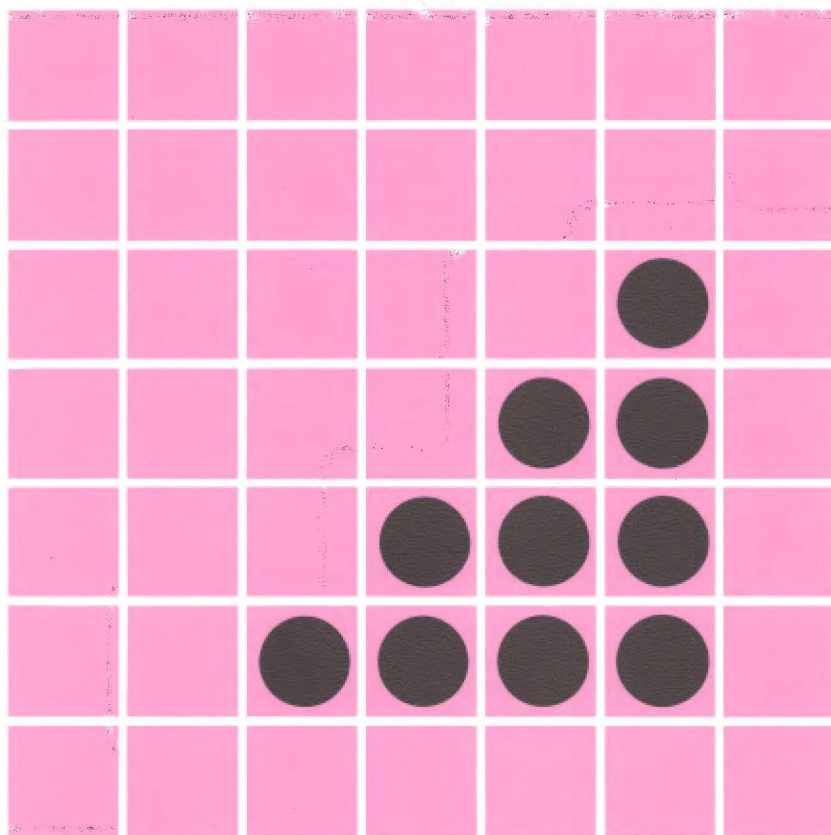


# THE EUROPEAN COMMUNITY'S INDUSTRIAL STRATEGY

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## Introduction

Removal of customs duties between Member States and efforts to reduce the various other barriers to intra-Community trade, supervision of the competitive behaviour of firms and monitoring of the State aid granted to firms, formulation and implementation of a common commercial policy *vis-à-vis* the other industrialized countries in the context of the Kennedy Round and the Tokyo Round of negotiations and *vis-à-vis* the developing countries in the context of the Lomé Conventions, the generalized preferences system and the Multifibre Arrangement, specific action in problem sectors such as the steel industry, the shipbuilding industry and the textile industry, coordinated research programmes, particularly in the energy field, and measures to stimulate promising sectors such as microelectronics, all these measures designed to create a commercial and industrial continuum in Europe have exerted a considerable influence over the way in which the apparatus of production in the Community countries has developed.

What sort of shape is this apparatus now in, how efficiently and effectively does it operate and what are the problems that will be facing it in the years ahead? What action is the Community as such taking, what action can it take and what action should it take, alongside the action taken by the individual Member States, in order to help the apparatus of production to undergo, in the best possible conditions, the transformations which are needed so that it can perform to the full its role in relation to the people and the countries of the Community? These are the two fundamental questions which this booklet seeks to answer. An attempt will be made to indicate the assets that the Community has and the best ways of using these assets. A comparison between measures that would be useful and measures which have already been taken is indicative of the vast amount of ground that will have to be covered in order to make the most of the efforts that have already been made and to derive the greatest possible benefit from the potential advantages to the Member States as a result of the existence of the European Community.

# Chapter I — Industry in the Community : size, efficiency and general problems of adjustment

What is the role of industry in the broad sense of the term in the context of the Community's economy, and how efficient is it? What are the basic problems with which it is confronted? What is the general role of an industrial policy? These are three questions the answers to which will provide important pointers for an understanding of the adjustments which industry must undergo in order to meet the international challenges which the future will bring and of the role which the Community can play in order to make these adjustments easier.

## *I. Industry's role in the Community economy*

Over the past 15 years or so there has often been talk of a levelling-off of the relative share of industry in economic activity, and even of disindustrialization, either as a good thing — in which case reference is made to the transition to the post-industrial society, with production activities being increasingly replaced by service activities — or as a bad thing, in which case reference is made to the reduction in employment in industry. During the 1970s, for example, the industrial labour force was reduced by 2.5 million (6%). These different assessments of the situation are largely bound up with the ambiguous nature of the term "industry", which we should therefore define.

### **A) What is industry?**

According to the conventional, restrictive definition, industry covers the activities in which raw materials are processed in factories. However, technological changes in recent decades have radically altered the character of the apparatus of production, and have decisively modified the nature of the tasks carried out within industrial firms, and, taking the total labour force as a whole, there has been a shift away from blue-collar jobs towards jobs concerned with ideas, research, management, control, marketing, and organization in the broadest sense of the term. Some of these tasks may be carried out directly by the staff of the firm in question or else farmed out to service companies, and it would be rather illogical to regard the people involved as being employed in industry in the former case and to exclude them in the latter case.

This phenomenon is particularly evident in the data-processing sector, with the coexistence of the hardware and software subsectors. The sector as a whole obviously consists of the two subsectors taken together, even though integrated firms and firms specializing in software exist side by side.

The definition of industry which most correctly reflects reality is therefore a very broad definition, and it is this definition that is employed for the purposes of this study. Agriculture and transport, for which sectors common policies are provided for, the distributive trades, which are still essentially domestic activities, banking and insurance, which are subject to special treatment, and those public services which are not covered by the Treaty of Rome, are not taken into consideration. On the basis of this broad definition, industry and related services provide employment for about half of the labour force and account for approximately half the gross domestic product (GDP).

However, the statistics commonly available (and which we are obliged to use) often relate to a more restrictive definition. Industry in the strict sense of the term provides employment for 40 % of the labour force in the Community and accounts for a slightly higher proportion of GDP. For several years now these proportions have been tending to fall slightly.

However, these figures understate the importance of industry's role in the economy as a whole, and particularly in relation to the development of the economy, since it is industry which manufactures capital goods and new materials and which therefore constitutes one of the main components of the process whereby the results of scientific and technical research are translated into innovations, i.e. into the modernization of technologies and the production of new goods and services.

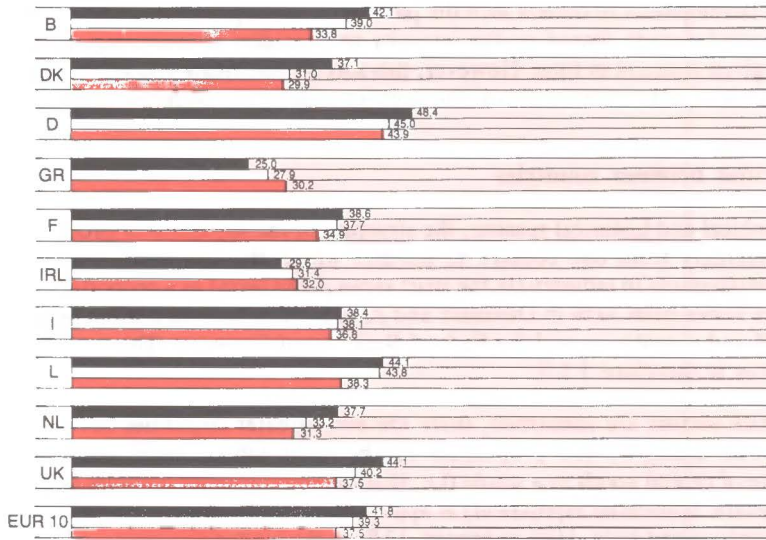
In addition, industrial products occupy the leading position in the trade balance, or to be more precise in exports of goods and services. This means that industry is working almost as much for the external markets as for the Community market.

What is the broad, sector-by-sector breakdown of industry? It is commonly broken down by sector according to the final destination of the products involved:

- (i) sectors making semi-manufactured products which are used in other, industrial and agricultural activities. The sectors in question are the steel industry and the manufacture of non-ferrous metals, a large proportion of the chemical industry, construction materials, spinning and weaving, and the manufacture of paper and pulp;
- (ii) sectors making consumer expendables (the agri-foodstuffs, clothing and footwear industries) or consumer durables (the motor industry and the electrical engineering industry);
- (iii) sectors making capital goods (the electrical and mechanical engineering industries, the motor industry, the shipbuilding industry and the aircraft industry);
- (iv) the building and public works industry, which appropriately can be classified in a fourth sector.

It may be estimated that these four groups account for one-fifth, one-third, one-quarter and one-fifth respectively of total employment in the Community as a whole.

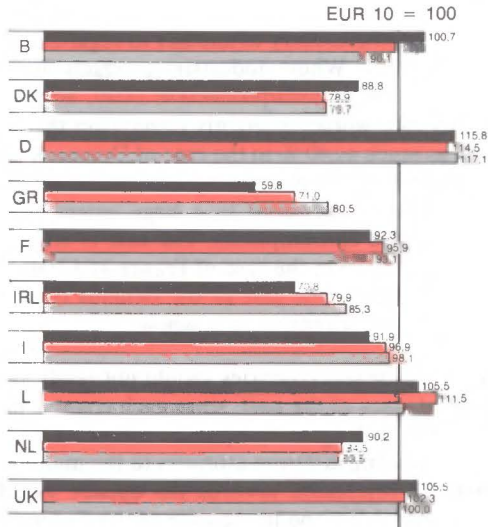
Industry's share of total employment in each country  
(in %)



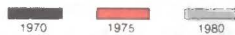
Source : EUROSTAT



Industry's share of total employment in each country  
Comparison between the countries and EUR 10



Source : EUROSTAT





Another distinction, which is of more direct value where action is concerned, and which we shall be using in this study, is based on growth rate criteria, either in relation to an increase or decrease in the labour force in absolute terms, or in relation to a comparison of the patterns of development of outlets with the pattern of development of GDP. Lastly, a third distinction can be made, based on the intensity and rapidity of technological change in a sector at a given moment in time. However, this sort of classification is liable to be upset in the space of a decade or two, as will be seen in connection with the motor industry.

## **B) Disparities between countries**

For geographical and historical reasons, the structure of the apparatus of production differs fairly considerably from one country to another within the European Community. For example, employment in industry (in the strict sense of the term) as a proportion of the total labour force varies from 30 % in Denmark and 32 to 33 % in Ireland and the Netherlands to almost 45 % in Luxembourg and the Federal Republic of Germany. The ratio between the two extremes is therefore 1:1.5.

Where certain sectors are concerned, there are even greater disparities between different countries. For example, the proportion of the total labour force employed in the manufacture of capital goods as a whole (i.e. in including consumer durables such as motor-cars and electric household equipment) is approximately 8 % in the case of Denmark, the Benelux countries and Italy, 11 % in France, 13 % in the United Kingdom and over 17 % in the Federal Republic of Germany. The ratio between the extremes is therefore in excess of two. The spread is almost as wide in the case of the agri-foodstuffs industries, with Denmark and the Netherlands, two countries with well-organized farming sectors, at the top end of the scale. On the other hand, it is surprising that the level of processing activity in France is not greater, when one considers the scale of its agricultural production.

There are also disparities from one country to another as regards the proportion of external outlets in relation to total sales. Where industrial products as a whole are concerned (excluding energy products), the exports/production ratio, which is approximately one-quarter for the Community as a whole, is slightly lower than this figure in the case of the four bigger countries, but as much as 40 % in the case of Denmark and well over one-half in the case of the Benelux countries. This is a consequence of the small size of these countries' economies which obliges them to specialize to a large extent. This is confirmed by the penetration rates (imports/inland consumption). The rate is only 16 % in the case of the Federal Republic of Germany, 19 % in the case of France and Italy, 23 % in the case of the United Kingdom and nearly 50 % in the case of the Benelux countries, compared with an average of 23 % for these seven countries as a whole.

Such disparities between the different countries should not really give cause for surprise or concern. They are largely a legacy of the past, since each country has undergone industrial development influenced time and again by specific events or has reacted differently to similar problems, e.g. by displaying different attitudes to the major options open, such as in the extent to which they are orientated towards the outside world or in their choice of foreign trading partners (Central Europe in the case of the Federal Republic of Germany, and the colonies in the case of France and the United Kingdom, etc.). As has already been mentioned, the disparities are also a consequence of the size of the domestic economic area

which necessitates varying degrees of specialization. The continued existence of such disparities does not necessarily conflict with the establishment of a Community which seeks efficiency through specialization. However, the question is whether this *de facto* specialization, which is a legacy of a past in which the countries concerned were rivals rather than partners, really is the best possible solution for a group of countries which wish to form an integrated Community in the interests of all concerned.

Another significant example of the disparities between the different countries is more worrying. It concerns the apparent productivity of labour. Taking the Community average to be 100, the ratio between the two extremes is around 1.5 for the economy as a whole, 1.8 for all industrial products and as much as 2.5 for intermediate products.

How can a Community function if it consists of countries whose average productivity levels differ so widely?

The overall difference in productivity is normally corrected by the exchange rate. This enables countries with different levels of efficiency nevertheless to be competitive amongst themselves and allows for trade in both directions, since each country is comparatively more efficient than others where certain lines of production are concerned and comparatively less efficient in other such lines.

However, though differences in productivity are corrected in this way by the economic mechanism of the exchange rate, it is nevertheless true that such differences, generating as they do similar differences in per capita income, do present problems in a unit which professes to be a Community. Policy relating to the apparatus of production of the Community should therefore seek to help the slower members to catch up with the front runners, in the interests of all concerned.

### C) The efficiency of the Community

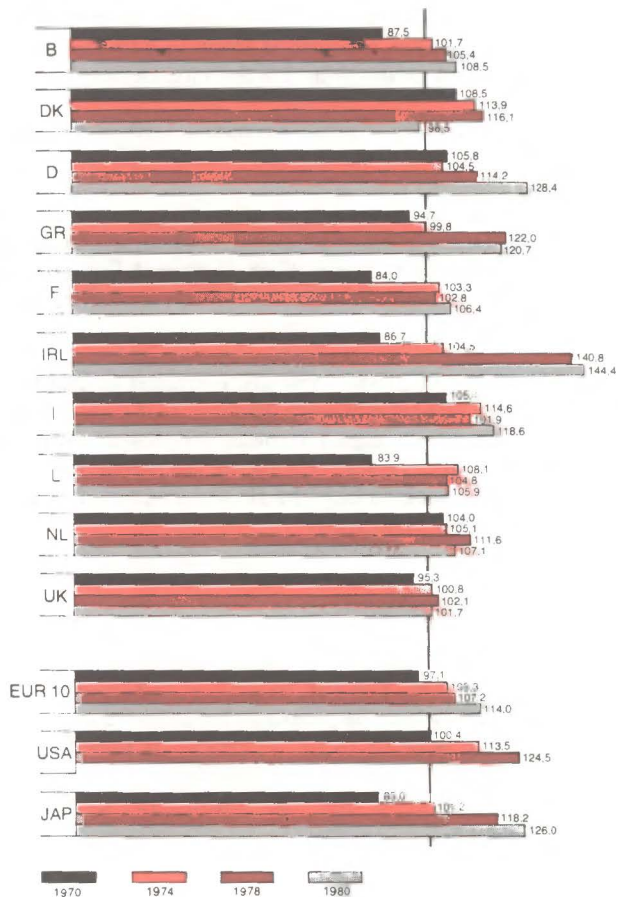
The fundamental quality demanded of an apparatus of production is of course efficiency, meaning recourse to the smallest possible volume of factors of production in order to provide the goods and services which the people and countries concerned require. However, it is also required to provide skilled jobs, to be sufficiently varied so as to ensure that the country is not excessively dependent on the outside world for staple products, to be adaptable and to prepare in good time the transformations resulting from changing technologies or requirements.

In terms of per capita GDP, the Community — and most of its Member States — is undeniably among the front runners in the world as a whole.

	EEC	USA	Japan
Population (million)	270	221	116
GDP (000 million ECU)	1960	1986	750
Per capita GDP (ECU)	750	850	500
Consumption per 1 000 ECU of GDP			
{ Steel	52	79	107
{ Energy (toe)	0,50	0,91	0,63

**Labour productivity in industry**  
**Trends in gross fixed capital formation**  
 (Investments)

Volume index 1975 = 100



Source: EUROSTAT



A statistic which is at least as interesting as this is the fact that (except since 1980) growth rates have been high — greater than in the United States which is why the European Community's per capita GDP has edged closer to the American level; these growth rates were much lower than the Japanese level when Japan was still catching up and are now still lower, but much less markedly so, since Japan's level of development has approached Western levels. The EEC has managed to edge closer to the United States, but is being caught up by Japan. There is therefore a tendency for per capita GDP to level off within the OECD.

