouvrage, et il s'agit toujours d'un prototype, est inséré dans un tissu réglementaire extrêmement contraignant. Pour un produit, passer une frontière, c'est changer d'univers sociologique, économique, réglementaire et technique.

Ce mouvement est de plus particulièrement difficile pour les produits de construction qui n'ont pour la plupart pas connu la substitution de l'intelligence à la masse et au volume constatée dans d'autres secteurs: un seul logement pèse généralement plus de 100 tonnes. On connaît beaucoup d'exemples de prix de produits manufacturés destinés à la construction qui doublent tous les 150 kilomètres en raison des frais de transport.

Les tenants de cette thèse démontrent ainsi que les producteurs locaux bénéficient sur leur marché intérieur d'un avantage comparatif dont les entraves visées par le Livre Blanc ne sont qu'un aspect marginal.

- L'autre argumentation privilégie la dimension exceptionnelle du marché final de la construction dont les 320 milliards d'Ecus représentent, selon l'expression d'un grand industriel, le véritable marché de l'avenir. Pour un industriel qui entre sur un nouveau marché national, le potentiel de chiffre d'affaires est très élevé. De même, "l'industrialisation" du processus de production et la pénétration de l'informatique n'en sont, dans cette filière, qu'à la première phase de développement.

Par ailleurs, les flux d'importation et d'exportation de produits de construction, qui ne sont pas tous pondéreux (équipements électriques, produits manufacturés en plastique et en bois), sont loin d'être négligeables et progressent régulièrement. Les taux de pénétration (importations/marché intérieur) atteints en 1986 sont de l'ordre de 15% en Italie, 20% en RFA, 30% en France et 50 % au Royaume-Uni.

En l'absence d'entraves, il y aurait donc à la fois un potentiel et une possibilité de développement des échanges des produits de construction entre les pays européens. La perspective de

l'abolition des entraves justifierait les stratégies de conquête du marché européen que s'apprêtent dès maintenant à engager la majorité des industriels rencontrés.

2 - Pour évaluer le coût de la Non-Europe, les instituts membres d'EUROCONSTRUCT se sont efforcés de surmonter la grande difficulté due à la diversité des produits et des situations locales en enquêtant dans les 12 pays de la Communauté un échantillon de plusieurs centaines d'entreprises. Une sélection d'une cinquantaine de produits a résulté d'un compromis difficile entre la nécessité d'une couverture typologique complète des produits utilisés dans la construction et celle d'un choix de produits pour lesquels l'ouverture du marché européen représente un enjeu économique réel.

C'est sur cette base qu'ont été valorisées les variables exogènes des modèles économétriques utilisés par la Commission des Communautés Européennes pour mesurer le coût de la Non-Europe. Les difficultés méthodologiques de cette démarche sont nombreuses, la plus évidente étant l'extrapolation au niveau macro-économique des informations essentiellement qualitatives recueillies au niveau micro-économique.

3 - Cette synthèse comporte quatre parties:

- La première partie établit une évaluation des principales données macro-sectorielles du marché et du commerce extérieur des produits de construction, à partir des informations très fragmentaires disponibles sur un "secteur" qui n'est individualisé dans aucune des sources statistiques existantes.

- La deuxième partie évalue l'importance relative de toutes les entraves qui s'opposent à l'achèvement du marché européen des produits de construction; elle décrit succinctement les entraves les plus lourdes et les plus spécifiques du secteur.

- La troisième partie présente le scénario d'achèvement du marché européen des produits de construction que nous avons retenu; elle précise les échéances de disparition des entraves à la libre circulation des différentes catégories de produits.

- La dernière partie consacre un chapitre à chacun des deux types d'effets dont les services de la Commission ont souhaité obtenir une quantification distincte: les effets directs qui découlent de la répercussion mécanique sur les prix des économies permises par la suppression des entraves; les effets indirects que l'on peut attendre des efforts de rationalisation et des nouvelles stratégies européennes qu'engageront les entreprises pour répondre à l'accroissement de la pression concurrentielle et aux opportunités créés par la suppression des entraves.

I - DONNEES MACRO-SECTORIELLES: MARCHES ET ECHANGES

I.1 - MARCHES NATIONAUX

L'estimation globale des marchés nationaux (consommation intérieure) des produits de construction a été effectuée de la manière suivante:

-la part des consommations intermédiaires de produits de construction de la branche construction (bâtiment et travaux publics) a été évaluée à partir des tableaux entrées-sorties 1980 des 12 pays de la Communauté (source: Eurostat);

-les coefficients techniques ainsi calculés ont été appliqués aux estimations EUROCONSTRUCT concernant la production de la branche B.T.P. des 12 pays de la Communauté en 1985.

Pour les 5 pays sur lesquels a été effectuée une quantification des effets directs et indirects de l'achèvement du marché européen, les marchés nationaux des produits de construction ont été décomposés selon des nomenclatures plus fines en 5 et 60 postes (cf. annexe 1), à partir des informations partielles obtenues auprès des fédérations professionnelles des industries concernées.

Notre évaluation du marché des produits de construction de l'Europe des 12 s'établit à 110 milliards d'Ecus, soit 29 % du montant total de leur production estimée à 380 milliards d'Ecus (1). La répartition en valeur des consommations intermédiaires de produits de construction des entreprises de BTP dans les 4 plus grands marchés (RFA, Italie, France, UK) est la suivante :

.produits à base minérale non métallique:	43 %
.produits à base métallique.....:	22 %
.produits à base de bois.....:	14 %
.produits à base chimique ou textile....:	13 %
.produits d'équipement électrique.....:	8 %

I.2 - COMMERCE EXTERIEUR

Notre évaluation des échanges extérieurs de produits de construction est basée sur une exploitation spécifique des données publiées par l'OCDE pour l'année 1985, par application de

(1) dont 320 milliards d'Ecus de production des entreprises de construction et 60 milliards d'Ecus d'achats directs des clients et d'autoproduction des entreprises hors BTP et des ménages.

BIPE/EUROCONSTRUCT

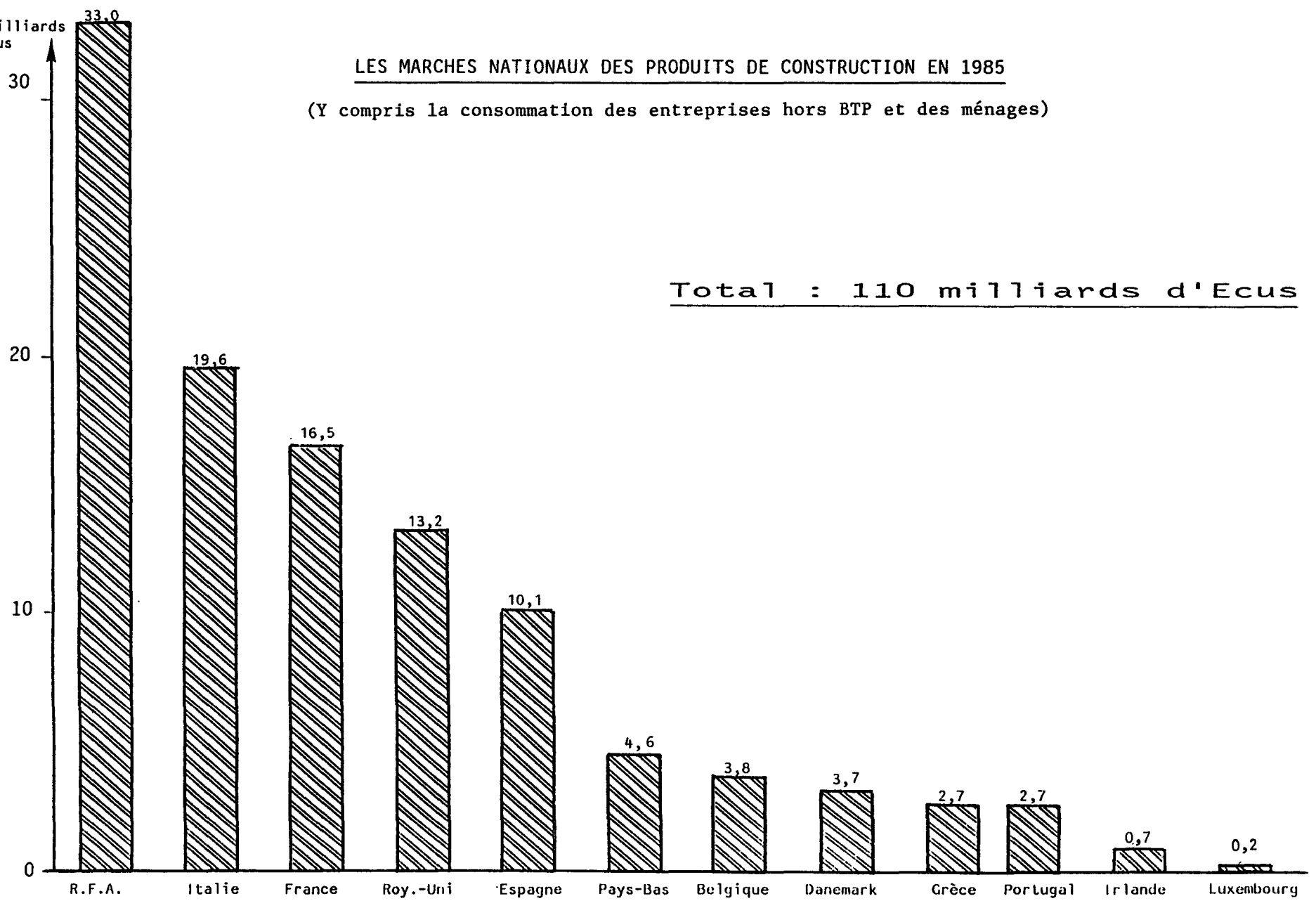
En milliards
d'Ecus

LES MARCHES NATIONAUX DES PRODUITS DE CONSTRUCTION EN 1985

(Y compris la consommation des entreprises hors BTP et des ménages)

Total : 110 milliards d'Ecus

4



coefficients techniques BTP à 11 postes de la nomenclature à deux chiffres (CTCI Rev 2).

Des recoupements ont été effectués avec les chiffres fournis pour le secteur bâtiment par le ministère de l'Équipement de la France, seul pays ayant à notre connaissance effectué une étude détaillée de ses échanges de produits de construction ("tableau de bord bâtiment des industries de la construction 1985-1986").

Le commerce extérieur des 5 plus grands pays est à peu près également réparti entre la CEE et les pays hors CEE, mais il est pratiquement équilibré avec la CEE (taux de couverture = exports/imports = 1,1), alors qu'il est largement bénéficiaire vis-à-vis des pays hors CEE (taux de couverture = 1,6). Cette situation d'ensemble recouvre des disparités assez importantes: les soldes commerciaux de la RFA, de l'Italie et de l'Espagne sont assez nettement positifs, tandis que celui du Royaume-Uni est négatif et que celui de la France présente un équilibre précaire (les données disponibles pour 1986 montrent que le solde français est également devenu négatif).

La répartition CEE / hors CEE du commerce de chacun de ces pays est assez significative des positions concurrentielles et des traditions commerciales des uns et des autres. On constate en particulier une nette extraversion des échanges du Royaume-Uni, alors que les importations de l'Espagne, de la France et de l'Italie proviennent très majoritairement de la CEE.

Pour les 4 plus grands pays (RFA, Italie, France, UK), les données relatives aux différentes catégories de produits sont les suivantes:

	E-I	I/C	(E+I)/C
.produits à base minérale non métallique:	+2,9 Gécus	22%	52 %
.produits à base métallique.....:	+1,1 Gécus	25%	55 %
.produits à base de bois.....:	-0,8 Gécus	18%	28 %
.produits à base chimique ou textile....:	+1,2 Gécus	47%	105 %
.produits d'équipement électrique.....:	+0,7 Gécus	64%	139 %

(E: Exports; I: Imports; C: Consommation intérieure)

Bien que le commerce extérieur des produits minéraux soit limité par les coûts de transport, leur poids économique très important dans l'ensemble des produits de construction (43% en valeur) leur donne une place essentielle dans le solde commercial des 4 pays. L'hypothèse selon laquelle les produits de construction seraient moins concernés par la suppression des barrières à la libre circulation des biens en Europe est réfutée par l'importance des taux d'internationalisation constatés ((E+I)/C).

II - ANALYSE DES BARRIERES

II.1 - METHODE DE TRAVAIL ET RESULTATS D'ENSEMBLE

L'évaluation du poids des entraves rencontrées sur le marché européen est le résultat d'environ 200 entretiens directs avec des industriels des 12 pays de la Communauté (30 dans les 5 plus grands pays et 8 dans les autres). 2 à 12 catégories de produits ont été sélectionnées dans chaque pays (cf. annexe 2), avec une représentativité variant de 9 à 19 % pour les grands pays et de 3,5 à 12 % pour les petits pays (nombre de catégories de produits sélectionnées / nombre total de catégories de la nomenclature retenue pour l'étude). La représentativité de l'échantillon étudié en termes de chiffre d'affaires total des entreprises interviewées est de l'ordre de 5 % de l'ensemble de la production communautaire de produits de construction. La pondération des entraves au niveau communautaire a été effectuée en tenant compte de l'importance relative des marchés nationaux.

En interrogeant les industriels sur l'ensemble des obstacles ressentis, on a tenté de mesurer le poids relatif des entraves résultant des réglementations nationales prises en considération par le Livre Blanc et des obstacles de nature sociologique ou économique dont la disparition ou l'affaiblissement éventuels ne pourront être qu'une conséquence indirecte à moyen terme des mesures programmées par le Livre Blanc: exigences diversifiées de la clientèle, coûts des facteurs, etc.

Les deux tableaux ci-joints résument le résultat de cette évaluation; les entraves les plus importantes sont commentées dans les paragraphes suivants. Les résultats globaux par pays doivent être interprétés avec une grande prudence, car il est clair que l'appréciation d'un industriel sur les difficultés de pénétration d'un marché est liée à l'enjeu économique plus ou moins important qu'il représente pour lui.

II.2 - BARRIERES LIEES AUX NORMES, AGREMENTS ET AVIS TECHNIQUES

Parmi les entraves, les problèmes liés aux normes arrivent en tête: 70 % du nombre de produits étudiés connaissent des difficultés dans leurs démarches pour obtenir l'homologation aux normes étrangères et 60% ne sont, d'une manière ou d'une autre, pas conformes à ces normes. Ceci est dû à la multiplicité et à la complexité des normes spécifiques au domaine de la construction, qui traduisent l'ensemble des impératifs pesant sur l'édification d'un ouvrage dans un pays donné; elles sont le reflet des divergences liées à l'art de construire en Europe. C'est pour cette raison que, même si les producteurs citent peu les réglementations nationales

BIPE/EUROCONSTRUCT												
NON-EUROPE DES PRODUITS DE CONSTRUCTION												
EVALUATION DES ENTRAVES PRISES EN COMPTE PAR LE LIVRE BLANC												
	Poids des entraves en %	Pays où sont rencontrées les entraves										
		RFA	F	I	UK	E	NL	B+L	DK	GR	P	IR
1 - Préférence nationale des maîtres d'ouvrage	10,5	•••••	•••••	•	••	••	••	••	•			•
2 - Pratiques de prescription des maîtres d'oeuvre	9,5	•••••	••••	•	••	••	••	•				
3 - Pratiques et qualifications des entreprises	6,0	••	••	•	••	•				•		
4 - Réglementation de la construction	11,5	•••	••		••		•		•			
5 - Réglementation et normes relatives aux produits	17,0	•••••	•••••	•	•••	••••	••••	••	••			
6 - Agréments et homologations	18,0	•••••	•••••	•	•••	•	••••	••				
7 - Assurances et contrôles techniques	3,0		••		•			•				
8 - Contrôles en douanes	6,5		•		•	•••••				•••••	••	
9 - Différences de taux de TVA	2,0	•	•									
10 - Circulation des capitaux	5,0		•	•								
11 - Lenteur d'élaboration des réglementations européennes	11,0	••	•		•	•				••		
TOTAL	100,0	24	25	6	17	14	11	8	4	7	2	1

BIPE/EUROCONSTRUCT												
NON-EUROPE DES PRODUITS DE CONSTRUCTION												
EVALUATION DES OBSTACLES DE NATURE SOCIO-ECONOMIQUE												
	Poids des entraves en %	Pays où sont rencontrées les entraves										
		RFA	F	I	UK	E	NL	B+L	DK	GR	P	IR
1 - Exigences différentes de la clientèle finale	27	•••	•••		••		••					
2 - Taux de change	17	•	•		••	•						
3 - Différences de coût de main-d'oeuvre	21			••	•	•••••				••	••	
4 - Différences de coût des inputs	35	••	••	•	••	•					•	
TOTAL	100	6	6	3	7	6	2	0	0	2	3	0

relatives à la conception et à la construction des ouvrages où s'insèrent les produits comme une barrière, ces réglementations constituent la partie immergée de la problématique des normes.

Cette complexité des normes est accentuée par l'hétérogénéité des pratiques des organismes de contrôle et d'homologation en matière de test: la résistance au feu est testée différemment en France, en Allemagne Fédérale et en Grande-Bretagne, et, même pour une donnée homogène comme le coefficient de conductibilité, les résultats diffèrent selon les organismes nationaux. La difficulté d'obtention des agréments ou des certificats de conformité aux normes, du fait de la fréquente dispersion géographique des lieux de contrôle, se mesure aussi en termes de coûts et de délais.

Pour la difficulté d'obtention des agréments et avis techniques, comme pour les entraves liées aux normes pesant sur la nature et les caractéristiques des produits, la R.F.A. et la France arrivent largement en tête, en étant citées dans 85 % des enquêtes pour les deux entraves. C'est dans ces pays que les normes sont les plus nombreuses, et c'est aussi dans ces pays qu'elles ont le plus de poids sur le comportement des prescripteurs et acheteurs de produits de construction.

Les exportateurs notent en R.F.A. une vigilance particulière de la part des entreprises utilisatrices et des maîtres d'ouvrage: il est difficile voire impossible d'y vendre des produits hors normes, ou non agréés (produits nouveaux), du fait des contrôles systématiquement effectués lors de l'attribution des permis de construire. Les normes réglementaires liées à des exigences essentielles (sécurité et hygiène) sont également plus sévères en R.F.A. qu'ailleurs (résistance au feu et seuil de dégagement de formol des colles particulièrement).

La difficulté d'obtention des certificats de conformité aux normes françaises semble également constituer une entrave importante à l'exportation pour les divers industriels européens interrogés. Les certificats du Centre Technique du Bois semblent notamment longs, sinon impossibles à obtenir pour les exportateurs européens en France.

Les exportateurs anglais comptent parmi les industriels européens qui sont pénalisés à l'exportation par les niveaux d'exigences techniques très élevés et les systèmes de normalisation sévères et contraignants existant en R.F.A., en France et en Hollande. L'importance de ces obstacles se trouve d'ailleurs accentuée par l'originalité des British Standards en comparaison des autres systèmes de normalisation européens. Les fabricants anglais parviennent, malgré tout, à éviter ce type d'entraves grâce au développement de produits conformes aux normes US et UK qui trouvent

des débouchés hors CEE dans les nombreux pays qui ont calqué leur système de normalisation sur les modèles américain ou anglais.

Les autres pays cités fréquemment pour les problèmes de normes sont tous les pays du Nord de la C.E.E.: Grande-Bretagne et Benelux essentiellement. Les pays du Sud, ayant peu de normes en vigueur, acceptent souvent les normes étrangères. Il faut néanmoins citer le cas de l'Espagne, qui, bien qu'étant peu exigeante en général, met en place pour certains produits des homologations difficiles à obtenir (notamment pour les produits d'étanchéité). Dans ces pays, c'est plutôt la lenteur des contrôles, attribuée au sous-dimensionnement des organismes qui les effectuent, qui est dénoncée comme un frein à la pénétration des produits.

D'une manière générale, beaucoup de normes sont particulièrement discriminatoires, parce qu'elles sont déterminées par l'environnement - différent d'un pays à l'autre - de la mise en oeuvre des produits de construction. C'est le cas typique de nombreux appareils électriques, comme les prises de courant, les boîtiers, ainsi que les chauffe-eau, et aussi de certains appareils sanitaires (robinets): des contraintes extérieures telles que la tension du secteur, l'entre-axe des prises ou la pression de l'eau courante pèsent sur les conditions d'utilisation. Ceci est caractéristique de nombreux produits destinés à l'équipement intérieur des bâtiments.

