INDUSTRIAL POLICY IN THE COMMUNITY

Memorandum from the Commission to the Council

COMMISSION OF THE EUROPEAN COMMUNITIES
BRUSSELS 1970

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The Commission considers this Memorandum as a basis for thorough discussion within the Community not only with the Community Institutions, such as the Parliament, Council, Economic and Social Committee, Consultative Committee of the ECSC and the European Investment Bank, but also with all those bodies representing economic and social forces.

It comprises:

1. An initial document containing the principles which have guided the Commission and the general lines of action proposed.

2. A second document in four parts. The first part setting out the state of industry within the Community, while the lines of action proposed in the first document are developed and explained in the following three parts.

INTRODUCTION

AND GENERAL GUIDELINES

Twelve years after its inauguration, with the transitional period culminating in the achievement of the common market for goods just come to an end, the Community embarking on a new stage in its construction. The working out of a common industrial development policy to promote what might be called a European industrial fabric is now seen to be essential in order to provide an unshakeable foundation for the economic and, ultimately political unity of Western Europe, continued economic expansion and a reasonable degree of technological independence in relation to other major trading nations.

The Commission decided, immediately after the merger of the Coal & Steel Authority, Euratom and the Economic Community, to undertake a study of all the problems facing industrial development inside the Community. In submitting the result of this work to the Council, it is hoped both to meet a need and to contribute to the strengthening of the Community and hence prepare the ground for enlargement.

If there is one field in which the Community needs to be strengthened and consolidated as a preparation for enlargement, it is that of industrial policy. It would be a mistake to await the entry of the future members to do this. On the contrary, the Six should give them as precise an indication as possible of the direction which they intend the Community to take.

Far from complicating or delaying enlargement, this effort should facilitate or accelerate it. Public opinion in the applicant country is questioning the advisability of joining the Communities. The attraction which the Community holds is proportionate to its vitality. Whereas the reduction of the common customs tariff, the fact that it is lower than the British tariff, the cost of the

agricultural policy are all factors making for hesitation and apprehension, on the other hand it may be supposed that a Community which succeeds in working out an industrial development strategy would exercise a much stronger attraction (1).

It has perhaps not been realised the extent to which the Community would be threatened by what might be described as obsolescence, if it did not succeed in advancing the present stage of customs union and agricultural policy.

Customs duties today are no longer the sole nor even the principal instrument of trade policy. In the new advanced technology industries, foreign competition takes the form of investment and technology rather than of direct exports. Customs duties give no protection in this respect. On the contrary, they have the effect of attracting overseas investment, which is often in the European interest, but which could also entail disadvantages if the current gap between American investment in Europe and European investment in the United States were to go on widening and if this trend should lead firms with their management centres in Europe to limit themselves to traditional activities.

If one adds to this consideration, the tariff reductions resulting from the "Kennedy Round", those envisaged for the benefit of the developing countries and the fact that duties have never ensured efficient protection with regard to state-trading countries, it must be admitted that the customs union, while it remains the basic foundation, must be reenforced as soon as possible by new machinery for joint action.

It is industries serving the private consumer which have most benefited from the customs union. Experience has shown that industries which make use of the major new technologies do not feel the same benefit of the customs union inasmuch as - since their development depends on public funds and orders - they cannot so easily break out of the national market.

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(1) Cf. The recent report of the Council of British Industries.

Initiated in the field of coal and steel, economic integration became general in 1958 in semblance only. In practice it is limited to trade in widely used products, in certain capital goods and organisation of the agricultural markets. It has not sufficient impact yet on the structure of industry and on advanced technology industries.

Similarly, in its dealings with other countries, the Community has succeeded in acting as one entity, and thereby efficiently protected its interests, in the sphere of tariffs. It is becoming a matter of urgency to extend the ability of the Community for common action to other fields of public responsibility where international economic competition occurs today: investment, anti-trust policy, technology and patents, etc., the object being, as in trade, not to make the Community a closed shop, but, on the contrary, to develop profitable co-operation on equal terms with other major trading nations.

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It is not easy to define the industrial policy except in terms of objectives. In order to increase the common good, industry should primarily be allowed in the first place to make the most of the existence of the common market on its present scale. Even this initial brief definition show how inextricably industrial policy is bound up with the other aspects of economic policy and with the other common policies.

In the first place, industrial growth is a basic condition for economic and social progress, since it both satisfies needs and creates employment. But general economic policy in turn governs industrial development, whose rate and regularity depends largely on the overall supply and demand, position the co-ordination of economic policies and progress towards monetary union.

Secondly, the market must be kept dynamic by appropriate measures to enable organisations to adjust to change: to promote new technologies through scientific and technical policy; to supervise manufacturing organisation by means of a competition policy; to adjust by means of a trade policy; to adapt infrastructures by means of transport and energy policies.

The industrial policy recommended in this memorandum is deliberately orientated towards the future, i.e. towards expansion and progress in the widest sense. Too often, in fact, the term industrial policy has been used to describe measures whose object has been to maintain obsolete organisations. Growth of Industry on a wide basis and increasing co-operation between member States which is gradually being established in all fields must allow much more dynamic development, i.e. not only more rapid growth in production and consumption, but also a better deployment of workers and improved living and working conditions.

Industrial policy has to take account of the requirements of regional policy which aim at distributing economic activities evenly through the territory of the Community thus avoiding in particular excessive industrial concentration.

Similarly, expansion of industry and market dynamism must be made compatible with social and human requirements. Employment policy must ensure dynamic adjustment of manpower supply and demand.

Industrial policy in highly developed economies must increasingly be directed towards aims related to improving the quality of life: this the European Communities must help to promote.

The definition of qualitative aims of economic and industrial development and the outline of a European model do not come within the scope of this memorandum. The Commission proposes to deal with this important subject in another document.

Aims on which agreement should be easy, are those designed to halt the widening of gaps of all types still separating men according to their membership of a socio-professional, regional or national group; to improve working conditions and cultural standards; to protect the environment which is being threatened more and more; to combat excessive forms of concentration of power or of economic activities, and to increase co-operation with the less favoured regions of the world.

Among the questions which are being asked with more and more insistence, in particular by young people, who wish to see problems dealt with on a European or even a world scale, are several on which the Commission wishes to make some brief points since they are part of the background to the preparation of this Memorandum.