In addition, the apparent efficiency with which commodities such as energy and steel (consumption per unit of GDP) are used is greater in Europe than it is in Europe's partners.

This overall analysis should not give grounds for either self-satisfaction or pessimism. The European economy has performed well, but it probably could do better. A more detailed analysis would therefore be useful in order to pinpoint the strengths and weaknesses of the way in which the Community specializes internationally. One way of doing this is to compare the size and structure of the Community's production and exports with the corresponding data for its rivals.

To the extent that the statistics are comparable, it may be estimated that the population of the EEC countries is 6 % of the total population of the world, and that the Community accounts for roughly one-quarter of world GDP. The European Community is, statistically at least, the biggest industrial grouping in the world. However, it is necessary to take a closer look beneath the superficiality of the overall statistics to see whether the actions of the individual partners are sufficiently coordinated and consistent to enable one to speak of the Community as a genuine coordinated industrial entity.

Looking at the situation product by product, things are much less clear-cut. Europe's share of the world total is very small in the case of the production of ores and energy, but it is much greater in the case of industrial products based on standard technologies (yarn, cloth and basic chemicals), still greater in the case of more complicated products, e.g. motor-cars, but very low again in the case of the more sophisticated products such as aircraft and electronics.

There are therefore two main weak spots — the production of basic raw materials and the advanced technology sectors. As Europe accounts for only 1.2 % of the world's total land area, the first weakness is self-explanatory, and the only way to offset it is to use the raw materials that are available very resourcefully or to resort to alternative solutions, particularly where energy is concerned (nuclear energy, e.g. breeder reactors, and solar energy, etc.). The second weakness is the result of the actions of the Europeans themselves, and it should therefore be possible to do something about it, as will be seen later.

Where exports are concerned, products can be classified first of all in relation to the degree to which they make use of two decisive factors of production — skilled labour and capital, since there are good grounds for thinking that the higher the skilled-labour or capital content of a product is the more avant-garde, more sophisticated and more complex it is, and the easier it will be to trade it on good terms for the products that are needed. Now, irrespective of a product's degree of sophistication (as defined above), the EEC's share of

the world market is approximately 30 %, whereas the United States' share is greater the larger the skilled-labour or capital content is. Japan is in an intermediate position. This implies that export specialization is probably less skilful in nature, and less directed towards products with a high value added in the EEC than in the United States. Japan's lead over the European Community was not as great a few years ago, but it is now lengthening.

Another way of looking at things is to examine the physical destination of products. Three categories of product can be identified :

- (i) high-technology products for the most expanding activities in the forefront of technological progress, e.g. research and development activities, computers, telecommunications and machines capable of making other machines;
- (ii) intermediate products used in all the main lines of production, which therefore determine how the apparatus of production functions; and
- (iii) the main capital goods, e.g. electrical appliances and machines, and engines but excluding transport equipment which is not directly productive.

Where these three categories of product are concerned, the Community's share (exports to countries outside the Community) within the OECD is no greater than it is for manufactured products as a whole, and has slightly decreased in the past 15 years or so. On the other hand, the United States' relative share is particularly large in the case of capital goods and Japan's share is particularly large — and growing rapidly — in the case of high-technology products. Europe is not preparing its future, and that of the rest of the world, as thoroughly as its two great rivals, in particular Japan.

This is the crux of the problem facing industry in the European Community : insufficient thought has been given to preparing for the future, a future in which radical changes will, however, be needed.

## II. *The inescapable need for adjustment*

The apparatus of production in the Community — and indeed in the other countries of the world — constantly needs to adapt, under the combined pressure of technological change and external competition. The first factor has made possible the very considerable growth that the Community countries have enjoyed in the past 20 years, resulting in more than a doubling of the purchasing power for the population of the Community as a whole. The second factor has provided a spur for specialization whereby each country can make the most of its particular advantages.

What will be the pace of technological change in the years ahead? What pressures will there be from the outside world? What will be the nature of the adjustments needed?

Of the three factors essential for economic growth, namely an increase in the labour force, the expansion of the capital stock and technological change, the third factor was by far the most important during the period of significant growth in Europe in the 15 or so years

leading up to 1972, accounting for approximately two-thirds of this growth. In the past 30 years the world has experienced technological change at an unprecedented rate. What then are the prospects for the next 20 years?

A quarter of a century ago research was stepped up considerably, first of all in the United States of America, then in Western Europe and in the USSR and finally in Japan. Research expenditure declined somewhat during the 1970s in terms of GDP, but in absolute terms the level of expenditure has been maintained and an upturn is now in sight.

We are therefore now faced — and will continue to be faced in the years ahead — with the prospect of a massive store of knowledge capable of being translated into the practical realities of economic and social life by an intensive process of innovation, as has happened in the past 30 years. Will this prospect become reality? It is highly likely that it will, since there has been no lasting period in the history of our industrial societies in which knowledge has remained unexploited on a large scale (even though there are some isolated examples of knowledge lying dormant for a long time). To be sure, there are always groups in favour of change, as they have an intellectual or economic interest in promoting change, side by side with other groups which seek to defend the status quo and existing ways of working and ways of life. The way in which society develops depends on the outcome of the interplay between the two types of groups. However, the latter are on the defensive while the former are on the attack. Experience has shown that in a conflict of this kind the attackers always win in the end, so that in all probability technological change will continue. External pressures will help to speed things up.

Europe is part and parcel of a world in which changes, whether emanating from the already-industrialized countries, the newly-industrialized countries or the energy and raw-material suppliers, are hitting it head-on, and Europe cannot cut itself off, because of all that it inevitably has to import (e.g. energy and raw materials).

The competition from other industrialized countries has altered, but remains considerable. The period of the American challenge in the 1960s would seem to have been succeeded by the period of the Japanese challenge. However, we should not be deceived by appearances. To be sure, the gap between per capita GDP levels in the United States and the EEC has narrowed considerably. Equally, the rate of increase in labour productivity has slumped far more in the United States than in the Community, falling from 2.3 in the period 1961-68 to 1.6 in the period 1969-73 and 0.2 in the period 1974-79 (compared with a constant 2.4 in the EEC). However, this reduction was caused by a combination of many factors, e.g. tougher environmental standards and work-safety provisions, higher energy prices, less expenditure on research and development and a reduction in the investment rate. It is unlikely that these or other factors will continue to have such a great effect on productivity, and there are in fact many signs that the American economy is going to take off once again.

Japan's case is different. The very considerable growth of the 1960s (9 % per annum increase in labour productivity between 1961 and 1973) is attributable to an exceptional investment rate (approximately 33 %) combined with the fact that Japan's economy was catching up with the economies of the other OECD countries in terms of efficiency. The positive effect of these factors will diminish, but Japan has taken the bend very skilfully. About 15 years ago it initiated a research policy as a result of which it now has an overall research and development effort representing 40 % of that of the Community. Thanks to



very structured links between the authorities and firms, a very effective development strategy can be implemented. In addition, Japan's very considerable dependence on imported raw materials and energy (Japan imports 90 % of its energy supplies) obliges it to pay constant attention to maintaining its external competitiveness.

All the indications are, therefore, that the EEC will continue to be faced with very strong, and possibly increasingly strong, competition from the other developed countries.

At the same time, newly-industrialized countries are appearing on the world scene, e.g. Mexico, Brazil, South Korea, Hong Kong, Taiwan, Singapore and Israel. All these countries have now successfully taken off economically (albeit to very different extents from one country to another). They have started to diversify their production to some extent, and have become exporters where certain products are concerned: textile products, first of all, of course — and this is one of the causes of the serious difficulties in the textile and clothing sector in the Community — but subsequently also other products of the mechanical and electrical engineering industries, i.e. industries in which the labour force plays an important role.

The competition from Japan a number of years ago where various products were concerned will be felt in the years ahead in relation to many other products.

The external pressure from the energy and raw material suppliers will not be any less strong. The massive increases in energy prices since 1973 (a fourfold increase between 1970 and 1974, and a doubling in 1979; all in all, between 1970 and the end of 1980 prices were multiplied by 27 in nominal terms and by 8 in real terms) will not reoccur in the same proportions, but all the forecasts indicate that there will continue to be a given increase in real terms.

In the face of this considerable economic pressure from the rest of the world, can the Community try to defend itself by closing itself off to some extent and by reducing its dependence on the rest of the world? This is a political question on which the Treaty of Rome adopted a clear position in favour of the deliberate opening-up of the Community market, a position which has constantly been adhered to for over 20 years. It might be possible to think about relaxing the rules somewhat in order to adapt to the changing international situation, but three types of considerations must be taken into account: the question of reciprocity in external trade, the inescapable need — in the medium term at least — to import such things as energy, raw materials and technology, and the stimulating, dynamic effect which opening up to the outside world has on the economy.

External trade is a two-way process and can only take place if there is agreement between the two parties concerned. Consequently, any reduction in imports is likely to result sooner or later, either spontaneously as a result of rebalancing economic mechanisms or as a result of deliberate action by our trading partners, in a reduction in exports which would create serious difficulties to the various exporting industries, i.e. in fact most branches of industry in the Community.

Moreover, an examination of the type of products that are imported indicates that a significant proportion could not be replaced by products made in the Community (in the medium term at least, say within 10 to 15 years) unless substitute production capacity can be

created as a result of research and innovation. The main products in question are energy products, ores and minerals used as raw materials, tropical agricultural products (coffee, tea, cocoa, etc.) and a few high-technology products for which there is only a small number of producers in the world, e.g. subsonic intercontinental aircraft (four-engined jet aircraft) and very large computers. All these products taken together represent between 20 and 30 % of the total imports of each Community country and, naturally, a higher proportion (approximately one-half) of the imports of the Community as a whole from the rest of the world, and — as mentioned above — it will be necessary to continue to import these products into the EEC for the next 10 to 15 years at least.

Lastly, looking at things in more dynamic terms, openness towards the outside world encourages the transfer of knowledge and technology. The variety of research areas and scope for technological innovation has become so great that it is virtually impossible, not only for each individual country, but even for an economic area of the size of the EEC, to explore and exploit them all. It is therefore imperative to be able to widen one's range of knowledge and technologies by calling on external sources, either by purchasing patents and licences or, more likely, by pooling research findings, or else by acquiring the latest generation of products and equipment. For all these reasons, the Community cannot therefore contemplate closing itself off, and so will have to follow the pace of technological changes throughout the world.

In general, the changes in question result in considerable transformations of the division of labour between the various branches of the economy, and as the labour force grows only slowly there can be increases in employment in certain sectors and at the same time considerable reductions in others. Consequently, three types of situation have been encountered in the past 20 years :

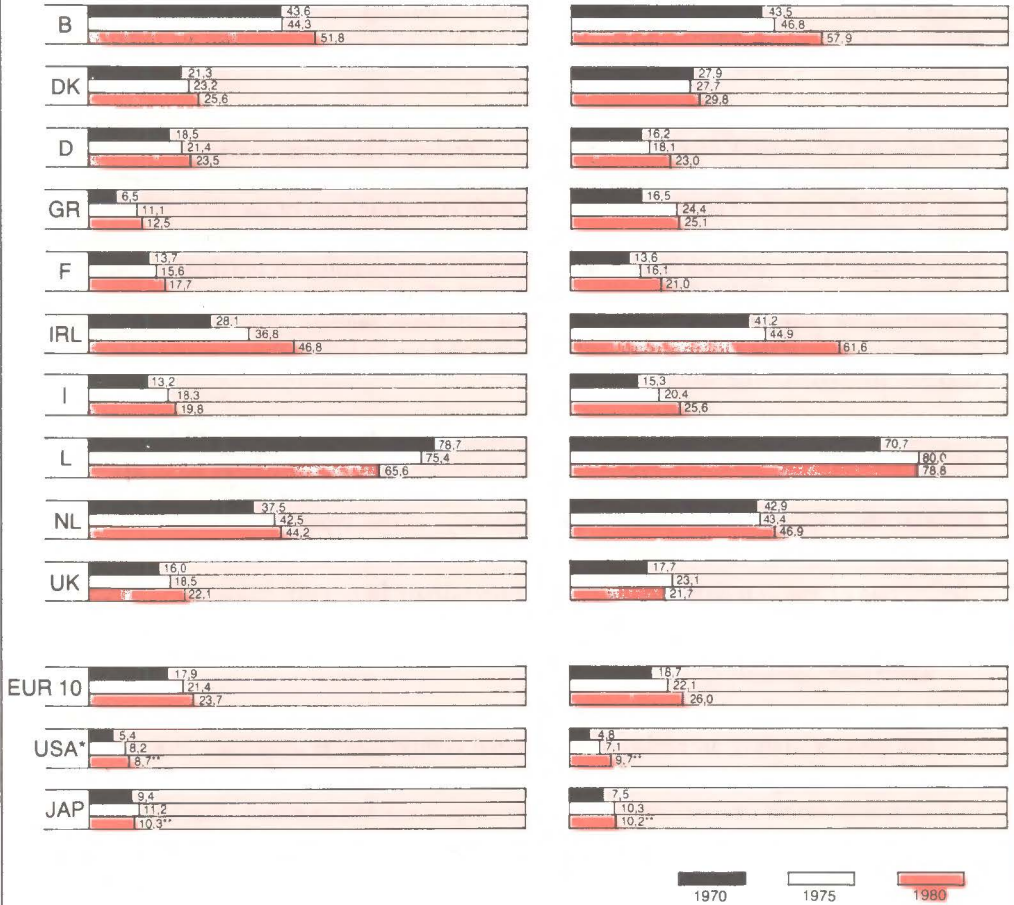
- (i) sectors in which internal demand and productivity have both increased considerably, but the former to a greater extent than the latter. The main features of these sectors are a considerable increase in production and an increase in employment (e.g. the electronics industry);
- (ii) sectors in which internal demand and productivity have increased to similar extents, but quickly enough to ensure that external competition is contained (e.g. the motor industry). In this case there is an increase in production and stable employment;
- (iii) sectors in which internal demand is increasing slowly (more slowly than GDP). Where productivity is increasing slowly in these sectors external competition displaces Community products on markets both outside and within the Community. There is a relative reduction (in terms of GDP) in production and an absolute reduction in employment. Where productivity is increasing quickly, external competition is sustained, production is maintained but employment falls. The textile industry is experiencing both types of situation depending on the products and firms concerned.

In the past 20 years industry in the European Community has undergone considerable transformations. The combination of intensive technological change and increased international competition, both as a result of a general policy on the part of all the industrialized countries of opening up their markets and as a result of the establishment of the EEC, resulted in these transformations taking place at an unprecedented rate. As they resulted in a considerable increase in production, they generated both social problems of adjustment

## Exports and imports of industrial products

Share of  
exports of goods in GDP - in %

Share of  
imports of goods in GDP - in %



\* Goods and services are included; note the limited dependence of the American and Japanese economies on foreign trade.  
 \*\* 1979.



and the material means of making these problems bearable, at least until 1973. Since then the slowing-down in the rate of growth, which has not been accompanied by a reduction in the rate of change, has made them less tolerable.

The likely prospects for the next 10 to 15 years do not indicate any slowing-down in the rate of change. The scope for technological progress will remain as great as ever, and — both in order to harvest the likely benefits of this progress and under pressure from the rest of the world — the countries of the European Community must accept that this process should continue to affect their apparatus of production as a whole.

The choice for Europeans is not, therefore, between acceptance or refusal of rapid change, but between a passive attitude, consisting of bowing their heads and grumblingly suffering the adverse effects of changes largely dictated by others, and a positive attitude seeking to control both the direction and the pattern of change. This is what most of the countries in Europe have been trying to do for the past 25 years or so, but with limited success as there is no genuine development strategy to make the most of the advantages of the scale of the Community.

### III. *The need for an industrial policy*

Getting to grips with technological change on the one hand and the international division of labour on the other are the two routes by which it may be hoped that the development of the apparatus of production in the European Community can serve the aspirations of the population and meet the real needs of the countries of the European Community.

In decentralized market economies like those of the Community countries, responsibility for production and the development of the apparatus of production rests essentially with firms, whether private or public, which take investment decisions in order to create new capacity or adopt new technology. However, as it is a complex task to establish an efficient apparatus of production, the public authorities also have to intervene in order to stimulate, direct or channel change.

There are in fact numerous reasons which render State intervention necessary, e.g. in order to organize the economic environment in which firms' decisions are taken (competition policy, State-controlled prices, including energy prices, and the structure of the tax system), or to intervene in more specific fashion in order to encourage the development of certain sectors or speed up change (e.g. aid for research and innovation, and preferential public procurement contracts) and to slow down the decline of certain industries on social or regional grounds. Lastly, overall short-term economic policy and the general attitude towards external economic relations (degree of openness to the outside world depending on the partners concerned) are of vital importance to the development of the apparatus of production.