Face à cette situation, certains producteurs préfèrent fabriquer des gammes aux normes étrangères ou, mieux, internationaliser leur production. Les industriels néerlandais, par exemple, comme d'autres industriels européens, considérant que les entraves liées aux normes et procédures de certification différentes en Europe (notamment en R.F.A., France et Belgique) sont difficiles à surmonter, préfèrent souvent recourir à l'implantation directe de filiales à l'étranger. C'est le cas de certains producteurs de peinture.

L'absence de normalisation ou un certain laxisme dans l'application de la réglementation, ce qui semble être le cas en Italie et en Espagne, ont paradoxalement un effet comparable, puisqu'ils créent des conditions concurrentielles insupportables pour les producteurs étrangers dont la fabrication respecte de sévères spécifications: il leur faut alors créer une gamme hors normes à prix réduit.

D'après plusieurs producteurs, on peut penser que la convergence par le haut et par le bas des exigences des différents pays et clients vers des normes européennes supprimerait une partie des niches dues aux exigences de certains acheteurs, tels par exemple les hôpitaux qui devraient abandonner leurs exigences trop spécifiques dans un contexte d'unification technique du marché.

II.3 - OBSTACLES DE NATURE SOCIO-ECONOMIQUE

II.3.1 - DIFFERENCES DE COUT DE LA MAIN-D'OEUVRE

40 % des industriels interrogés déclarent que les différences de coût de la main-d'oeuvre entre les pays de la C.E.E. nuisent à la compétitivité de leurs produits à l'exportation, principalement les industriels français, anglais et belges.

Des fabricants français, qui proposent des produits de haute technologie incorporant peu de main-d'oeuvre industrielle, déclarent rencontrer des difficultés pour exporter en Espagne, au Portugal et dans une moindre mesure en Italie. Par ailleurs, les entreprises de construction espagnoles ont l'habitude de recourir à des technologies comportant une forte part de valeur ajoutée sur le chantier, ce qui limite les débouchés de produits industriels conçus au contraire pour réduire les temps de mise en oeuvre.

Les industriels anglais soulignent également l'entrave relative à la faiblesse des charges sociales auxquelles sont soumis les fabricants espagnols, portugais et italiens.

Un industriel du verre français donne quelques chiffres pour son secteur:

Coût salarial ouvrier en 1986 (Ecus/heure, toutes charges)

France	R.F.A.	Belgique	Italie	Espagne
15,1	15,3	13,4	11,8	9,3

On doit cependant observer que ces différences ne sont pas spécifiques à l'industrie des produits de construction et qu'elles n'interviennent que pour une part seulement dans la compétitivité relative des industries européennes, un autre facteur important étant leur intensité capitaliste. Quelques industriels considèrent en outre que les différences de coûts salariaux disparaîtront lorsque les membres récents de la Communauté seront parfaitement intégrés aux mécanismes de concurrence au sein de la CEE.

II.3.2 - EXIGENCES DIFFERENTES DE LA CLIENTELE FINALE

Une partie des industriels européens interrogés considère comme un obstacle important la diversité des exigences de la clientèle finale dans les différents pays de la CEE. Certains exportateurs font ainsi de gros investissements dans le design afin de satisfaire les préférences esthétiques variées de leurs clients

européens. C'est le cas des producteurs de carreaux de céramique et de revêtements de sols par exemple, qui se doivent de posséder un appareil de production flexible pour s'adapter aux exigences divergentes des clients.

La clientèle finale semble particulièrement exigeante dans des pays tels la France, la R.F.A. et les Pays-Bas; les producteurs belges se trouvant les seuls à considérer comme un obstacle à l'exportation les exigences spécifiques de la clientèle anglaise.

Pour une partie importante des producteurs européens, toutefois, la diversité de la demande ne représente pas un frein majeur à l'exportation. C'est le cas de ceux qui proposent des produits cachés dans les constructions, tuyaux en plastique et en béton par exemple, pour lesquels le design n'est qu'accessoire. On peut estimer à 55% environ la part du marché communautaire des produits de construction qui échappe ainsi à cet obstacle.

Si les observations des industriels dans ce domaine donnent une idée du prix que doit payer l'Europe pour sa diversité socio-culturelle, il est clair que la réponse à cette diversité fait partie des contraintes auxquelles doit se plier un industriel dans une économie libérale. Ne pourraient être considérées comme des entraves que des références abusives aux préférences d'une clientèle nationale afin de justifier le maintien d'une entrave normative.

II.3.3 - DIFFERENCES DE PRIX DES MATIERES PREMIERES ET DE L'ENERGIE

Les industriels anglais citent comme pays dans lesquels il est difficile d'exporter en raison du faible prix de l'énergie, la R.F.A., la France, l'Italie et l'Espagne. Certains d'entre eux se plaignent de ne pouvoir bénéficier de tarifs préférentiels comparables à ceux qui sont consentis aux gros consommateurs dans des pays comme l'Italie et l'Espagne. D'autres industriels de produits de construction sont affectés par le prix des bitumes, plus élevé en Grande-Bretagne qu'en France et en R.F.A.

En France, certains producteurs remarquent également que le faible prix de l'énergie en Italie limite les exportations vers ce pays.

On peut toutefois faire ici la même remarque que celle émise à propos des coûts salariaux: les positions concurrentielles respectives des différents industriels dans ce domaine dépendent non seulement du prix relatif de l'énergie, mais aussi du poids de ce facteur dans la technologie de production qu'ils ont adoptée.

III - SCENARIO D'ACHEVEMENT DU MARCHE EUROPEEN

La complexité du secteur nous a contraint à faire reposer la quantification des effets directs et indirects sur l'extrapolation raisonnée à l'échelle macro-sectorielle des résultats des enquêtes, plutôt que sur un exercice de modélisation à partir d'une série d'hypothèses théoriques choisies par nous. Les hypothèses retenues concernant le scénario d'achèvement du marché européen sont en fait celles auxquelles se réfèrent explicitement ou implicitement les industriels interrogés en fonction de leur propre analyse, plus ou moins approfondie, des conséquences possibles de la mise en oeuvre du Livre Blanc.

Bien que les questions posées aient invariablement été précédées de l'énoncé: "Au cas où toutes les barrières visées par le Livre Blanc seraient supprimées ou substantiellement réduites", il est possible de reconstituer assez fidèlement le scénario effectif sur lequel ont reposé les réponses, à partir des commentaires généraux recueillis (cf. graphique à la fin du chapitre).

A - Hypothèses de court terme

Les données essentielles du scénario de court terme ayant servi de référence à l'évaluation des effets directs immédiats et différés sont les suivantes:

1°) Barrières fiscales et physiques: harmonisation des fiscalités indirectes, avec pour conséquence l'allègement des frais administratifs et des coûts de passage aux frontières lié à la simplification des procédures.

2°) Barrières techniques:

- déréglementation et donc baisse des coûts des transports (liberté des prestations de service);

- libre circulation des capitaux permettant l'accélération de la concentration financière déjà engagée;

- ouverture de la commande publique à la concurrence communautaire, avec des conséquences relativement limitées dans le domaine des produits de construction; l'amélioration de la Directive "travaux" (71/305/CEE) provoquera une augmentation sensible du pourcentage d'entreprises étrangères remportant des appels d'offres, avec une propension à utiliser des produits de leur pays d'origine; l'amélioration de la Directive "fournitures" (77/62/CEE) augmentera l'ouverture de la commande publique aux produits étrangers, limitée toutefois par la faible importance des achats directs de produits de construction de la part des promoteurs publics (sauf dans les

secteurs actuellement exclus du champ de la Directive: énergie, transports, eau et télécommunications);

- développement de la reconnaissance par les pays de l'équivalence des normes et adoption d'une série limitée de normes harmonisées, essentiellement dans le domaine des demi-produits, notamment sous l'effet de l'émergence de la "nouvelle approche" de la Communauté qui limite l'harmonisation législative à l'adoption par les Directives des seules exigences essentielles de sécurité, de santé ou d'autres intérêts collectifs.

Ces hypothèses de court terme, dont la principale est l'effet encore relativement limité de la directive "produits", devraient conduire à une situation favorable pour certaines catégories de produits: les produits de base et les demi-produits pondéreux pour lesquels des démarches d'harmonisation ou de reconnaissance réciproque des normes sont déjà engagées; les produits destinés au bricolage et plus généralement à l'amélioration et à l'entretien des bâtiments existants, qui sont peu sensibles à l'obstacle des normes et règlements. Ces produits bénéficieront à plein de la réduction des coûts de transport et des facilités accrues de concentration financière (avec un impact immédiat sur les frais de siège et les coûts de R & D).

B - Hypothèses de moyen terme

Les effets indirects dynamiques évoqués par les industriels interrogés, et donc ceux que nous avons quantifiés au niveau macro-sectoriel, doivent être considérés comme situés à l'issue d'une période de l'ordre de cinq ans.

Il est très important de prendre en considération le fait que, pour les produits de construction, cette période ne sera probablement que transitoire, car elle correspondra à une phase de développement - mais pas encore de maturité - de l'harmonisation réglementaire. On sait en effet qu'une des conditions de cette harmonisation est la mise en place de documents techniques intermédiaires (Eurocodes, etc.) nécessaires à l'accélération de la production de normes harmonisées et au fonctionnement efficace de l'Agrément Technique Européen, du fait de l'articulation étroite existant nécessairement entre les textes réglementaires et pararéglementaires relatifs à la construction des ouvrages et ceux relatifs à une partie des produits industriels intégrés dans ces ouvrages (il est fréquent qu'un produit de construction ne puisse être considéré comme satisfaisant à une exigence essentielle qu'en référence à un mode de mise en oeuvre donné).

Or, les textes intermédiaires précités, même si l'on doit espérer qu'ils seront élaborés rapidement grâce à l'impulsion donnée par la Directive "produits", ne pourront être mis en application que

relativement lentement, puisqu'ils supposeront fréquemment la remise en cause des savoir-faire de l'ingénierie (méthodes de calcul notamment) et des entreprises de construction (savoir-bâtir) dans un secteur dont la capacité d'adaptation est limitée par son extrême atomisation (95% des entreprises de construction européennes ont moins de 50 salariés).

Même si l'élimination des barrières techniques n'est pas encore totalement achevée au bout de cinq ans, notre hypothèse principale est toutefois celle d'une diminution importante des barrières liées aux normes et agréments, celles-ci s'abattant pour deux types de produits:

- ceux qui ne comportent pas de spécifications techniques renvoyant à des exigences essentielles, grâce à la disparition des systèmes normatifs de nature descriptive anciennement mis en place à des fins implicites de protection des industries nationales;

- ceux comportant des spécifications techniques renvoyant à des exigences essentielles, mais dont la nature n'implique pas une articulation forte entre normalisation des produits et codification de la construction, notamment les produits de finition (exigences essentielles liées par exemple à la toxicité des fumées) et de cloisonnement, ainsi que certains produits d'équipement et d'enveloppe, pour lesquels on verra apparaître des normes harmonisées.

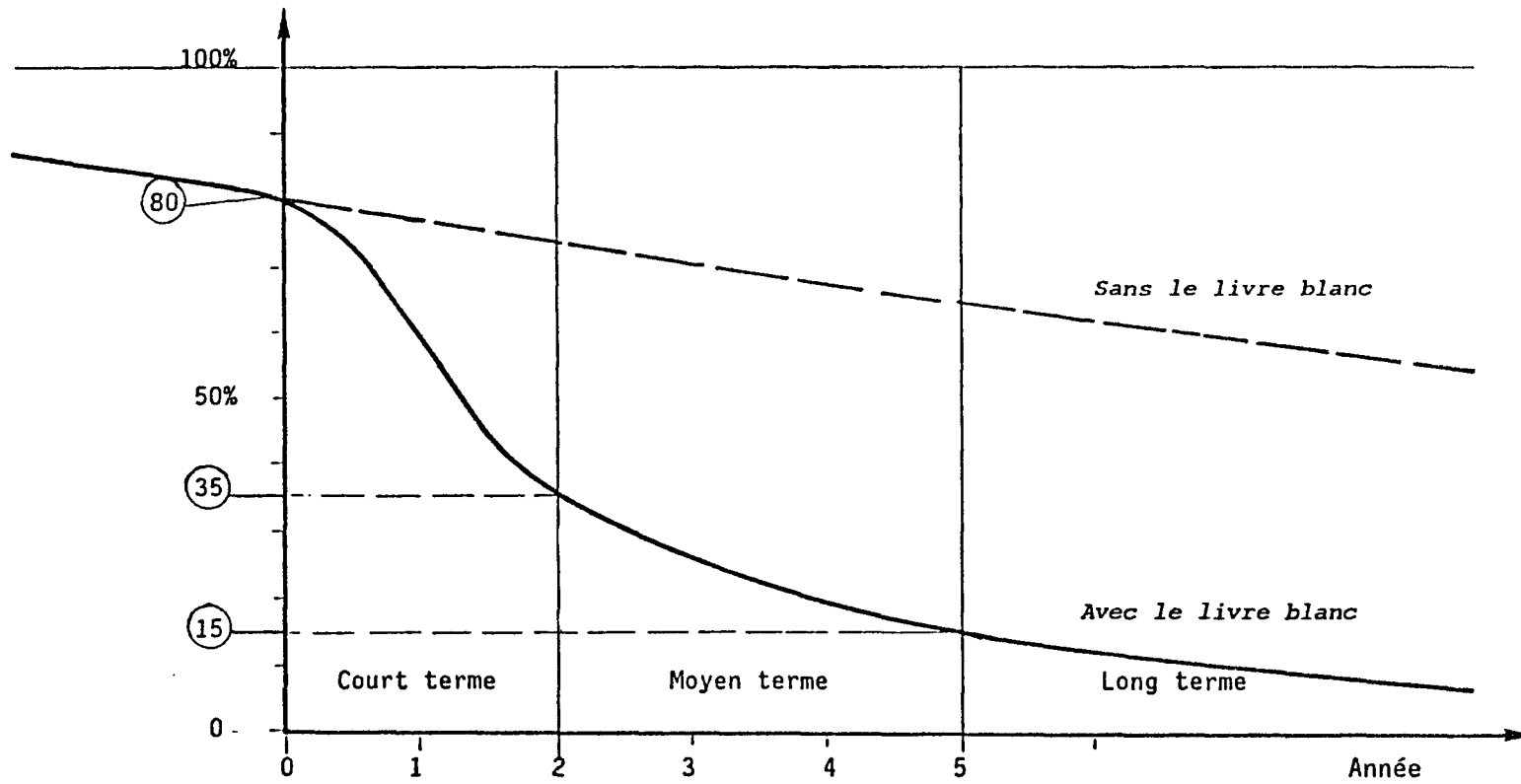
Ces produits pourront bénéficier pleinement des économies d'échelle permises par la standardisation de leur conception et de leur production.

C - Hypothèses de long terme

Cette phase se situe au-delà du terme auquel les industriels interrogés se sont référés. A cette échéance, on peut espérer un rapprochement des savoir-faire de conception et de mise en oeuvre suffisant pour que normes et agréments européens s'étendent systématiquement aux produits de structure, d'équipement et d'enveloppe non encore atteints par la phase précédente d'harmonisation.

La généralisation des économies d'échelle et l'accélération de l'innovation qui pourraient résulter de cette troisième phase, et dont on peut penser qu'elles seront favorisées par une plus grande homogénéité de la demande (modes de vie) et de l'environnement (tension électrique, pression de l'eau, etc.), justifient notre affirmation concernant l'importance des effets dynamiques différés au-delà de ceux quantifiés à l'issue de la deuxième phase.

% En valeur des produits de construction soumis à des barrières techniques spécifiques



IV - QUANTIFICATION DES EFFETS

IV.1 - METHODOLOGIE

L'ampleur du champ des activités couvert par l'étude et son extrême diversité en termes de structures des professions, de fonctions de production, d'internationalisation, de sensibilité à la mise en oeuvre du Livre Blanc, posaient un redoutable problème de représentativité statistique de l'échantillon enquêté.

De ce fait, il n'aurait pas été légitime de mener des extrapolations fondées sur des modélisations, faute de bases de données suffisantes pour spécifier ces modèles. On a donc choisi une démarche empirique, en traduisant par des valeurs chiffrées les relations de comportement des industriels: baisses de coûts unitaires associées à des hypothèses d'augmentation de la production (économies d'échelle); augmentation des exportations permise par la baisse des prix unitaires (élasticité prix relatif des exportations);etc.

La quantification des effets directs a été limitée aux quatre plus grands pays: RFA, France, Italie et UK. L'Espagne a également été prise en compte pour la quantification des effets indirects, car la mesure des conséquences de l'entrée récente dans la Communauté de pays de l'Europe du Sud nous a semblé indispensable à la compréhension des enjeux à moyen terme de l'achèvement du grand marché intérieur. La représentativité de l'échantillon étudié dans les cinq pays est d'environ 5 % (production totale des fabricants rencontrés / production totale des cinq pays).

A - Effets directs

Pour mesurer les effets directs, immédiats et différés, la méthodologie adoptée a comporté plusieurs phases.

1°) Choix de produits, généralement très finement individualisés (par exemple: poutrelles préfabriquées en béton précontraint) qui, dans chaque pays, illustrent les interrogations que soulève le Livre Blanc.

2°) Rattachement des produits choisis aux postes de la nomenclature des produits de construction en 60 postes établie pour l'étude (ci-jointe en annexe 1).

3°) Elaboration pour chaque pays d'une typologie des postes de la nomenclature, sur la base des critères significatifs au regard de l'impact de la suppression des entraves (par exemple: produits manufacturés complexes non pondéreux). Chaque famille de cette typologie peut être quantifiée.

4°) Pondération des résultats des enquêtes en fonction de la typologie, conduisant à l'évaluation globale de la réduction des coûts de production pour chaque pays.

5°) Ultérieurement, à la demande de la DG II, les effets directs ont été ventilés entre trois macro-secteurs: produits manufacturés intermédiaires, produits manufacturés d'équipement, produits manufacturés de consommation.

B - Effets indirects

S'agissant des effets indirects, on a considéré que chaque pays constitue un ensemble d'acteurs relativement cohérent du point de vue de leurs réactions à moyen terme à la disparition des entraves. Ce "nationalisme" des enjeux et des défis a été considéré comme l'emportant sur le particularisme micro-sectoriel légitimement respecté pour l'observation des effets directs.

Dans un premier temps, on a exploité pays par pays les réponses des entreprises aux questions sur leurs perspectives de ventes sur les marchés nationaux ou à l'exportation, et sur leurs prévisions d'évolution de leurs coûts. Dans la mesure où ces réponses traduisent les conséquences de politiques qui vont être menées par les entreprises, on peut considérer qu'on dispose pour chaque pays d'un "profil stratégique" caractéristique des enjeux de chaque question.

Dans un second temps, on a exploité les questionnaires de base (ensemble des enquêtes menées dans les 12 pays de la Communauté) pour déterminer les seuils quantitatifs qui sous-tendent les réponses qualitatives des entreprises. Par exemple, on a constaté qu'une augmentation des ventes n'est qualifiée de "substantielle" que lorsqu'elle dépasse 15% .

Enfin, on a comparé les "profils stratégiques" recueillis pour les différents pays afin d'arrêter à dire d'expert des chiffres (par exemple: pourcentage d'accroissement des exportations) qui s'efforcent de traduire la hiérarchie des pays au regard de l'importance de l'effet mesuré.

Finalement, les chiffres arrêtés traduisent un ensemble de facteurs complexes dont le poids relatif a été apprécié par les experts d'EUROCONSTRUCT de chaque pays: capacité d'adaptation des industries concernées constatée dans le passé, degré de sensibilité actuel à la problématique de l'achèvement du marché intérieur, capacité financière des entreprises, degré d'internationalisation déjà atteint...

Il est clair qu'une telle démarche méthodologique ne peut conduire qu'à des résultats d'une grande fragilité. Cependant, on doit considérer que la réalité observée, en l'occurrence les intentions stratégiques des entreprises et leurs effets potentiels, manque trop de consistance pour qu'on puisse espérer améliorer la valeur prédictive des résultats par des enquêtes statistiquement représentatives.

IV.2 - EFFETS DIRECTS

Ce chapitre a pour objet de mesurer les répercussions mécaniques des réductions de coût induites par la suppression des entraves. L'hypothèse est que les entreprises, à ce stade initial, répercutent les baisses de coût dans leurs prix sans modification de leurs marges. De même, les entreprises sont supposées ne pas encore réagir par des ajustements de volume ou d'organisation de leur production. Les consommateurs ne modifient pas non plus leur comportement, et le jeu des élasticités prix n'est sensé se manifester qu'ultérieurement au titre des effets indirects.