1. An improvement in the conditions and the dignity of labour and especially of manual labour is vital if young people are not to turn away from industry. This is why the necessary increase in productivity should not be achieved by a worsening of working conditions and a speed up of the rate of work, but rather, by organisation of a nature which not only reduces workers' fatigue but also develops their job interest. Negotiations between management and labour at Community level should, in the future, allow progress to be made in this field; they would also reduce the risk of distortion of competition.

2. More active participation by workers in policy creation and organizationof their form is essential nowadays. The Commission is convinced that industrial expansion could be accelerated if two sets of conditions which are in no way contradictory, but rather complementary were fulfilled. On one hand, private enterprise and competition must be recognised and encouraged and the right to make profits accepted; while on the other, economic development must be influenced at all levels by commonly defined objectives.

For these conditions to be fulfilled it is essential that there should be a better understanding in all quarters of the conditions for progress. From this point of view, participation is not only a requirement for human progress, but a factor of industrial efficiency. It must be established gradually in various forms at all levels. The Commission, which has already held numerous consultations prior to adopting this Memorandum, will encourage as wide-ranging a discussion as possible with all parties concerned. It does not believe that the policy it recommends can be pursued unless all professional and social classes involved are fully informed and have had an opportunity of putting their point of view.

3. Until now, the educational sector has had very little part in the process of Community integration. The absence of harmonisation in this field impedes the freedom of movement and of establishment of managerial staff and is thus an obstacle to economic and industrial union. During the discussions, fruitless up to now, on the creation of a European University, the need for closer co-operation between all the European Universities has been recognised. This is the line of approach which should now be taken, reserving the creation of new establishments for the training of certain specialists. The aim of a European education policy would be first of all to promote the mutual recognition of diplomas, and then to foster a degree of approximation of methods and programmes necessary to facilitate exchanges of teachers and students, while preserving the diversity required in this field. It should also be to seek jointly, at European level, the best solution to the difficult problems posed by the crisis in education:

encouraging the adaptation of mental attitudes to the increased integration imposed by the modern world and enabling men to make the best use of the new means of action and the leisure stemming from material progress. The requirements of economic development do not demand, as is often thought, an increasingly utilitarian and specialised education, but on the contrary, a basic training designed to facilitate re-adjustment and conversion, that is to say a change of occupation during adult life. It is therefore no exaggeration to say that humanistic and economic aims may be perfectly compatible, and to reconcile them would seem to be one of Europe's foremost missions.

4. At the same time it is becoming urgent to find an answer to the problems posed by the necessity to protect the natural environment at Community and international level. If this is not done, the result will be not only a delay in seeking the best solutions, but even the re-appearance of obstacles to the operation of the common market and distortions in competition. Efforts already made towards the harmonisation of national regulations designed to protect workers, consumers or the natural environment have hitherto been governed above all by the need to ensure free movement of goods (elimination of technical obstacles). Henceforth they will have to become part of an environmental policy, the need for which is increasingly evident and which will tend in particular to orientate industrial development towards taking more account of the burden placed on society by the concentration of industry. National accounts, by failing to deduct from the value added by industry, the value of what such activity is destroying in the environment, conceals the extent of what are known as external diseconomies. Such a policy would inevitably impose certain restraints on industries, but it would, at the same time, open up a new, extremely rich field of expansion for them in the future. There is a whole programme of action to be undertaken in connection with the

development of collective facilities, the definition of common standards, research into new appliances and products, town and country planning.

Such considerations and action must be considered as the natural extension of a European industrial policy which should not aim exclusively at increasing the volume of goods put at the disposal of consumers, but should also set itself the task of improving people's living conditions.

5. Lastly, no industrial development policy for Europe can be drawn up without heed to the requirements of a more even distribution of wealth throughout the world. On this point, the Commission wishes to emphasise that it is not only just, but also in the interests of Europeans to encourage the industrial development of the third world countries. The Community, like all advanced countries, can indeed only benefit from increasing the number of its solvent trading partners and making a more rational use of its own productive resources thanks to a trade policy more favourable to the expansion of certain industries in the developing countries. In addition to the special effort which it is making in favour of the European and African Associated States, the Community must be ready to accept the progressive and orderly transfer of certain industrial activities to the developing countries. It must take this need into account in working out its long term plans in all fields, as well as in the choice of sectoral measures to accompany or encourage the necessary development.

The almost unlimited resources offered to man by modern technology have the effect, as yet not sufficiently realised, of attenuating former clashes of interest. In a world where man has more and more powerful means at his disposal, it is becoming possible to reconcile interests and concerns which formerly appeared totally conflicting.

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Before submitting and commenting on the fundamental proposal outlined in this memorandum, the Commission wishes to clear up the misunderstandings arising from the imprecision of the term "industrial policy".

First of all, the Commission is far from claiming to solve, at public and Community level, all the problems of industrial and Community level, all the problems of industrial development. On the one hand, it is aware that enterprise and competition are the primary and irreplaceable factors for expansion, so that the industrial policy which it recommends is more concerned with freeing industry from the restrictions which still exist and making it dynamic than with subjecting it to new restraints. The Commission does not envisage under any circumstances creating complex administrative superstructures which, by detailed regulations, would add to the burden that governments are sometimes obliged to impose on industry. The Commission's essential aim is, on the contrary, to eliminate the obstacles to development resulting from the flaws in the customs union and the deficiencies in the economic union in its present state. It is moreover convinced that many problems must continue to come under national or even regional supervision. Community action must help, however, to make their action of national and regional authorities more consistent and thus more efficient.

Another misunderstanding may result from a clash of interest among certain Member States. The more industrialised States seem to fear that, under the cover of industrial policy, the Community is seeking to slow down their growth in order to attain more even overall development. Others on the contrary seem to fear that the elimination of the remaining obstacles may accentuate industrial concentration at their expense. Far from ignoring these fears on the pretext that they are contradictory, the Commission recognises their validity and has endeavoured to respond to them by seeking a compromise between the general interest of the Community for which it is responsible and that of keeping a certain balance between the individual interests of Member States which it does not feel it realistic to ignore for the sake of the common good.

A third source of confusion lies in the simultaneously horizontal and sectoral nature of any industrial policy. To some, the horizontal approach, while too theoretical, stops short per force at the stage of a general economic policy while, to others, any sectoral policy is to be suspected of dirigism, protectionism or even malthusianism. It is true that an industrial policy which sets out to encourage the evolution of structures, rather than their conservation, is essentially horizontal. It must none the less be adapted to special conditions in the various sectors of industry. Although all sectors require some forecasting and innovation, two categories of industry call for specific attention at Community level, namely industries in difficulty, whose adaptation must be provided for and facilitated, and the growth industries which must be offered a better framework for expansion.