All the Community countries appreciate the need for an industrial policy and there is no national government which refrains from intervening, although the details and extent of

intervention vary from one country to another. State intervention is reflected in particular in the national budgets, and total spending on the economy by public authorities ranges from 4 to 7% of the GDP (i.e. between one-fifth and one-quarter of the national budgets), a significant proportion of this going to industry.

There is, therefore, State intervention in all the Community countries in order to control the spontaneous development of the apparatus of production, but it is also necessary to spotlight three serious shortcomings in the domestic measures taken: (a) a lack of internal consistency, (b) the risk of inconsistency between different countries, and (c) failure to make use of the advantages of Community assets.

A package of measures — even if the measures are extremely well thought-out in technical terms — will constitute an industrial or structural policy only if the individual measures are mutually compatible and fit together in the pursuit of one or more common goals. In some cases, the individual measures are not sufficiently compatible and the overall effectiveness of each of them is likely to be reduced considerably as a result.

Moreover, the Community dimension is virtually absent from the strategies of the individual Member States. The existence of the common market is taken into account, to be sure, but more often than not in a spirit of rivalry between Member States rather than in a spirit of complementarity. Much of the official action taken by individual Member States is in fact intended to counteract the dynamism of firms in another Member State which are regarded as rival firms and not as partners in the context of the Community's apparatus of production. Considerable efforts are deployed in order to conquer the same external markets, at times at the cost of substantial and competing financial aid. This leads to a squandering of resources and impoverishment for the Community as a whole. All this is an expression of contempt for the idea that the various Member States should regard themselves as partners working together towards a common objective — the raising of the standard of living.

It is also an expression of ignorance of the advantages that the Community dimension can offer both in order to make full use of the economies of scale made possible by modern technology and to carry out negotiations or engage in dialogue with the rest of the world. The size of the economy of the Community as a whole distinguishes it from each of the Member States. In 1981 the GDP of the Community as a whole was 2.2 billion ( $10^{12}$ ) ECU compared with 613 000 million ECU in the case of the Federal Republic of Germany and 520 000 million ECU in the case of France. The ratio is therefore approximately 4:1 in the case of the two countries with the largest economies and considerably higher for the others.

The size of the economy is of vital importance where modern technology is concerned, in a world in which confrontation — and not cooperation — predominates. It makes it possible to reduce costs, to accept greater economic risks, to save time in the technological race, and to derive strength in the context of international competition.

Costs can be reduced as a result of economies of scale. Modern technology is characterized by a reduction in the unit costs of production with the increasing size of production units and the increasing length of production runs. The former aspect is of particular importance in industries which operate in continuous fashion, e.g. the steel industry, the chemical industry, the oil-refining industry, cement factories and paper pulp manufacturers.



The latter aspect concerns the mechanical and electrical engineering industries in the broad sense of the term, i.e. including the motor industry and the aircraft industry. Of course, there is a limit to the extent to which costs can be reduced, but in many cases the level of production at which more or less the lowest cost is attained is equivalent to or greater than the entire home market of any one Community country.

This is hardly surprising, since modern technology largely originates in a very large economy, i.e. that of the United States or, as has recently been the case, in a very large, rapidly growing and very dynamic export-orientated economy, i.e. that of Japan, but the result is that, in order to benefit from these economies of scale whilst preserving the dynamism of competition thanks to the coexistence of several firms, it is necessary to operate within large economic areas. This is the *raison d'être* of the common market.

As regards the question of the ability to accept greater economic risks, research and innovation — which are at the root of technological development — entail economic and financial risks at the research, development, production and marketing stages. What constitutes an acceptable risk depends of course on the economic or financial scope of the firms or countries involved. Operations in which considerable hope is placed may appear to be too risky for a single country, but perfectly reasonable for the Community as a whole. Examples of this kind can be found in the field of advanced nuclear technology (e.g. breeder reactors and fusion technology) and in space activities.

As regards the question of saving time in the technological race, apart from the risks involved, substantial resources, both in terms of money and in terms of a very highly skilled workforce, have to be deployed. If, despite the risk involved, a decision is taken to embark on such an operation, the large amount of finance required often results in the operation being phased over a longer period than would be strictly necessary for those carrying out the operation. Joint financing by several parties may make it possible to save time, and speed is often a precondition for success in the technological race. In the case of an operation taking several years to complete, reaching the marketing stage six months before or six months after a competitor may make all the difference between commercial success and failure.

As regards strength in the context of international competition, the world economy is not the scene of a game between equals, and examples of domination are legion. In this game, the actors are both the firms, in particular the multinationals, and the governments. The latter intervene both as joint decision-makers in laying down and enforcing the rules of the game and as providers of support for their firms by a variety of means. The fact that the European Community has institutions with political influence representing 250 million inhabitants, and not merely 50 million or 10 million, enables it to have much more sway in international negotiations, whether it is a question of defending European interests or of pushing for the adoption of measures which will contribute to the gradual establishment of a more satisfactory international economic order. It is a well-known fact that as the Community was able to speak with one voice in the Kennedy Round of negotiations it was able to defend and push through its proposals much more effectively than an uncoordinated group of independent countries could have done.

The Community as such therefore has four key advantages of which it can make use in the pursuit of three objectives: the common market, consistent economic policies and a Community industrial policy.

The first objective is to establish and operate the common market, i.e. create a vast, homogeneous economic area which firms appreciate for what it is. This is provided for explicitly and specifically in the Treaty of Rome. Much has already been done (e.g. as a result of the abolition of customs duties), but much still remains to be done.

The second objective is to establish, as a result of consistent policies, a general economic environment propitious to the smooth functioning of the common market and the efficiency of the apparatus of production. This concerns in particular short-term economic policy (the monetary and budgetary aspects), social policy and regional policy.

The third objective is to make specific use of certain Community advantages by means of common measures. These may relate to the launching of major projects or the promotion of operations of common benefit, or the question of speaking with one voice in international negotiations in order to defend and push through a common external strategy.

Three conclusions can be drawn from the above considerations :

- (i) To be fully effective and provide remunerative and lasting employment, the apparatus of production in the Community, and in particular the industrial system as a whole, should continue to undergo radical changes relentlessly both within each sector and in relation to the role of each sector in the economy as a whole.
- (ii) This process of constant restructuring is the responsibility both of the firms and of the public authorities. The role of the latter is, among other things, to encourage change and to organize it in order to minimize the social problems.
- (iii) The Community has a role to play. It has advantages which can be exploited if national measures and Community measures are mutually complementary.

There are therefore two aspects to possible action at Community level. On the one hand, firms and governments in the Member States should be helped to make account of the existence of the Community (general measures at Community level relating to the economic environment and for the provision of support), while on the other hand, and more ambitiously, positive action should be taken to exploit the advantages offered by the Community (specific measures at Community level to guide and stimulate industries). These two aspects will now be examined in turn.

## **Chapter II — General measures at Community level relating to the economic environment and for the provision of support**

The first aim of Community action seeking to assist the Community's apparatus of production is to create an economic and social environment which encourages all firms to be efficient, and to ensure a further increase in this efficiency whilst keeping the requisite changes to a socially-acceptable level. To do this the Community is following three key lines of approach: the creation of a large market, the implementation of social policies and the creation of a genuine economic and monetary union.<sup>1</sup>

### *I. Creating a large market*

In its customary references to the common market, the public has rightly understood the nature of one of the mainstays of European integration, namely the creation of a uniform economic continuum where goods and factors of production can move freely and where the various firms can operate under comparable conditions of competition. What stage has this process of integration reached today?

#### **A) Creating a uniform economic area**

By uniform economic area we mean a zone in which the decisions to purchase goods and services and to set up new production units are taken without the location of the suppliers of the first or the choice of site for the second being influenced by the existence of political frontiers and economic or legal disparities other than those arising from geographical circumstances and the legacy of the past. Noteworthy examples are the state of the infrastructures and the actual situation regarding land-use planning. For this to happen, and in order that the economic decision-makers see the territory and markets of the other Member States in the same way as their own, goods and factors of production must be able to move freely and firms must be able to establish themselves wherever they will; a final requirement is that a common legal framework should apply to all the economic operators.

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<sup>1</sup> External strategy will be considered in the next chapter, due allowance being made for the special situations of certain products or certain partner countries.



The free movement of goods has been promoted by the abolition of customs duties between Community countries and the establishment of the Common Customs Tariff *vis-à-vis* the rest of the world. Both objectives were reached on 1 July 1968 for the six original Member States and on 1 July 1977 for the Nine. They are being introduced gradually in respect of Greece.

In the public mind, the abolition of quotas and customs duties should lead to the direct removal of frontier checks. The reality is not so simple, however and three main obstacles remain, namely :

- (i) disparities in the tax systems,
- (ii) technical barriers,
- (iii) the incomplete achievement of the customs union.

The first two obstacles make tax operations or frontier checks necessary; the third maintains the need for customs clearance operations which should have disappeared over 10 years ago.

The existence of different tax systems or different rates of taxation from one country to another is likely to distort the conditions of competition throughout the entire Community territory.

To resolve this problem completely would require the total harmonization of all tax systems. A first, very important step has been taken with the gradual adoption by all countries of the value-added tax (VAT) system; considerable time was needed before agreement could be reached on a single definition of the concept of value added for tax purposes (which is not strictly the same as that used by economists) but this has now been achieved. On the other hand, the disparity of rates between countries remains, in some cases to a marked extent, and harmonization of these rates of indirect taxation would, for some countries at least, completely upset the relationship between direct and indirect taxation.

Such are the difficulties that there is no likelihood in the near future of any complete harmonization of the rates being achieved.

The process of harmonizing rates, which need not necessarily lead to their complete standardization in all cases, should be carried out in stages.

Pending this standardization of rates — or at least a substantial harmonization — some attempt has been made to resolve the problem of the existing disparities by applying the principle that a product must be taxed at the rate obtaining in the place of purchase: in practice, a product which crosses a frontier is not taxed in the country of departure (and of production) but is taxed in the country of arrival at the rate obtaining in that country. But, contrary to general practice, the tax is not levied at the time of production but when the product crosses the frontier, thus giving rise to customs formalities.

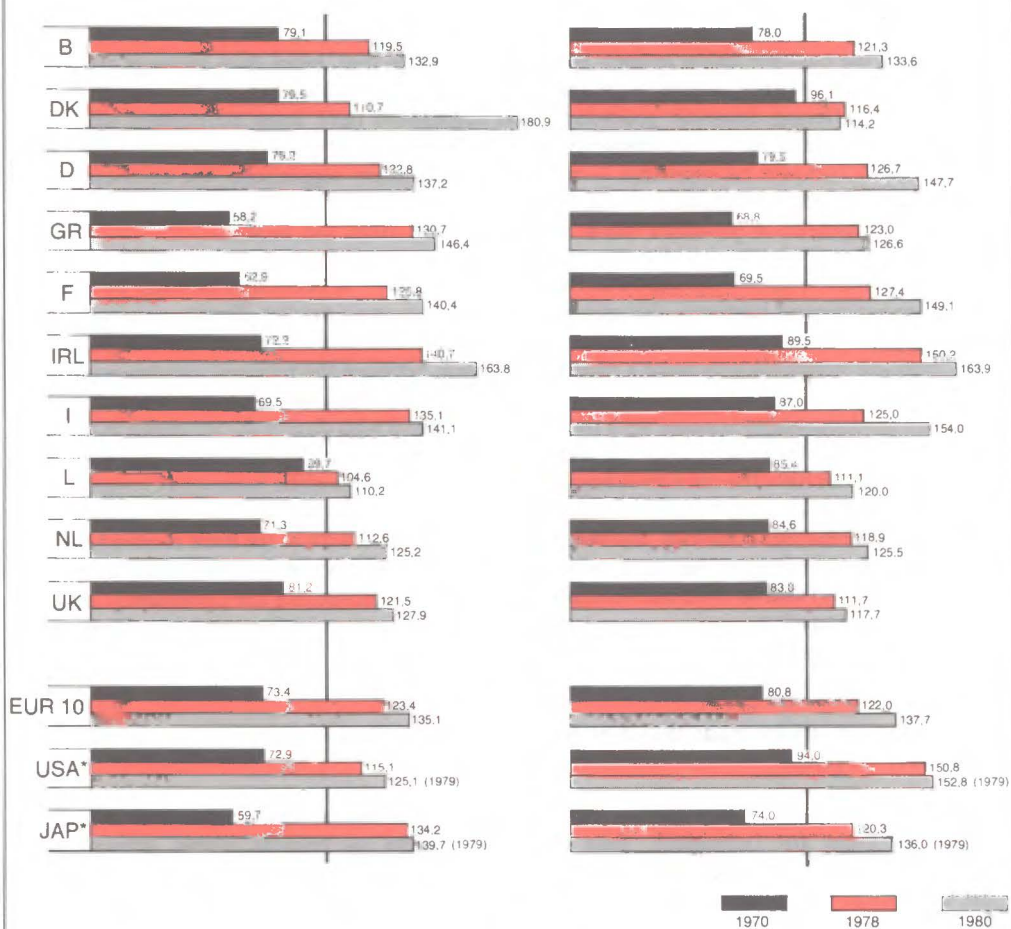
The term “technical barriers” means obstacles to the movement of goods caused by the differences in regulations or administrative standards governing the marketing of such goods on the territory of a given country. The underlying reasons for these regulations often stem

## Trends in foreign trade

Exports, volume index 1975 = 100

Imports, volume index 1975 = 100

(A volume index points up trends over time at constant prices and exchange rates, in this case those of 1975)



\* Imports and exports of goods and services.

from a concern for safety (minimum requirements to ensure safety in the use of machinery, prior tests to check the safety of pharmaceutical products). However, a further reason is the need for uniform standards (size of vehicle registration plates, size and design of electric plugs, etc.). Seldom are standards adopted for wholly objective reasons, and this unavoidably results in the introduction by the various countries of disparate standards or regulations which impede trade between them. There is therefore a need to ensure harmonization between countries either by unifying the existing standards or — for new standards — by adopting a single standard from the outset. In a world of rapidly changing technology, this task can never be finished.

Turning to the customs union proper, it must be admitted that, more than 10 years after its inception, there are still barriers to the free movement of goods between the Member States, since many differing domestic procedures and formalities have been maintained without change; the continuance of these disparities may be explained by the still fragmentary — and at times unduly complex or imprecise — nature of Community regulations, the cumbersome mechanisms of decision-making in the Community institutions and, lastly, the lack of any harmonized system of penalties when the Community rules are broken.

The permanent nature — for the three reasons mentioned — of economic frontiers between countries is a serious barrier to the creation of a genuine single market. Firstly, the frontier-crossing procedure occasions delays and costs which may be considerable; and more important still, business managers still make a mental distinction between the national and the external markets. It is particularly hard on the small and medium-sized firms who are unable to rely on a commercial department familiar with these operations and who clearly do not make as much effort as they could to penetrate the markets of neighbouring countries. The large firms, used to exporting, do not have the same problems but still hesitate to regard the home and Community markets as forming a single market; rather than consider these two markets as one, as distinct from the non-member countries' market, a number of them maintain (or have reintroduced) the distinction between home markets and external markets (whether Community or non-member country) and so have not become accustomed to considering the Community as the natural extension of their own country; this attitude of commercial firms in turn affects the decisions on the location of new investment and thus prevents the companies from making full use of a single economic continuum unique in the world.

An effort must still be made therefore to ensure genuine free movement of goods. This is absolutely essential.

The free movement of workers — both wage-earners, and independents — is a more important right for individuals than for firms except as regards highly specialized employees (managers, engineers, research workers). Generally speaking, the barriers to the movement of labour as a whole have almost disappeared (with the obvious exception of the psychological barriers) yet for certain specialists or jobs requiring qualifications, the mutual recognition of diplomas has not yet been fully achieved. Although this is serious for certain professions it is of little consequence for the Community's apparatus of production.

The free movement of capital is the *sine qua non* for the proper functioning of a common market as is the achievement of equality in the marginal productivity of capital as a factor of production when such capital is intended for productive investment.



The principle underlying this free movement is laid down in the Treaty (Article 67) but in terms more circumscribed than is the case for goods and workers, i.e. : "... to the extent necessary to ensure the proper functioning of the common market"; the qualified tone of this phrase is attributable to the fact that movements of capital can take place in several ways in the functioning of the economy, i.e. as a factor of production. Free movement also is desirable to improve the overall productivity of the Community's apparatus of production, but also as a factor which can influence the general equilibrium of the economy, i.e. the attitude to movements of capital cannot be isolated from overall economic policy. Furthermore, the likelihood of differing attitudes to the movement of capital between member and non-member countries complicates intra-Community organization.

The free movement of goods and of factors of production is not by itself sufficient to create a genuine common market. A further requirement is that the nationals of a given Member State should be free to establish themselves in the other countries and to set up and run businesses, in accordance, obviously, with the laws of the host country. Provision for this is made in Article 52. In addition, there must be freedom to provide services within the Community (Article 59).