IV.2.1 - MECANISMES DE GENERATION DES EFFETS

La suppression des entraves ne détermine une baisse des coûts, donc des prix, que dans la mesure où les industriels supportent des dépenses quand ils exportent leurs produits. Il peut s'agir de dépenses directes, frais de passage en douane, ou indirectes, coût d'adaptation des produits.

A - Cas des entraves fortes et décourageantes

De nombreux producteurs britanniques renoncent à exporter vers les pays de la C.E.E. du fait d'importantes entraves liées aux formalités d'homologation et d'agrément (cas de normes en France et en R.F.A. pour les produits d'étanchéité et la menuiserie métallique, cas de l'avis du CTB français pour la menuiserie bois).

De même, les producteurs européens de carreaux de céramique sont peu attirés par le marché allemand, régi par des normes très contraignantes (seuil de porosité de la céramique) qui expriment une exigence de qualité élevée de la part de la clientèle finale.

Ainsi, pour toute cette catégorie de produits, la suppression des entraves ne réduirait pas immédiatement les coûts directs.

B - Cas des entraves fortes mais contournées

L'implantation locale constitue pour de nombreuses sociétés la réponse aux contraintes sévères de normalisation ou d'agrément qui pèsent sur certains produits. De même, certains industriels adoptent la fabrication de gammes spécifiques destinées à un ou plusieurs pays particuliers.

Mais, pour ces produits, l'homogénéisation des réglementations aura des effets directs. Les surcoûts supprimés immédiatement porteront essentiellement sur l'obtention des homologations et agréments (démarches et délais), les frais de passage en douane et le coût de transport, qui devraient s'abaisser du fait de la suppression du contingentement des transporteurs européens.

IV.2.2 - EVALUATION GLOBALE DES EFFETS DIRECTS

L'évaluation des effets directs sur les prix résultant de l'exploitation des enquêtes selon la méthode exposée au paragraphe IV.1 conduit à un total de 657 millions d'Ecus pour les quatre plus grands pays (RFA, Italie, France et UK), dont la production de 88,4 milliards d'Ecus représente 79,9% du marché communautaire des produits de construction. On peut donc estimer en première analyse que l'économie pour l'ensemble des 12 pays de la Communauté à attendre des effets directs de l'achèvement du marché européen atteindra un montant de 820 millions d'Ecus.

Il convient de rappeler que ces chiffres se rapportent à la suppression de l'ensemble des barrières, y compris les barrières non spécifiques déjà quantifiées par ailleurs (études horizontales engagées par la Commission sur l'ouverture de la commande publique, sur la libéralisation des services financiers, sur l'abolition des contrôles en douane et sur la déréglementation des transports). Nous évaluons à 43 % la part des effets directs dus aux barrières spécifiques, soit 283 millions d'Ecus.

Le tableau de la page suivante précise la nature des économies qui découleront de la suppression des barrières, telles qu'elles ont été valorisées par les industriels interrogés.

NON-EUROPE DES PRODUITS DE CONSTRUCTIONEFFETS DIRECTS SUR LES COUTS
RESULTANT DE LA SUPPRESSION DES BARRIERES

Principaux domaines de réduction des coûts par ordre décroissant d'importance	% du nombre de réponses exploitables (plusieurs réponses possibles)	
	Non pondéré	Pondéré en fonction des volumes de production nationaux
Processus de production	24	29
Coûts de distribution (y.c. coûts de transport)	27	20
Coût des facteurs de production importés	17	17
Coûts de marketing	11	13
Coûts de trésorerie	11	10
Coût des assurances	5	3
Autres	5	8
ENSEMBLE	100	100

IV.3 - EFFETS INDIRECTS

L'objet de ce chapitre est d'établir un diagnostic de ce que seront les réactions secondaires des agents économiques confrontés aux effets directs analysés dans le chapitre précédent.

IV.3.1 - MECANISMES DE GENERATION DES EFFETS

A - Choix stratégiques

En accroissant la menace concurrentielle sur les marchés nationaux, la suppression progressive des barrières provoquera sans aucun doute possible un changement de comportement des industriels, perceptible à travers les enquêtes. Les plus dynamiques mettront en oeuvre des stratégies internationales selon deux axes: un axe défensif, parce que la majorité des industriels s'attendent à un accroissement du taux de pénétration des produits étrangers sur leur marché national; un axe offensif, dans la mesure où l'abaissement des frontières ouvrira des opportunités qu'il est de la fonction de tout industriel d'exploiter.

Dans la mesure où on assisterait à une unification en profondeur des marchés, les stratégies de délocalisation des grandes entreprises pourraient engendrer des spécialisations nationales intra-européennes. Mais, et c'est semble-t-il le point de vue dominant des industriels, les comportements locaux étant fondamentalement spécifiques, c'est l'approche des marchés par des filiales étrangères qui sera généralement préférée à moyen terme. Les seules manifestations physiques (échanges communautaires de produits) ne donneront probablement qu'une idée très partielle de stratégies fortes mais essentiellement financières (prises de contrôle, fusions, etc.).

Les industriels devront aussi faire le choix du type de compétitivité, performances ou prix, qu'ils vont développer. En effet, l'Europe des produits de la construction peut être analysée par rapport à deux modèles.

Le premier, le plus fréquent dans les pays du Nord, se caractérise par une offre de produits à haute technicité répondant à des normes très exigeantes. Leur rapport performances-prix correspond à des prix unitaires relativement élevés, et les industriels s'efforcent de rester compétitifs par des efforts de rationalisation des process, de recherche et développement, de maîtrise des marges. Le développement de ce modèle repose sur l'atténuation progressive des différences de charges salariales entre les pays de la Communauté, et une exigence croissante des utilisateurs en qualité et fiabilité.

Le second modèle est plus fréquent dans les Pays du Sud de l'Europe. Il se caractérise par une offre de produits à technicité moyenne ou faible, développée sur des marchés où la réglementation technique est peu contraignante en droit et encore moins en pratique. Le développement de ce modèle sera favorisé par l'approche actuelle de la Commission des Communautés Européennes conduisant à la reconnaissance mutuelle des normes dans le cadre d'exigences essentielles qui renonceront partiellement aux aspects parfois excessivement technicistes que s'efforcent d'imposer les normes des pays du Nord.

Faute de pouvoir mesurer les effets-qualité, il est extrêmement difficile de traduire les modifications dans la répartition de la production et des marchés entre ces deux modèles pour l'ensemble des produits d'un même pays. Mais les contraintes de l'exercice imposaient une quantification de tous les effets, ce qui a conduit à affecter un seul chiffre à des phénomènes multidimensionnels (qualité). Les données proposées expriment donc essentiellement des sens et des ordres de grandeur relatifs.

B - Economies d'échelle

Les conséquences en termes d'évolution du volume des ventes et de modification des coûts unitaires des stratégies européennes qui résulteront de l'abaissement des barrières conduisent à une segmentation de l'industrie des produits de construction en quatre sous-secteurs.

1°) Les industries qui n'envisagent pas de croissance de leur production, ni d'économies d'échelle: les grands groupes des industries intermédiaires capitalistiques, dont le verre plat est un bon exemple, ont déjà procédé à l'européanisation de leurs structures dans un contexte de concertation professionnelle qui a fait disparaître les entraves techniques.

2°) Les industries qui n'envisagent pas de croissance de leur production, mais dont les coûts unitaires diminueront: même pour une production des usines nationales inchangée, la concentration financière résultant des croissances externes transfrontalières entraînera une réduction des frais administratifs, de gestion et surtout de recherche et développement.

3°) Les industries qui envisagent une croissance de leur production, mais pas d'économie d'échelle: les fabricants de produits pondéreux, en particulier ceux destinés aux structures des ouvrages, ont de grandes difficultés à prolonger la courbe des coûts marginaux décroissants, les coûts de transport fixant les limites géographiques de leur marché. C'est ce qu'ont démontré par le passé les échecs successifs des politiques d'industrialisation du bâtiment, la standardisation imposée au niveau de la demande n'ayant

pas réussi à assurer des longueurs de séries suffisantes au niveau de la production de chaque usine.

4°) Les industries qui envisagent une croissance de leur production et une diminution des coûts unitaires: l'exemple le plus clair de relation entre la suppression des entraves et l'apparition d'économies d'échelle est celui des secteurs où des produits nouveaux bénéficiant d'une compétitivité technique forte et de la liberté de circulation à l'échelle communautaire pourront accroître rapidement leur marché en imposant une accélération de la disparition du quasi-artisanat encore en vigueur dans certains domaines de la fabrication des produits de construction.

Notre évaluation du poids respectif (valeur de la production) de chacun de ces quatre segments est la suivante :

	Pas de croissance de la production	Croissance de la production
Pas d'économie d'échelle	23 %	16 %
Economies d'échelle	19 %	42 %

IV.3.2 - EVALUATION GLOBALE DES EFFETS INDIRECTS

L'évaluation des effets indirects sur les prix pour les cinq pays pris en compte (RFA, Italie, France, UK et Espagne), selon la méthode exposée au paragraphe IV.1, conduit à un total de 1722 millions d'Ecus (sur la base des volumes de production de 1985). Ce chiffre ne peut pas être extrapolé aussi simplement à l'ensemble de la Communauté que celui des effets directs.

Il convient de préciser que la vérification de la cohérence des résultats avec le scénario global à moyen terme pour les 12 pays de la Communauté n'a pu être effectuée, puisqu'elle aurait supposé un même niveau d'information et d'analyse pour l'ensemble des pays, notamment sur l'évolution de leurs prix relatifs et sur leur commerce extérieur intra et extra-communautaire.

CONCLUSION

Par l'importance du nombre de personnes interrogées et de pays pris en compte, l'enquête qui a servi de base à ce rapport est une des premières sources d'information prospective sur le vaste ensemble des fabricants européens de produits de construction. Il s'agit d'une population d'une grande hétérogénéité technique et économique, mais dont on a reconnu ici la communauté de préoccupations stratégiques au regard d'un même marché, celui de la construction.

De cette approche, on peut retenir quelques enseignements importants pour toute réflexion sur l'avenir du grand marché européen.

1 - Avec un marché intérieur de 110 milliards d'Ecus, un excédent des échanges avec le reste du monde de l'ordre de 8 milliards d'Ecus, et un emploi total d'environ 1,7 million de personnes, le secteur des produits de construction représente un enjeu considérable pour la Communauté Economique Européenne.

La place croissante des produits industriels dans la construction des ouvrages de bâtiment et de travaux publics est une des manifestations les plus évidentes de la modernisation de tout le secteur de la construction, et l'accroissement des échanges - dont l'étude a montré qu'ils pouvaient atteindre, même pour les grands pays, entre 15 et 50 % de la consommation intérieure - ne pourra qu'accélérer cette modernisation.

2 - La réglementation des procédés de construction génère plus d'entraves aux échanges de produits que celle qui leur est directement appliquée; or les mesures programmées par le Livre Blanc ne feront pas directement disparaître les particularismes nationaux de l'art de construire. Leur impact sera donc certainement plus lent que dans d'autres secteurs.

Cependant, l'enquête a démontré que les industriels européens sont convaincus que la disparition des entraves imposera des révisions de leurs stratégies actuelles.

D'une part, ils considèrent que les mesures énoncées par le Livre blanc se traduiront par une forte pression concurrentielle sur leurs propres marchés, les pertes de part sur ces marchés leur paraissant la conséquence inéluctable du processus d'européanisation des échanges. Ils ne considèrent pas pour autant qu'ils devront enregistrer passivement cette pénétration de leurs concurrents étrangers, mais, bien au contraire, qu'il leur faudra faire des efforts de rationalisation des processus de production et de

réduction des marges. Outre la suppression du coût direct de la Non-Europe, de l'ordre de 0,7 % du chiffre d'affaires des industriels sur le marché européen, soit environ 820 millions d'Ecus, l'accroissement de la concurrence déterminera des remises en cause profondes des systèmes d'offre de produits industriels et aussi de leur distribution aux entreprises de construction, aux artisans du bâtiment et aux ménages.

D'autre part, la grande majorité des industriels interrogés considèrent qu'ils pourront compenser leurs pertes de marché intérieur par des suppléments d'exportations vers les autres pays de la Communauté et vers les pays tiers. Cette stratégie se traduira, soit par des délocalisations ou des implantations directes dans les pays où la structure des coûts de production est plus favorable, soit par une participation et des prises de contrôle assurant un supplément de croissance externe, soit par une rationalisation des outils de production nationaux.

Selon les pays, les baisses de coûts et de prix qui résulteront de la mise en oeuvre de ces stratégies, conséquences indirectes de la suppression des barrières visées par le Livre Blanc, pourraient s'étager entre 0 et 4 %, et le supplément de production attendu pourrait atteindre 2,5 à 10 % .

3 - A l'échelle européenne, les effets macrosectoriels de la mise en oeuvre de ces stratégies modifieront assez sensiblement les positions relatives des différentes industries nationales .

Les pays du Nord de l'Europe qui, soutenus par un marché intérieur porteur, se sont spécialisés dans les produits de haute gamme, à fortes exigences et à niveaux de prix élevés, devraient accroître leur compétitivité en poursuivant la rationalisation de leurs processus de production fondés sur l'emploi d'une main-d'oeuvre chère et très qualifiée. Un élargissement de leurs gammes vers des produits moins sophistiqués et aussi vers une nouvelle clientèle pourrait donner un nouvel élan à des entreprises dont le marché intérieur est menacé de saturation.

La plus grande ouverture de marchés jusqu'ici protégés par des exigences réglementaires parfois excessivement complexes à l'offre des pays du Sud, qui bénéficieront encore pendant plusieurs années de structures de coûts favorables à la production de produits de milieu et de bas de gamme, aura nécessairement des effets bénéfiques sur les industries de pays à fort potentiel de croissance.

Enfin, la déréglementation des transports facilitera le redéploiement du capital productif européen des industries des produits de construction, qui devrait déterminer une spécialisation plus conforme aux avantages compétitifs des différents pays.

NOMENCLATURE DES PRODUITS DE CONSTRUCTION

I - PRODUITS A BASE MINERALE NON METALLIQUE

- I.1.Ciments et liants hydrauliques
- I.2.Béton prêt à l'emploi
- I.3.Blocs en béton
- I.4.Tuyaux en béton
- I.5.Autres petits éléments en béton non armé
- I.6.Eléments de structure en béton armé ou précontraint
- I.7.Produits en fibres-ciment
- I.8.Sables, graviers et concassés de carrière
- I.9.Pierres de construction
- I.10.Ardoises
- I.11.Chaux aérienne
- I.12.Plâtre
- I.13.Produits en plâtre
- I.14.Briques
- I.15.Tuiles et autres produits en terre cuite
- I.16.Carreaux de céramique et terre cuite vernissée ou émaillée
- I.17.Eléments sanitaires et autres produits en céramique
- I.18.Verres, vitrages isolants et autres produits en verre
- I.19.Laine de verre et autres isolants minéraux
- I.20.Matériaux et produits divers à base minérale non métallique

26

II - PRODUITS A BASE DE BOIS

- II.1.Panneaux de bois aggloméré ou contreplaqué
- II.2.Parquets
- II.3.Portes, fenêtres et autres éléments de menuiserie en bois
- II.4.Charpentes et structures en bois
- II.5.Matériaux et produits divers à base de bois

III - PRODUITS A BASE METALLIQUE

- III.1.Aciers pour béton armé ou précontraint
- III.2.Eléments de structure métalliques
- III.3.Eléments de couverture et de bardage métalliques
- III.4.Portes, fenêtres et autres éléments de menuiserie métallique
- III.5.Tuyaux en acier et en fonte

- III.6.Chaudières, radiateurs et divers matériels de chauffage
- III.7.Eléments sanitaires métalliques
- III.8.Robinetterie
- III.9.Serrurerie, ferronnerie, boulonnerie et visserie
- III.10.Produits en cuivre et dérivés
- III.11.Produits en zinc ou en plomb et dérivés
- III.12.Matériaux et produits divers à base métallique

IV - PRODUITS A BASE CHIMIQUE OU TEXTILE

- IV.1.Matériaux et produits à base d'asphalte ou de bitume
- IV.2.Enduits et mastics
- IV.3.Colles
- IV.4.Peintures, vernis et produits de protection
- IV.5.Matériaux et produits isolants en plastique
- IV.6.Papiers peints
- IV.7.Revêtements de murs et sols textiles ou mixtes
- IV.8.Revêtements de murs et sols en plastique ou en caoutchouc
- IV.9.Eléments sanitaires en plastique
- IV.10.Tuyaux en plastique
- IV.11.Portes, fenêtres et autres éléments de menuiserie en plastique
- IV.12.Eléments et produits divers en plastique
- IV.13.Eléments et produits divers à base chimique ou textile

V - PRODUITS D'EQUIPEMENT ELECTRIQUE

- V.1.Câbles et filerie électriques
- V.2.Lampes et matériel d'éclairage
- V.3.Matériel électrique de chauffage et de climatisation
- V.4.Ascenseurs, monte-charge et escaliers mécaniques
- V.5.Moteurs, pompes, transformateurs et divers matériels électromécaniques
- V.6.Appareillage électrique et électronique de mesure, de régulation et de contrôle
- V.7.Divers équipements électriques

PRODUITS SELECTIONNES POUR LES ENQUETES

FRANCE	ALLEMAGNE FEDERALE	GRANDE-BRETAGNE	ITALIE	ESPAGNE	UNION BELGO-LUXEMBOURGEOISE
<ul style="list-style-type: none"> . Tuyaux en béton pour assainissement . Produits en béton léger . Poutrelles en béton . Panneaux et plaques de plâtre . Carreaux de céramique . Verre plat . Produits isolants . Panneaux de particules . Produits d'étanchéité . Revêtements de sols . Tuyaux PVC . Matériel électrique 	<ul style="list-style-type: none"> . Produits en béton léger . Briques . Tuiles . Carreaux de céramique . Robinetterie sanitaire . Cumulus électriques 	<ul style="list-style-type: none"> . Carreaux de céramique . Equipements sanitaires en céramique . Carreaux d'isolation en fibre minérale . Portes en bois . Fenêtres en bois . Meubles de cuisine . Fenêtres en aluminium . Chaudières et radiateurs . Serrurerie . Produits d'étanchéité . Groupes de conditionnement d'air . Ascenseurs 	<ul style="list-style-type: none"> . Carreaux de céramique . Ronds à béton . Fermetures métalliques . Robinetterie . Cumulus électriques 	<ul style="list-style-type: none"> . Ciment . Plâtre . Plaques de plâtre . Equipements sanitaires en céramique . Verre . Parquets en bois . Portes en bois . Baignoires en acier . Menuiseries en plastique 	<ul style="list-style-type: none"> . Carreaux de revêtement décoratif en béton . Planchers et prédalles en béton . Briques de parement . Vitrages isolants . Verre cellulaire . Laine minérale . Polystyrène . Mousses de polyuréthane

PAYS-BAS	GRECE	PORTUGAL	IRLANDE	DANEMARK
<ul style="list-style-type: none"> . Briques . Peintures 	<ul style="list-style-type: none"> . Ciment . Ronds à béton 	<ul style="list-style-type: none"> . Marbre . Equipements sanitaires en céramique . Liège 	<ul style="list-style-type: none"> . Ciment . Tuyaux en fibres-ciment . Ardoises en fibres-ciment . Carreaux de céramique . Produits isolants . Câbles électriques . Radiateurs 	<ul style="list-style-type: none"> . Systèmes de couverture . Systèmes de gestion de l'énergie

14.

The "Cost of Non-Europe"

in the Textile-Clothing Industry

IFO-Institut für Wirtschaftsforschung - Prometeia Calcolo Srl

IFO-Institut für Wirtschaftsforschung – Prometeia Calcolo Srl

The Cost of »Non-Europe« in the Textile-Clothing Industry

Final Report Executive Summary

By

Michael Breitenacher, Sergio Paba, Gianpaolo Rossini

December 1987

We would like to acknowledge the fruitful collaboration of
Wolfgang Gerstenberger, Milena Monterastelli,
Angelo Tantazzi

<u>Contents</u>	<u>Page</u>
I. Introduction	3
II. The textile and clothing sector: a general picture	4
1. Market structure	4
2. An assessment of economies of scale and efficiency	5
3. Trade creation and diversion	9
4. The analysis of prices	14
5. Consumption patterns	18
6. Barriers to trade	19
III. Results on the costs of Non-Europe	22
IV. Conclusions	27
Table 1: Intra-EC Trade in Textiles and Clothing	12
Table 2: Coefficients of Variation of Net Retail Prices of Clothing Products in EC-Countries	15
Figure 1: Relative Prices Clothing-Footwear	17

I. Introduction

1. The Textile and Clothing (T-C) industry is unanimously considered as the industrial sector which has more benefited from the economic integration to date. It is often argued that the T-C industry has almost completed the integration process, particularly relative to what other industrial sectors have been experiencing. We shall try to:

- i) assess the validity of this argument by discussing the positive effects of integration in the past;
- ii) evaluate the extent and the impact of the existing barriers to trade;
- iii) present the main results on the costs of Non-Europe with an assessment of the direct and indirect impact of the barriers removal by the end of 1992.