This fact may in turn lead to another misunderstanding resulting from a wrong interpretation. Has the tendency in certain countries not been to allocate a major proportion of public funds to these two categories at either end of the scale, at the expense of those in between which are less likely to ask for the help of the public authorities ? The emphasis placed by the Commission on the problems of adaptation or of promotion tends, on the contrary, by improving the efficiency of public intervention in these two fields, to reduce their cost and consequently lighten the burden they place on the economy as a whole.

It will be noticed, moreover, in glancing through the various chapters of this memorandum, that the Commission has by no means confined itself to examining the problems of the sectors at the extremes of the industrial scale.

Lastly, two kinds of undertakings raise special problems. These are on the one hand, public undertakings, and on the other small firms and handicrafts. However, just as it has not made a report on each sector, the Commission has not thought it appropriate to single out the problems of these two types of undertaking for examination though it reserves the right to return to certain specific questions at a later date. Nevertheless it wishes to emphasise the valuable contribution that such undertakings can make to development.

Public undertakings have been set up for different reasons in the various member countries. Their size and nature vary both according to the country and their purpose. Where they compete with other forms they should not be granted special advantages by the authorities with the effect of distorting competition. They must contribute in a special way, not only to expansion, but also to the improvement of industrial relations and to the multi-national integration of the structures of production and of the major industrial and commercial public services.

Small firms sometimes wonder about their future. In spite of the movement towards concentration, the scope and diversity of industrial expansion leave them considerable opportunities, as is shown in the United States where medium-sized firms make a large contribution to technological innovation and to the dynamism of the economy. It is even probable that the increase in consumer demand, the maintenance requirements of more and more complex equipment in private homes and concern for the quality of the environment will give small firms and in particular the handicrafts fresh possibilities for development.

GENERAL GUIDELINES

In the light of the principles set out in the foregoing pages, the Commission lists below the five basic lines of action proposed in this document:

- the achievement of a single market,

- the unification of the legal, fiscal and financial framework,

- the reorganisation of industrial structures,

- adjustment to change

- greater Community solidarity in relations with third countries.

I. THE ACHIEVEMENT OF THE SINGLE MARKET

To allow all firms and all industries to take full advantage of the existence of a large market without internal frontiers is the first requirement of an industrial development policy.

The establishment of a single internal Community market demands the elimination of technical obstacles to trade, free access to public contracts and the abolition of tax frontiers within the Community.

1. The elimination of technical obstacles

The differences remaining in national regulations designed to ensure the protection of workers, consumers or the natural environment have the effect of preserving the obstacles in the way of intra-Community trade and of obliging manufacturers to adapt their production to requirements which vary from one member State to another.

After much difficult work, the Council adopted, on 28 May, 1969, a general programme ensuring member States a balanced harmonisation process. It embodied a timetable in relation to which the work is already considerably behind schedule because of the slowness of the experts' proceedings. Only one directive was approved in 1969, whereas 44 were prescribed in the programme.

Consequently, the Commission is appealing to the political will of the Council to speed up this work and avoid as far as possible a repetition of the same technical discussions at the various stages of the procedure. Nevertheless, if it is confirmed that the provisions of the Treaty of Rome relating to the harmonisation of legislation which prescribe unanimous decisions prevent decisions from going through reasonably quickly, their revision should be envisaged when the Treaties are merged.

The recent recognition of the dangers which industrial development brings to natural environments on which human life depends is bound to give a new dimension to the problem of so-called technical specifications. The need appears not only to harmonise national rules but to work out new, more efficient and better adapted rules. This is a task which cannot be improvised and which must be carried out on an international scale going beyond the boundaries of Western Europe.

While reserving the right to return to these questions at a later stage, the Commission wishes to bring to the attention of the Council here and now:

- the need to avoid uncoordinated national initiatives which could lead to the emergence of new obstacles;
- the importance in this respect of the proposal to put a "Community Reference Bureau", with a view to the adoption of common methods of analysis and standardisation;
- the advisability of a concerted attitude on the part of member States, in view of the work being undertaken in this field by international organisations, namely the Council of Europe and OECD.

2. Free access to public contracts

The practice of reserving public or semi-public contracts to national industry may appear to be in the best immediate interests of industry in each member State. However, this practice has the effect of depriving certain key industries in the Community of the advantages of a large internal market. The sectors which suffer in this way are, in particular, those of certain capital goods, public transport equipment and, more generally, those manufacturing many types of advanced technological equipment. The result is that these sectors have less favourable conditions for development than those producing current consumer goods for the private market.

Such practices became completely illegal on 1 January 1970. However, the implementation of directives designed to ensure free access to public contracts will be the more assured as the aim of achieving a single market has the goodwill of buyers. In a field like this, a change in mental attitudes is essential to ensure compliance with legal provisions.

Consequently, the Commission is asking the member States to give public buyers very careful instructions as to their duty to comply with the provisions of the Treaty and the part they can play in achieving a single market by seeking the best supplier irrespective of nationality. The Commission for its part is proposing to compile and publish detailed statistics of public purchases from firms in other member States and asks all member States to co-operate fully with it in this task.

In certain sectors, in particular those of the advanced technologies, public contracts represent a major outlet. Where this is so, a coordinated public purchasing policy can be a decisive factor for the progress of industry on a Community scale.

In these sectors, the closed market is in practice still the rule and the impossibility of resorting to open tendering makes checking compliance with the Treaty in this respect extremely difficult. Moreoever, important private buyers may be subject to political, psychological, financial or social restraints which cause them to behave in a similar way to the placers of public and semi-public orders.

However, the advanced technology industries cannot develop properly in a closed market framework. It is therefore in the sectors where it would be most useful that an open market is also most difficult to achieve.

The Council already recognized the importance of a coordinated policy in regard to orders for advanced technology goods when it adopted the second medium term economic policy programme. Now, it is a question of implementing it effectively.

The Commission proposes organising in these sectors a co-ordinated purchasing policy in which certain private purchasers should also be invited to participate. This action which, in order to be effective, should be accepted in principle by the Council and encouraged by governments, would not seek to impose new restrictions on buyers to ease existing ones. It would tend to ensure the achievement of a single market in advanced technology products without excluding third country firms, subject to real reciprocity and having regard to the need to ensure a certain balance in the technological and industrial development of the various regions of the Community. To this end the Commission is proposing to submit to the Council an annual report, with a view to examining the results achieved.