The final requirement — in the absence of a single and uniform set of laws — is that the legislation of the various countries should be sufficiently harmonized to prevent those engaged in economic activity from experiencing any restriction or insecurity as a result of the disparities between countries. To bring this about, an intense effort is being made to harmonize legislation — as provided *inter alia* in Article 100 — in fields as varied as company law, intellectual property, manufacturers' liability, the enforcement of judgments, private international law, environmental and consumer protection, labour law and health regulations. Although this effort has been pursued for many years, there have been a number of stumbling-blocks (proposals often remain on the Council table or before Parliament for years on end) because the benefits of harmonization — clearly recognized by those in business and in the professions — are not always clearly understood by the responsible authorities.

To sum up, a large (Community) market has not yet been fully created and a number of impediments to free movement and establishment remain. But are these any greater a barrier to the creation of a truly homogeneous economic zone than the differences of taste, language, custom or behaviour throughout the Community and above all in an enlarged Community of 10 countries which brings together Mediterranean and Nordic peoples, Latins, Germans and Anglo-Saxons with their rich and diversified cultural heritage? The answer is not clear, but since these impediments do exist, it would be highly beneficial to mitigate them and considerable efforts in this direction must still therefore be made.

## **B) Maintenance of competition**

The desire to maintain a climate of competition between firms is founded on two ideas, namely :

- (i) Firstly, to prevent firms from benefiting from situations — by means of reciprocal agreements or by the exploitation of dominant positions — which will allow them to sell goods or services at prices significantly higher than cost, to the disadvantage of the

customer. At the same time, the preservation of equal conditions of competition for all parties concerned promotes the most effective use of the factors of production in the interests of the entire community. This is the traditional view of competition.

- (ii) A further factor, however, is the need to maintain a dynamic business environment, principally by subjecting firms to the potential or actual pressure of their competitors — again in the interests of the consumer — which encourages firms to adopt new techniques or methods of production, enabling them to cut their costs and to market better quality or new products.

To preserve a climate of competition and equal conditions of competition, however, businesses and governments must abide by certain rules.

The competition rules applying to undertakings are laid down in Articles 85 and 86.

Article 85 lays down the general principle of prohibiting agreements between undertakings which have as their object or effect the prevention, restriction or distortion of competition within the common market and which may affect trade between Member States.

Article 86 stipulates that any abuse by one or more undertakings of a dominant position within the common market or in a substantial part of it shall be prohibited as incompatible with the common market in so far as it may affect trade between Member States. It thus merely provides for the abuse of a dominant position to be penalized after the event. Hence, it does not permit the Community institutions to exercise any prior control over the process of concentration. Herein lies a profound difference with Article 66 of the Treaty of Paris which requires the Commission to give its opinion in advance on the lawfulness of a merger contemplated by one or more coal or steel undertakings.

Practical requirements dictate that a compromise must be sought between the likely gain from economies of scale and specialization and the disadvantages of reduced competition caused either by the abuse of dominant positions or — somewhat more subtly — by a loss of dynamism by firms. As to the benefits of large scale, ideas have changed over the last quarter-century. In 1960, the broad consensus view was that operations on a large scale brought efficiency. There was talk of the need for firms to acquire an international dimension. Later, more penetrating studies qualified this assessment and suggested that certain benefits of scale could be cancelled out by reduced flexibility of management and inability of firms to adapt to a rapidly changing domestic — and above all — international economic climate. There is, however, another factor at play. The opening-up of the Community's economy to the rest of the world has exposed the firms in the Community to competition from non-member countries.

The principal objective at present is to strengthen the efficiency of the Community's apparatus of production and its competitiveness *vis-à-vis* the rest of the world. The Commission therefore looks favourably upon agreements between firms which encourage necessary industrial changes, for example joint research and development agreements, specialization agreements, cooperation agreements — in their various forms — between small and medium-sized concerns, the creation of joint ventures, agreements aimed at the coordinated reduction of long-term overcapacity. It is also in favour of mergers of firms designed to strengthen their competitive capacity on the world market but, in return,



demands the right to be able to monitor effectively and rapidly the establishment of major concentrations.

If we turn to State aids, we find that Article 92 states that they are incompatible with the common market if they distort competition. Paragraph 3 of this article does provide for exceptions, however, since the following types of aid may be considered compatible with the common market: "aid to facilitate the development of certain economic activities or of certain economic areas, where such aid does not adversely affect trading conditions to an extent contrary to the common interest; aid to promote the execution of an important project of common European interest and such other categories of aid as may be specified by decision of the Council".

In practice, the Community authorities (the Commission in this case) are caught between two stools: they must not only take account of the legitimate or understandable concerns of the Member States to prevent the deterioration of the situation in specific sectors (and regions) but must also ensure that the measures taken to this end do not reintroduce compartmentalization of the common market and that firms which are uncompetitive compared with non-subsidized competitive firms in other countries of the Community are not allowed to continue in business, since this would prejudice the efficiency of Community industry as a whole. This is a classic example of a clash between short-term national interests and medium or long-term Community interests which can be resolved only by compromise. Such a compromise would be easier to achieve and more effective if the EEC had a genuine overall industrial strategy.

Here too, the present position is that faced with international competition, firms must give priority to restructuring. On the face of it, therefore, the Commission's approach is positive not only as regards aid to crisis-hit sectors which must reorganize thoroughly but also in regard to the financial support and incentives given to the advanced and high-risk industries of the future and in regard to the general policies and measures to meet the demands and requirements of positive adjustment and adaptation of Community industry.

It is thus quite clear that the Commission is adopting a positive approach in its present competition policy towards firms and the Member States in granting aid for the changes necessitated by competition from outside.

## *II. Social and regional policy support measures*

The growing complexity of our technologies and the changes being made to the apparatus of production are making social and regional policy support measures increasingly necessary.

Training for all — basic training when young followed by continuous training for the whole of one's working life — is playing an increasingly important part in getting to grips with the new technologies, not only for the workforce which is required to put them into practice but also for the population at large which is likely to benefit from the spin-off. Although it applies with particular force to information technology, this requirement is not confined to

the field of data processing and telecommunications alone. Gradually the microprocessor is invading the entire economy. Since the Treaty of Rome is silent on this point, responsibility for education — throughout working life — lies primarily with the Member States; however, exchanges of information on national achievements and experience are increasing.

On the other hand, it is in the area of social and regional policy that the Community can make an active contribution.

### **A) Social policy : Training, redeployment and retraining**

Since the aim of European integration is to promote specialization between Member States, it should form the basis of any reorganization supported by changes in the structure of employment. The Treaty of Rome thus made explicit provision for a financial mechanism, namely the Social Fund, the aim of which is to “render the employment of workers easier and increase their geographical and occupational mobility within the Community” (Article 123).

Under Article 4 of the 1971 Decision extending the scope of the Fund, it may now offer help in the following cases: (i) where the employment situation is affected (or likely to be affected) by Community policies; (ii) where action is called for to restructure the supply of manpower on the Community labour market because a large number of workers have to change jobs or are obliged to retrain, to obtain new qualifications in other sectors or to move to another part of the Community. The Fund may intervene in these instances, the Council authorizing each scheme by means of a special Decision.

Conversely, the aid granted by the Fund under Article 5 is not specifically linked to Council decisions. The aim of such aid under this article is to alleviate employment difficulties in the Community, particularly in backward or declining areas or in sectors of industry adversely affected by technical progress. In such circumstances, the underlying purpose of the aid granted by the Fund is structural and is specifically intended to reduce long-term unemployment and underemployment. In addition, a number of specific categories of persons may also benefit from the aid provided for under Article 5.

Moreover, apart from the aid available under Articles 4 and 5, the new Social Fund has a flexible budget with which to finance studies and projects concerning employment.

The changing economic climate and, in particular, the sharp rise in unemployment has meant that, since January 1978, 50 % of the Fund's resources have been allocated to “Article 5 projects” designed to alleviate the employment problems in the backward regions of the Community; the individual amounts of aid have also increased.

Thus the basic purpose for which the Social Fund is used is that of helping to deal with problems of rehabilitation. As such, it has a significant role to play in restructuring the apparatus of production. By facilitating the redeployment of workers it cuts the social costs of this operation and mitigates the psychological opposition likely to be generated. Although the Fund is on a modest scale, both in absolute terms and when compared with similar national measures, its existence is important in that it shows that the Community as a whole is concerned with social problems and provides a certain measure of solidarity

between the various Member States which benefits those groups of workers or regions most badly affected.

## **B) Regional policy as a means of correcting imbalance**

The structural changes taking place in the apparatus of production may have profound repercussions on the regions. Those regions in decline — where the traditional industries once dominated — are witnessing a sometimes dramatic rise in the level of unemployment; measures are needed to correct these imbalances.

Conversely too, regional disparities in employment and productivity can be a barrier to the efficiency of the economy. The additional costs caused by bottlenecks and congestion in particular regions, the underutilization of plant in other regions, the failure to make optimum use of the potential capacity of the population as a whole — these are all sources of wastage which must be eliminated. Thus, in addition to vitally important social considerations, there are economic factors which militate in favour of measures to prevent or redress these regional disparities.

All the Member States pursue regional policies aimed at increasing productivity and the standard of living in those regions in difficulty. They do this by developing the public, economic or social infrastructure and by granting financial incentives.

The way in which these quite independent policies are conceived and formulated may well lead to inefficiency and wastage. The first thing that springs to mind is the need for cross-border compatibility of transport and telecommunications networks and the importance — in the case of certain infrastructures — of avoiding costly competition where identical facilities and capital equipment are built up on either side of a frontier (ports, motorways, etc.). But there is a further consideration: regional aid can serve as an incentive to firms only provided that equivalent or more substantial aid is not available elsewhere. In other words, it operates on a differential basis: there is thus a strong tendency for countries to seek to outbid one another.

Although Article 92 recognizes that regional aid must be compatible with the common market, it still has not been demonstrated that these different forms of regional aid are consistent with each other. The first steps in this connection took the form of a resolution of October 1971 in which agreement was reached on the principle of placing a ceiling on aid, which could vary according to the requirements of the different regions. The ceiling relates both to the aid and to measures having equivalent effect. As a result, the outbidding between countries — particularly as regards frontier regions — was curbed.

Apart from these negative measures, positive action has also been taken on three fronts: the comparison of national regional policies, evaluation of the regional impact of various policies and, thirdly, the deployment of a Regional Fund.

There is no question of imposing “carbon copy” regional development policies on the Member States nor of having all regional aid measures decided at Community level; it is rather a matter of attempting to compare thoroughly the various national policies, the reasoning behind the choice of the particular instruments and of their effectiveness.



In addition, the Commission endeavours to take account of the regional effects of the other Community policies. This is particularly true of industrial policy. It is important that any redeployment of economic activities takes due account of the regional factor and ensures that the adjustments are made progressively. Care must also be taken to ensure that the regional measures do not cut across the necessary readjustments either by perpetuating out-of-date activities or by causing jobs to be created in activities with no lasting future or, even, by seriously distorting — by means of purportedly regional aid — the conditions of competition between sectors or, within the same sector, between firms in different countries. Constant monitoring is thus required.

Lastly, the European Regional Development Fund (ERDF) — set up in 1975 — may be used in tandem with a policy for promoting industrial employment in those regions most badly affected by industrial decline.<sup>1</sup>

### III. *Economic and monetary union : How the efficiency of the apparatus of production would benefit*

There are two basic conditions for developing a coherent and efficient apparatus of production throughout the Community: firstly, the expected and actual stability of exchange rates and, secondly, a favourable climate for investment. Fulfilment of these two conditions calls for Community measures, or would be aided thereby.

#### **A) Stability of exchange rates and the European Monetary System**

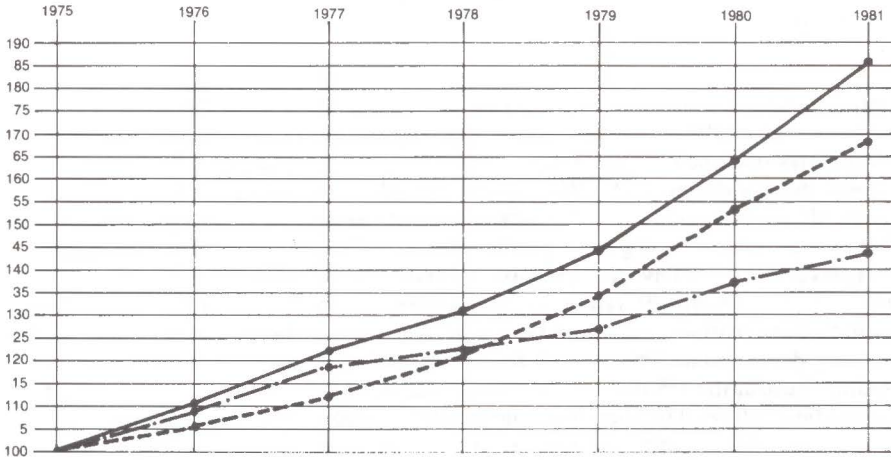
In making decisions about commercial strategy or the siting of manufacturing plants, firms are guided by the respective advantages and disadvantages of the various possibilities. These financial analyses of the consequences of a decision are initially expressed in the currency of the country in question and then converted into a common monetary unit by application of the exchange rate. Any doubt as to the stability of this exchange rate complicates the calculation and introduces uncertainty as to the results of the comparisons. This normally means that the firm does not regard the territory of the foreign country in the same way as the national territory and, more often than not, its decisions tend to favour the latter. The creation of a true common market thus requires stable exchange rates. This is a prerequisite for the operation of the common market and for the development of an efficient Community industry.

The general trend is for the exchange rate between two countries to change in line with the ratio of the prices of goods and services giving rise to external trade (theory of purchasing power parity). The way in which this ratio changes may be quite different from that of consumer prices which cover not only tradeable products but also services which may not be traded. Hence there can be no long-term stability of the exchange rate unless the general

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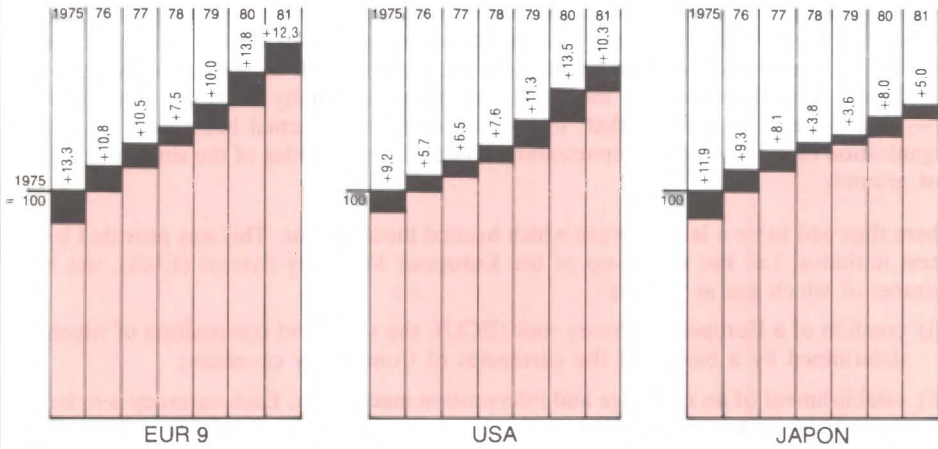
<sup>1</sup> See the booklet entitled *The European Community and its regions*.

**Inflation rate trends**  
Consumer price index — 1975 = 100



Source : EUROSTAT

**Inflation rate trends**  
Annual rate of increase in prices as % — 1975 = 100



Source : EUROSTAT

price levels for export are stable or move in step with the exchange rate (i.e. that the rates of inflation are the same). The common market, which calls for fixed exchange rates, thus requires that the rates of inflation should vary only slightly and hence needs the implementation of economic policies which espouse this objective. This is often referred to as the convergence of economic policies: it is the essence of economic and monetary union.

The problem scarcely arose during the first 10 years of the common market. The rate of inflation was low (about 3% per year) and comparable in the various countries. The exchange rates remained fairly stable (apart from very modest adjustments in the German mark and the Dutch guilder). This 10-year period of stability gradually persuaded the economic decision-makers — particularly heads of businesses — to regard the common market as a genuinely homogeneous large market. The aims of the Treaty of Rome were being realized. But in 1968 the situation started to get worse. Prices began to increase rapidly, at rates which differed from one country to another, and the symptoms of a deteriorating international monetary system became more marked. The pace of events then quickened: devaluation of the French franc and revaluation of the German mark in 1969, speculation against the US dollar (and the German mark) in 1971, first experience of some currencies being allowed to float, non-convertibility to gold of the US dollar in August 1971, general adjustment of parities in December 1971 plus various disturbances in the ensuing years; the disruption of the international monetary system — as founded on the Bretton Woods agreement — seriously affected the stability of Community currencies.