2. Before going into the discussion of the main results of the study, it is important to note that:

- i) The I-C industry has been exposed to increasing strong extra-EC competition from low-wage countries. This fact makes difficult to disentangle how much of the structural changes which occurred in the EC industry in the past and will occur in the future are due to outside-EC competition or intra-EC competition;
- ii) The T-C industry is by no means a homogeneous sector. Sub-sectors have different problems and they experienced different adjustment strategies to cope with economic integration. Nonetheless, we think that some useful insights on the effects of integration can be gained without too much sectoral details.

3. The study is based on three types of data sets:

- i) existing national and EC-statistics;
- ii) data on quantitative production and trade flows by T-C products have been processed;
- iii) qualitative insights and quantitative information have been gained from 60 interviews (15 in each of the four countries: West Germany, France, Italy, United Kingdom) to managers and executives of dynamic, Europe oriented firms of the various sub-sectors of the T-C industry.

II. The textile and clothing sector: a general picture

1. Market structure

1. The general picture of the EC textile and clothing industry is still one of a fragmented industry characterized by a high number of small and medium-sized firms. Furthermore, there has been a general reduction in the average size of the firms in the textile industry since mid-1970s for all the countries under analysis. The figure for EC fell from 152 employees in 1975 down to 128 employees in 1981. The decrease has been particularly strong in Netherlands, France and Great Britain. The average size of the firms in the clothing industry (110-114 employees), however, remained basically the same during the period under analysis.

2. The analysis of concentration based on the GINI index shows that the two industries in the 1970s tended to be less concentrated, at least in terms of employment. The 1981 index for the clothing sector is 17 percentage points below the 1975 value, while the gap for the textile sector is 11 points. The past experience of the sector, then,

shows that 'size' has not been a crucial strategic variable. Concentration has not proved to be very important for the competitive performance of the industry in the face of increased intra-EC and outside-EC competition. In a number of cases, the overall organization of the industry (e.g. linkages between firms) has probably been more important. Clearly, both size and concentration have played a more relevant role in some particular segments of the market, and in some particular stages of production. The man-made fibre industry, for example, has always been strongly oligopolistic. High concentration ratio can also be found in the printing and teinture industry, in the classic branded jeans, in the production of very standardized clothing goods.

2. An assessment of economies of scale and efficiency

1. As recognized by several studies, product specific economies of scale (PSES) are very important in the T-C industry and, in particular, they are more important than plant economies of scale (PES) (see Textile Council, 1969; Pratten, 1971; Scherer et al., 1975; Mariotti, 1982). The importance of PSES increases as we move from upstream stages of production to downstream stages (particularly from weaving onwards).

2. The existing literature also shows that PES play a limited role in the T-C industry. The estimates of the minimum optimal size of the plants (MOS) for various sub-sectors show that, in general, they account for a modest share of total domestic production. Furthermore, the estimated increase in costs with 1/3 of the MOS is generally slight.

These results suggest that static production economies of scale, with some exception, do not represent an effective barriers to entry for the T-C industry, and that for the majority of sub-sectors concentration processes could not be based on them.

3. The possibility of exploiting static economies of scale, both PSES and PES, is strongly limited by the low level of standardization of products, essentially due to demand factors. There is a clear trade-off between product variety and PES, and the choice depends on the market target of the firms (segments with highly variable demand in terms of product-mix vs. segments with more standardized demand). Flexibility of production processes, in the sense of the capability of varying the product mix without strong increases in costs, is one of the strategic variables for many T-C subsectors. Static efficiency as such can be of a limited value if demand is highly variables in quantitative and qualitative terms.

4. The key factor which allows the firms to obtain substantial efficiency gains in those sectors where PES and PSES are not important is flexibility. This can be achieved in two ways:

i) The first one relies entirely on technological innovation, particularly by developing flexible manufacturing systems (FMS) for textile and clothing productions. Potentially, these systems can allow significant economies of scope, in some sense solving the problem of the trade-off between static efficiency and product variety. In the last decade many firms were investing in these new technologies.

ii) The second one is the development of a flexible organization of the industry. The Italian T-C sector provides a clear example. In some sub-sectors, dynamic, export-oriented firms "put out" a large share of production to a great number of small production units, which provide the necessary flexibility and efficiency in production. The crucial strategic variable which affects the performance of the firms is not plant size as such. Far more important is the power to "organize" production, to set up a network of production units, both upstream and downstream. The knitwear industry, for example, is organized in industrial districts which work as if they were a single firm with hundreds of small, independent, highly flexible, production units. The fragmentation of this production system is counterbalanced by the concentration of commercial and marketing activities in a smaller number of firms, often of a very large size in terms of turnover, which organize the whole system of production. This production system has been at the heart of the good export performance of the Italian firms of the knitwear, clothing, and wool sectors from the second half of the 1970s onwards. The Italian model, however, is not widespread in Europe, although some countries, like Belgium and France, are moving in this direction.

5. The efficiency and flexibility level required by the EC market could also be obtained by subcontracting either processes of production or the manufacture of final products to productive units in developing and eastern countries. Germany extensively used this strategy in the last decade with two main results. The first one was the gain of substantial cost reductions which made the German products very price competitive across Europe. The second one was a sort of control of the competitiveness of the imports from low wage countries, preventing, in this way, a much more

devastating impact to these producers on the European T-C industrial structure. German firms control the commercial and distributive networks, own brand image and develop advertising policies. For all these activities, barriers to entry and economies of scale are very important, and very few producers from low-wage countries could allow successful entry at these levels.

6. The increased intra-EC competitiveness brought about by the economic integration, together with the competitive pressure of low-wage not-EC countries, are at the root of substantial technical improvements in the industry starting from the early 1970s. Technical improvements have regarded:

- single stages of processing, usually in the form of increasing the speed and the reliability of operations;
- increase in the continuity of the overall productive cycle with technological innovations;
- greater simplification and rationalization of many processing stages, with the introduction, whenever possible, of automated machines;
- introduction of advanced methods of management and control of the productive process (CAD, CADAM systems, etc.) (see OECD, 1987; Mariotti, 1982).

7. The various subsectors of the T-C industry have been affected by technical innovations to a different extent. The more relevant changes have occurred in the spinning and finishing industries, and in the cutting stages of the clothing industry. Also weaving has been greatly involved in technical improvements. The German leading position in some sectors of the textile industry is based on an extensive use of technical innovations.

8. Technical innovation has caused a strong increase in productivity, with significant cost reductions. In the last decade, this has been the case for the Italian textile industry, which showed the highest productivity growth rates, for the German textile sector, and for the clothing industry in Italy, France and UK. There is no clear evidence of the fact that technical progress has determined a significant increase in the optimal size of the plants.

9. The existence of a common European market has been a crucial factor for the achievement of economies of scale due to commercial and marketing aspects. These also represent strong barriers to entry for low-cost developing countries. The main point is that, in order to exploit these economies, it is not necessary to be a multi-plant firm. As we have already seen, sub-contracting, both at national and international level, and "putting out systems", can do the job probably more efficiently.

3. Trade creation and diversion

1. In the Interim Report we showed with the help of statistical ratios that intra-EC trade had expanded strongly in the 1960s and the first half of the 1970s. This was primarily due to the forces of integration emanating from the realization of the Common Market. The majority of the firms interviewed pointed out that without the Common Market their exports could not have been increased as much as was actually done.

It cannot be ignored, however, that there were other forces at work besides the integration effects, forces which led to a strong intensification of trade in textiles and clothing in the Community. They include:

- i) The European countries share the same cultural background, which provides favourable conditions for foreign trade;
- ii) after the Second World War there has been a tendency towards internationalization, favouring international trade especially of such "individualistic" products as clothing;
- iii) the export markets outside the EC were in part little absorptive, either because of a lack of purchasing power (like in the developing countries), or because of trade barriers which made (and in part still make) access to these markets difficult (Cf. Wettbewerbsverhältnisse und Wettbewerbsverzerrungen im Welttextilhandel, Schriften zur Textilpolitik, Vol. 2, ed. by K. Nenndörfer and E.-H. Stahr for Gesamttextil, Frankfurt/Main 1985).

The newly industrializing countries impose tariffs of 20 to 100 % on imports of textiles and clothing, in addition they have established non-tariff and non-quantitative trade barriers (e.g. cash deposits for imports). The state-trading countries purchase, via state foreign-trade monopolies, according to set supply priorities and foreign exchange reserves; textiles and clothing usually rank very low. But imports of textiles and clothing also face tariff and non tariff barriers in some Non-European industrialized countries.

2. In the mid-1970s, the European integration process in the textile and clothing sector entered a late phase. This is reflected, for example, by the fact that the share of intra EC imports or exports in total imports or exports of

Germany, France and Italy was generally declining in the second half of the 1970s and the first half of 1980s (Table 1). In contrast, during the same period the textile and clothing sector of the United Kingdom was still in the midst of the integration process (due to her late EC entry), which is reflected in rising shares of intra-EC imports in total British imports (British exports of textiles and clothing to other EC-countries lost in importance, however).

In detail, the analysis of foreign trade for the period 1978-1985 yielded the following findings:

- i) In the textile sector the mutual interrelationship of the EC member countries is higher than in the clothing industry. This may be traced to the large imports of clothing from low-wage countries.
- ii) The establishment of the Common Market - in cooperation with other factors - led to trade creation in some subsectors. This benefitted primarily the Italian textile and clothing industry. The French and in particular the British producers were not able to take equal advantage of the opportunities offered by the Common Market.
- iii) With respect to specialization in intra-EC exports, the leading position is held by Italy in the clothing sector, by Germany in the textile sector.
- iv) In the period 1978-1985 trade diversion from third countries following the establishment of the Economic Community was ascertained only in some sub-sectors of the textile and clothing market. In this period the

Table 1

Intra-EC Trade in Textiles and Clothing
(Intra-EC Trade as Percentage of Total Exports or Imports^{a)})

Country / Sector		Exports				Imports			
		1960	1970	1980	1985	1960	1970	1980	1985
Germany									
Textiles	EC(6)	20,8	42,3	43,0	31,1	57,7	69,8	50,3	49,5
	EC(9)	.	.	51,8	44,7	.	.	56,1	54,7
Clothing	EC(6)	23,0	59,8	54,0	40,6	55,9	61,2	47,5	29,5
	EC(9)	.	.	60,1	52,0	.	.	50,6	32,0
France									
Textiles	EC(6)	30,9	53,7	57,2	49,1	50,6	78,9	61,7	61,4
	EC(9)	.	.	64,5	61,1	.	.	68,5	66,9
Clothing	EC(6)	15,2	57,6	56,6	41,9	76,5	79,7	44,0	42,5
	EC(9)	.	.	62,1	49,8	.	.	49,6	47,7
Italy									
Textiles	EC(6)	31,1	44,5	48,7	44,6	43,1	63,0	45,5	48,5
	EC(9)	.	.	58,4	55,9	.	.	52,8	55,1
Clothing	EC(6)	36,0	68,0	65,1	37,1	54,5	75,5	32,1	37,3
	EC(9)	.	.	71,5	45,2	.	.	43,3	46,1
United Kingdom									
Textiles	EC(6)	13,0	14,7	33,4	32,6	32,9	27,2	40,2	52,4
	EC(9)	.	.	44,6	43,1	.	.	50,5	58,9
Clothing	EC(6)	17,0	17,6	34,6	28,5	32,7	11,3	20,0	29,4
	EC(9)	.	.	55,2	46,8	.	.	26,2	34,9

a) Basis: Values in US-\$.
 EC(6): Belgium/Luxembourg, France, Germany, Italy, Netherlands.
 EC(9): In addition to EC(6) Denmark, Ireland, United Kingdom.

Source: OECD, Trade by Commodities; calculations by the Ifo-Institute.

Common Market had therefore no severe protectionistic effect vis-à-vis third countries, despite the existence of the Multi-Fibre-Agreement (MFA). On the other hand, imports from developing countries may not have increased to the same extent as the competitiveness of low-cost countries has grown.

3. Trade creation in the Common Market - via greater and more varied supply and increasing competition - has led to faster growth of the national textile and clothing markets than would have occurred without the stimulus of the tariff union. Especially the German market has expanded greatly, whereas the growth of the British market has lagged. The extent to which market growth affected the distribution of production in the individual countries will be shown below for the period 1978-1985.

i) The distribution of textile production among the individual EC countries did not change much during the period 1978-1985. Only Italy, Belgium-Luxemburg and EIRE (only towards the end of the 1970s) were able to achieve share gains. Losses were primarily suffered by the British textile industry. French textile producers suffered quite significant share losses in the first half of the 1980s.

At the disaggregated level, the specialization trends become even more pronounced. In almost all areas of spinning, weaving, and the production of knitted fabrics, the Italian textile industry gained considerable production shares. German producers were only able to do so in cotton spinning. Great specialization occurred also in the UK regarding the production of knitted fabrics (cotton system, man-made) and in Belgium concerning the production of carpets.

ii) The distribution of clothing production capacities among the member countries of the EC changed, in part, quite considerably during the period of investigation. The clear winner was Italy, which was able to raise its production share to almost one third. Italy was able to improve its position in most sectors of the clothing industry. In the production of knitted garments (wool system, man-made), however, it had to relinquish production shares. Despite the considerable shifts within the European clothing industry and the specialization related to it, increasing returns to scale failed to be realized. That may be traced to the fact that manufacturing steps in the production of clothing in the past could not be automated further. That is also why the manufacture of large runs was frequently shifted to low-wage countries.

4. The analysis of prices

The aim of this part of the study is twofold. On one hand we seek to evaluate the extent of residual trade barriers within the EC by observing the level of prices of some clothing articles all over the EC countries. On the other hand we investigate the dynamics of clothing price indices to elucidate the movement of relative prices of the clothing industry over time in each EC country. We call the first horizontal analysis and the second time analysis.

Horizontal analysis

The analysis is based on net retail prices for selected clothing products which in some instances are not fully identical in the member countries. In both 1980 and 1985

for some clothing merchandises the price differences reach even 200 %. Despite the fairly advanced stage achieved by the internal market in this industry these apparent divergences reveal at least the existence of some peculiarities of national markets.

The coefficients of variation presented show that there are price differences in clothing (Table 3)*. There is no clear trend towards a reduction over time. The interviews confirm

Table 3

Coefficients of variation of average net retail prices
of clothing products for EUR-10

Clothing product	1975*)	1980	1985
Coat M.	0,06	0,06	0,06
Coat W.	0,07	0,07	0,08
Raincoat	0,08	0,07	0,06
Jacket M.	0,05	0,06	0,07
Jeans	0,05	0,06	0,05
Trousers W.	0,04	0,07	0,11
Trousers M.	0,05	0,07	0,06
Trousers C.	-	0,10	0,10
Wool Skirt	0,03	0,07	0,08
Pull. M.	0,08	0,09	0,09
Pull. W.	0,11	0,08	0,04
Shirt	0,03	0,07	0,06
Chemise	0,06	0,06	0,10
Slip M.	0,03	0,09	0,10
Slip W.	0,07	0,10	0,07

*) Computed on gross prices.

Source: Data from EUROSTAT calculations by PROMETEIA.

these findings. In all four major EC countries there are businessmen who said that they set prices in the EC within a discretionary range which represent on average 10 percent of the net final price. We have reason to believe that they purposely gave a lower figure because they feared legal consequences. Then if we add price discrimination made by retailers we understand why such phenomenon is still so relevant. A detailed analysis on some standard textile products also shows price differences.

Price differences look lower in textiles than in clothing. The reasons are:

- Product differentiation in textiles is lower and hence price differences cannot reflect different consumer tastes to a great extent.
- More homogeneous goods in the textile industry make competition fiercer and price differences less likely even if stronger competition is not accompanied by any decrease in concentration and economies of scale have still to be fully exploited.
- Textile production is more capital intensive, hence the slight differences in labour costs among the EC countries have less weight.
- Textile goods are mostly sold directly by producers leaving less room to different commercial margins which are sometimes the cause of price differences among goods of the same branch across countries.

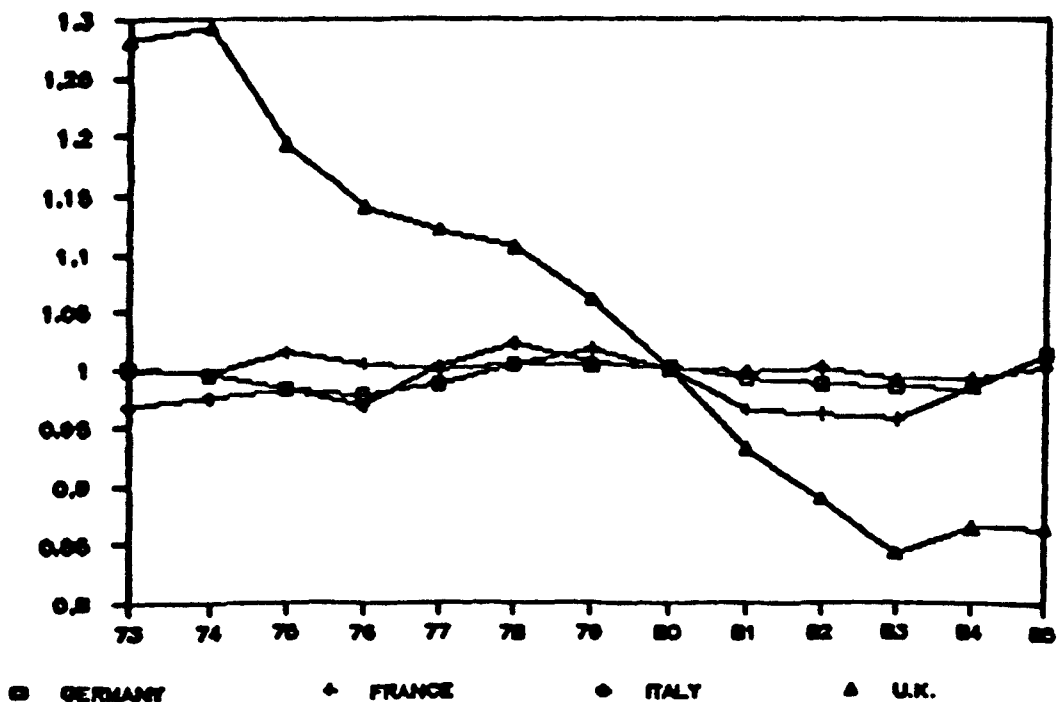
Why do we observe price discrimination? Is it really the sign of a still lagging internal market in the T-C sector? Will it persist after 1992? First of all price discrimina-

tion by firms across different countries might just be a policy by firms induced by different consumption habits of consumers across the EC. Insofar price discrimination is not the sign of residual non tariff barriers within the EC. Taking into account the pronounced price differences it is clear that the bilateral agreements within the MFA play an important role.

Time series analysis

The analysis of prices time series shows a substantial stability of relative prices of clothing over the period 1973-1986 in three major countries, i.e. Italy, Germany and France. In Italy the price of clothing has gained over the period some five points, while in Germany and France some two points which shows greater stability (figure 1). Quite

Figure 1: Relative Prices Clothing-Footwear *
(1980 = 100)



*) In relation to general price index.

a different behaviour is displayed by UK prices. Here the relative price of clothing has lost some 40 points. This is primarily the signal of cheap imports from third countries (Commonwealth) and the switch of British consumers towards lower price articles.

5. Consumption patterns

From branch data we can easily infer some features of the evolution of private expenditure in the four major EC countries. It appears that from 1973 to 1985 the share of private consumption expenditure for clothing and footwear in total private consumption has slightly declined both in value and quantity terms in Italy, Germany and most in France. This is due to the inferior nature of clothing expenditures, that means demand for clothing is rather income-inelastic. A sharply different picture is provided by UK. In this country clothing expenditure has diminished its share over total consumption expenditure only in value terms, whereas it has increased its share in quantity terms.