3. The abolition of tax frontiers

The existence of tax frontiers is a factor that contributes to keeping certain markets closed. So long as such frontiers exist, the investment, sales and buying trategy of firms cannot be worked out entirely in terms of the Community market. This is why the harmonization of indirect taxation (value added tax, excise) and the alignment of rates are essential if controls and compensatory taxation measures at internal frontiers are to be eliminated.

II. UNIFICATION OF THE LEGAL, FISCAL AND FINANCIAL FRAMEWORK

If industry is to derive from the existence of the Community all the advantages it is entitled to expect, the efforts to harmonise and unify the institutional framework governing the life of firms must be considerably speeded up. As things are, firms wishing to extend their activities throughout the Community are still a long way from finding the facilities of a real internal market and are continuing to encounter numerous legal, fiscal and financial obstacles.

1. Legal obstacles

Firms meet with great difficulties when they wish to take part in cross-frontier cooperation or grouping.

The absence of a European company statute makes real mergers very difficult. In effect it obliges firms which wish to join together either to resort to methods which are too complex to be employed at all generally, or else to adopt one of the six nationalities, which frequently raises psychological obstacles.

However firms may even now extend their cross-frontier collaboration by making greater use of the existing opportunities which are analysed in detail below (Part 2, Chapter II). While emphasising the need for a firmer control of concentration likely to interfere with effective competition, the Commission confirms that the application of Article 85 of the EEC Treaty leaves firms considerable opportunities for collaboration.

The Commission considers it necessary:

- to complete work on the European company statute and to adopt it as soon as possible;
- for all member States to introduce legislation on corporate groups such as exists only in Germany at the present time;
- to harmonise domestic company law.

It is further necessary in the Commission's opinion to investigate the possibility of:

- extending the joint company statute to sectors other than that of nuclear energy, in order to facilitate industrial cooperation, in particular between public corporations;
- the adoption by all the member States, or at Community level, of a "groupement d'intérêt économique" statute, such as exists at the present time only in France.

2. Tax harmonisation

In this field the most urgent measure should be the adoption by the Council of the directives on fiscal law relating to mergers and the rules governing parent companies and subsidiary companies which were submitted by the Commission on 15 January 1969.

The pursuit of tax harmonisation is also necessary if industry in the various member States is to be placed on an equal competitive footing.

3. Finance

Firms in the Community are obliged, to ensure their expansion, to make substantial calls on outside capital, i.e. outside the firm. Direct or indirect access to sources of outside capital meets with a certain number of difficulties stemming from the structure of national financial markets and the absence of a common capital market. The capital drawn off by the public authorities and the drain on savings for the benefit of firms in third countries also serve to aggravate the situation.

In addition to the monetary and financial proposals already made, the Commission:

- recalls the need to modernise banking and finance machinery and its operation in most member States;
- is studying the possibility of improving the taxation system applicable to stock financing;
- recommends that an increased volume of capital from Euro-bonds be made available to firms in the Community through specialised credit institutions. On this latter point the Commission will explain its view in detail to a later stage.

III. THE REORGANISATION OF INDUSTRIAL STRUCTURES

If the Community means to maintain its fundamental option in favour of foreign competition, Community firms must be able to face such competition on equal terms. There is no doubt that in certain cases a higher degree of concentration is required to ensure optimum development, provided that effective competition can be preserved.

A vast movement is already in progress in the Community, even in those member States where firms were lagging far behind in size. The Commission considers this trend a good one on the whole; however a policy to promote maximum concentration in a national context while seeking to restrict trans-national link-ups, would present very serious dangers.

On the one hand, the national market is often too small and, particularly in the advanced technology sectors, it is impossible to reach the indispensable size without joining up with firms in other countries.

On the other hand, a trend towards a single national firm in each of the major sectors where concentration is necessary for reasons of technology, finance or outside competition, would, in the event of difficulties, inevitably place pressure on governments which would be difficult to withstand and which would result in such undertakings being placed under direct State control, so that operation of the single market would become a mere fiction.

The only international linkages that are expanding relatively rapidly are those between Community firms and firms in third countries, generally the United States. Most often they consist in a more powerful firm in a third country acquiring or taking over control. While acknowledging the great importance of links with outside firms, the Commission considers that it should be one of the Community's aims to seek a better balance in this field.

The conjunction of the two phenomena - national concentration and acquisition by third country firms could, if care were not taken, reduce or even wipe out the possibility of a common European development policy in the advanced technology sectors.

In the face of this situation, the Commission considers it necessary:

- to eliminate the obstacles which make the formation of trans-national European firms difficult,
- to use for this purpose public funds for industrial development in the advanced technology sectors.

Trans-national European firms should be understood to mean not only those which spread their activities over several countries, but those whose capital and management come from several countries and whose decision centre is in Europe. It is a question of making possible, if not facilitating the emergence of such firms, which would not necessarily have to group capital and men from all six member States, or even from several member States, but which would have to be in a position to face competition in Europe and on the world market from the giant trans-atlantic firms.

The unification of the legal, fiscal and financial framework would serve to facilitate the setting up and control of such firms and certain constructive measures to that end can already be envisaged.

The Commission is not thinking for the moment of setting up a public law body transposing to Community scale the measures taken in the United Kingdom by the Industrial Reorganisation Corporation or envisaged in France by the "Institut de Développement Industriel" which has just been set up.

However, it does hope for close co-operation between all the public or private bodies concerned with promoting the grouping of firms. It is only if such co-operation should prove unsatisfactory or non-existent that other measures would have to be envisaged.

The Commission considers nevertheless that the European Investment Bank could contribute by offering financial facilities for the grouping of firms in different member States and has also decided to use funds it administers itself for this purpose in pursuance of the Treaty of Paris.

These measures will however have to be contained within strict limits if they are not to be discriminatory. They are justified by the specific difficulties which such transactions come up against, in relation to national concentrations and, it seems, in relation to groupings comprising firms in third countries. Similarly such measures should not be confined to the largest firms. The Commission is of the opinion that the unqualified encouragement of concentration would be contrary to the needs of a healthy industrial policy, as medium-sized firms are often seen to be more dynamic, more adaptable, more prompt to seize new opportunities or to exploit new lines of action than the very large ones.