The Community reacted by creating the “snake”, a mechanism designed to reduce the margins of fluctuation between Community currencies and to apply a joint float against the US dollar. The idea was good, but it was not enough. Since the mechanism is purely operating in monetary terms, it does not go to the root of the problem which is the disparity in the rates of inflation between countries. Consequently, the snake operates rather laboriously, involving fewer and fewer currencies. The governments of the Member States are gradually realizing that the operation of an economic and monetary union is a more difficult task than they thought. Furthermore, firms have gone back to the idea that the market of the other Member States is not identical to their own, coming some way between the latter and non-member country markets. One cannot talk of the individual countries withdrawing into themselves — the figures for intra-Community trade are there to prove it —, but there is no denying that, in both statements and actual behaviour, e.g. in the organization of the marketing departments of large firms, the idea of the single market has lost ground.

There thus had to be a leap forward which heeded these lessons. This was provided by the latest initiative, i.e. the setting-up of the European Monetary System (EMS), the basic features of which are as follows:

- (i) creation of a European currency unit (ECU), the value and composition of which are determined by a basket of the currencies of Community countries;
- (ii) establishment of an exchange and intervention mechanism. Each currency is to have a central rate linked to the ECU;
- (iii) setting-up of substantial credit facilities;
- (iv) coordination of the exchange-rate policies applied to non-member countries.



The new system offers considerable advantages over the "snake": it demonstrates greater realism, ensures a better balance of responsibilities and offers far greater opportunities for intervention.

Yet it still has a number of serious drawbacks: it contains almost no provision for ensuring the convergence of economic policies and of the results of these policies. In practice, it is largely based on a gamble, i.e. that governments, having solemnly undertaken to make it operate, will in fact do what is required for it to function, even if this means making substantial and politically sensitive sacrifices.

The proper functioning of the EMS which, in practice, is a prerequisite for the creation of a true Community system of production within a European industrial continuum, would in turn be greatly expedited by this system. Whereas exchange-rate stability helps toward the homogenization of the European continuum within which manufacturing goes on, conversely the trend towards a levelling throughout the Community of rates of growth and hence of real returns undoubtedly encourages the convergence of rates of inflation and hence the stability of exchange rates. Proper functioning of the EMS and coherent industrial development between countries are thus, to a large extent, two sides of the same coin. They are two tasks to which the Community must address itself simultaneously and with equal energy.

## **B) Investment**

In order to create the right climate in which to take up the technological challenge now and in the coming years, a substantial investment effort is required. Firstly, investment in productivity in order to introduce new techniques and to maintain the competitiveness of Community industry, but also investment in capacity to create employment opportunities for the men released as a result of the first type of investment, and thus ensure full employment. This presupposes both access to finance and a willingness to invest, in other words confidence in the future.

Here again, there were no serious and lasting problems in the first 10 or 15 years of the common market's existence. In the past 10 years, however, the situation has deteriorated seriously. As the Commission states in its foreword to the *Fifth medium-term economic policy programme*: "Statistics clearly demonstrate the need for improvement. Since 1973, aggregate investment as a percentage of GDP has declined slightly (gross fixed capital formation represented 21 % of Community GDP on average from 1974 to 1980, compared with 22.4 % from 1967 to 1973), while GDP itself has expanded only slowly. The share of investment in GDP in Japan (32 % in 1980) is over 10 points higher than in the Community, a significant illustration of the relative dynamism of the two economies. Energy investment, which is not only important to industry but also eases balance-of-payments constraints, is stagnating at around 1.6 % of GDP, at a time when the reasonable minimum is generally put at some 2.2 %, and the figure for the United States is almost twice as high". The fifth programme also stresses the need to return to a higher rate of growth so as to ensure full employment, to stimulate the investment effort to allow growth and to strengthen international competitiveness in order to maintain equilibrium in the balance of payments and, lastly, to discriminate positively in favour of investment rather than consumption when GDP resources are being allocated.

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The measures described above relating to the general economic environment and the provision of support constitute the very foundation of the Community. In creating a large market, they enable firms to reach their optimum economic size by harnessing modern technologies; the social and regional policies help remove the barriers which the social cost of change might place in the way of the rapid adjustments necessitated by technological development and changing external factors. Lastly, by promoting the convergence of economic policies and the introduction of the European Monetary System, these measures encourage the creation of a truly homogeneous economic entity. This is a measure of their importance and of the need to finish the task of building the large market by removing the remaining obstacles, to expand the support given by the Social Fund and the Regional Fund and to accelerate the convergence of the Member States' economic policies. These are vital tasks which must be pursued with untiring effort in the face of unrelenting, hydra-headed temptations of protectionism or isolationism.



## Chapter III — Specific measures at Community level to guide and stimulate industries

If our industry is to become efficient and dynamic, along the lines described above, it is absolutely essential that it be provided with a good economic framework. However, this is certainly not enough. To begin with, it does not fully exploit the advantages which can be derived from the Community dimension, since — compared with purely national solutions — they may totally change the picture. Measures of a specifically Community character should therefore be taken to guide and stimulate industries.

Just as each country has for some time now, in addition to across-the-board measures relating to industry in general, been taking specific measures to cope with the particular problems of each sector and the current economic circumstances, so the Community as such must apply a genuine positive industrial policy to supplement, reinforce and in some cases even direct the Member States' domestic industrial policies. Although this implies that this policy would be worked out at Community level, as we shall see this does not necessarily mean that it has to be implemented at Community level.

The Community has made far less progress in this direction than in setting up the common market. There are thus some interesting avenues to be explored which, although they are not always explicitly mapped out in the Treaty of Rome, do follow perfectly the spirit of the Treaty, as we shall explain before examining possible applications in various sectors of industry.

### I. *The instruments available for Community action*

Although, apart from reference to the organization of external commercial policy, the Treaty of Rome has little to say on this subject, Article 235 gives a legal basis for whatever may prove necessary: "If action by the Community should prove necessary to attain, in the course of the operation of the common market, one of the objectives of the Community and this Treaty has not provided the necessary powers, the Council shall, acting unanimously on a proposal from the Commission and after consulting the Assembly, take the appropriate measures."

One can therefore envisage the use at Community level of the entire range of instruments including *inter alia* the provision of economic and technical information, financial interventions in the form of loans or subsidies and preferential public procurement contracts.

It should also be remembered that the other two Community Treaties make provision for additional types of measure. The Treaty of Paris establishing the ECSC provides (in Article 46) for the periodical publication of general objectives for the coal and steel industries and allows the Commission to express opinions on the investment projects which undertakings are obliged to notify, to finance operations out of its own resources and to borrow money for on-lending. The Treaty of Rome establishing the European Atomic Energy Community (Euratom) makes provision for a very useful legal entity — the joint undertaking.

Lastly, the organization of external economic relations, which the Treaty specifically states is to become the subject of a common policy, constitutes a cornerstone of any industrial policy.

### **A) Providing economic and technical information**

At a time of rapid technical progress and with a general environment of acute uncertainty, it is valuable for decision-makers, either in the public or private sector, to have as well-founded, and above all as coherent, a view as possible of alternative development prospects.

The Commission is working towards this end by improving the flow of scientific and technical information and documentation, publishing prognostications about the long term, by drafting reports on specific sectors and by medium-term economic planning.

The intensification of research over the last quarter of a century has resulted in a prodigious increase in the fund of knowledge and the volume of scientific and technical literature. It is becoming increasingly difficult for the potential user to keep abreast of developments and to extricate what may prove useful from this mountain of information; the smaller the firm, the harder this becomes. Each country is endeavouring to develop information management procedures which can at the same time speed up dissemination and make the mass of information manageable, while the Commission, for its part, is pushing for cooperation between the various bodies concerned with scientific and technical information and documentation throughout the Community.

As technological progress accelerates and as the international environment changes, it becomes increasingly necessary — and increasingly difficult — to have a firm grasp of possible medium-term and long-term developments. For this reason, the last few years have seen a rapid growth in the amount of forecasting and planning work being done by private teams and by governments or international organizations. The Commission too has set up the FAST programme (forecasting and assessment in the field of Science and technology) and the European Research and Development Committee.

The Commission also sends sectoral reports to the Council of Ministers on those branches of industry which are facing specific problems or may well do so in the near future. By formulating these problems, these reports are intended to provoke discussion in committees of experts, and later by the Council of Ministers, in order to arrive at decisions based on the practical proposals contained in these reports; if sufficiently widely circulated, they may also encourage discussion between the various economic operators concerned (undertakings, professional associations, trade unions, and the EEC's Economic and Social Committee).

Finally, alongside these specific documents, there is a growing need for a more general, and therefore more consistent, view of the Community's future.

This is the aim of the medium-term economic programmes, the first of which covered 1965 to 1970 and the fifth 1980 to 1985. These are relatively general documents (and thus do not examine particular sectors or branches of industry) which nevertheless come out in favour of a specific form of growth for the Community economy in the medium term and describe the main economic policy decisions required to bring about this preferred form of development. Although they are extremely useful as a result of all the comparative studies which were necessary to formulate them, these programmes are nevertheless still not put to practical use to an adequate extent and this for two reasons. Firstly, it is very difficult to tie them in with national multiannual programmes, where there are any, and with shorter-term economic policies and, secondly, because they take such a wide view that they do not as yet provide the general framework required to work out a proper industrial policy which, by its very nature, must consist of separate policies for each sector.

## **B) Financial measures**

The chief way in which the public authorities can influence the way in which production is organized is without doubt the financial measures taken by national governments, by means of either aids (grants or concessionary loans) or tax reductions.

The Community is organized in such a way that Member States remain responsible for their own taxation. On the other hand, the Treaties do make provision for the granting of financial aid and this may take one of four principal forms :

- (i) the granting of funds from the Community budget on a non-returnable basis ;
- (ii) the granting of ECSC loans, financed by ECSC borrowings, to coal and steel industries only ;
- (iii) the granting of European Investment Bank loans ;
- (iv) the granting of New Community Instrument loans (the NCI was set up in 1978 and is sometimes known as the Ortolí facility).<sup>1</sup>

For a long time, the only budgetary resources allocated for structural purposes other than agriculture were those allocated for nuclear research. Later, there was more diversification in favour of research in other areas, particularly research of a public service nature. Finally, quite recently, for the first time amounts have been entered in the budget for the financing of industrial investment programmes, although the amounts are still very small (73 million ECU in commitment appropriations for 1982). However, there are also the amounts paid under the ERDF and the Social Fund, which are intended primarily for specific regional or social objectives, but nevertheless help to modernize and restructure industry.

The Treaty of Paris makes specific provision (in Article 54) for granting loans to facilitate the implementation of investment programmes in the coal and steel industries, and also,

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<sup>1</sup> For further information see the booklet entitled *Grants and loans from the European Community*.



incidentally, in the industries which supply them with raw materials or which process their products. Normally these loans are granted at cost but recently the Commission decided also to grant interest rebates on certain loans as a means of guiding and influencing restructuring operations. Lastly, we should again mention in this connection social aid for the retraining of workers (Article 56 of the Treaty of Paris).

The European Investment Bank which was set up by the Treaty of Rome obtains most of its resources by borrowing on the capital markets both inside and outside the Community. It finances investment, giving priority to the economic development of the less-developed regions, and also supports investment projects of common European benefit aimed at modernizing and converting undertakings or developing fresh activities made necessary by structural difficulties.

The purpose of the new Community borrowing and lending instrument (NCI) is to grant loans to finance investment projects which help to bring about the convergence and increasing integration of economic policies and which are consistent with priority Community objectives in the energy, small and medium-sized undertakings, and infrastructure sectors. It thus has broader scope than most of the other Community financial facilities, although at present its allocation is limited to 1 000 million ECU.

Interpreting the adjective "structural" in its widest financial sense, aid granted for structural purposes in 1980 (apart from agriculture) amounted to 2 335 million ECU in subsidies (1 014 million ECU from the Social Fund and 1 126 million ECU from the Regional Fund) and 4 092 million ECU in loans (2 720 million ECU from the EIB and 1 020 million ECU from the ECSC). Most aid in fact goes to either infrastructure or energy. Less than a quarter of the total is allocated to industry as such. This is evidence that the Community has no real industrial policy, although financial instruments exist and the principle may even be extended.

### **C) Public procurement contracts**

In all countries, the awarding of public procurement contracts as a matter of principle to national suppliers is a preferred means of encouraging specific types of industrial development within the country. This is of particular benefit in promoting particular advanced technology sectors, like telecommunications, aeronautical engineering and various branches of mechanical engineering which, moreover, are usually granted substantial public aid for research.

Where this preferential treatment deliberately discriminates against products of other Member States' origin, the practice is obviously contrary to the spirit of the Treaty of Rome since it is preventing the free movement of goods. Moreover, because of the resultant compartmentalization of markets, manufacturers are prevented from taking maximum advantage of the economies of scale, which are often substantial in those sectors which are the subject of public procurement contracts. This explains why the Treaty of Rome prohibits these preferential and discriminatory practices, and why the Commission has issued two directives, pursuant to the Treaty, making it obligatory to throw open public procurement contracts to allcomers. There is still a long way to go, however, before public contracts are truly open to all potential suppliers equally throughout the Community. The



loss of efficiency to the Community as a whole caused by this situation is by no means negligible.

Although a violation of the rules of the Treaty, this is not solely the result of ill-will, but also of inertia — the practice has been followed for a long time — and at the same time of fear in each country that the losses will outweigh the gains... and it is always easier to see what might be lost rather than what stands to be gained. There is thus a kind of tacit agreement to preserve the present situation.

Perhaps there is another solution, namely, to award public procurement contracts at Community level, at least for certain categories of product. The size of the orders involved would make it easier to take advantage of the economies of scale and also, provided a sufficiently wide range of products were dealt with at the same time, should allow each country to find a product in which it specializes; this would provide a kind of balancing-out effect which should make the various trading partners more ready to accept the idea. So far, this scheme has been explored on only a small scale with proposals in connection with railway stock, which were not particularly successful. Discussions are still in progress on a much wider range of products — i.e. telecommunications equipment — which should involve all countries as producers and which should interest them as purchasers, because of the reduced costs.

#### **D) External relations**

Crucial to the development of an apparatus of production is the organization of external relations. The Treaty is therefore extremely specific on this point. First of all, it takes as a guiding principle the opening-up of the Community to the outside, stating in the Preamble the desire “to contribute... to the progressive abolition of restrictions on international trade”. This reflects the general economic philosophy of the period when the Treaty was drafted. The signatory States — well aware of the many disadvantages of barriers to trade — all agreed that a considerable effort should be made to encourage international trade; they were thus acting in the spirit of the General Agreement on Tariffs and Trade (GATT) signed in 1948 by all the developed market-economy countries (and a handful of others). In particular, this respect for the spirit of GATT led in 1968 to the establishment of a common customs tariff at a lower level than that which would have resulted from a simple alignment on the average of the national tariffs in force when the EEC was set up. This measure, approved during the Kennedy Round of negotiations, has had the result that the Community’s customs protection is now weaker than that of its main partners (7 % on average, compared with 13 % in the case of the United States and 10 % in the case of Japan). As a result of subsequent reductions, and those in the pipeline, the average tariff level will eventually be very low, like Japan’s in fact. However, the significant factor is not so much the average level as the dispersion around this mean (a customs duty on a given product offers greater protection the higher it is above the average tariff level): in this respect, the Community — which has a very uniform tariff — is much less protectionist than its main competitors. During the Tokyo Round of negotiations, the EEC made a further contribution by accepting major reductions in non-tariff barriers.

The Treaty’s fundamental philosophy is perfectly understandable in terms of the ideas current at the time it was signed; it also evoked Europe as it was before 1929 when goods moved freely. It further was considered beneficial to be able to improve trading relations between the six countries of the EEC and the seven of the European Free Trade

Association, and it was hoped that more trade could be developed with the United States. Lastly, economic theory emphasized the material advantages which could be expected from developing trade between partners provided that the rules of competition and the principles of free trade were observed.

Since then the circumstances have undergone a profound change. The number of possible trading partners for industrial products has increased and they are often countries whose levels of development (and, in consequence, salary scales and social systems) are extremely different. The nature of international trade has also changed a great deal with the increase in demand for capital goods throughout the world and the emergence of the multinationals. Trade may involve the purchase by an importer of individual items of merchandise from a foreign firm or the sale of whole factories on a turnkey basis, or again consignments of intermediate products transferred between plants belonging to the same multinational undertaking (which organizes its production on a world scale) at prices which may bear little resemblance to costs. Lastly, experience has taught one lesson, which we tend to forget: this is not a perfect world and it cannot be assumed that the basic rules of free competition will necessarily be respected!

All this has two extremely important consequences. It has become more difficult to keep the balance of payments in stable equilibrium and government measures to maintain or restore this equilibrium are proving less effective — a factor which is increasingly destabilizing the economies of the Member States. Moreover, the conditions of competition are by no means always observed uniformly and it can happen that, instead of being to the benefit of both partners, trade benefits one at the expense of the other, who may be weaker or may be playing by the rules.