Demand for clothing can be divided into two parts. On the one hand there is a mass market primarily supplied by imports from third countries. Demand for these products is relatively price-elastic. On the other hand there is a market for high quality products which is the very domain of most of the European producers. Demand for these goods is rather price-inelastic. This is the reason why the role of price developments in the determination of clothing demand in the industrial countries is a controversial issue in the economic literature. Some studies indicate that prices are important, whereas other studies (mainly European) conclude that, according to the available data, pri-

ces are rather insignificant in comparison with other factors in explaining clothing demand. (Cf. GATT, Textiles and Clothing in the World Economy, Geneva, July 1984, pg. 168). On the average the elasticity to prices of consumption expenditure for T-C is a little below 0. We consider two different scenarios according to two different values of elasticity: -0,6 and -1,0. The lower figure (-0,6) is more realistic if we take into account the inferiority character of T-C goods.

The effect of 1992 on consumption

One effect of eliminating the trade barriers will be lower prices (see chapter II.6). To evaluate the impact of lower prices on the level of consumption of T-C products we assume that prices will decrease by 0,8-1 % in Italy, 0,4-0,6 % in Germany and France and 0,6-0,8 % in the UK. The effects of the completion of the internal market will be a small increase of consumption in the range of 0,24-1 % in the period 1985-92. The total increase will be higher because aggregate consumption will have increased owing to a higher income in 1992.

6. Barriers to trade

Most of the firms in the sample did not complain about the existence of significant barriers to intra-community trade. An Italian firm even said that there are more troubles in selling in Southern Italy than in Germany or France. The EC market is considered almost perfectly integrated.

Although there are no significant barriers intra-EC trade is still hampered by slight barriers. In accordance with

the Commission's 1985 White Paper, three categories of barriers may be distinguished:

- Physical barriers:

One of the most trade barriers within the EC are delays at the borders, primarily because of exaggerated border formalities or arbitrary and therefore discriminatory use of customs rules. In these connection the surveyed firms mentioned above all the customs practice in France, but also in Italy, Greece, Portugal and Spain. To be sure, the frequency of border delays has declined recently, according to the firms.

This category of physical barriers includes also the control of origin of goods in order to ensure that products from third countries, the imports of which to the EC has been restricted, have been set against the relevant Member States quotas. Moreover, Member States may be authorised by the Commission, on the basis of art. 115 EC treaty, to exclude those imports from Community treatment.

- Technical barriers:

Of some importance are restrictions in cross-border capital flows, which affect merchandise trade as well as direct investment. Firms' complaints concern primarily practices in Italy and France. Frequently mentioned was the lack of a unique European currency; this was said to cause high hedging costs, especially for exports to the UK.

In the category of technical trade barriers mention was also made now and then of a restriction in the case of public procurement. In many cases, the firms didn't even participate in the calls for tenders, as they were sure of not having a chance.

- Fiscal barriers:

Very frequently the firms mentioned the different value added tax rates in the member countries as being a trade barrier. Individual member countries, e.g. Italy, demand the value added tax at the time of import, which is discriminatory in favour of the domestic competitors.

According to a special survey of German clothing manufacturers, the trade barriers mentioned above concern in particular small and medium size firms. The barriers have less grave effects on the large producers.

The trade barriers mentioned did not, however, prevent the firms from exporting to other Common Market countries. These exports might possibly have been even higher, although there are many dynamic, Europe-oriented firms which stopped differentiating between domestic sales and exports a long time ago. Consequently the elimination of the still existing trade barriers will only have marginal effects on quantitative trade flows within the EC. This implies that economies of scale yet to be realized may also be minimal for production processes.

Given that the trade barriers will be eliminated, the interviewed firms expect costs reductions for exports of some 1 to 3 percent. Because of the sharp competition in the textile and clothing markets one may assume that the cost reductions will also be passed on prices.

III. Results on the costs of Non-Europe

Immediate direct effects

1. Unit labour costs will drop as a result of the internal market simply because the job of monitoring the custom formalities, filling the custom documents, checking the labelling requirements, etc., will be no longer necessary. Part of the staff working on these items can be moved to other assignments or fired. Our estimate of the importance of these jobs in the employment structure of a firm with substantial export activity, is around 0,5 % to 2 % of the total number of employees. If these people were fired, the cost saving would be around 0,5-2 % of the wage bill.

2. There are, however, two possible scenarios. The best one in terms of cost reduction, is that of lower employment with the same production level and efficiency, or the redeployment of the white collars formerly working on custom formalities to other internal jobs which increase the overall efficiency of the firm. The immediate firing is quite unlikely. Furthermore, if one of the possible effect of the internal market is an increase of the export performance of the firm, the marketing staff might need to be reinforced, so people formerly working on custom formalities can still be valuable for the firm.

3. The more likely scenario is that of no significant changes in the number of white collars, at least in the short term. So the unit labour cost reduction as a direct effect, will be accordingly negligible.

Deferred direct effects

1. The completion of the internal market can have a psychological effect in the sense of making firms more Europe minded and willing to increase their export and investment activity in the European community. Harmonization of VAT and a complete liberalization of movements of capitals and currenties could make some firms even more EC minded. In this scenario, the strategies of the firms are going to experience some changes even if they already have a European orientation, although, in this case, the impact will be correspondingly smaller. Firms will probably decide their market strategies at a European level, and not country by country as they usually do now.

2. In any case, the most important expected effects of the completion of the internal market come from the estimated net increase in competitiveness among European producers. We are talking about net effects because most of the changes that we would expect to occur in the next years will be mainly a reaction to forces that are in motion now and will affect the industry structure and performance for many years to come. According to the interviews' results the complete barriers-free European Community will affect these trends only marginally, not more than 10 % of the expected unit cost reductions.

3. The expected increase in competition in the European markets will have some effects on the mark-up of the firm. It is very difficult to work out a single estimate of the expected reduction, because of the strong differences between the competitive systems of the various sub-sectors of the industry. Furthermore, the pressure on prices due to the competitiveness of low wage producers has already been forcing firms to adapt their strategies to a price competitive environment.

4. The mark-up reduction depends also very much on the distributive structure of the countries and on the marketing and distribution policies of the firms. The more the distributive structure of T-C goods is concentrated on independent large units (department stores, mail order houses etc.) the more price competition is expected to reduce the mark-ups of the firms. In this case, however, nothing guarantees that reductions in the mark-ups will be passed on consumer prices: the expected mark-up reduction might simply mean more profits for the distributive sector. On the other hand, the more fragmented is the distribution structure, or the more important is the market power of single brands and labels, in other words, the more oligopolistic are the T-C sub-sectors, the less strong will be the effect on prices not only of increased competition but also of the estimated cost reduction.

5. Countries like Great Britain and Germany, where the distribution of T-C goods is relatively more concentrated and the distributive sector is price-competitive, might experience the strongest price reductions. France, and above all Italy, on the other hand, where the distribution of T-C goods is very fragmented, are expected to experience a comparatively smaller price reduction¹⁾. Firms which sell to the branded segments of the market, however, irrespective of the country, are going to develop strategies aimed at strengthening their market power, Franchising in the clothing industry is an example of such a policy. In this case, the pressure towards price reductions is comparably lower.

1) A la longue in Italy and France there will be a restructuring in the distribution sectors, consequently price reductions also will be very strong.

6. A fall in production costs due to economies of scale has been indicated as another plausible deferred direct effect. A scenario might be a tendency towards a homogeneity of tastes and demand across Europe, which could change the balance between static efficiency and product variety in favour of the former. In the United States demand is more homogeneous and plants are usually larger than in Europe. Volumes are relatively more important than variety. It seems very unlikely, however, that demand in Europe will follow the US pattern. Then flexibility will remain the main route to efficiency for the European firms. In any case, even assuming that most of the T-C industry is currently working at 2/3 of the optimal size of the plants, the cost reduction due to the full exploitation of static economies of scale would not exceed, on average, 1,5-2,5 per cent of unit cost of production. The internal market effect, at best, might account for only 10 % of this reduction.

7. Marketing economies of scale on the other hand, mainly due to advertising, brand image, and distribution factors, have still to be fully exploited for many sub-sectors of the T-C industry. A complete European market can help firms to reach a European dimension and save on marketing costs. Assuming that there is still on average a potential gain of 2,5 per cent in the textile and 5 per cent of the unit cost in the clothing industry, and allowing the internal market to account at best for 10 per cent of the expected changes¹⁾, the best scenario for the internal market effect is an estimated cost reduction of not more than 0,20-0,30 per cent of unit cost due to multi-plant marketing economies of scale. These figures, added to the static economies

1) See paragraph 2 of this chapter.

of scale effect, give us an idea of the expected cost reduction due to the completion of the internal market in the more favourable hypothesis: 0,3-0,6 percent of the total unit cost of production and marketing. The highest cost savings can be expected in France and Great Britain, currently the less efficient T-C industries.

Indirect dynamic effects

Generally speaking, a more larger use of international sub-contracting, de-centralization of production, and outward processing practices with producers of low wage countries, are expected in the future. This will probably represent the most important structural changes in the next decade, particularly in the clothing industry.

The cost saving due to the de-centralization of the assembly operation in low wage countries can be estimated around 15-25 per cent of the total unit cost of production. The increased competition effect of the internal market can force firms to increase their recourse to outward processing and direct investments in low wage countries. The more optimistic scenario is that, in the second half of the 1990s, the share of imports of clothing from low-wage countries will be 2-5 percentage points higher of the estimated trend as a result of the internal market. The additional saving on unit labour cost can be estimated around -1 per cent for France, the country which is expected to experience the largest increase in outward processing and direct investment in the next years, and roughly -0,2 to -0,5 per cent for Germany, while for Italy and Great Britain the cost savings will be even less pronounced.

IV. Conclusions

1. The internal market effect will be marginal in the T-C sector, because of the advanced state of integration achieved. This statement can be reinforced by observing that:
 - 1.1 Plant and technical economies of scale have already been exploited to a large extent.
 - 1.2 Commercial economies of scale have still to be exploited and their effect will be a further homogeneity of tastes and prices, with scanty relevance for the level of prices.
 - 1.3 The proportion of disposable income devoted to T-C is not going to increase, so the income effects of the internal market on consumption are rather low.
2. The reduction of production prices due to direct and indirect effects should range between 0,5 and 1,5 %. How much of this reduction is going to be passed on to consumers depends on the commercial structure which will prevail after 1992. Great Britain and Germany might experience the strongest price reductions, but in all countries the effect on consumption will be insignificant.
3. What is going to reshape dramatically the T-C sector in the EC in the years to come is not the internal market integration, but the fiercer competition from third countries. Prices, profits, employment will be set where third countries competition on one side and import protection on the other will compromise. Compared to the shocks produced by low wage countries import, the internal market effect looks like a grain of sand.

REFERENCES

- GATT (1984) Textiles and Clothing in the World Economy,
Geneva
- Mariotti S. (1982) Efficienza e struttura economica: il
caso tessile-abbigliamento, Milano
- Nenndörfer K. and E.-H. Stahr (ed. for Gesamtextil),
Wettbewerbsverhältnisse und Wettbewerbsver-
zerrungen im Welttextilhandel, Schriften zur
Textilpolitik, Vol. 2, Frankfurt/Main 1985)
- OECD (1987) Structural adjustment in industry: study of
the textile industry, Paris
- Pratten C.F. (1971) Economies of scale in manufacturing
industry, Cambridge (UK)
- Scherer F.M. et al. (1975) The economics of multi-plant
operations, Cambridge (MA)

15.

The "Cost of Non-Europe"
in the Pharmaceutical Industry

Economists Advisory Group Ltd.

EEC CONTRACT ETD/87/7789/NE/14

This report was prepared with financial assistance from the Commission of the European Communities. The views expressed are those of the consultants and do not represent any official view of the Commission.

**ECONOMISTS
ADVISORY
GROUP**

THE COST OF NON-EUROPE⁴
IN THE PHARMACEUTICAL INDUSTRY
EXECUTIVE SUMMARY

PREPARED BY

ECONOMISTS ADVISORY GROUP LTD

M L Burstall with B G Reuben

35 Albemarle Street
London W1X 3FB

January 1988

Tel: 01-629 7209
Tlx: 299153 AUNGCO
Fax: 01-493 1624

CONTENTS

	Page
1 EXECUTIVE SUMMARY	1
1.1 The nature of the European pharmaceutical market and industry	
1.2 Registration and its problems	6
1.3 Pricing systems, prices and price competition	9
1.4 The operation of the multinational system	14
1.5 The results of unification	16

1 EXECUTIVE SUMMARY

1.1 The nature of the European pharmaceutical market and industry

1. In 1984 pharmaceutical sales within the Community, including Spain and Portugal, were approximately ECU25,750m at manufacturers' prices (Table 1), forming 9.5 per cent of health care costs and 0.79 per cent of combined gross domestic product (GDP). Of this total, 88 per cent of sales by value were obtained through a doctor's prescription, 14 per cent being consumed in hospitals and 74 per cent being dispensed through retail pharmacies. Only 12 per cent were bought over the counter,

2. There are large variations in the consumption of pharmaceuticals between the member states in the Community. Differences in income are only partly responsible. Equally important are differences in attitudes to drugs and in traditions of medical practice. These variations affect both the levels of consumption and the types of product consumed. There are strong similarities between Belgium, France, Italy and Spain, on the one hand, and Denmark, Ireland, the Netherlands and the UK on the other. The FRG has elements in common with both.

3. The supply of pharmaceuticals within the Community is highly internationalised. Taking the Community as a whole, 43 per cent of sales are by indigenous companies to their own national market. In every country the locally owned industry has a disproportionately large share of the local market. Only in France and the FRG, however, does it amount to more than 50 per cent. Supplies from companies based in other Community countries make up a further 23 per cent of the total, while 34 per cent come from firms based outside the Community, primarily in the USA and Switzerland.

4. Foreign companies supply drugs either through trade or by local production. In the Community the latter is the more important, amounting to about 40 per cent of all pharmaceuticals supplied. US and Swiss firms depend overwhelmingly on local production to supply their markets, while British and German companies also have substantial foreign facilities. Denmark, Ireland and the Netherlands are the only Community countries which are supplied mainly by imports from abroad.

TABLE 1 PHARMACEUTICAL CONSUMPTION WITHIN THE EUROPEAN COMMUNITY, 1984

Country	Total sales ECU (1)	Per capita ECU	As % GDP	As % health care costs (2)	By type and outlet (%)			Average price (UK=100) (4)	Relative volume Per capita (UK=100) (5)
					OTC	Ethical through retail pharmacies through hospitals			
BELGIUM	880	90	0.81	8.6	12	76	12	103	140
DENMARK	370	74	0.50	7.0	15	70	15	154	77
FRANCE	5600	102	0.81	8.8	9	78	13	76	216
FRG	7660	125	0.89	11.0	16	66	18	164	122
GREECE	449	45	0.95	20.2	←83→		17	73	99
IRELAND	160	46	0.67	8.8	5	80	15	115	65
ITALY	4440	78	0.91	12.4	8	79	13	57	221
NETHER- LANDS	660	46	0.38	4.1	← n/a →			145	51
PORTUGAL	350	35	1.08	18.9	←93→		7	low	n/a
SPAIN	1830	48	0.81	12.1	←88→		12	low	n/a
UK	3510	62	0.59	9.6	20	67	13	100	100
TOTAL	25750		0.78	9.5	12	74	14	91	152

(1) at manufacturers' prices

(2) 1983

(3) including dispensing doctors

(4) using the 1983 indices of the EC statistical office

(5) per capita spending/average price.

Source: Authors' estimates based on IMF and IMS data and OECD: Measuring Health Care 1960-1983

5. Production of pharmaceuticals within the European Community amounted in 1984 to ECU39,300m (Table 2). The sector is dominated by large companies with the resources to develop new active substances (NAS). The cost of doing so is currently at least ECU75m per NAS to reach the market, and requires annual sales of ECU150m or more. There are 60 such firms operating in the Community, of which 33 are based there. Of the remainder, 20 are American, four are Swiss and three Swedish.

6. These companies have a strong international orientation and operate on a world-wide basis. They are generally organised on multinational lines. Within the Community, marketing is always organised on a country-by-country basis. The manufacture of active ingredients is confined to a limited number of sites, but conversion into dosage forms is extensively decentralised. Basic and commercially sensitive research is highly centralised most commonly in the country of origin. Clinical and formulation development work, however, is often dispersed.

7. Many smaller companies operate in the Community. Most of them concentrate on generics or OTC products or exploit local markets with well-established remedies. Their innovative capacity is limited, and their focus national rather than international. Firms of this kind have 20-30 per cent of the market in France, the FRG, Italy and Spain, although they have largely disappeared in the UK.

8. On the basis of shares of the world market and of success in innovation, the pharmaceutical industry of the USA leads. That of Switzerland, although much smaller, is also in the first class. Among the companies based within the European member nations those of the FRG and the UK are very strong. French firms are less well placed, being excessively dependent on sales in the home market and in the franc zone, and the same is true, mutatis mutandis, of those of Italy. The research-based companies of Belgium, the Netherlands and Denmark have elements of competitive strength but are handicapped by their moderate size. The indigenous companies of the other Community nations are uniformly weak.

TABLE 2 PHARMACEUTICAL OUTPUT IN EUROPEAN MEMBER COUNTRIES, 1984

COUNTRY	PHARMA COMPANIES NUMBER (1)	PHARMACEUTICAL PRODUCTION				R&D EXPENDITURE		EMPLOYMENT (000)
		TOTAL ECUm	VALUE ADDED % (2)	TRADING PROFIT AS % SALES (3)	AS % CHEMICAL SALES (2)	TOTAL \$m	AS % PHARMA SALES	
BELGIUM	80	1290	49	20	9.4	125	10	10
DENMARK	39	870	44	19	36.4	65	7	8
FRANCE	331	8530	30	5	19.6	1090	13	66
FRG	308	10140	46	12	12.4	1430	14	87
GREECE	90	405	20				<1	3
IRELAND	153	1040	69		52.4	15	5	4
ITALY	365	6300	41	11	21.0	380	6	64
NETHER- LANDS	47	1050				110	11	10
PORTUGAL	96	410					<1	3
SPAIN	370	2570	42	14	19.3	40	2	32
UK	333	6700	52	30	16.8	910	14	66
TOTAL	2212	34300	43	14	16.8	4165	11	353

(1) Manufacturers only

(2) 1983

(3) Authors' estimates based on 1983 Eurostat data.

Source: IMS, Eurostat, National sources

9. The pharmaceutical industry is subject to a very large degree of government regulation. The admission of new products to national markets is strictly controlled. Proof of safety, efficacy and quality is universally required. Regulation of this type is carried out on a national basis, although a considerable degree of uniformity within the Community has been attained through the various directives issued by the Commission since 1965.

10. Pricing policies designed to limit pharmaceutical expenditure are also normal in the member countries. They result from the heavy involvement of European governments and national agencies in the provision of health care. Only in the FRG and the Netherlands are prices largely uncontrolled. Elsewhere, they are fixed by various forms of official action (paragraphs 27-32). Positive lists, which limit reimbursement to specified products, and negative lists, which exclude certain drugs or therapeutic categories, are widely used. Average price levels vary very considerably within the Community. Differences of this kind have existed for many years. Prices are set on a national basis and little progress towards harmonisation has been made.

11. Other barriers towards the unification of the European market and industry are relatively unimportant. Tariffs and direct import restrictions have been eliminated, except in the cases of Portugal and Spain, where they are being phased out. Patent protection has been unified. Direct assistance to the local pharmaceutical industry in the form of subsidies and tax concessions is only significant in the case of Ireland. The discriminatory use of registration procedures and price controls is considered below.

12. Government regulation of the industry means that it forms apart of the political agenda. National administrations have divided aims. They wish to limit health care spending, of which pharmaceuticals form a minor but readily controlled part; at the same time they want to promote high-technology industries, of which the pharmaceutical sector is a successful example. There is therefore an inherent conflict of objectives.

13. In practice, Greece, Portugal and Spain, without a research-based industry, favour the interests of consumers unambiguously. Belgium and the Netherlands are inclined in the same direction; although they have such a sector, they appear to attach only a secondary importance to it. The FRG values its major companies, but is committed to a detached attitude to all types of industry. Denmark and the UK have a generally supportive attitude towards their own firms, which, however, make most of their sales abroad. The governments of France, and, to a lesser extent Italy, attach an equally strong importance to the interests of both consumers and producers, which have proved difficult to reconcile.

1.2 Registration and its problems

14. The object of registration is to make sure that a drug is safe, effective and of adequate quality before it is put on sale. The onus is on the applicant to satisfy the authority; the role of the latter is to evaluate the evidence put before it.

15. During the past 20 years the requirements of national regulatory authorities have converged as a result of action by the European Commission. There are now few differences in technical standards between them. All Community countries accept evidence obtained abroad and follow common guidelines. All provide abbreviated forms of registration for projects based on known ingredients. A uniform 120-day decision period has been agreed, to which 90 days are added if the product is referred to an advisory committee.