It is however in the advanced technology sectors that transnational undertakings are most obviously necessary to ensure the efficiency of European technological co-operation (cf. part 4 below). But the large amount of public financial aid and the national character of the funds which firms receive in pursuance of research and technolog-

ical development policies, together with the present watertight public and semi-public markets and considerations of prestige are all factors which, in addition to the imperfections of the environment referred to in the preceding chapter, are obstacles to the appearance of trans-national European firms in these sectors.

Until now efforts - both national and international - have been almost exclusively directed towards the manufacture of prototypes without, in most member States, sufficient attention being paid to the building up of industrial structures. Changing this situation and working for the creation of competitive industrial structures through the execution of technological programmes must be considered as a principal aim of the Community's industrial policy. This necessarily involves new methods of financing the technological development programmes, which avoid the drawbacks of intergovernmental financing and the disastrous principle known as "fair return". The Commission accordingly proposes introducing Community development contracts to be offered primarily to firms which intend to enter upon a process of trans-national cooperation and restructuring (cf. part 4 below).

The considerable leeway in European industrial development in these sectors, the keen competition offered by firms in third countries, either by means of their direct exports or through the subsidiary companies they have established in the Community, whose valuable contribution to the development of the Community economy must be recognised, should in the Commission's opinion, lead the Council to pay particular attention to this proposal.

The Commission is intending to analyse, in respect of each of the principal sectors of advanced technology - electronuclear, aero-space, electronics, data processing - the evolution of industrial structures and solutions designed to reconcile the demands of efficiency and those of competition. It will submit its conclusions to member States as well as to the firms concerned.

Cross-frontier economic interpenetration necessarily takes forms other than mergers and take-overs. These are analysed in part 2 below. The Commission does not intend to single out certain of them for privileged treatment but merely wishes them all to be open to firms and for the particularly numerous obstacles that stand in the way of mergers between firms of different nationalities to be removed.

Though the Commission condemns the principle of "fair return", it does not however overlook the need to maintain a certain balance between industrial interests in member States in such sensitive areas. It would however be a tremendous step forward if member States were to argue that the balance of interests must be sought on the widest possible basis. This principle, which the Commission has already suggested in point 1 (public purchases) also applies to the restructuring of industry and to technological development and leads the Commission to propose an examination of current or contemplated groupings in an appropriate context at its own or at a member State's. The overall allocation of industrial development contracts, having regard to the geographical location of their execution, should also be examined periodically by the Council.

IV. ADJUSTMENT TO CHANGES

Speeding up the rate of change is a necessity for industrial progress, which in turn governs economic and social progress. However, the indispensable processes of adaptation must be brought about with due regard to the specific requirements of the Community; otherwise failure would be inevitable.

The abolition of numerous jobs in certain sectors must be compensated for by the creation of new jobs in other more dynamic sectors. This is why the industrial exploitation of technological innovations and forecasting combined with the strengthening of regional policy must be encouraged as much as possible.

Lastly, the adaptation of industry demands an effort to improve management methods and the training of future executives and managers of firms.

1. Changes in employment

The figures given in part 3 below reveal the extent to which changes have already come about in employment. It is not only a question of a movement of agricultural workers to the secondary and tertiary sectors, but of substantial movements within the industry. To quote only one figure, almost 500,000 workers have left the textile sector within the last ten years, although the turnover of this industry has increased considerably in the same period. And this figure does not take into account the changes within the textile sector. But as against this the number employed in the mechanical and electrical sectors has increased by 1,600,000.

Far from slowing down, this movement will become more marked in the next few years and will make it necessary for many workers to change their trade. It should also result, however, in improved working conditions, remuneration and occupational qualifications for the greatest possible number.

Far-reaching and forceful action is needed if the painful effects of such changes are to be kept to a minimum and, on the other hand, their constructive aspects exploited as fully as possible.

Such action must be taken at all levels: in the firm, the member States and the Community. Its various forms are analysed extensively in chapter 1 of part 3 below.

Here we shall merely emphasise the role of forecasting, the value of negotiations between management and labour, the importance of regional policy and the urgency of reforming the Social Fund.

Changes are less difficult when they have been foreseen. Firms accordingly have a duty, where possible, to warn workers as soon as possible of any reductions or changes in employment which they may have to decide upon. Also, where it seems that a branch or a region will be affected as a whole, consultations should be held between management and labour as well as with the regional or national authorities, so that changes are brought about as harmoniously as possible.

For its part, the Commission is endeavouring to foresee changes in employment for the greatest possible number of sectors. Although numerous difficulties still have to be overcome, results are already available for certain sectors.

However, the Community must contribute more directly and constructively to solving the problem of industrial change. The projected reform of the Social Fund and the memorandum on regional policy fulfil this requirement.

Apart from the aims pertaining to social policy and to regional policy, it is essential for industrial policy that the occupational and, to a certain degree, geographical mobility of the labour force should be encouraged. Various forms of aid to the mobility of workers, (occupational training, compensation for loss of earnings, aid for household removal, housing allowance) is in most cases a form of indirect aid to industry that is more judicious than the majority of direct aid, which is too easily diverted from its object and too open to higher bids.

In conclusion, the Commission again emphasises:

- the urgency of reforming the Social Fund to make it an effective instrument for adaptation and promotion that would permit the Community - which tends to be held responsible for changes - to make a constructive contribution to the solution of the human problems they pose;
- the need for better coordination of regional policies (cf. the memorandum on regional policy), with more emphasis on siting conditions than on direct aid to investment.

In addition the Commission affirms its intention of excercising more effective control over the various forms of direct aid to firms, including regionally motivated aid.

2. Industrial exploitation of new techniques

The dynamism of industrial development and the creation of a sufficient number of new jobs depend on the readiness of industry to exploit the results of scientific and technological research (1).

To this end, the Commission recommends three steps which may be taken immediately:

- periodic meetings at Community level of the best technological forecasting specialists to examine the new opportunities offered to industry by changes in techniques and needs: these meetings should contribute to the integration at Community level of technological forecasts and economic forecasting as a whole;
- a joint examination of the criteria for the allocation of research among public centres, universities and industry and of the possibilities of improving collaboration between them; this study has already begun in the working group presided over by M. Agrain (1);
- an effort to promote the spread of technical knowledge in the Community after examining sector by sector or by types of firm the difficulties this encounters.

3. Improving the management of firms and the recruitment of their executives and managers

The principles of management, with which the Community firms should be imbued, are analysed below (Chapter 11 of Part 3). They may be summed up as follows:

- the need for long-term objectives (European firms sometimes have a tendency to rely here on the public authorities);

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(1) The problems of the organisation and promotion of research and of certain aspects of technology are outside the scope of this memorandum and will be dealt with by the Commission at a later date.