There is therefore some justification for rethinking our approach to external relations, not in order to abandon it altogether, to be sure, but to modify it somewhat by continuing with efforts at opening up markets but — after negotiation with our trading partners — imposing temporary restrictions or holding back for a time when it is not certain that the trade flows are operating equitably.

The Community has every justification for reviewing these problems since the Treaty provided that external commercial policy should be a common policy. Thus the Community speaks with one voice in international negotiations; examples are the Kennedy and Tokyo Rounds, and the Current Multifibre Arrangements and the operation of the generalized preferences system. However, contrary to the spirit of the Treaty, this is still not the case with commercial agreements with some Statetrading countries (USSR, China and countries of Eastern Europe), partly because many of these countries still do not fully recognize the EEC as the spokesman for its Member States; trade with China, on the other hand, is being governed by an agreement.

Lastly, the Community could also do something to encourage external trade. Hitherto, financial support and other measures to encourage firms to export have always been taken in a national framework and there has been no coordination at Community level. The Community cannot continue to ignore export policy but should endeavour to do more to coordinate national instruments (particularly in order to avoid them working against each other on non-Community markets) and could also introduce Community measures, where they would seem to be required.

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The Community thus has at its disposal several tools which it can use under the Treaty of Rome. We will examine how they can be used in a number of widely different sectors : three sectors undergoing fundamental changes, or even contracting (textiles, steel and shipbuilding), a major advanced technology sector (electronics, data processing and telecommunications) and a sector which will continue to have a promising future if fundamental changes are made (the motor industry); we will conclude with a general consideration on scientific and technical research.

## II. *The sectors which are partially or totally contracting : textiles, steel and shipbuilding*

As the economy grows, market outlets for different products develop at very different rates for a variety of reasons. Firstly, the income elasticity of consumer demand is very variable. Thus the relative proportion of consumer expenditure on clothing tends to decrease, which means that sales of textile products on the domestic market increase at a slower rate than GDP. A second factor is technological change. Thus the sale of steel products is affected both by a decline in the number of products manufactured from steel and by the use of alternative materials (particularly synthetic chemical products). A third reason is the extreme short-term sensitivity of capital goods industries to fluctuations in the economy. Capital goods are purchased for one of two reasons, either to replace outdated or obsolete plant or to increase capacity. In times of recession there is less demand under the first heading and none at all under the second. Thus there are considerable market fluctuations; this is a manifestation which particularly affects shipbuilding and, by corollary, the steel industry.

### A) **The textile and clothing industry**

The textile and clothing industry covers all activities which produce, from natural or synthetic fibres, finished products, clothes and articles for domestic or industrial use.

The textile and clothing industry continues to account for a good proportion of the Community's industrial production. In 1979 for example :

- (i) it employed over 2 400 000 people, which is 5.8 % of the total workforce of the manufacturing industries,
- (ii) it contributed 6.4 % of the value added in these manufacturing industries,
- (iii) it accounted for 6 % of Community exports of manufactured goods.

Nevertheless, this industry has declined sharply: between 1973 and 1980 production dropped by some 6 % (consumption of clothing increased by only 7 % whereas imports more than doubled) and the workforce dropped by more than a quarter. This is not a recent phenomenon — it has been happening for more than 20 years — but the decline has accelerated with the slowdown in economic growth.



The general picture is gloomy, therefore. The industry is by no means homogeneous and the circumstances and problems — and thus the appropriate solutions — are certainly not the same from one branch to another.

For instance, the synthetic fibres industry, which supplies half of the fibres used in the Community, is a highly integrated and highly capital-intensive industry which has, since 1975, been suffering badly from surplus production capacity.

The spinning and weaving branches — again highly capital-intensive — employ large numbers of workers (some 700 000). The trend here is towards more mechanization using high-capacity machinery.

The clothing industry on the other hand, which includes the hosiery and ready-to-wear branches, is basically a labour-intensive activity (1 500 000 workers) with a very low per capita level of capital investment. This is why it has been possible for rival branches to develop in low-wage countries with favourable wage cost/productivity ratios and to compete over a wide range with Community products. Nevertheless, the position regarding competition from outside the Community varies considerably from one product to another. Those firms specializing in the manufacture of articles to meet discretionary demand, where style is more important than the strictly functional aspect (and for which the developing countries have very few outlets on their own markets), can maintain their positions far more easily than the supplies of off-the-peg items, where prospects are less rosy.

What then is the long-term outlook? Community consumption of textile and clothing products will increase only slightly. Competition from outside, on the other hand, will tend to increase substantially as new producer countries emerge (and in some of them, in fact, certain production processes are carried out by subsidiaries of firms in industrialized countries). The textile and clothing industry therefore will still have to submit to further fundamental restructuring.

In more general terms, the future of the Community firms seems to lie chiefly in areas requiring substantial capital investment, advanced technology, a highly-skilled workforce and a high level of creativity. Only in these circumstances will it be possible to maintain within the Community a production capacity which can meet the major part of consumption within the Community of all the major types of product and still export a sufficient volume of products to avoid an excessive balance-of-trade deficit in this field. However, converting the apparatus of production along these lines would entail substantial job losses, so that lay-offs would maintain its present rate for several years to come. The concomitant social and regional problems would thus continue to be serious and to justify public intervention.

What can, or should, the Community then do? It could perhaps endeavour to avoid inconsistencies between national measures by adopting a suitable commercial strategy and undertaking joint action to encourage the necessary changes. The difficulties facing the textile industry are far from recent. Job-shedding began some 20 years ago and has been accelerating ever since so governments have been forced to bring to bear all the measures conventionally used to slow down and control the decline of an industry. There was then the risk, however, that domestic measures would disrupt the market, and the Community could not just sit back and let this happen. Accordingly, as early as 1971, the Commission sent to the Member States a communication explaining that schemes to aid the industry should



encourage it to adjust and should not be designed merely to maintain uncompetitive production or to increase production capacity in sectors already beset with serious adjustment problems.

Moreover, since the main difficulties had their origin in foreign competition, it was natural to work out a general commercial attitude towards textile products. This was the aim of the Multifibre Arrangement (MFA) which was signed for the first time in 1974, under GATT; it takes its name from the fact that it covers the majority of textile products (artificial and synthetic fibres as well as cotton and wool). The signatories of the MFA undertook not to impose any further unilateral or bilateral restrictions on trade in textile products and in fact gradually to eliminate existing quantitative restrictions. The MFA nevertheless contains explicit safeguard clauses (Article 3) and above all permits the negotiation of bilateral agreements (Article 4). It was on this last article that the Community based its textile policy, concluding bilateral agreements with suppliers, chiefly in accordance with the principle of the signatory States imposing their own limits on exports of a limited number of products, and gradually increasing the quantities authorized. Agreements of this kind have been signed with most of the East Asian and Latin American countries. The MFA was last renewed in December 1981. The implementing bilateral accords are being negotiated in 1982.

Lastly, the very scale of the adjustment required calls for joint action and in 1981 the Commission issued a set of proposals, both on general measures which could help the textile industry and on more specific measures :

- (i) to reduce the cost of capital enable the textile industry to finance and carry out the investment programmes required;
- (ii) to encourage the introduction of four-shift or even five-shift working, in order to make maximum use of equipment;
- (iii) to encourage cooperation between firms in order to facilitate the marketing of textile products;
- (iv) to provide further information on the textile industry — a start was made with the joint financing by the Community of the Textile and Clothing Information Centre;
- (v) to improve the coordination of research programmes, to extend the dissemination of results and to launch certain specific programmes.

As can be seen, these various proposals are designed to supplement national measures and to improve their effectiveness.

Lastly, it is important that the Community as such shows that it is concerned about the social and regional aspects of restructuring the textile industry; the Social Fund is therefore granting aid for the retraining of workers leaving the industry to work in other industries and for the training of workers still employed by the industry. So far, it has given assistance to some 100 % of the workers leaving the textile industry, particularly in areas of high unemployment. The ERDF has also been giving considerable help (800 million ECU between 1975 and 1980) to regions where the textile and clothing industries play an important role (i.e. they account for more than 10 % of employment in industry). These various forms of assistance from the Community budget could be increased.

## **B) The steel industry**

The steel industry currently employs 0.6 % of the total working population and 1.5 % of all the Community's industrial workforce, with heavy concentrations in a few regions. It is not therefore the direct influence of this industry which justifies giving it special consideration, but a number of other reasons. Firstly, it is one of the two industries on which Europe was built, as it were. We thus have a broad historical perspective (330 years) of the development of an industry in respect of which the Treaty of Paris assigned to the Community institutions broader responsibilities and powers than they possess for any other industry. Moreover, it is a heavy industry in which restructuring is particularly difficult and may today be facing the problems which await other equally capital-intensive industries tomorrow. Consequently we can, for both these reasons, learn a lot from this industrial sector.

After a period of solid and relatively steady growth, during which crude-steel production in the Community increased from 48 million tonnes in 1952 to 98 million tonnes in 1960, the industry has for the past eight years been in the throes of a crisis which was first apparent in the decline, and later the complete stagnation, of production (128 million tonnes in 1980) and massive underutilization of capacity (the rate of utilization dropping from 79 % in 1974 to 62 % in 1980), substantial staff reductions (numbers dropping from 792 000 in 1974 to 615 000 in 1980), a slump in the prices of certain products and a difficult financial position which slowed down the rate of investment and thus left the Community steel industry at an excessively low technological level.

How did all this happen — and what can we do about it?

The present difficulties are the result of a series of factors which have had unfortunate consequences because the various parties responsible were not fully aware of the medium-term and long-term future prospects. The long period of growth (an average of 6.6 % a year throughout the period from 1960 to 1974) led them to believe that demand would continue to increase for some time to come and that capacity should also continue to be increased. The medium-term forecasts which constitute the Community's general objectives for steel tended to support this optimistic view, and even the first warning signs which appeared in 1968 (the first indications of inflation, increasing unemployment, deterioration of the international monetary system) failed to make an impression. The period of regular growth made people forget that the steel industry is particularly vulnerable to short-term fluctuations in the economy, in the same way as the industries manufacturing capital goods, which are their main customers, and that it is probably preferable to accept supply bottlenecks when the economy is extremely buoyant in order to offset underutilization of capacity during recessions.

Indeed, many producers took the high tide in the short 1973/74 period to both reactivate low-performance facilities and launch major, capacity-increasing programmes.

Collapse in demand — resulting from a generalized economic slow-down and technological changes in both production and utilization techniques with resulting specific consumption drops — thus was coincidental with an upsurge in production capacities.

From 1975 onwards, structural excess in offers for steel products as compared with both domestic and international demand has stagnated at between 30 and 40 million tonnes, representing around 30 % of available capacities.

Moreover, even when the economy was in good shape, the Community steel industry did not do enough to get to grips with new technological developments. It was known, to be sure, that current technology had become obsolete (e.g. the open hearth and basic Bessemer processes, and certain types of mills) and would have to be abandoned if the industry were to face up to the competition of the producers who had recently emerged on the world market, notably Japan. Nevertheless, instead of decommissioning older plant and entire factories and closing them down at a much faster rate, Europe took its time. If all this had been done during the period of economic prosperity — as indeed had been recommended by the overall objectives —, the retraining of the labour force so made redundant (which is a particular problem because the steel industry is often the main source of employment in certain areas) could have been carried out more easily than in later years when it was becoming difficult to create jobs throughout the whole economy. However, the extremely buoyant steel market seemed a good reason for keeping the old plant going, since it had been more or less paid for and this made up for losses of productivity. This was the automatic reaction of the steel undertakings and was backed up by the trade unions and accepted by the public authorities. However, the situation varied somewhat from country to country, and this only makes the present situation in the Community more complicated.

This led to the Commission availing itself of the direct intervention instruments under the Treaty to deal with “manifest crisis”, focusing primarily on restructuring.

Immediate measures were taken to organize the market in order to stem financial loss of blood in steelmaking, while at the same time preserving the market’s community as an essential factor for both European steel producers and consumers.

Collapse in prices — further aggravated by producers’ endeavours to sell additional quantities so as to better spread constant costs — was halted, and subsequently corrected, by :

- (i) introduction, since October 1982, of mandatory restrictions on production and Community deliveries, now amounting to about 80 % of Community production;
- (ii) strict monitoring for products under voluntary self-limitation by producers;
- (iii) orientations on required steel price increases;
- (iv) price discipline controls, extended to the trade;
- (v) Community system of surveillance on imports of certain products from outside countries; publication of basic import prices; conclusion of voluntary arrangements with outside producing countries.

The fundamental disequilibrium between offer and demand, nevertheless, can be corrected only by further sustained efforts towards restructuring. In this context the Community adopted, in 1980 and 1981, a code of strict rules governing public financial support to the steel industry. This eventually should result, by 1985, in steel undertakings’ return to competitiveness and financial health under normal market conditions. Aids are to be authorized only to undertakings complying with a coherent restructuring programme geared on profitability and aligned, in terms of quantities, on offer and demand.

Simultaneously the Commission is systematically scrutinizing tabled investment programmes, for which loans can be granted under Article 54 of the ECSC Treaty. Such loans can



add stimulus to restructurations supported by national aids, and also help those undertakings not benefiting from such aids.

The very scope and urgency in restructuration also require supporting measures to which the Community directly contributes by :

- (i) reconversion loans (Article 56 (2) (a) of the ECSC Treaty) with interest rebate towards redeployment of former steel workers. Between 1975 and 1980 over 895 million ECU were granted, towards programmes amounting to over 3 000 million ECU for financing the creation of around 50 000 new jobs, mainly for former workers from steelmaking and coal-mining;
- (ii) further Community grants towards resettlement (Article 56 (2)(b) of the ECSC Treaty), for workers being laid-off. Between 1975 and 1980 the Commission has committed 270 million ECU, to about 158 000 workers from the steel industry.

In addition, a specific Community initiative was taken in 1980 towards eliminating, in regional development, obstacles to new economic activities in certain areas affected by restructuration in steelmaking.

A recent decision, finally, extends Community aid to early pensions and part-time unemployment.

This coherent set of measures will have to be sustained for the proper length of time to insure a lasting return to equilibrium in the Community's steel industry.

### **C) Shipbuilding**

More than any other, shipbuilding is basically a world industry. Shipowners shop around indiscriminately throughout the world comparing prices, with the result that shipyards do not have any captive domestic market. Consequently, the industry is particularly vulnerable to changes in demand and supply at world level.

After 20 years of real expansion in line with the growth in world trade and the even more rapid growth in the transportation of oil, demand slumped in the wake of the economic crisis and because the increase in oil consumption slowed down. Orders for new ships in terms of compensated gross registered tons dropped from some 20 million (cgrt) in the period from 1974 to 1976 to 13 million in 1980.

Currently, there is a world shipping surplus so all the indications are that, even if there is a moderate recovery in economic activity, order books will not regain their levels of 10 years ago until at least 1985.

At the same time, world shipbuilding capacity has increased substantially in order to cope with the expected increase in requirements. The first to expand were the Japanese shipyards, and then shipyards in countries new to shipbuilding (often with the help of Japanese capital).

There is thus a real structural imbalance between world capacity and world demand, a state of affairs which is likely to continue for several years to come.



Community shipyards are facing particular difficulties because they are not sufficiently competitive. A large number of shipyards cannot operate on a large scale, and many of them are much older than the very modern shipyards in several of the Asian countries. Production was cut by more than one-half between 1976 and 1980 and there were staff cuts of some 40 % between 1975 and 1980. Nevertheless, considerable restructuring is still required and this cannot be carried out without State aid, which, in accordance with Article 92, will have to be monitored.

The problems of the shipbuilding industry are not in fact new and State aid has been granted to the shipbuilding industry for some time. It even reached such levels that both the OECD and the EEC have now been concerned for some years. Accordingly, on 28 July 1969, a Council directive was issued in an attempt to correct distortions of competition by fixing an aid ceiling of 10 % of a ship's sales price. Another directive, issued in July 1972, established a lower, degressive ceiling (5 % in 1972, 4 % in 1973 and 3 % in 1974).

However, the recession has focused particular attention on the restructuring of the Community's shipyards. The Resolution of 19 September 1978 on reforming the shipbuilding sector says the industry should return to competitiveness by adjusting its structure and activities to the market's future level, the volume of Community maritime traffic, and the latter's social and strategic interests. Industry itself, in this, should take the lead, under stimulus from the regional, national, and Community authorities. On 28 April 1981, there was a directive on all aid granted for building, converting and repairing ships. On the assumption that "a competitive shipbuilding industry is of vital interest to the Community", it states that "if the situation in the industry were normal, the continuation of operating aid could not be justified". "However, the continuation of the crisis has serious consequences for the Community shipbuilding industry which make the immediate abolition of such aid impossible." "It is necessary to allow adaptation of the structures of the industry to the prevailing market conditions to take place gradually." "Production aid should be temporary and diminishing so as to encourage the undertakings to make the necessary effort to become competitive, at least in the long term." "Such aid should be subject to continuous monitoring in order to avoid distortions of competition within the Community." "The granting of such aid should be linked to the achievement of restructuring objectives."