16. In practice, however, there are substantial differences between one country and another. Methods of evaluation vary, as do perceptions of the weight to be put on particular kinds of evidence. A large element of judgement is involved, which must be influenced by the local traditions of medical practice. Local clinical trials may not be officially required, but are often advisable to familiarise local opinion leaders with a new product.

17. There are also considerable delays in processing applications. Currently only France approaches the 120-day limit on occasion. The FRG and the UK take about two years, and Italy and Spain three or more. The Community average is currently 18-24 months. Such delays have tended to increase in recent years. They are attributed in the main to a lack of resources on the part of national registration authorities, aggravated in several nations by a large increase in the number of applications for generic products.

18. The large research-based companies respond to this situation by preparing the necessary dossier centrally, usually with the US Food and Drug Administration (FDA), the most demanding of authorities, in mind. The experimental work is organised so as to satisfy all requirements; thus, if local clinical testing is needed, it will be included in the overall programme. The dossier is then modified to suit the needs of each authority. They consider this to be a satisfactory if not ideal way to work.

19. The direct costs of multiple registration within the Community are limited. Based on the extra staff employed by the major firms, a figure of ECU40-55m seems reasonable. Extra clinical testing is not considered to be serious burden; as already noted, the results contribute to the central dossier, while the testing itself may help towards a favourable decision by the licensing authority and towards a better reception when the product reaches the market.

20. More important are the effects of delays in the registration process. Since it takes 9-12 years to develop an NAS, the opportunity costs of the money tied up in the process are considerable. A further delay increases the penalty correspondingly. Estimates based on data supplied by the FDA suggest that in 1984/5 the total costs imposed by the general failure to observe the 120-day limit were in the range of ECU30-200m, depending on the discount rate chosen, with a most probable range of ECU57-82m, corresponding to rates of eight and ten per cent respectively.

21. Another serious problem arising from delays in approval is the loss of revenue while the product is in patent. As yet there is no

general patent term restoration in the Community, and effective patent lives, weighted by national sales, average nine years. Estimates derived from average sales of new active substances during the years following their introduction suggest that the failure to meet the 120-day limit caused gross losses of ECU360-640m to their originators. The net losses are smaller, in part because costs of production must be deducted, and in part because of the continued sales of products which would otherwise be made obsolete.

22. The penalties due to the differences between member nations are less serious. As has been noted, with the partial exception of France, all greatly exceed the 120-day limit. If the minimum practicable time for the approval of an NAS under current conditions is taken to be one year, then the opportunity costs of delay drop to ECU20-28m and the net loss of sales to ECU100-175m. As far as registration is concerned, the total cost of the non-Europe is therefore ECU160-260m or 0.5-0.6 per cent of industry costs within the Community (table 3). Effective unification of the market would most benefit US companies since they introduce the largest number of new active substances.

23. Approaches to a more unified system of registration have focussed on two major alternatives - mutual recognition between states and pan-European registration agency. Research-based companies see considerable problems with both these approaches. There are doubts about the equality of the countries involved. There is some feeling that north European agencies carry more weight than south European ones. The differences of medical culture were thought to raise difficulties of mutual acceptability. Registration is not, however, thought to be used in a deliberately discriminatory way.

24. A single European agency would have the advantages of impartiality and uniformity of approach. In principle it could provide rapid decisions. It might, however, be excessively rigid and bureaucratic; the precedent of the FDA, EAG found, was not thought to be encouraging. There was some anxiety about the standards to be used; these would have to be high, but many feared a combination of the most severe elements of all national agencies. There was also concern about the political acceptability to the individual nations of a central authority.

25. It does not appear that a central registration authority would be much cheaper to run than the present system. The national agencies employ the equivalent about 1500 staff at a cost of ECU55-70m to which accommodation and related overheads should be added. Allowing for the higher salaries prevailing in the USA, this sum is comparable with the cost of the drugs and biologics division of the FDA. The European national registration agencies are generally under-staffed and savings through the creation of a single authority would therefore be limited.

26. From the standpoint of the pharmaceutical industry the key issue is the speed of the registration process. Any change which lengthened it would be opposed. Consumers would also benefit from the more rapid approval of new substances provided that safety standards were not lowered.

27. The CPMP procedure in force between 1978 and 1985 was not widely used because of doubts among large innovative companies about its advantages. The current procedure has arised considerably more enthusiasm, especially as it is thought to be potentially faster than the normal route.

1.3 Pricing systems, prices and price competition

28. As already noted, policies intended to control pharmaceutical expenditure are found in all member states of the Community. The methods used vary very widely as do average price levels. The only common factors are that all systems incorporate an element of patient copayment and the over-the-counter (OTC) products are exempt from regulation.

29. At one extreme, the FRG leaves pharmaceutical firms free to set prices as they wish. Total expenditure is limited by strong pressure on companies to limit price increases and on doctors to economise and by a negative list which excludes certain categories of comfort drugs from the reimbursement system. The situation in the Netherlands is very similar. Prices are high in both countries.

30. In the UK the profitability of pharmaceutical companies is controlled. A target level is set for the sector as a whole; the target for each firm depends on its research effort and on its contribution to the British economy. Subject to these constraints companies are allowed to set the prices at which their products are introduced. Irish prices are in practice tied to those in the UK. In both countries they are in the middle range.

31. In principle firms may set their own prices in France, but in practice admission to the national reimbursement system is strictly controlled. Products are dealt with on an individual basis. The price agreed between the manufacturer and the reimbursement authority depends on those of competitive products and on the company's local activities in France. Belgium has a similar system. Prices are low in both countries, and especially in France.

32. Denmark, Greece, Italy, Portugal and Spain control the prices of individual drugs by the use of cost-plus methods, and maintain positive lists. Prices are high in Denmark, below average in Italy and very low in the other three countries.

33. In every Community country except the FRG, the price at which a product is introduced cannot subsequently be changed without official permission. Such permission is often delayed, refused or made contingent on the company expanding its local activities.

34. As far as the adequacy of price levels is concerned, the attitude of the research-based companies is that sales in the Community market should ideally make a substantial contribution to world overhead costs, and in particular to the cost of innovation, and to profits. Prices in Denmark, the FRG and the Netherlands are considered to be 'satisfactory' from this point of view and those in the UK and Ireland 'adequate'.

35. Prices elsewhere are considered to be less than adequate. Those prevailing in France are thought to be strikingly low as were those in Italy until recently. Prices in Portugal and Spain are even lower. Nevertheless, the major firms continue to sell their products in these countries. The reason for this behaviour is that production costs are

relatively low, especially at the margin, while most other costs are fixed in the short run. It is therefore worth selling in any market in which direct costs are covered and some contribution is made to overheads.

36. Official data suggests strongly that total costs vary considerably between member countries. In Italy, Portugal and Spain, low prices are offset to some extent by low costs and in the FRG high prices are accompanied by high cost. The UK is unusual in combining above average prices with below-average costs, while the reverse is true of France. All measures suggest that prices in France are uncomfortably low from the standpoint of the French-based industry, which depends heavily on its local market. In contrast the UK industry is markedly profitable.

37. Consumer advocates claim, in opposition to the standpoint of the industry, that pharmaceutical prices are generally excessive and that the industry is inefficient in its use of resources. Central costs are inflated and conceal unnecessary activity, especially in marketing and administration. Prices would be more firmly controlled; alternatively, competition should be stimulated.

38. In relation to national income, total expenditure on pharmaceuticals is relatively low in Denmark and the Netherlands, and, to a lesser extent, in Ireland and the UK. It is high in France, Greece, Italy, Portugal and Spain. These variations result primarily from different attitudes to drugs rather than from differences in prices. For historical and cultural reasons the propensity to consume medicines is unusually high in southern Europe and low in northern Europe (paragraph 2). Such attitudes are difficult to change and must therefore influence national policies concerning the control of pharmaceutical expenditure.

39. In relation to national price levels, pharmaceutical products are unusually cheap in France, and were so, until recently, in Italy. This is not the case in Greece, Portugal and Spain. It is arguable that in the former countries prices are strictly controlled in order to limit total expenditure because it is impossible to reduce the volume of consumption. In the latter nations, however, low prices correspond to

low incomes. Prices in Denmark, the FRG and the Netherlands are high compared to other prices, perhaps because of the combination of free pricing, comprehensive health care services and a restrained attitude to medicines (table 1 and paragraph 38).

40. In so far as comparison with other parts of the chemical industry is possible, the pharmaceutical industry of the Community appears to use its resources with equal efficiency. In most member countries, however - France is the principal exception - it appears to be appreciably more profitable.

41. This is probably due to the ways in which price competition is limited by the arrangements for getting drugs to those who need them. Most products are available only on prescription (paragraph 1) and doctors see their prime duty as well-being of the patient rather than economy. The majority of the bill is paid by the state or the insurance agency. In most countries the distribution system incorporates definite monopoly elements. There is therefore scope for higher than normal profits.

42. To this extent consumer organisations have grounds for their criticisms. As presently constituted, the arrangements for discovering, making and distributing drugs are as a whole rather more expensive than is strictly necessary. The extra profits realised by the industry, however, do not appear large while the future benefits to be derived from its continued activities are very considerable. It is also arguable (paragraph 46) that price competition is increasing in certain significant parts of the pharmaceutical market. Moreover, it is obvious that radical alterations to the system would require a major political effort.

43. There is clear evidence that pricing systems may operate in a discriminatory way. As already mentioned (paragraphs 30-33), individual prices and profit margins depend in several member countries on the scale and nature of a company's local activities. This obviously discriminates in favour of indigenous firms; it also promotes the unnecessary decentralisation of particular functions, with

potential losses in economies of production (paragraphs 53-54).

44. Market distortions arise from the sharp differences in price level. The most obvious sign is parallel importing from low-price to high-price areas. It is seen in Denmark, the FRG, the Netherlands and the UK, the main sources of supply being France and Italy. The scale of this practice is quite small, however - it accounts for no more than 0.5 per cent of total Community sales - and has not increased recently. It is seen by the industry as an irritant rather than as a major threat.

45. Although prices do not play a major role in the competition between pharmaceutical products (paragraph 41), they nevertheless have an appreciable if subordinate part. In countries which permit free pricing, in-patent products are introduced at prices explicitly related to those charged by their competitors. Therapeutic advantages justify a premium price of up to 25 per cent over other medicines in the same therapeutic class.

46. A vigorous market in out-of-patent generic products has recently developed in those member countries where prices are high. Prices have been forced down and reductions in expenditure realised. Such products account for eight per cent by value of the UK market and ten per cent of that of the FRG and the Netherlands. It may be noted, however, that the market is highly imperfect and the originator is normally able to retain much of his sales even when charging a premium price. Official action to encourage generic products has been a sine qua non for the development of a successful generic sector.

47. The industry welcomes the transparency directive which it sees as a step to reduce and perhaps eliminate discriminatory practices and, in particular, pressures to enlarge local activities beyond what is commercially desirable. Progress towards convergence of national price levels within the Community is widely anticipated. There is some anxiety about the basis on which this might take place. The directive has been less enthusiastically received by consumer advocates, who consider that it will do little to limit the profits of the industry.

1.4 The operation of the multinational system

48. The major pharmaceutical companies operating in Europe are organised on a multinational basis (paragraph 4). This could be sub-optimal from an economic standpoint. The need to carry out operations in many locations could give to losses in economics of scale. The coordination of such an organisation could prove excessively expensive.

49. The research-oriented companies that there would be no worthwhile economies of scale in research from the unification of the Community market. There are indeed such economies in serious innovative research but they have already been realised. Such activity is normally concentrated in the firm's country of origin. Where a company has major research centres abroad, they have been placed there in order to exploit local expertise. Within the Community such centres are placed in the UK or, less frequently, in France. In a unified market there would be no immediate change in this policy.

50. Local development work is more decentralised. It does not appear, however, that this activity would be much affected by unification. Formulation research for specific markets is best carried out on the spot, where local advice and information is most effective and tests may be most readily arranged. As has already been seen (paragraphs 16, 18), local clinical research has promotional and even political functions as well as scientific ones, and may therefore be indispensable in practice.

51. The scope for economies in marketing are also very limited. Traditions of medical practice and patterns of consumptions vary markedly between member countries (paragraphs 1, 2) and different approaches are necessary for each market. Even more to the point, the key person in marketing is the salesman who calls on doctors to promote his company's products. If he is suitably persuasive, he must by definition be a native of the country in which he works. In practice marketing is always organised on a national basis, and no firm interviewed could see any alternative.

52. The possibility of economies in production are more considerable. The manufacture of pharmaceuticals involves two stages: the production of the active materials by extraction, synthesis or fermentation, and the conversion of these substances into dosage forms. The first of these steps is normally confined to a few sometimes a single site in Europe, but the second is often decentralised. A common reason is reported to be pressure from host governments, often expressed in the course of price negotiations (paragraphs 30-33, 42). Multinational companies agree that to meet these demands is often to sacrifice economies of production.

53. The equipment used for the formulation of active ingredients is relatively cheap but the building in which it is put, which requires elaborate air-conditioning and ultra-clean facilities is not. The total cost of a formulation plant depends not so much on the volume of output as on the product mix and on the technology used. Over a wide range of output, therefore, it may be taken as fixed. The number of such installations within the Community much exceeds need. American multinationals report that their European formulation plants were often working at between one third and one-half their capacity.

54. Assuming this to be generally true, then between one-half and two-thirds of all formulation plants belonging to the multinational companies are surplus to requirements. There are approximately 250 such plants within the Community. If they are conservatively valued at either ECU 10 or 20m each then the extra capital employed is in the range ECU 1250-3333m. If they were eliminated then, assuming a 10-year lifetime for this kind of installation, the annual saving would be ECU 125-333m.

55. If it is further assumed that the extra production could be provided by existing plants with no further labour then the reduction in employment may be tentatively estimated at a maximum of between 12,500 and 16,500 persons. Labour costs would drop by ECU 225-295m. The total saving in production costs would then be ECU 350-630m, or 1.0-1.9 per cent of unit costs. If prices remained unchanged this would increase the trading profits of the Community industry as a whole by 7-14 per cent; alternatively spending on R & D might be raised by 8 - 15 per cent.

56. It should, however, be emphasised that these gains are markedly hypothetical. Multinational companies commented that in many cases their local activities were beneficial to them. In some countries, notably France, they are a condition of receiving an adequate price. In Germany, although pressures of this kind were absent, the free market permits relatively high prices which are advantageous in those export markets in which they are linked to those in the country of origin. More generally, firms feel an obligation to behave as corporate citizens of their host countries. Their local plants already exist, and it would be politically unacceptable and commercially damaging to shut them down.

57. Multinational companies do not think that there are appreciable direct costs in running Europe-wide networks of subsidiaries. Most of them remarked that the extra staff required to coordinate their operations were few.

58. The unification of the European market would therefore not be followed by large changes in the location of facilities. Some degree of concentration is seen as desirable but would happen slowly. Extensive action would have to await changes in pricing systems. Most companies indicated that they would continue to maintain production facilities in the five major countries of the Community.

1.5 The results of unification

59. The savings which might be expected from unification of the Community pharmaceutical market have been estimated in a variety of more or less plausible scenarios on an exploration of company attitudes. They are shown in table 3. In the first, no concentration of facilities takes place but economies due to unified and more rapid registration are realised (paragraph 22). In the second, multinational companies also withdraw all production facilities from Greece and Portugal. In the third, they further reduce the number of formulation plants which they operate by 50 per cent in France and by 25 per cent each in Italy and Spain. The production lost by these countries is transferred to the FRG and the UK.

TABLE 3 SAVINGS IN DIRECT COSTS OF OPERATION TO COMPANIES AND COUNTRIES THROUGH THE UNIFICATION OF THE COMMUNITY MARKET ON A 1984 BASIS

(For the three scenarios see para 59)

Origin of firms	FRANCE	FRG	UK	USA	SWITZ	OTHER	TOTAL
<u>SCENARIO 1</u>							
Savings to firms							
- m ECU: lower value	10.7	23.4	17.6	65.6	28.6	14.1	160
upper value	17.2	37.7	28.3	105.6	46.6	25.3	260
- As % unit costs							
lower value	0.19	0.26	0.51	0.91	1.34	0.22	0.48
upper value	0.30	0.40	0.82	1.47	2.10	0.39	0.77
<u>SCENARIO 2</u>							
Absolute saving m ECU							
Low value	18.5	29.6	23.8	84.3	31.7	15.7	204
High value	28.9	47.0	37.6	133.6	50.7	27.6	325
Reduction in unit							
Costs %							
Low value	0.32	0.34	0.70	1.17	1.43	0.24	0.61
High value	0.50	0.53	1.09	1.86	2.15	0.43	0.96
<u>SCENARIO 3</u>							
Absolute saving m ECU							
Low value	22.8	39.3	34.4	116.4	35.8	19.8	269
High value	46.2	88.6	61.9	227.7	65.8	42.7	533
Reduction in unit							
costs %							
Low value	0.40	0.44	1.00	1.62	1.68	0.30	0.79
High value	0.81	1.00	1.81	3.17	3.08	0.66	1.57

Source: Authors' estimates

60. The savings realised range from a minimum of 0.5-0.8 per cent of European unit costs to a maximum of 0.8-1.6 per cent. These savings would accrue primarily to companies operating on a multinational basis in a large number of member nations. They are proportionately greatest for US firms followed by those based in Switzerland and, at some distance, by the UK. Because these estimates relate to all companies of a particular nationality it should be remembered that this reduction in unit costs might be considerably higher or lower for individual firms, depending on their circumstances.

61. The funds so liberated might be used to increase investment in R & D, with a positive effect on competitive strength. For the Community as a whole research budgets could rise by between five and 18 per cent. However, as noted above, the main benefits would be felt by companies based outside the Community.

62. The effects of moves towards common pricing have been explored. Countries in which this entailed general increases in the price of pharmaceuticals would have to spend more on consumption but would simultaneously become more attractive as centres for production, since local production is always a major source of supply for the local market in the larger member countries of the Community. Countries in which prices fell would experience the reverse. Harmonisation on a basis which maintained total Community expenditure would benefit French and Italian firms and would have adverse effects on those of the FRG. UK, US and Swiss firms would break even. Harmonisation on a basis which reduced expenditure would be unambiguously unfavourable for all.

63. In the longer term the effect of unifying the European market will be to make the strong stronger and the weak weaker. Firms which have depended on the favour of their governments will suffer, while those who are already highly competitive will flourish even more. The elimination of marginal companies should concentrate resources on the more efficient and enable them to exploit the opportunities of the future the more profitably. Accelerated progress towards a two-tier pharmaceutical industry, in which companies are either very large or relatively small, seems probable.

16.

**The Internal Markets of North America.
Fragmentation and Integration in the US and Canada**

**Jacques Pelkmans
in cooperation with Marc Vanheukelen**

EXECUTIVE SUMMARY AND CONCLUSIONS

THE INTERNAL MARKETS OF NORTH AMERICA
fragmentation and integration in the US and Canada

Jacques PELKMANS

in cooperation with Marc VANHEUKELLEN

Maastricht, 8 January 1988

Project: Costs of non-Europe'



Institut Européen d'Administration Publique
European Institute of Public Administration

PREFACE

The Commission of the EC, strongly supported by the European Parliament, has initiated a project on 'The costs of non-Europe', and the benefits of "completing" the Community's Internal Market by the end of 1992. The steering committee, chaired by Mr Paolo Cecchini, decided that the work could benefit from an exploratory study of the Internal Markets of the US and Canada, in particular, their remaining 'incompleteness' as well as the costs and benefits.

The present paper aims to analyze the nature of the Internal Market of the USA, with special attention for its remaining fragmentation, and that of Canada, with its fragmentation too, as well as the nature and scope of non-tariff barriers and other distortions discussed in the Canada-US free trade area talks. A second objective is to come to an assessment of costs and benefits of the barriers inside the two Internal Markets of the USA and Canada, respectively, as well as the costs and benefits of the Canada-US free trade area for the Canadian economy.

The assignment is to provide an exploratory study, not a fully-fledged research product nor a very detailed and minute comparison. A major limitation of the paper is that no original research was conducted. The basis of the following is literature, interviews and discussion.

The author is indebted to numerous Canadian and US civil servants, academic experts and specialists, who generously helped to gather material and to improve the understanding of the many intricate aspects of market integration in their countries. Special thanks are due to Mark Vanheukelen (DG II, EC Commission). His painstaking efforts to clarify lots of detailed pieces of economic regulation have been indispensable. His insightful analytical survey of the empirical economic studies on the impact of the US-Canada free trade area on the Canadian economy has greatly increased the quality of this report. Needless to emphasize, however, that only the author is responsible for any errors or omissions.