- attention to the market even more than to production;
- cost/benefit analysis of alternative decisions, or the quantitative method of management;
- participation of staff at all levels in the firm's options and progress.

The shortage of certain categories of technical staff (particularly data-processers), the qualitative and quantitative shortage of management training establishments and the poor adjustment of general education to the requirements of an industrial society are analysed below.

Apart from the work which is already being done in this field at national or European level, the Commission appeals to firms in the Community to take the initiative and bear the cost of setting up a European Management and Education Foundation whose terms of reference would be:

- to set up, in conjunction with the universities and specialised institutes, a centre for the study of modern management methods and their adaptation to the particular conditions in Western Europe;
- to forecast industry's requirements in management specialists, and where appropriate other specialists and notify them to the specialised institutes and universities;
- to develop contacts at Community level between industry and the universities in all fields of mutual interest.

Although the initiative in this matter, in the Commission's opinion, should be left to industry, government support would considerably improve the chances of success.

V. EXTENSION OF COMMUNITY COOPERATION IN ECONOMIC RELATIONS WITH THIRD COUNTRIES

The Community is even now the foremost trade power in the world - a position that would be considerably reinforced by the accession of the applicant countries.

The Community's responsibilities as regards the expansion of world trade are therefore considerable and destined to increase. The Community must take this fact into account in developing its trade policy.

However, international economic relations today extend to new fields which had scarcely been opened up at the time of drafting the Treaties, so that Community solidarity has not yet been organised in spheres which are nevertheless of primary importance from the point of view of industrial development.

1. Trade policy

It has been possible up to the present to effect the Kennedy Round tariff reductions in the best possible conditions thanks to the general expansion of the world economy.

However, even after its enlargement, the Community could not contemplate further tariff reductions if it is not guaranteed an effective reduction in the principal disparities still existing in respect of numerous items between its own tariff and that of its principal competitors.

The circumstances in which a progressive and ordered transfer of certain industrial activities could be organised for the benefit of developing countries will be the subject of study and proposals at a later stage. It is indeed in the Community's interest to open its doors more to exports from developing countries. However this trend, already well under way within the framework of the Association Treaties, and which should culminate in the work of UNCTAD, should be programmed as precisely as possible so that the

sectors concerned are informed in advance of the time they are allowed to adapt to a new situation. The Commission will present proposals on this point to the Council for the various sectors concerned.

2. New problems

It will be impossible to solve satisfactorily a number of new problems of primary importance to the development of Community industry unless member States succeed in recognising and organising their solidarity in these fields.

(a) Export credits and aid

Aid for development serves as a pretext for an aggressive trade policy which is, in the long run, harmful both to the industrialised countries and to the less-developed ones. The coordinated action already taken in the credit insurance Committee should be considerably reinforced. The Commission proposes in particular that member States should fix a dead-line for the adoption of the projected common policy in the credit insurance field.

(b) Barter operations and investments in state-trading countries are developing in a chaotic fashion without a sufficiently attentive examination at Community level of the counterparts offered. The new provisions adopted in trade policy should overcome these difficulties; if not they should be reinforced.

(c) Non-tariff barriers, in particular regulations governing public contracts, are already being actively studied in several international organisations; which makes it more urgent to eliminate such obstacles between the Six and to define a common attitude towards outside partners.

(d) The same remarks apply to the problems posed by the protection of the natural environment (cf. I above).

(e) The security and regularity of supplies of raw materials and energy today pose, for certain products, problems whose solution cannot only be sought at national level only, lest the operation of the Common Market should falter in the event of a crisis.

(f) The flow of investments to outside countries is destined to grow. Far from recommending a protectionist attitude, the Commission considers this a good trend, provided an appropriate balance is kept between facilities offered for foreign investment in the Community and facilities obtained for Community investment in the principal outside countries. It also considers that the proposals in section III above, if implemented, should allay the fears which are sometimes expressed with regard to the development of foreign investment in the Community.

(g) The development of multi-national companies poses problems with regard to taxes and competition which will be the subject of negotiations with the principal outside countries in the years to come. The Commission intends to study these problems in close collaboration with the experts of member States.

(h) Technological cooperation with third countries is essential. However, the way in which it has been practised until now - as with intra-Community cooperation - has led to very serious miscalculations whose reasons are analysed extensively in the part IV (Ch. 1) below. The pursuit of more consistent technological cooperation inside the Communities is inconceivable without a similar effort being made in relations with third countries in and outside Europe.

In these different fields, the Commission is resolved to do its part to safeguard the interests of the Community and of its industry better. However, it considers it essential that member States should show a firmer political will to establish solidarity before any proposals more precise than made here can be formulated.

The prospect of the enlargement of the Community prompts the Commission finally to emphasise that not only would the guidelines and conclusions outlined in this memorandum be just as valid for an enlarged Community but they would be even more timely.

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This memorandum on industrial policy is destined in the Commission's eyes to serve as the point of departure for wide ranging discussion with the authorities of member States and the various professional circles concerned. The Commission emphasises that it wishes to secure from the Council:

1. The speeding up of certain current work, namely:

   - the achievement of the single market, including the coordination of public or semi-public purchasing policies, in particular in the advanced technology sectors;

   - the harmonisation of the legal, fiscal and financial environment (company law, tax harmonisation, patents, progress towards the common capital market);

- trade policy, including the harmonisation of export credit policies.

2. The adoption of proposals already submitted to the Council, for example:

- the reform of the Social Fund;
- the measures proposed in the memorandum of regional policy;
- the adoption of the European company statute;
- certain fiscal directives.

3. The examination and approval of new guidelines or measures:

- the preparation of European legislation to protect the natural environment, the coordination of current work in this field and a common attitude with regard to work being undertaken in other international organisations;
- the adoption of measures making it possible to set up trans-national European firms in certain sectors;
- Community development contracts for the industrial promotion of new technologies;
- procedure for consultation in regard to the formation of industrial groups (cf. page 24 above);
- the annual examination by the Council of the result of coordinated action in relation to purchasing policies;
- the intervention of the E.I.B. in favour of trans-national concentration;
- common exploitation of technological forecasts and the rational organisation of the dissemination of knowledge;
- a concerted attitude and joint action in the new fields of external economic relations.