### III. *The advanced technology sectors : the example of electronics*

At any moment in time, certain sectors play a vital part in the functioning and development of the economy : either because they manufacture commodities which are used by the economy as a whole (energy and raw materials), or because they produce capital goods or, lastly because they are the pioneers of technological innovations which subsequently spread through the entire apparatus of production.

Thus around 1950, coal and steel played this crucial part, a fact which explains why the building of Europe began by pooling these two products.

It is inherent in the nature of technical and economic development that the key sectors should change in the course of time. Thus in the 1960s, the motor industry was considered to

be the sector with the biggest advance in automation and one with a most promising future, while at the same time the chemical industry had a decisive influence in the introduction of new materials. Following this, electronics came to the fore in the 1970s, together with nuclear energy and the aerospace industry.

For the next decade it may reasonably be supposed that the key sectors will primarily be :

- (i) the vast complex of branches of industry linked with electronics, covering both the manufacture of components and the users thereof, especially data processing and telecommunications;
- (ii) the aerospace industry, in which the aeronautics element is beginning to level out, but which will undergo considerable changes and will see major developments in the space sector proper;
- (iii) nuclear energy, where the technology is stabilizing where enriched uranium reactors are concerned but where progress is still needed in the case of breeder reactors, pending the generation of energy from fusion, at some as yet uncertain future date;
- (iv) those branches of engineering which are either highly specialized, e.g. measuring instruments or medical apparatus, or have large-scale outlets, such as robotics, office automation or group-assembly systems.

The same decade will also be marked by further developments, obtained by intense research efforts, in at least three fields :

- (i) the sectors connected with the development of biology and genetic engineering,
- (ii) the "new" energy sources,
- (iii) industrial-scale exploitation of seabed mineral resources.

The development of these key sectors and the preparations for the next decade are naturally tasks which the Community must assume. In any case, each country is giving attention to these problems, at least to some extent.

Are national measures running in parallel the best means of exploiting to the full the Community's advantages, or is it necessary to initiate common measures as a supplement to, or replacement for the national measures? This is the question that we shall consider in connection with the vast electronics sector. Research and development as a whole will be examined subsequently.<sup>1</sup>

## **A) The sectors of the electronics industry**

The field of electronics, in the broadest possible sense, is the one which has had the highest rate of growth for the past 20 years. This will continue. It is unanimously recognized that this sector, which has for the past 15 years been playing so important a part in technological developments, will continue to occupy a commanding place during the next decade, and that its applications will continue to multiply, gradually invading every area of economic activity

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<sup>1</sup> The energy sector is covered in another publication in this series: *The European Community and the energy problem*.

and of social life. This makes it of the greatest importance that the Community should be in the forefront of this race.

In fact, it is the sector in which Europe has managed to lose one opportunity after another, leaving other people to exploit skilfully the potential of the large market and — the last straw! — has even managed to become a large-scale net importer of products where possession of natural resources (our weak point) is of no significance at all. This makes it absolutely indispensable to make great efforts to correct the situation.

There are four characteristics of this sector :

- (i) the pace of technical development and the scale of the requisite research. Over the sector as a whole, the ratio of research outlay to turnover (defined as value added) is much higher than for the economy as a whole. A substantial proportion of this research is financed from public funds;
- (ii) the large share of public purchases in total sales. Although a considerable proportion of the electronic equipment manufactured is sold to households or companies, more than one-third of the sales of computers (particularly the big models) and 90 % of the sales of telecommunications equipment go to the public services;
- (iii) the importance of economies of scale, which have a particularly marked effect in the case of long production runs;
- (iv) the increasing degree of technological interdependence between several branches, particularly between component production and the manufacture of devices using those components.

Clearly, the value — and the manner — of Community action is a consequence of all this since it is vital not to fall behind in a field where research is very expensive, to exploit to the full the large Community market and to exploit skilfully the interpenetration of the various branches of this sector. The Community can assist in ensuring coordination of the research efforts of the Member States and can supplement these by means of Community funds. It can also bring about concentration of public procurement purchases and promote the development of Community standards.

What is the situation at this moment in time as regards the implementation of these measures? Naturally enough, the size of the sector and the developments which have taken place have not gone unnoticed by the industrialists nor by the member governments, and numerous attempts have been made to control developments. The success achieved has been moderate in a number of branches and it is of interest to seek the reasons, to ensure that the strategies followed in future are more effective. Three fields are particularly instructive in this connection : data processing, electronic components and telecommunications.

Around 1965, the data-processing situation in Europe and in the world could be summed up in a few words : one American company, IBM (with its subsidiaries) held between 65 and 70 % of the two markets, while two other American companies supplied some 10-15 % thereof. The Community of the Six was thus buying some 70 % of its data-processing equipment from non-European firms; on the other hand, in the United Kingdom ICL supplied some 50 % of the home market. Such a situation was sufficiently serious for two



governments to launch programmes to stimulate national production : the "plan calcul" in France and a series of measures taken in the Federal Republic of Germany. At the outset, no coordination was envisaged between these programmes : however, it rapidly became evident that a certain degree of cooperation could prove beneficial. Two attempts were made : one of these was made within the framework of the Community institutions, with the idea of perfecting a new technology centred on a high-capacity computer. The combined hesitations of the governments and the companies led to the collapse of this project at the planning stage. A second attempt, on the initiative of the companies alone, progressed somewhat further, resulting in the creation of Unidata, with the participation of CII, Siemens and ICM. But after a few years, the consortium disappeared without achieving any notable results.

As against this, IBM continued to work the European market, setting up or developing in several Member States subsidiaries whose research and production activities were coordinated with each other and with the mother company.

During this time the national programmes continued with minimal results. The European computer market is still dominated by the American manufacturers.

The components branch encountered the same problems. The Member States have over the last few years intensified national efforts in support of microelectronics. Between 1977 and 1979, new national programmes were developed or carried out in France, Italy and the United Kingdom, thus supplementing the German programme which had been in existence since 1974. These programmes envisaged aid totalling approximately 360 million ECU, but they exhibited two weak points, namely they were not coordinated and they were each fragmentary, even though they also overlapped partially. Their objective is above all to improve the competitiveness of the existing companies on the national market by transfers of technology brought about by means of direct licensing from the American companies, by the purchase of products or by agreements with them. In the short term, these national programmes primarily make it possible to prevent so unhealthy a situation becoming even worse, but they provide only part of the requisite solution, as the figures show : at the moment, the Community imports four-fifths of the integrated circuits which it needs, whereas the United States has remained — and Japan has become — a net exporter, the former exporting 40 % and the latter 25 % of production. In this way they are simultaneously supplying the European market and the remainder of the world market. This dramatic contrast arises because the public authorities in these two competitor countries have adopted entirely different approaches from that followed in Europe. In March 1976, Japan launched a project involving some 180 million ECU, the implementation of which was placed in the hands of five Japanese companies in the electronics sector and in those of the Nippon Telegraph and Telephone Public Corporation together with the electronics laboratories of MITI. The declared aim of this project was to develop by 1980 a technology of very highly integrated circuits which could compete with the next generation of IBM computers.

The effects of this have made themselves felt on the world markets. The Japanese firms have already acquired 40 % of the world market of dynamic direct-access 16K memories. By 1985, they will probably have the major share in the world market for all types of semiconductor memory.

Thus, with an expenditure of public funds below that incurred in Europe, Japan has actually caught up with its competitor, at least in respect of certain market niches.



Nor has the US Government remained inactive. In addition to the massive investment made by certain large American companies in these technologies, the American Department of Defense formulated and put forward in 1978 a six-year plan — the VHSI plan — which was approved by Congress at the end of 1979. The funds involved total USD 210 million, 30 million for the financial year 1980.

Europe is making a move. The Council adopted on 11 September 1979 a resolution declaring that it is primarily the Community's responsibility to fill the gaps in the national programmes and to concentrate its efforts on the development of advanced technologies and equipment which would enable the European industry to meet the competition as regards the most advanced products by 1985, in other words to make the "strategic leap" which is now so necessary where technological potential is concerned.

In implementation of this resolution, coordination of the national programmes has been initiated, and it was above all decided at the end of 1981 to launch Community measures in the field of microelectronics technology as a basis for the development of a European industry for the production equipment and for the computer-aided design techniques used by the manufacturers of microelectronic circuits. The budget for this series of actions is some 100 million ECU, funded by the national budgets, by industry and — up to a ceiling of 40 million ECU — by the Community budget. The flexibility of organization of this action promises well for its smooth execution, and one may hope that this will enable us to get a firm hand on the controls again in the components sector.

The field of telecommunications is by definition one of those where a minimum of coordination is essential if users are to be able to communicate across the frontiers. This is why there is a long tradition in the national telecommunications administrations to ensure that the methods and technical standards which they use are compatible with one another. This coordination takes place within both CEPT and CCITT. But the extremely rapid technological developments of the past few years, affecting the very techniques of telecommunication and offering users a series of new services (electronic mail, videotex, etc.) as well as new peripheral equipment, imposes a considerable burden on this coordination, since it must take place within the framework of services, techniques and methods inherited from the past and fundamentally different in nature. All this being affected at the same time by the presence of commercial interests which are by their very nature in competition and possibly also very different.

There is nevertheless room here for Community action on a large scale which may result in highly spectacular results. Firstly, it would be absolutely unthinkable that the different types of peripheral equipment should be incapable of being used without distinction and at any point on Community territory — and more broadly speaking over Europe as a whole. This presupposes coordination not only between the telecommunications administrations which were once the usual suppliers of such devices, but also between the growing number of companies which market such terminal equipment directly.

Secondly, ensuring that this compatibility exists would make it possible to offer each manufacturer access to the huge market constituted by the Community. It is true that the contrary view — namely to obtain a monopoly control of certain sales areas — might predominate in the minds of some suppliers; but that is a short-sighted commercial viewpoint which would negate the possibilities of innovation and the advantages of

manufacture in large series, both on the European market (thus to the disadvantage of the European consumer) and on the world market (and thus to the great disadvantage of the manufacturer himself, with the resultant reduction in the number of jobs he could otherwise create).

What has just been said above regarding terminal equipment can also be applied to the network equipment, i.e. to the devices which the telecommunications administrations acquire by public procurement. The adoption of common standards should favour larger-scale purchases on the European market and should help to make it possible to maintain for a long time the share in the markets of non-member countries.

Thus the Community measures could :

- (i) promote the harmonization of the equipment used by the telecommunications authorities (transmission and numerical switching systems) by around 1985;
- (ii) promote the creation of a Community market for information technology terminals by harmonizing or rendering compatible the certification procedures for such equipment;
- (iii) promote the opening-up of public procurement markets by issuing calls for tender in other Community countries on a non-discriminatory basis for an increasing proportion of their purchases;
- (iv) establish a system of regular consultation and coordination at Community level to ensure that the behaviour of the telecommunications administrations fits in with a genuine self-consistent industrial policy followed by the equipment manufacturers.

Several proposals in this direction have been made recently by the Commission.

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This gives an idea as to how a Community strategy in the field of advanced technology might take shape. The governing idea is to create close links between the efforts of the different industries, the governments and the Community in connection with a clearly-defined plan and thus with due attention to the requirements of industry. Each partner would contribute his particular strengths, the companies would supply their technical competence, their knowledge of the markets, their research potential. The governments would bring in the collaboration of the State research institutes, public procurement contracts, financial aid. The Community would contribute its capacity to ensure that these various elements are used to the full by facilitating — after comparing a large number of projects — the selection of strategic points, accompanied by concentration of the projects advanced, by encouraging preferential public procurement for the fruits of joint schemes, assisting in the development of common standards which would make it easier to form a genuine common market for these high-technology products, all of this tending towards the creation of a strong position for European products on the markets of non-member countries. From this angle, funding from the Community's budget is not the principle feature of the operation, it is rather the component which makes cooperation easier. This would make it possible to keep Community participation down to a proportion — sometimes a small one — of the total costs. Finally, a most important point, Community policy does not aim to oust the national policies, but aims rather at strengthening their effectiveness by giving a Community dimension to just those points where it is justified by the scale of expenditure or risk, by the

necessity to put the best teams on a convergent course, by the beneficial effect of coordinating public procurement purchases and of adopting a common approach to exports.

True, it may be asked in a genuinely realistic spirit whether the undertakings and the national governments would not be tempted to go it alone in exploring the most promising fields. The painful experience of the past 15 years in the electronics sector should help us to accept more readily the idea that, whereas there may be many fields where such an attitude is a reasonable one, there are some — frequently the most decisive ones — where this is nothing less than a suicidal attitude.

#### *IV. Possible problem sectors : the example of the motor industry*

The motor industry has for a long time played a principal part in overall economic activity and an even larger one in the fashioning of our modern industrial society. It has been in the forefront of industrial automation, where it has been a model to the rest of the economy, and has occupied a decisive place in the process of urbanization as we have known it over the last half-century. This has made the motor industry the symbol of the middle of the 20th century.

At the present moment, the European motor industry directly employs some 2 million workers, that is about 2 % of the total working population. In 1980, the production of private cars reached 9.5 million, against 7 million in the United States, 7.1 million in Japan and 7.2 million in the rest of the world. The growth rate, however, compared with that of 1970, was only 1 % against 120 % in Japan and 35 % for the world as a whole. Still quoting 1980 figures, the Community exported a net total of 0.5 million units against a net total of 3.8 million for Japan and 2.1 million units for the United States.

With the spread of car ownership to most European households, with the advent of new producers — particularly Japanese —, with the utilization of robots, how can we view the future, how will the problems present themselves, how can we define the struggle which the European motor industry will have to wage, what will be the Community's role?

The car ownership rate continues to increase throughout the world, although the levels in individual countries vary extremely widely. In the Community, the figure reaches almost 1 unit per household — a level which is considerably below that in the United States. Japan is rapidly catching up with the Western countries, while the rest of the world, although it has a high growth rate, doubling every 10 years — has a value in absolute terms which is very low, only 23 cars per 1 000 persons.

In consequence, the prospects of an increase in demand are governed by :

- (i) progressive saturation of the traditional markets, where the demand to increase the total stock of cars is falling off. However, the rate of replacement demand could increase, as a result of the appearance on the market of genuinely new models — particularly those with a lower fuel consumption,



- (ii) the low purchasing power of the less well equipped countries. This is a factor which is itself very quickly affected by developments in the world economy.

The most recent studies tend to agree that there will be a slackening of the rate of growth in demand, which will fall from 5% — the figure for the last decade — to some 3% during the 1980s. At the same time the sensitiveness to short-term market variations will increase.

Lastly, particularly under the constraints imposed by attention to fuel consumption, there will be a tendency for the characteristics of the different vehicles to converge somewhat. It has even gone so far that some people have spoken of a "world car" which concentrates the design elements in cars assembled on the different markets from components manufactured in very large series by a small number of production units.

These various factors affecting the demand lead us to conclude that competition will be more serious than in years past.

As far as production techniques are concerned, things are moving just as fast. Whereas for a period of more than 40 years car-making technology changed only slightly — as regards both the design of cars and the organization of production — major changes are already beginning to show themselves. The enormous rises in the price of fuel and the new possibilities opened by the application of electronics have had a catalytic effect on many research projects which may relatively soon result in substantial modification of cars from what we have known for several decades. At the same time, the changes in production methods will be equally intense:

- (i) Firstly, ever-more intense automation of production. This is the field where fully one-half of the robots now being manufactured around the world will be used.
- (ii) Secondly, we can expect to see changes in the influence of economies of scale in the different stages of manufacture: with automation, the manufacture of components which will call for longer production runs (500 000 units a year for engines, for example) and will no longer require assembly work (100 000 to 150 000 units a year).

The development of the world structure of the motor industry could therefore follow the path of a relatively marked concentration of the production of the essential components and of a much wider geographical distribution — i.e. the siting of the assembly works nearer the markets to be supplied, with the result that there would be a considerable increase in trade flows in components and fittings, and a corresponding reduction in trade flows in finished cars.

What therefore are the essential adjustments which the European motor industry will have to carry out in the next few years?

First of all, it will have to get to grips with and assimilate the current technological developments, which implies that there must be the simultaneous occurrence of a major research effort and a very large investment effort. Whereas in the past few years the level of investment in the European industry has run at an annual average of the order USD 2 000 million (against USD 5 000 million in the United States and less than USD 1 500 million in Japan), the figure for the next five years should total some USD 35 000 million (the American manufacturers envisage a figure of USD 75 000 million over five years and the Japanese expect to spend USD 12 000 million over three years).

It will, moreover, be necessary to carry out certain operations of concentration, in particular for the manufacture of components and fittings and to develop the manufacture of the machines employed in the motor industry.