EXECUTIVE SUMMARY AND CONCLUSIONS

1. In the framework of the research project 'The costs of non-Europe' it was considered useful to dispose of a study of the Internal Market arrangements in the US and in Canada as well as the recent endeavour of the two countries to establish one North American market. A second objective is to provide, whenever possible, a cost/benefit assessment of still existing 'barriers' in the two countries and of the removal of 'barriers' between the two neighbours. Since the free trade area agreement implies an enormous market enlargement for Canada, the latter cost/benefit analysis will concentrate on the Canadian case.
2. The assignment is to provide an exploratory study. The report summarized below is not a fully-fledged research product, as no original research was conducted and sourcing, interviews and the processing of literature and material were limited by time constraints.
3. The main features of the report are four:
 - o the context of market integration in the US and in Canada
 - o a comparative description of seven 'barriers' within the two Internal Markets
 - o an assessment of the market fragmentation caused by each 'barrier', and its costs, where possible
 - o an assessment of the (net) economic benefits of North American market integration, especially for Canada.

4. The context of market integration in the two countries studied differs considerably from that of the European Community today, or even from the EC in 1993. It is also important to appreciate essential contextual differences between the US and Canada. The report highlights a number of non-economic factors, such as demographic and geographic determinants of market size, some essential historical, constitutional and legal characteristics, and key political values. Although the factors are not elaborated, it is crucial to take them into account before any possible lesson is drawn from the assessments.
5. The Internal Markets must also be placed in a wider economic context before a proper evaluation of the nature and degree of market integration and fragmentation can be made. The allocative function of government - exercised by the choice between the market mechanism on the one hand and the options of regulation and intervention in markets on the other hand - is not fully centralized in the two federations. However, the degree of delegation of allocative functions to the market and the degree of decentralization of regulation/intervention interact with two other economic functions of government: redistribution and macro-economic stabilization. The nature and degree of market integration depend on this interaction, and not solely on allocative decisions.
6. Both Canada and the US have centralized their macro-economic stabilization policies. They each have one money and the federal government's budget carries a large weight in the national economy. There are no internal exchange controls and the money and capital markets are fairly well-integrated. Nevertheless, fiscal policy is not fully centralized and this gives rise to both macro-economic and allocative issues. The federal governments also assume certain general redistributive functions both directly and via (co-)financing welfare programmes at subcentral level. In both countries this central function is closely linked to labour mobility as citizens anywhere in the nation are always entitled to equal and free access to social security and related benefits.

7. The seven categories of 'barriers' were selected in prior consultation with the Commission in view of their prominence in the White Paper and their expected importance in the two countries. 'Barriers' are defined as impediments to or artificial encouragements of economic mobility between States or Provinces. For a discussion of the concept used, the reader is referred to section 4.1. The seven categories of barriers selected are: (in) taxation, public aid, discriminatory public procurement, (in) financial services, technical barriers, (in) labour mobility and (in) transport.
8. An elaboration of these barriers for both countries is not possible in the executive summary. Nonetheless, without some basic description, the assessment cannot be explained at all. A compromise is presented in Table EX-1, providing a highly condensed presentation of the comparative analysis in the chapters 5 and 6 of the report. The reader is warned that this material does not lend itself very well to such compression; for a proper understanding it remains indispensable to consult the main text.
9. Very little research on the quantitative economic costs (and benefits, if any) has been conducted on the intra-US 'barriers'. For Canada some simple static estimates exist. Therefore, the report discusses internal 'barriers' in the two countries almost entirely in qualitative terms. Hence a 'ranking' of barriers in terms of costs is not possible and the following impressions are inevitably partly subjective.
10. In Canada, the most costly 'barriers' are likely to be excises on alcoholic beverages (including the restrictions of provincial liquor boards); the administrative burden on road haulage flowing from the enforcement of the destination principle in fuel taxes; provincial subsidy competition; and the administrative burden on road haulage flowing from provincial entry regulation and registration fees. It is uncertain whether discriminatory public procurement is so costly to the economy. Interprovincial tax competition in Canada is unimportant in the retail sales tax and personal income tax and more

TABLE EX-1
THE INTERNAL BARRIERS IN CANADA AND THE US:
a summary of facts and costs

'barriers' or sector	CANADA	USA
1. <u>taxation</u> - sales	<p>provinces levy retail sales tax; rates vary from 0% to 12%; Ontario 7%; Quebec 9%, distances prevent major distortions; fiscal cross-border shopping is exceptional.</p>	<p>states and local authorities levy retail sales tax; rates (incl. local) vary from 0% to 9%; many states exempt various basic needs, but often in different ways; certain states tax services, others don't; geographical distribution and distances prevent major distortions; only few identifiable cases of fiscal cross-border shopping.</p>
- excises	<p>excises differ among provinces but the main issues are with alcoholic beverages and motor fuel; local preferences through liquor boards' rules are combined with restrictions to minimize cross-border shopping; wine and spirits excises can be much higher than in the US; fuel excises differ also but the major concern of provinces is that miles travelled by trucks in a province are roughly proportional to fuel bought locally (via extra administrative controls).</p>	<p>states levy excises especially on cigarettes, alcoholic beverages and motor fuel; state cigarettes excises vary from 2 cents a pack up to 29 cents; large scale cigarette bootlegging is a federal crime; individual cross-border shopping is accepted and can be substantial; spirits excises differ enormously from \$1.50 to \$6.50 (often combined with state monopoly systems); random checks on cross-border shopping of all alcoholic beverages; state motor fuel excises vary from 8 cents to 19 cents a gallon, with cumbersome fuel use administration for trucks (per state).</p>

- corporate provincial rates vary from 10% to 16%; federal tax collection agreement for 7 smaller provinces (i.e. identical base); there is uniformity for multi-provincial firms in apportioning tax revenue among provinces. state (marginal) rates vary from 0% to 11,5%, ignoring all kinds of special cases; however, states compete via exemptions, too; 5 states have no corporate tax; unitary taxation is not forbidden, though strong pressures discourage it somewhat; altogether, interstate corporate tax competition has reduced average state corporate tax revenue below 5% of all state revenues.

- personal income rates vary somewhat among provinces; base is harmonized through federal tax collection agreement (exc. Québec); progressivity structure is similar; provincial tax credits may differ but not much. rates vary considerably among states, the highest marginal rates ranging from 10% to 13,5% in nine states and lower in other (before the recent tax reforms; to be reduced to four) states; seven states have no personal income tax and three levy only a tax on interest & dividends; state/local income tax is deductible for federal income tax purposes (reducing the impact of interstate tax competition); federal and states' tax base not harmonized.

- 2. public aid
 - subsidies vigorous subsidy competition among provinces; no federal supervision via Ottawa or the Supreme Court; great variety of instruments, frequently 'off-budget' (via 'crown' corporations or special funds); subsidy competition is reduced via federal regional programmes. all states have inward-investment promotion activities, but direct state aids are very modest, major instruments are infrastructural, easier access to capital and various tax exemptions; many states' laws forbid production subsidies; commerce clause enforcement is another major constraint.

 - tax breaks numerous; limits (for corporate tax breaks) are set by the federal numerous; especially on construction, initial outlays for plant and

collection agreement for physical capital; also the 7 smaller provinces, excise and income tax (for but not for the three immigrating business bigger ones (as they opted executives) exemptions are out) used.

3. procurement
- formal

complete constitutional freedom for provinces to purchase preferentially; provincial laws usually set maximum price differences for tendering procedures. around 20 states have preference laws (up to 5% price differential in bids); states as purchasers are normally not constrained by the commerce clause.

- informal

the formal leeway is materially reduced by interprovincial sensitivities and tax payers' consciousness; nevertheless, numerous informal local content requirements or 'understandings' are reported. (Note: the provincial purchases are small compared to EC Member States, as major purchase categories are private in Canada or federal). there are many anecdotes about informal pressures; tax payers' consciousness in the US is very high, however, and blatant discrimination (if costly) can be politically damaging (Note: state purchases are small compared to EC Member States as major purchase categories are private in the US or federal).

4. financial services
- banking

nation-wide operations with, however, quite some provincial regulation; no nation-wide freedom to supply cross-border banking services; efficient national clearing; different banking functions were regulated at federal level (banks) and provincial (near-banks and securities); recent deregulation upset this system somewhat; the capital market is truly nation-wide and open to the world; there are 4 stock exchanges in the country; the banks are few banks can be chartered at federal or at state level; most supervision is federal, but assigned to a handful of institutions in a complex setting (savings and loans as well); fragmentation arises out of crippling branching restrictions: there are many thousands of 'unit' banks with no branches at all; interstate branching is forbidden, with groups of states sometimes allowing exceptions; intra-state branching prohibitions still exist in a number of states. For the many complexities this

in number (5 big ones attract most business) but competition is fierce. 6.2.2. Pressures to reduce this fragmentation are strong: they originate from financial stability concerns, technology, business strategies and consumer sources. The costs of fragmentation have probably decreased for consumers due to technology, but financial instability costs are still high.

- insurance most regulation at provincial level; some at federal level; far-reaching harmonization between provinces has been achieved via uniform laws proposed by the Association of (provincial) Super-intendents of Insurance, close collaboration between industry and regulators at federal level, and delegation of the control of the financial integrity of insurers to the federal Dept. of Insurance; in this way, formal provincial powers have nevertheless enabled effective market integration in insurance, with considerable standardization and mutual recognition and 'home province control' where necessary. regulated at state level since Congress has explicitly allowed for this. Licensing of insurers and brokers per state and divergent state regulations lead to serious fragmentation, although formally the freedom of services is nation-wide. States refuse 'home state control', so supervision is expensive and duplicative. Regulation extends to rates (at times very strict), solvency, insurance products, taxes and fees, and licensing - there is reciprocity for licensing agents and brokers. Costs are further increased by almost permanent legislative drift in many states (recently again in response to the problems in product liability insurance).

5. technical barriers

formally, provinces have substantive regulatory powers; yet, apart from road haulage and a few instances in agriculture, there appear to be few problems in technical regulations. Standards are mostly nation-wide; so is certification. although standard writing is (privately) organized in an extremely complicated way, the issues arising are in the antitrust area, not so much in differences among states regulations themselves, or the standards they refer to.

Standards are nation-wide. The major exception is in the building codes. Nevertheless, the commerce clause should not be considered as preventing differences in technical regulations from arising at all, and this can be costly in individual cases.

6. labour mobility

- general access to labour markets	constitutional rights to travel and to migrate; recourse to provincial social security/services; nation-wide public pension; incomplete portability of private pensions; some cases of preferential provincial hiring of labour.	constitutional rights to travel and to migrate; recourse to state social security/services; fairly strict case law to prevent preferential hiring.
------------------------------------	--	--

- professions	extensive regulation of professional licensing at provincial level; sometimes the local professional organizations decide on admission; minimum residence requirements are rarely costly (but some are); barriers are serious for lawyers, pharmacists and surveyors, as well as for certain skilled craftsmen; university education is to federal standards in many cases (although restrictions exist in the medical field).	extensive regulation of professional licensing at state level; dependent on state and professions, restrictions can vary from trivial to very serious; however, higher education in many cases is federally oriented or to federal (university) standards (yet, some states require local exams in some professions); mutual recognition exists in some cases, not in other - there is no general rule.
---------------	--	---

(Note: mobility is actually substantial).	(Note: mobility is actually substantial).
---	---

7. transport

- registration	At provincial level; until '82 license plates for every province; now there is 'home-province control' with mutual provincial recognition of the home plate, with an inter-	At state level; registration reciprocity is widespread; registration 'fees' competition is reduced in 'compacts' (more than 30 states), with fees shared
----------------	---	--

- provincial clearing based on miles travelled per province (i.e. an administrative burden).
- acc. to miles travelled (i.e. an administrative burden).
- fuel fuel taxes differ among provinces; the real problem is the destination principle; fuel tax revenues are shared out among provinces according to miles travelled in the province(s), which imposes cumbersome administrative requirements for road haulage.
 - other licensing before entering the road haulage sector takes place at provincial level (stricter regulations for out-of-province truckers are sometimes validated by the Supreme Court, which reduces the cabotage right).
- as in Canada, the destination of the fuel tax revenue is the key issue; truckers are held to fill tanks proportional to miles travelled in the various states (or pay the excise anyway), and file forms and accounts proving this; random checks are regularly held.
- 43 states have not deregulated on intra-state transport incl. entry barriers and 'fair competition' rules which can be peculiar; they can create some costs for firms operating nationwide; property taxes and sales taxes on trucks differ; on axle/distance taxes, there is even tax retaliation among certain states.

NOTE: For a proper evaluation, this list of barriers should be read together with the assessment in the text. The economic context, the benefits and minor costs are not indicated in this summary. Details are ignored.

pronounced for corporate taxes. Financial services present some complications but in reality, fragmentation has been largely prevented. The costs of having formal provincial powers in insurance are negligible as harmonization is almost complete. There are hardly any problems with securities, but near-banks cause regulatory and supervisory costs. Technical barriers are exceptional in Canada. Migration for the professions can be onerous in some cases; uncertainty exists because of local admission procedures.

11. In the US, the most costly 'barriers' include interstate tax competition in general, interstate branching prohibitions in banking, state regulation in direct insurance and administrative burdens connected to interstate road transport arrangements.

Interstate tax competition is so fierce in the US that it covers almost any conceivable tax, including death taxes and gambling taxes. In sales taxes there is only a moderate spread of rates, but this is likely to be related to transaction costs for non-marginal cross border shopping, given the absence of fiscal frontiers (so, one could argue that sales tax competition is also fierce but restrained by open borders). In excises, competition is stronger, and complemented by non-fiscal (f.i. administrative) measures to secure tax revenues for the state of consumption. These measures even lead to cooperation among the States and, in cigarettes, to federal law enforcement for the States' purposes! In corporate and personal income matters, tax competition is strong; in corporate taxes, exemption policy and other tax breaks play a role as near-subsidies. State subsidies are of trivial importance and public procurement discrimination seems only marginally more costly. Technical barriers in interstate commerce are effectively minimized (if not removed) by commerce clause case-law but, to some extent, state technical regulation and their differences may still lead to higher costs for multi-state business; standards and certification present few problems, however. Interstate mobility of the professions sometimes seems to be hampered by overly strict regulation, including licensing and supervision. Since national standards for professions and university education are well-accepted, mobility costs are generally not increased more than marginally.

12. Finally, in both countries incidental 'barriers' can be identified outside the selected group of seven categories. They remain outside the scope of this report (for an impression of this problem, see sections 5.1 and 6.1).
13. A cost/benefit perspective of the fragmentation and integration of the internal markets of the US and of Canada requires, however, a broader set of criteria. Looking strictly to 'barriers' as impediments to access to state/provincial markets or as artificial encouragement of inward economic mobilities might provide a singular emphasis on 'costs'. From this angle, 'benefits' would be identified only for sectoral or regional interests, with the national economy presumably suffering an overall welfare loss. Given the nature of the Commission's research project 'The costs of Non-Europe', this report does not address the benefits of sectoral groups.
14. The problem is quite different with regional interests. Of course, at regional level sectoral lobbies will attempt to present their case in terms of 'regional' benefits. If and only if this is all there is to the political economy of 'barriers', the mere concentration on costs to the national economy would be proper. But in federal countries, this cannot always be correct. It is conceivable to design a model federal country where market integration is complete, and where subcentral governments are only involved in purely regional expenditure and regulation (with no spill-over effects to other subcentral economies). Neither the US nor Canada fully respond to this model. Since they do not, 'barriers' must be presumed to generate certain 'benefits', as elements of political support to the federalist structure of government.
15. If there are 'benefits' of plurality, variety or diversity, two questions emerge in the context of this report:
 - (a) given the constitutionally assigned powers and politically agreed division of labour between the central and the subcentral governments - i.e. the 'benefits' - are these powers utilized in such a way as to achieve the highest degree of market integration? In other words, given the 'benefits' of a federal structure, are the 'costs' of fragmentation minimized?

(b) The 'benefits' of diversity may include more than the satisfaction of having one's own regional government with some powers to satisfy local preferences. To what extent, then, do regional regulation and intervention (in the US and Canada) yield benefits to the national economy, that are not captured by the focus on their distortive nature as 'barriers'?

16. If the immaterial, but genuine, 'benefits' of a federal structure are expressed in regional competences with a market-fragmenting potential, the issue is one of cost minimization. A variety of approaches are used in the two countries.

- o federal judicial review on the kind of measures, allowed to affect market integration; in the US the commerce clause case-law goes very far in protecting interstate commerce from state measures; in Canada, the interprovincial economic mobilities are also protected but there is more attention to preserve the effective economic powers of the provinces (the 'benefits').
- o a complementary factor in both countries is the threat of federal preemption, possible under the constitution but not utilized so as to increase the 'benefits' of decentralization. The threat tends to become more credible as the costs of fragmenting subcentral measures increases, thereby having the effect of curbing local protectionist pressures. In the insurance market in the US, states can only retain current powers if they find mechanisms keeping the costs of fragmentation acceptable, so that federal pressure to preempt does not build up. In the US banking market, interstate branching prohibitions in federal laws have been threatened a number of times; in the distant past, new measures bordering on the problem have been used as palliatives (federal deposit insurance being one); during the last few decades more and more routes of evasion have been agreed or condoned at federal level, leading at state level to a measured relaxation of the prohibition as a response since 1985. In Canada, the federal government delegated road transport regulation to the provinces in the early 1950's and the mounting irritation about the costs of fragmentation (against the backdrop

of a constitutional debate on an 'economic bill of rights' guaranteeing market integration) forced the provinces to reduce these costs in the early 1980's.

- o cooperation among the States or Provinces. For subcentral governments this has the advantage of retaining powers (and, whenever relevant, tax revenues), while reducing fragmentation, duplication or harmful competition. Both countries have developed legal techniques that greatly reduce costly differences in regional laws and procedures: the major instrument is Uniform Law Codes, but sometimes uniform insurance policies exist or identical procedures. Cooperation may extend to 'mutual recognition' (e.g. licensing insurance brokers in US States) but not frequently (e.g. rarely in licensing insurers). Mutual recognition is approximated, however, in cases where national standards (technical; diploma's) are used as references in regional laws; some costs remain in such cases, as licensing procedures may still be required. Cooperation is also developing in joint institutions (cf. solvency investigation of non-US insurers by the NAIC, seeking licenses in a State), in interstate compacts (sharing truck registration fees, for instance, or, allowing limited reciprocal interstate bankbranching) and in joint lobbying organisations (promoting federal-subcentral cooperation so as to reduce fragmentation or enhance 'harmonization'). Cooperation can go as far as delegating administrative execution (tax collection agreements in Canada; some insurance controls in Canada) or enforcement power (checks on cigarette bootlegging in the US) to the federal government. In the case of administrative execution this increases uniformity as a condition to the federal task (e.g. a uniform tax base). In the case of cigarette bootlegging, however, it has reduced the constraint of (illegal) cross-border trade, thereby increasing the freedom of the States to raise excises.

17. Are there other benefits of regional powers to the national economy, that are not captured by the focus on their distortive nature as 'barriers'? If so, they would have to be weighed against the 'costs' of barriers. The report does not discuss this question in any detail.

For a good understanding of how Canadians and Americans perceive the cost/benefit issue, it is nevertheless valuable to identify briefly these other benefits. This may well have some relevance to the Community's own assessment of costs and benefits of the 'remaining' fragmentation of its Internal Market.

- o under appropriate conditions, the combination of a high degree of market integration with some remaining subcentral powers generates the benefits of 'competitive federalism'. The idea is that citizens and firms can signal dissatisfaction with taxes, public goods and services and regulation by interstate/provincial migration. Subcentral governments may also compete with respect to the nature and intensity of interventions in the goods and services markets, setting different objectives or imposing different costs for given targets. More generally, subcentral government performance is subject to competitive challenges from other subcentral governments, and this may prompt policies to be more responsive. In the Padoa- Schioppa report this idea is echoed as 'competition-among-rules'. The benefits flowing from such competition cannot be available when central powers are the alternative. On the other hand, for the benefits to materialize, a fairly high degree of market integration must be achieved (especially for factors of production) for migration to serve as a disciplining factor. This applies, mutatis mutandis, to product and services market integration. In other words, in the EC context, the completion of the White Paper is essential before this benefit could be enjoyed. Note that neither in the US nor in Canada competition among rules, among tax regimes and public goods has led to a removal of diversity, or to overall 'low standards' of whatever activity. For instance, tax competition accentuates diversity while at the same time finding a minimum standard in the desired ability everywhere to provide good infrastructure, certain merit goods and certain public goods.
- o decentralization fosters innovation, which may or may not spread according to its attractiveness. This is a longstanding argument against coordination or centralization. The argument is used to rationalize powers which currently carry some costs in terms of fragmentation. However, it cuts two ways. The mobility of the

professions in the US regulated is stricter than necessary, due to rapid interstate imitation of 'innovations', thereby having made interstate mobility more costly. On the other hand, where deregulation is proving successful, a possibly beneficial side-product of spreading regional deregulation is improved market integration (cf. banking in Canada, led by Québec; road transport deregulation in the US).