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Lastly, several of the suggestions in this memorandum are addressed to firms and call for no decisions on the part of the Council. Certain of them could nevertheless be considerably furthered by the action of the member States. This applies in particular to the proposed European Management and Education Foundation.

Following consultations it will hold with the various circles concerned and in the light of the deliberations of the Council, the Commission will amplify and add to its proposals as appropriate.

The first two categories of decisions mentioned above correspond for the most part to the implementation of the medium-term economic policy programmes. With regard to the new considerations and guidelines, it will be for the Committee on medium-term economic policy to examine the possibility of their incorporation in the third programme, now in preparation. However, certain sectoral measures of an urgent nature arising out of this memorandum will be proposed to the Council very shortly.

Part one

THE POSITION OF COMMUNITY INDUSTRY

INTRODUCTION

It is hardly possible to deal with the problems which are the subject of the three main parts of this document without placing them in a particular context, without quoting certain facts essential to their understanding or, above all, without ascertaining whether certain lines of thought on the subject of industrial policy which are frequently developed in current economic literature are consistent with the real situation.

The Commission gave a group of eminent economists the task of analysing how competitive the Community economy is in relation to that of its principal third countries rivals and to investigate the causes of the differences noted. This group will not submit its report for some months.

We have accordingly confined ourselves here to a fairly brief examination, pending the experts' report, which should come as a valuable addition to this document and furnish the essential point of departure for subsequent thinking.

When we seek to analyse the significant features of industrial life, in particular its contribution to people's standard of living, the break-down of this contribution between the remuneration of wage and salary earners and other utilisations, the changes reflected in the creation of new industries, alterations in the size of companies and establishments, the trend towards concentration and the closing down of firms, we find Europe singularly lacking in the systematic and coherent information necessary for analysis purposes.

Numerous statistics exist on the quantities of goods produced but they do not provide sufficient information about the profitability of the various industrial activities.

Information in terms of value is, nevertheless, often available, but with the exception of the years covered by industrial surveys, they are generally incomplete and, above all, are not sufficiently standard from one country to the next to allow comparisons to be made with the necessary accuracy.

The figures given here sometimes include estimates which have had to be introduced precisely in order to improve the comparability of data published by the Statistical Office of the European Communities or by national Statistics Offices.

It may appear strange that an analysis carried out in 1970 has frequent recourse to old data.

Since the setting up of the Common Market, only one more or less uniform statistical survey of industry in the Community has been carried out. It refers to the year 1962, although certain items included in it concern either 1961 or 1963. Its final and detailed results have not yet been released and in many cases, it is the figures resulting from the provisional analysis of this survey which have had to be used here.

In any case, it is not a survey carried out on a common basis, but a subsequent adaptation of the findings of various national surveys with a view to their expansion.

A second survey can hardly be expected before 1972. There are also some "input-output" tables for the year 1959 but these will have no point of comparison until those relating to the year 1965 are available for all the member countries, which is expected by the spring of 1970. It should moreover be noted that the improvement in national accounting methods between 1959 and 1965 could mean that the comparison

will reflect progress in statistics, rather than economic development.

The point of departure for the Community countries has therefore been the 1962 survey, supplemented or adjusted on the basis of information drawn from the "input-output" tables for 1959 and national accounts. In respect of third countries, the base selected has been either 1962 or 1963, because an industrial survey was carried out in that year, or because certain work by the Statistics Office of the United Nations improved the comparability of national data for the year in question.

The analysis here is not a course in industrial geography. It is therefore not exhaustive, and numerous aspects worthy of interest have been by-passed, either for lack of information, or because they are unconnected with the themes developed.

In particular, the aspects relating to the rate of investment and to capital invested in industry have been passed over because a first approach did not allow a picture of them to be given which could be developed subsequently.

Time did not permit, at this initial stage, an extensive analysis of the composition of the Community's external trade in industrial products. This type of analysis, which is as essential a guide for Community trade policy as for industry itself, will be developed as soon as possible.

Consequently, this Part of the document should be considered as a first, very incomplete stock taking, which will be followed by more thorough analyses, designed to pinpoint the strength and weakness of the Community industries compared with those of their main rivals, to ascertain their causes and where appropriate, suggest appropriate remedies. Such analyses could also enable certain desirable guidelines for industrial production to be worked out in the light of the specific advantages and handicaps of European industry.

This line of approach would direct choice in the light not only of anticipated outlets but also of the aptitudes of Community industry.

As an initial contribution, this part of the document will accordingly concentrate on two fundamental aspects of the industrial economy:

- the efficiency (1) of Community industry, i.e. its capacity to pay its workers properly, to cover its capital expenditure and if possible to finance its own development, the basis of its future dynamism;
- the life history of companies, i.e. their birth, growth (in size), betrothal (co-operation), marriage (mergers), reproduction (establishment of subsidiaries) and disappearance.

Before commencing this analysis, some reference to size is advisable. Of the present population (2), excluding the State-trading countries, whose statistics cannot be ascertained on a comparable basis, the population of the Community represents about 8%, that of EFTA 4%, that of North America (United States and Canada) 10% and that of Japan 4%. Thus, these four regions make up a quarter of the total world population.

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(1) This term, which is not entirely adequate, has finally been adopted, since the concepts of profitability, returns and productivity are, in one sense or another, narrower than what is meant here.

(2) On the basis of UN statistics for 1961 brought up to date in the light of the trends recorded in the following years. The State-trading countries referred to are those of Eastern Europe and mainland China.

Community industry employs 21% of all the people employed in industry in the world (1), that of EFTA 13%, that of North America 16% and that of Japan 9%. Almost 60% of the people employed in industry are therefore concentrated in these four regions.

The value of the Community's industrial production represents about 25% of the world figure, that of EFTA 12%, that of North America 38% and that of Japan 10%. These four regions thus account for 85% of the world's industrial production, excluding that of the controlled economy countries.

These figures already allow some conclusions to be drawn.

The ratio of people employed in industry to total population is much lower in North America than in the other regions, while the ratio of the value of industrial production to the world total is much higher.

Indeed, referring to the total number of people employed and the world's total industrial production, with 16% of the people employed, North America accounts for 38% of industrial production, while the Community, with 21% of the epople employed accounts for only 25%. Thus, with 20% fewer people employed than Community industry, North American industry produces 50% more.

Industry in the Community employs 44% of the working population and supplies 44% of the gross domestic product. Agriculture employs a further 16% of the working population to supply only 8% of the GDP. On the other hand, the services make up 48% of the GDP while employing only 40% of the working population.