As a last point, it should be noted that the nature of the work will be very considerably modified by automation, the introduction of which will increase the relative proportion of skilled labour in the total workforce, but will at the same time markedly reduce the amount of labour required per vehicle manufactured. Here too, there is no real choice, since if the European motor industry did not keep up with the pace of technological change observed in its principal competitors, it would inevitably decline. But this will require a major effort in training the workers entering the industry, in retraining those who are likely to remain there, and of redeployment training for those who will quit it.

This means that the European motor industry is in the throes of profound changes. These changes must be organized and administered essentially by the companies themselves. But the public authorities must play an additional, important part by participating in the funding of the requisite investments and in solving the labour problems, as well as in facilitating the dialogue with the trading partners situated beyond the bounds of Europe. The national governments will have a very large place in these tasks, but the Community as such also has a decisive role to play; it is delimited by four major ideas.

One of the principle strong points of the European motor industry is the very large internal market to which it has access ((almost 30 % of total world new registrations for private cars in 1980). However, this must still become a genuine single market. We must therefore continue the fight to overcome all the factors giving rise to diversity — other than those connected with the varying taste of the customers. The measures which will have to be taken in this connection include the completion of the harmonization of technical standards, the development of a procedure for issuing Community certificates of conformity, reduction in the differences between taxation in different countries both on vehicle purchase and on fuel, the definition of an integrated approach to regulations relating to energy savings, safety and pollution.

The huge scale of the requisite research work and investment could make it necessary to increase the amounts of official aid paid out by the national governments and lead to the monitoring by the Commission of these aid payments. The various financial aid instruments could also be called upon to a greater extent than hitherto to facilitate the restructuring of the motor industry.

The acuteness of the problems arising in connection with changes in the employment situation in the industry would justify the commission of serious forward studies, quantitative and qualitative — dealing both with the skills of the personnel and with the regional aspects of the problem. As all these problems present largely common characteristics in the different countries, it would be logical for the studies to be carried out from the outset on a Community basis, which would facilitate the exchange of information and experience gained.

The intensity of the competition which exists between the three present centres of world production — which will be accentuated in the near future by the emergence of new exporters in the Eastern bloc countries and in certain newly-industrialized countries —

brings with it the risk that, if we are not careful, there may firstly be a resort to aggressive marketing techniques followed, by a sort of backlash, by a certain degree of protectionism. Developments of this kind, which could be to the disadvantage of all, could be avoided only by a certain degree of consultation between the various world partners. The fact that the Community could speak with a single voice would give it a very important place in these counsels. But obviously this presupposes a very high degree of coordination within the Community.

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What has just been said in relation to the motor industry is *mutatis mutandis* equally applicable to several other sectors which, while they can look forward to a constantly-growing market, will be faced with a fairly rapid transformation of the technologies applied and will require to modify their equipment, restructure their companies, and retrain their workforce; this will apply to a large number of branches in the engineering and electrical industries and to the major part of the chemical industry.

Here again, the use of all or at least some of the Community instruments available should facilitate this task.

## V. Action relating to research and development

Scientific and technical research plays a major part in the development of modern societies. By perfecting new products and services, by determining new production processes, research and development is the major determinant of the increase in the efficiency of the systems of production and the transformation of our way of life. The road to be followed is long and difficult, running from research proper to the practical impact of its results on the population at large and the process as a whole is both costly (above all the development and innovation phases), slow (currently it covers a period of from 15 to 225 years, and sometimes more), and subject to considerable risks. But it is a decisive factor in the development of our societies. Consequently the public authorities are very naturally led to concern themselves in the matter, to assist and to guide research, to promote research-based development and to stimulate and speed up innovation.

Europe has a substantial research potential. Overall, the expenditure which it incurs is of the same order of magnitude as it is in the United States and two and a half times larger than what it is in Japan. If the expenditure is expressed in terms of GDP or in per capita terms, the relative figures are of the same order of magnitude for the three regions of the world.

Nevertheless, a major difference exists between Europe and its two partners and affects the effectiveness of the overall effort to Europe's disadvantage. Whereas the United States and Japan are individual States which are — above all the second — provided with highly efficient mechanisms for formulating a genuine research policy, the Europe of the Ten is still the sum total — or rather the juxtaposition — of 10 States, i.e. of 10 research policies (or at the very least four or five of them, which in the aggregate account for some 90 % of total



expenditure). All this leads to a serious risk that the research strategies will turn out to be inconsistent or even contradictory, with excessive overlap in similar fields and, as a consequence, since no one can do everything, major gaps in coverage. In addition, major projects may be so large as to exceed the financial capacities of one country, whereas funding at the Community level would be equivalent to funding by the United States or by Japan.

This all gives Community action a role of major importance. The idea is not to formulate an overall programme which is to be split up among the partners, but, on the contrary, to start with the national programmes and to study the ways in which they match with each other and with the needs of the Community; if this comparison shows that certain subjects are to be covered by several, parallel research projects, or if on the contrary it appears that other important topics have not been considered worthy of interest by any country, the logical consequence would be that the overloaded programmes should be coordinated and that the gaps should be filled by additional decisions. The constraints imposed by coordinated action of this kind on the national programmes would be relatively slight. Each country would retain its total liberty to initiate projects which its partners do not consider to be of priority interest, whereas it would be the intention to organize coordination of the projects, or to launch cooperative action, in the case of those subjects which several countries deemed to be of priority concern.

This opens up to Community action three possible lines of approach :

- (a) a certain degree of comparison of the national programmes (at least of public programmes or projects financed partly from public funds), so as to formulate a true Community research strategy;
- (b) the launching of joint programmes either to concentrate efforts or to explore those fields of research which no other country is able to or wishes to investigate;
- (c) the adoption of measures promoting the dissemination of knowledge and the spread of innovatory ideas.

#### *(a) Comparison of the programmes*

It is now some 15 years since the coordination procedure was set afoot. It currently functions within the Scientific and Technical Research Committee (CREST). Such comparisons make it easier to carry out the adjustments of programmes which were arrived at earlier or to work out programmes which are "spontaneously" more consistent. But considerable progress still has to be made. Although, in respect of certain points, they are less common than before, there are still many examples of research projects running in parallel which are in fact competing projects, and even in some instances deliberately competing. All this reduces the overall effectiveness of European research.

#### *(b) The launching of common operations*

Such operations can take several forms, according to the degree of integration either in the financing operations or in the implementation of the projects. The funding arrangements can range from (partial) financing by two countries to funding partly or entirely from the

Community budget. The work can be carried out either in national research centres (public or private) or in a joint research centre.

The ECSC Treaty expressly provides for the possibility of financial contributions being made by the Community to national research projects, which are in most cases proposed by the undertakings.

The Euratom Treaty went far beyond this, since in addition to Community financing of operations carried out in the national research centres, it provided for the creation of a Joint Research Centre. Use is made of both formulas. Every year the Community budget finances projects which are executed in the national laboratories (e.g. the fusion programme) and pays for the functioning of various establishments (Ispra, Petten, Mol, Karlsruhe) of the Joint Research Centre. These establishments are working partly on projects connected with nuclear energy (especially nuclear safety) or with new energy sources, and partly on subjects where they are providing a public service to laboratories and to European industry in respect of standards (Central Office for Nuclear Measurement and the Community Bureau of References).

In fields other than coal, steel and nuclear energy, the Treaty of Rome did not make explicit provisions. Despite the fact that the value thereof was recognized, the implementation of joint research projects was for a long time hindered by a sterile dispute on the principles. Could one envisage and accept the idea that cooperative measures should be financed and carried out only by certain members of the Community (not even always the same), or must one consider that they should always involve all the members?

The adherents of the second view advanced the argument that accepting the first of these ideas was a dangerous step. But the defenders of the first point of view argued, very realistically, that if the degree of interest exhibited differed from one project to another, insistence on unanimous participation would imply the risk of agreement on nothing. Since the actual facts confirmed this assessment, it was agreed, after several years of inactivity, to initiate simultaneously joint projects financed from the Community budget and projects in which participation was partial and variable, with specific financial arrangements (the COST — scientific and technical cooperation programme).

The total budget funds assigned to research and development activities has increased considerably in recent years, and exceeded 300 million units of account in 1980.<sup>1</sup> Meanwhile, despite the rapid development of joint research and development, it must be noted that it is still at a relatively low level, either when compared with the programmes of the Member States — the research and development budget of the Community represents only 1.5 % of the total appropriations from public funds of the Community countries and 16 % of the funds which they devote to international cooperation — or in relation to the total Community budget (1.8 % of the total).

Consequently, the Commission recently put forward several new proposals. Being conscious of the decisive importance of an overall view in order to have an effective research and development programme, it insisted on the need for a framework programme worked out in

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<sup>1</sup> The total breaks down as follows: energy 72 %, environment 8 %, industrial sectors 10 %, other sectors 10 %.

a periodically repeated Community debate, so as to ensure the execution of certain scientific and technical programmes of common interest which contribute to strengthening the solidarity between Member States and to reinforcing the Community's potential.

As of now, the Commission considers that the research effort must be increased in several areas: energy (energy savings and new energy sources), environment, biology, agriculture (linked with the common agriculture policy), the traditional sectors of industry (textiles) or the strategic sectors (the chemical industry, the motor industry, electronics).

Mention should be made here of the Esprit project (European strategic programme for research and development in information technologies) which aims at launching a broad, integrated programme on information technologies. Coordinated with existing national activities, it should be implemented on a scale compatible with what is being done in Japan and the United States, so as to enable Europe to catch up with the latter countries and cover an adequate segment of world markets' requirements ((by about 30 %, instead of the mere 10 % it currently holds).

Finally, developing technology is not enough. It must also be ensured that the advantages to be gained from certain research projects or certain innovations are greater than the disadvantages — this is the importance of technology assessment — and in parallel with this it is necessary to pave the way for the acceptance of the new technologies by society as a whole. A vigorous research effort in the human sciences is therefore the prerequisite condition for action aimed at facilitating and organizing the introduction of robotics in the sciences, of office automation in administrative work, of data processing in the school and of information technology in the households.

### *(c) The stimulation of innovation*

Research is not an end in itself. As soon as we begin to talk of applied research (i.e. in actual fact 80 to 90 % of the total research effort), these activities are beneficial only if they yield applications, i.e. if the development phase is followed in turn by the innovation phase — and very rapidly at that, since the results of applied research rapidly go out of date.

The responsibility of innovation is fundamentally a matter for companies. It is of course necessary that the economic environment should be favourable and it is here that the public authorities can play their part, either by avoiding the creation of obstacles or distortions — particularly by the tax systems — or by explicitly promoting innovation by stimulating the dissemination of scientific and technical information, by contributing to the funding of investments, by making use of the power of public procurement requirements to steer certain research projects and certain developments or certain lines of production.

On all these points, as we have already seen, the Community can intervene to improve our knowledge of the effectiveness of various instruments, to avoid a "beggar-your-neighbour" attitude leading to wastage of efforts and funds between the Member States, and to eliminate partitioning of the markets.

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Thus our thinking on the role the Community is to play in respect of industrial and structural policy must avoid two traps. One would be to imagine that it is sufficient to restrict oneself to a series of actions intended to form the overall economic environment within which the undertakings take their decisions.

Creation of the common market, competition policy and macroeconomic policy are certainly absolutely fundamental, but they are not sufficient by themselves to enable us to make full use of the advantages resulting from the Community dimension. We have to go further. But it would be an equally grave error to think that we must transfer to the Community level all the responsibilities and all the tasks which now fall upon the public authorities, or in other words create a common industrial policy. Apart from the fact that such a view would not be accepted by any single Member State, it would lead to a positively excessive degree of centralization and would result in a great many forms of inefficiency. The reasonable attitude is to organize the cooperation of the four partners, to wit, the undertakings, the workers, the national governments and the Community and to examine, case by case, the respective role of each, intervention by the Community being desirable on each occasion when it can serve to enable the full benefit to be drawn from the advantages which its dimensions offer. The scale and manner of this intervention must therefore be essentially variable, changing both in the light of the sectors involved and in the light of the developments within the sectors themselves and the developments in the technical and international framework. But such intervention would be so much easier to coordinate because of the creation of a genuine medium-term Community programme, which, as we have already seen, is the prerequisite for a common strategy *vis-à-vis* the rest of the world.

## Conclusions — Europe's industry at the crossroads

Examination of the present situation and of the measures taken in recent years shows up two shortcomings — one between what has been done and what should have been done, and the other between what has been done and what it is still possible to do. We should do more and do it better. We can do more and do it better. It is urgent to get on with the job.

Developments over the past eight to ten years spotlight two essential shortcomings :

- (i) Lack of coordination and inconsistency between the national measures, whether undertaken by companies or by governments. Restructuring operations have gone on in a rather disorderly fashion, without any clear guiding line, at national level and at Community level. In consequence there is a serious risk of losing any synergetic effects between the different individual operations; there also exists a lack of consistency, not to say a positive contradiction, between the different tactics relating to specialization at international level. Working with the same basic information and with the same forward studies, everybody is rushing towards the same market niches, which will thus rapidly become over-populated!
- (ii) Absence of recourse to a full exploitation of the Community advantages — economies of scale, possibility of launching large-scale projects, international strategy.

Europe at the crossroads. How many times has that phrase been used already! But does that make it any the less true? Very much the contrary, in fact, do not the crossroads at which we now stand lead to roads even further diverging than in earlier circumstances?

At the different crossroads which Europe has reached during the past 25 years, the bad choice of road led to wasted resources and opportunities. This was, it is true, unfortunate but not catastrophic. The crossroads at which we find ourselves at present gives a wider choice of routes, but the consequences are considerably more serious. Two choices in particular will be decisive in the longer term, those which relate to the degree of "Europeanization" of research and of the industrial structures.

Tomorrow's way of life, and that of the day after tomorrow — will be largely affected by today's research. Is Europe to continue to allow the major lines of research to be to a large extent chosen without its participation, so that the fundamental results must come to it from outside, or will Europe decide to benefit from the fact that about one-third of world research is carried out on its territory, thus harnessing these activities to the creation of a new European society by organizing its overall effort in a coordinated manner?

Industrial restructuring must to a large extent be carried out across the frontiers. However, this internationalization can be predominantly European, or else come into being by frequently (and in an irreversible manner) associating European companies and firms from non-member countries. Will Europe be able to choose from these two possibilities the one which will provide it with the industrial base it needs to enable it to play in the world the political role it should be playing to help resolve the problems of our planet, this role being after all the one that many non-member countries expect it to play?

Positive answers to these questions must of necessity be reached by the formulation and implementation of an industrial strategy situated within the framework of a genuine European industrial continuum which is reinforced by an element of Community preference where industrial development is linked to the intervention by the public authorities, especially in respect of technical standards and public procurement orders. This strategy cannot genuinely get under way effectively unless the guidelines governing it are fully accepted by all the economic partners concerned, i.e. the governments, the companies and the unions. This presupposes that the strategy will have to be arrived at by consultation on a broad front, with full discussion. There exist appropriate platforms for such meetings, on which the partners in question are represented, in particular the Economic Policy Committee (dialogue between the governments and the Commission) and the Economic and Social Committee (dialogue between the firms, the unions and the Commission).

But this also presupposes that the totality of the European population should be adequately informed. This booklet aims at making a contribution to that information. Its author and the Commission departments are most ready, taking this booklet as a basis, to enter into a dialogue with anyone who so wishes. It is with impatience and with confidence that they await the requests for such a dialogue to be initiated.



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**Generally speaking, European industry is in quite good shape, but has sufficient thought been given to the future? Can Europe's economy continue to rely on a strong industry in order to function as it should and help maintain the high standard of living of Europeans?**

**These are some of the conclusions reached and questions raised in this booklet.**

In the European Community as a whole industry provides employment for 40 % of the labour force and accounts for a slightly higher share of the gross domestic product.

According to industrial indicators, the European Community and most of its Member States are among the leading group of countries in the world. However, European industry has two basic weaknesses: (i) as regards the production of basic raw materials, and ((ii) as regards the advanced technology sectors.

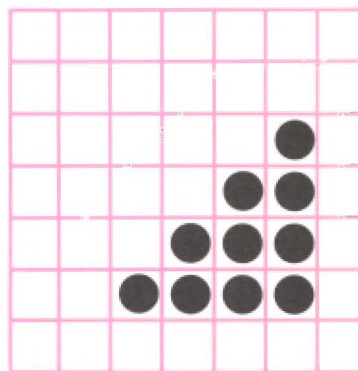
Moreover, there is still strong competition from industrialized countries outside the Community. The American challenge of the 1960s has been replaced by the Japanese challenge. In addition, newly-industrialized countries are now taking off industrially. The external pressure is therefore not relenting.

In the circumstances, what should the Community's future attitude be?

The choice for Europeans is not between acceptance or refusal of change, but between a passive attitude, consisting of bowing their heads and grumblingly suffering the adverse effects of changes largely dictated by others, and a positive attitude seeking to control both the direction and the pattern of change.

For many reasons explained in the booklet, this positive attitude ought to give rise to an industrial strategy at European Community level, in order to supplement, reinforce and in some cases even direct the Member States' domestic industrial policies.

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