- o finally, and not surprising for federalist countries, in a number of policy areas, the mere avoidance of central policies or regulation is perceived as a benefit, worth some costs of fragmentation. In Canada this point is related to the peculiar economic geography of the country (chapter 2 and section 5.1), which causes federal sectoral policies to benefit certain clearly identifiable provinces at the expense of other equally clearly identifiable ones. However, in both countries, there are also political objections which fall outside the scope of this report.

18. The recently signed but still not ratified US-Canadian free trade agreement is discussed in the last two chapters.

Three questions are addressed. First, was the expectation borne out that the negotiating parties would move beyond mere free trade to a kind of common market, possibly the only case comparable to the White Paper? The answer is clearly no. Although from a GATT perspective, the agreement is ambitious and may be a helpful exercise for the Uruguay Round, it falls far short of virtually all the major dossiers of the White Paper. Trade in services is not tackled, merely the 'right of establishment' combined with 'national treatment'. The direct investment regime, especially on the Canadian part, is conditional and has significant exceptions. What exactly will happen to the mobility of the profession is unclear. Even in product trade certain restrictions have been 'grandfathered' (i.e. accepted), notably for beer, and others have been relaxed only conditionally and incompletely. On subsidies, no agreement was reached but new rules are nevertheless announced as a basis for 'binding' dispute settlement; however, all this has to be agreed in the next five to seven years. In other words, there are reasons to be sceptical about Congress's willingness to give up its power of countervailing duties

before March 3, 1988 (the deadline of the 'fast track' procedure) without having the slightest idea about the principles and the rules on subsidies.

19. Second, the North American free trade area (NAFTA) negotiations called forth the question whether states and provinces would give up regulatory and subsidy powers for the sake of bilateral economic intercourse, although these powers are on the whole seen as essential to federalism. The short answer is that subcentral governments, especially in Canada, have informally influenced the negotiations in such a way that competences have hardly or not been undermined. Possibly, NAFTA may force provinces and states to exercise their economic powers in a less costly fashion. Thus, it is conceivable that the cost minimization, discussed in para. 16 (infra), is facilitated by bilateral or multilateral liberalization, if only it is stringent enough. However, it does not imply that the assignment of economic competences to the two levels of government in both federations is called into question.
20. The third reason to study NAFTA is the rich Canadian economic debate on the impact of the enormous market enlargement it implies for Canada. The economic methodology as well as the orders of magnitude found are of obvious interest to the 'cost of non-Europe' project. Methodological issues are especially important as Canadian economists have published path-breaking work on NAFTA, using general equilibrium models with economies of scale and imperfect competition (here: price collusion behind protection). This also enables to break out of the narrow confines of traditional partial-equilibrium estimates (based on 'welfare triangles'), which are known to yield too low estimates of welfare effects of trade liberalization, given their assumptions.
21. Chapter 8 discusses in some detail (adapted) partial equilibrium estimates, general equilibrium model estimates and those from large macro-econometric models, including some methodological issues. For the purpose of this study it is important that these different approaches produce empirical estimates much larger than the simple traditional approaches. Nevertheless, the empirical problems are

considerable: general equilibrium model estimates vary but go up to a high of 9% GDP increase, whereas the macro-econometric estimates (after 10 years) move between 1.9% and 3.3% GNP increase (as well as different employment increases). Amongst a number of empirical puzzles one has to solve when using these models, the proper calculation of the 'height' of 'non-tariff barriers' in the product market - not to speak of services or factors - and the assumed reactions on their removal stand out as particularly difficult. All in all, the work on the economic impact of NAFTA on Canada supports the methodological direction of the 'Costs of Non-Europe' project with respect to the goods markets and the empirical results for Canada lend plausibility to the range of estimates on the EC of 1992.

ANNEXES

ANNEXES

PRESENTATION OF
THE "RESEARCH ON THE COST OF NON-EUROPE"

Annex 1: The structure of the Research

Annex 2: The publication programme

ANNEX 1

THE RESEARCH ON THE "COST OF NON-EUROPE"

The purpose of the research was to provide a solid body of scientific analysis regarding the costs of European market fragmentation, and thus the benefits on offer following the removal of barriers targetted by the Commission's White Paper on "Completing the internal market", which was adopted by the European Community summit in 1985.

A preliminary to embarking on the research was the establishment of a steering committee, bringing together the multi-faceted expertise needed to effectively oversee the project and the reports undertaken for it by independent consultants. As its name suggests, the committee helped to steer a course through the uncharted seas of inexistent basic data and methodologies. Its combination of Commission civil servants, mainly drawn from the two most directly concerned departments (directorates-general II and III), and leading outside experts proved to be a determining asset in the success of the operation.

At the outset, the committee opted to make two key choices :

- to limit the scope of the "non-Europe" research to the market and trade barriers to be eliminated by the White Paper programme;
- to ensure that the coverage of the individual studies, which were to be launched in the course of the project, included the four major Community countries, while leaving open the possibility of extending this geographical scope on a case by case basis.

In carrying out the research, whose structure and main participants are outlined below, these two choices have been applied with due flexibility. In particular, the need to achieve as broad a geographical coverage as possible has been satisfied both in many of the individual studies and in the industrial survey in which 11,000 enterprises across the Community actively participated; and, perhaps more significantly still, by the aggregate economic estimates to be found in Part II. In addition, to ensure maximum coherence in the methodological approach adopted by the project and in the presentation of its results, two symposia were held between the Commission and the independent consultants in respectively May and October 1987.

Since the outset of the research, the steering committee gave special emphasis to the need to develop analytic tools which would enable identification and quantitative evaluation of the dynamic effects generated by the elimination of non-tariff barriers - effects which, it was strongly felt, would provide the most significant contribution to the resultant welfare benefits. These tools were developed in the early months of the research, when the first sketch of what was to become the methodology used in the macro-economic analysis was outlined. The same effort was made for the micro-economic analysis, starting with a round table of leading economists on economies of scale.

This book represents the most visible part of the results of the research project. In the interests of wider circulation, it does not treat in detail the methodology used to obtain the results, nor does it report all the findings of the basic studies carried out by the consultants. Appendix II supplies the list of publications in which the detailed results of the research can be found.

Criticism is expected and welcome. Such an enterprise cannot be immune to imperfection and even perhaps error. However the overall outcome of the research, which points to very significant gains to be derived from European market integration, seem to be both, accurate and reasonable. It is highly unlikely that the intellectual input of so many leading consultants, academics, officials and independent experts would be unanimously pointing in the wrong direction.

THE RESEARCH ON THE "COST OF NON-EUROPE"

DIRECTOR

Paolo CECCHINI Special Advisor to the Commission of the European Communities

COORDINATOR

Michael LOY Commission of the European Communities

STEERING COMMITTEE

Chairman:

Paolo CECCHINI

External members:

Sergio ALESSANDRINI Università Bocconi, Milano
Paul CHAMPSAUR Ministère de l'Economie, des Finances et du Budget, Paris
Jean-Michel CHARPIN Centre d'Etudes Prospectives et d'Informations Internationales, Paris
Michel DELEAU European Investment Bank, Luxembourg
Wolfgang GERSTENBERGER IFO-Institut für Wirtschaftsforschung, München
Peter HOLMES University of Sussex, Brighton
Alexis JACQUEMIN Université de Louvain-La-Neuve
Jacques PELKMANS European Institute of Public Administration, Maastricht
Carlo SECCHI Università Bocconi, Milano
Manfred WEGNER IFO-Institut für Wirtschaftsforschung, München

Commission of the European Communities:

Michel AUJEAN Directorate-General Economic and Financial Affairs
Michel AYRAL Directorate-General Internal Market and Industrial Affairs
Michel CATINAT Directorate-General Economic and Financial Affairs
Michael EMERSON " " "
Philippe GOYBET " " "
Michael LOY Directorate-General Internal Market and Industrial Affairs
Jean-François MARCHIPONT " " "

Former members:

Willi LEIBFRITZ IFO-Institut für Wirtschaftsforschung, München
Geoffrey SHEPHERD University of Sussex, Brighton
Giovanni RAVASIO Directorate-General Economic and Financial Affairs
Jacques SOENENS Directorate-General Internal Market and Industrial Affairs

ECONOMIC ANALYSIS TEAM

Michael EMERSON	Directorate-General	Economic and Finan-
	cial Affairs	
Michel AUJEAN	"	"
Richard CAWLEY	"	"
Fabienne ILZKOVITZ	"	"
Marc VANHEUKELEN	"	"
Marianne KLINGBEIL	"	"
Morten JUNG-OLSEN	"	"
Philippe GOYBET	"	"
Michael GREEN	"	"
Angelo REATI	"	"
Brendan CARDIFF	"	"
Pierre BUIGUES	"	"
Silvano PRESA	"	"
Michel CATINAT 1)2)	"	"
Alexander ITALIANER 2)	"	"
Pierre VALETTE 2)	Directorate-General	Science, Research
	and Development	
Eric DONNI 2)	"	"
Gernot NERB 3)	Directorate-General	Economic and Finan-
	cial Affairs	
Christopher SMYTH 3)	"	"

COORDINATING TEAM

Michael LOY

Maria BRINDLMAYER

Andrea FORTI

Consultante, Brussels

Consultant, Milano

ADMINISTRATIVE COORDINATION:

Ursula NIEBERDING

Directorate-General Internal Market and
Industrial Affairs

BOOK

John ROBINSON

European Research Associates, Brussels

1) methodology

2) econometric modelling

3) industrial business survey

STUDIES AND CONSULTANCIES

<u>BASIC INFORMATION</u>	<u>CONSULTANT</u>	<u>SUPERVISION</u>	<u>DG</u>
The "Cost of Non-Europe" in Public Sector Procurement	WS ATKINS MANAGEMENT CONSULTANTS, Epsom/Surrey	Philippe GOYBET Pierre BUIGUES Fabienne ILZKOVITZ Robert COLEMAN Reginald SPENCE David WHITE Gerhard LOHAN George W. O'BRIEN Peter HOLMES	II.B.3 II.B.3 II.B.1 III.F III.A-Co III.F.1 III.F.1 III.F.1
The "Cost of Non-Europe": Border Related Controls and Administrative Formalities	ERNST & WHINNEY Management Consultants, London	Michel AUJEAN Pierre BUIGUES Morten JUNG-OLSEN Michel AYRAL Jean-Arnold VINOIS Gaspard FRONTINI Dominique PAVARD Christian BOURGIN	II.B.1 II.B.3 II.B.1 III.A.2 III.A.2 III.A.3 VII-PCU VII-PCU
The "Cost of Non-Europe": An illustration in the Road Haulage Sector	"	Raoul PRADO Nikolaus VAULONT Max KRAEMER Pierre FAUCHERAND Geraldyn DONALDSON Graham SIMS Paul CHAMPSAUR	XIX.B XXI.B.3 XXI.C.2 XXI.B.1 XXI.B.1 XXI.C.2
The Cost of Non-Europe: Obstacles to transborder business activity	EUROPEAN RESEARCH ASSOCIATES, Bruxelles/PROGNOS, Basel	Richard CAWLEY Michel AYRAL Jean-Arnold VINOIS Karl GLEICHMANN Carlo SECCHI	II.B.1 III.A.2 III.A.2 XV.B.3
Technical Barriers in the EC: Illustration in six Industries	GROUPE MAC, Paris	Marc VANHEUKELEN Thomas GARVEY Ernesto PREVIDI Wolfgang GERSTENBERGER	II.B.1 III.B III.B.1
The "Cost of Non-Europe": Some Case Studies on Technical Barriers	GEWIPLAN GMBH Gesellschaft für Wirtschaftsförderung und Marktplanung, Frankfurt	Marc VANHEUKELEN Karlheinz ZACHMANN Jean-Charles JANSEN Pablo AYALA FERNANDEZ Wolfgang GERSTENBERGER	II.B.1 III.B.3 III.B.3 III.B.3
The Cost of "Non-Europe" in Financial Services	PRICE WATERHOUSE, London	Michael GREEN Richard CAWLEY Peter SMITH Olivier RUYSSSEN Jean-Pierre DE LAET Peter TROBERG Will. HARRIS-BURLAND Volker HEYDT Manfred WEGNER	II.B.3 II.B.1 III.A.4 III.A.4 IV.A.3 XV.A.4 XV.A.4 XV.A.4

<u>BASIC INFORMATION</u>	<u>CONSULTANT</u>	<u>SUPERVISION</u>	<u>DG</u>
The Cost of Non-Europe for Business Services	PEAT, MARWICK & McLINTOCK, London	Michael GREEN Vict. POU-SERRADELL Peter SMITH Olivier RUYSSSEN Carlo SECCHI	II.B.3 III.A.4 III.A.4 III.A.4
The Benefits of Completing the Internal Market for Telecommunication - Services and - Equipment in the Community	INSEAD-Institut Européen d'Administration des Affaires, Fontainebleau	Brendan CARDIFF Marianne KLINGBEIL Christian GARRIC Joel LE QUEMENT Alison BIRKETT Peter HOLMES	II.B.3 II.B.1 XIII.D.1 XIII.E.3 XIII-Exp.
The Cost of "Non-Europe" in the Foodstuffs industry	GROUPE MAC, Paris	Pierre BUIGUES Dorian PRINCE Gwenole COZIGOU Jacques PELKMANS	II.B.3 III.B.2 III.B.2
The EC92 Automobile Sector	LUDVIGSEN ASSOCIATES LIMITED, London	Angelo REATI Marianne KLINGBEIL Daniele VERDIANI Roger PEETERS Dorian PRINCE Paul VIGIER Jean-Michel CHARPIN	II.B.3 II.B.1 III.C III.C.1 III.B.2 III.C.1
The Cost of Non-Europe in the Pharmaceutical Industry	EAG-Economists Advisory Group, London	Angelo REATI Fernand SAUER Jacques PELKMANS	II.B.3 III.B.6
Le Coût de la Non-Europe des produits de construction	BIPE-Bureau d'Information et de Prévisions Economiques, Neuilly-sur-Seine	Silvano PRESA William TULLY Raymond MOURAREAU Michel DELEAU	II.B.3 III.B.5 III.B.5
The Cost of "Non-Europe" in the Textile-Clothing Industry	IFO - Institut für Wirtschaftsforschung, München / PROMETEIA CALCOLO, Bologna	Michel AUJEAN Silvano PRESA Daniele VERDIANI Paul RUTSAERT Heinz BERZAU Sergio ALESSANDRINI	II.B.1 II.B.3 III.C III.C.2 III.C.2

<u>INDUSTRIAL SURVEY</u>	<u>CONSULTANT</u>	<u>SUPERVISION</u>	<u>DG</u>
The Completion of the Internal Market:	Banque Nationale de Belgique, Bruxelles	Gernot NERB Christopher SMYTH	II-C.Ec. II.1.CIS
A survey of European Industry's perception of the likely effects	Denmarks Statistik, Kobenhavn IFO - Institut für Wirtschaftsforschung, München IEIR - Institute for Economic Research, Athens Ministerio de Industria y Energia, Madrid INSEE - Institut National de la Statistique et des Etudes Economiques, Paris CII - Confederation of Irish Industry, and ESRI - Economic and Social Research Institute, Dublin ISCO - Istituto Nazionale per lo studio della congiuntura, Roma IRB - Independent Research Bureau Europe SPRL, Bruxelles/Luxembourg NIPO - Het Nederlands Instituut voor de Publieke Opinie en het Marketonderzoek BV, Amsterdam INE - Instituto Nacional de Estadística, Lisboa Confederation of British Industry, London		

<u>ECONOMIC ANALYSIS</u>	<u>CONSULTANT</u>	<u>SUPERVISION</u>	<u>DG</u>
Bibliography on Barriers within the US Internal Market	Benedict WELSH, Washington	Marc VANHEUKELEN	II.B.1
The Internal Markets of North America - fragmentation and integration in the US and Canada	Jacques PELKMANS, Maastricht in cooperation with Marc VANHEUKELEN		
Commerce Intra-Branche: Performances des firmes et analyse des échanges commerciaux dans la Communauté européenne	C.I.R.E.M. - Club d'Information et de Reflexion sur l'Economie Mondiale, Paris	Michel AUJEAN Jean-François MARCHIPONT Sergio ALESSANDRINI	II.B.1 III.A.3

<u>ECONOMIC ANALYSIS</u>	<u>CONSULTANT</u>	<u>SUPERVISION</u>	<u>DG</u>
A Survey of the Economies of Scale	Cliff PRATTEN, DEPARTMENT OF APPLIED ECONOMICS, University of Cambridge	Michel AUJEAN Fabienne ILZKOVITZ Pierre BUIGUES Alexis JACQUEMIN	II.B.1 II.B.1 II.B.3
Economies of Scale and Intra-Community Trade	Joachim SCHWALBACH, International Institute of Management, Berlin	"	
Competition and Innovation	Paul GEROSKI, London Business School	"	
The Costs of Non-Europe: An Assessment based on a Formal Model of Imperfect Competition and Economies of Scale	Alasdair SMITH./ Anthony VENABLES, University of Sussex	"	
Economies of Scale and European Integration: the Case of Italy	Rodolfo HELG, Pippo RANCI, ISTITUTO PER LA RICERCA SOCIALE - IRS, Milano	"	
Partial Equilibrium Calculation of the Impact of Internal Market Barriers in the European Community	Michael DAVENPORT, London in cooperation with	" Richard CAWLEY	II.B.1
Actualisation partielle de modèles macro-économiques. Préparation de simulations permettant l'évaluation de l'impact de l'achèvement du marché intérieur	ESTARTE , Bruxelles	Michel CATINAT Alexander ITALIANER Pierre VALETTE Eric DONNI	II-C.Ec. II.C.4 XII.E.5 XII.E.5

ECONOMIC ANALYSIS

CONSULTANT

SUPERVISION

DG

Utilisation du
modèle HERMES
Belgique,
Royaume-Uni,
Italie,
France,
à l'analyse macro-
économique et
sectorielle de
l'achèvement du
marché intérieur

ESAP,
Bruxelles
CAMBRIDGE
ECONOMETRICS,
Cambridge
PROMETEIA,
Bologna
EURECO,
Vanves

Michel CATINAT
Alexander ITALIANER
Pierre VALETTE
Eric DONNI

II-C.Ec.
II.C.4
XII.E.5
XII.E.5

Conséquences
macroéconomiques
de l'achèvement
du marché intérieur -
l'enseignement des
modèles macroéconomiques

Michel CATINAT
Alexander ITALIANER
Eric DONNI

II-C.Ec.
II.C.4
XII.E.5

ANNEX V.2

THE PUBLICATION PROGRAMME

The European Challenge
1992
The Benefits of a Single Market

Gower
Aldershot - Brookfield, USA - Hong Kong - Singapore - Sydney

Danish version:
BØRSSENS FORLAG
København

German version:
NOMOS VERLAG
Baden-Baden

Spanish version:
ALIANZA EDITORIAL S.A.
Madrid

French version:
EDITIONS FLAMMARION
Paris

Greek version:
GROUPE EXPRESS
Athina

Italian version:
SPERLING & KUPFER
Milano

Dutch version:
BØRSEN NEDERLAND BV
Amsterdam

Portuguese version:
EDITORIA PERSPECTIVAS E REALIDADES
Lisboa

* RESEARCH ON THE "COST OF NON-EUROPE" *

PUBLICATIONS
by the

OFFICE FOR OFFICIAL PUBLICATIONS
OF THE EUROPEAN COMMUNITIES
L-2985 Luxembourg

The economics of 1992: an assessment of the potential
economic effects of completing the internal market of the
European Community

EUROPEAN ECONOMY, n° 35, March 1988
ISSN 0379.0991

1992: Une Nouvelle Economie Européenne. Une évaluation des
effets économiques potentiels de l'achèvement du Marché
intérieur de la Communauté Européenne

ECONOMIE EUROPEENNE, n° 35, mars 1988
ISSN 0379.0991

EUROPAS ZUKUNFT:
BINNENMARKT 1992

EUROPÄISCHE WIRTSCHAFT, Nr. (in preparation)
ISSN 0379.0991

1992 : UNA NUOVA ECONOMIA EUROPEA

ECONOMIA EUROPEA, no. (in preparation)
ISSN 0379.0991