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(1) The world being taken here to exclude the planned economy countries of Europe and Asia.

In the United States, industry employs 34% of the working population and supplies 40% of the GDP. Agriculture employs 5% of the working population to supply only 3% of the GDP, while the services are well ahead, employing 61% of the working population to supply 57% of the GDP.

While, in absolute terms, the performances per employed person are higher in the United States than those in the Community in all three sectors, these comparisons make it clear that it is in industry that the output of the working population of the Community is the least satisfactory when a comparison is made.

CHAPTER I

THE EFFICIENCY OF INDUSTRY IN THE COMMUNITY

The year 1961 is the most recent for which comparative studies on industry carried out by the United Nations (1), are available and for which there is information covering all the countries in the world except the Asian state-trading countries (2).

If it be sought to estimate the present degree of industrialisation in various countries in terms of value added to the per capita factors (3) in the mining and manufacturing industries:

- Luxembourg would be 2nd after the United States;
- Germany, 3rd,
- United Kingdom, 4th,
- Sweden, 8th, after Canada, Switzerland and Denmark;
- Belgium, 11th, after New Zealand and Norway;
- France, 13th, after Austria;
- the Netherlands, 15th, after Australia;
- Italy, 18th, after Venezuela and Israel;
- Japan, 20th, after Finland.

If the extraction industries are disregarded, Belgium, France, the Netherlands and Italy move up one place, while Venezuela disappears from the list of the first 20, to be replaced by Japan.

In carrying out this comparison, the United Nations did not simply convert national currencies in accordance with the official exchange rates, but also tried to take into account the differences in purchasing power.

One cannot fail to be surprised at finding Belgium, for example, lower than Denmark and New Zealand, which were long considered predominantly agricultural countries.

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(1) The growth of world industry 1938-1961, analyses and international tables, UNO, 1965.

(2) The USSR and the Eastern European countries have been left out because of the lack of comparable data.

(3) Which reflects approximately the contribution of industry to the gross domestic product at factor cost.

It must be pointed out in addition that while the value added by industry in Germany, Luxembourg and the United Kingdom represented in 1961 about 80% per inhabitant of that of the United States, the latter country employed in industry only 97 per 1,000 inhabitants, as against 155 in Luxembourg, 183 in the United Kingdom and 196 in Germany, (Belgium, France and Italy employing 148, 121 and 87 respectively). The same study also contains comparisons by region of the value added per person employed in industry. This value does not reflect the degree of industrialisation so much as the relative efficiency of the industrial working population. Expressed in thousands of dollars at their 1958 value, it was in 1961:

10.8 in North America
4.5 in Australia and New Zealand
3.9 in EFTA
3.8 in the EEC

As the attached table No. 1 shows, it is only in some important sectors such as chemicals, basic metal-working and mechanics that the Community managed to overtake EFTA.

It must be noted however that the rapid expansion of Italian industry had not yet borne all its fruit in 1961. Nevertheless, according to this United Nations study, the Community, taken as a whole, had at that time an industrial efficiency per person employed which could only be envied by the developing countries.

It accordingly appeared essential to study the problem in greater depth than the United Nations had done.

For this purpose, the industry of the member countries has been compared to that of some third countries - the United States, the United Kingdom, Sweden and Japan - chosen either for the absolute level reached, the similarity of the position, or the rapid rate of growth.

TABLE No. 1

VALUE ADDED TO FACTOR COST PER PERSON EMPLOYED IN 1961 IN THE INDUSTRIALISED REGIONS

(IN THOUSANDS OF 1958 DOLLARS)

ADJUSTED IN THE LIGHT OF PURCHASING POWER

Sector	North America	Australia and New Zealand	EFTA	EEC
Industry	10.8	4.5	3.9	3.8
Mining and Quarrying	20.2	5.6	3.8	3.6
Coal	10.5	5.6	3.4	3.4
Metal Ores	13.8	4.4	8.8	4.2
Petroleum	32.0	-	11.0	14.8
Manufacturing	10.2	4.3	3.7	3.7
Food	11.0	5.0	4.2	3.5
Textiles	6.3)	3.5	2.7	2.4
Clothing	5.5)	2.8	1.9	1.5
Timber and Furniture	6.4	3.7	2.0	2.5
Paper and derivatives	11.5	6.6	4.4	4.6
Chemicals and refineries	20.1	8.5	7.1	8.3
Non-metallic minerals	11.0	5.2	4.1	3.9
Basic metal-working	12.2	5.9	4.6	5.1
Mechanical industries	10.4	3.6	3.7	3.8
Electricity, Gas	17.6	12.6	8.8	9.8

Source: The growth in world industry 1938 - 1961, UN 1965

The figures used are nearly always expressed in relative terms, generally per person employed, a practical denominator which reflects the optimisation of the product and the income of the working population. Unless otherwise indicated, conversions into dollars have been made at the official exchange rates.

A fairly precise picture has been built up at the level of the large industrial sectors for 1962 and 1963 in respect of turnover, industrial purchasing and value added. However, the wage bills, including charges on employers, could not be used since the references in the 1963 industrial survey differed too much from one country to another.

The picture built up for 1962 to 1963 was too old to be of any real use. Updating it to 1968 by using national statistics to extrapolate from the 1962 to 1963 situation would only lead, having regard to the considerable variations in the economic situation which took place between 1964 and 1968 and to the national accounts currently available, to very unreliable results. This explains why it has not been possible to submit a sectoral analysis for a recent year.

At the level of the manufacturing industry as a whole, the national accounts show the development of the value added and of the wage bill, including employers' charges, between 1962 and 1968. However, with regard to value added, the figures, also supplied by industrial statistics, reveal in some cases considerable differences. These may be explained partly by different criteria, industrial statistics being generally based on the concept of net production value, which includes the cost of non-industrial services borne by industry (for example advertising) while the national accounts use are based on the concept of value added, which excludes these costs. Such differences do not, however, explain certain serious contradictions: according to industrial statistics, for example, the efficiency of German industry

distinctly exceeds that of French industry, while, according to the national accounts, the reverse is the case.

With regard to the wage bill, including social security contributions, etc., borne by the employer, there seem likewise to be certain inconsistencies between industrial statistics, national accounts and social statistics. Without the results being necessarily contradictory, certain differences appear which so far have not been satisfactorily explained. For example, the annual wage per person employed in manufacturing in Belgium and France appears in the report to be in the opposite proportion to that shown by the hourly wage figures in the social statistics. This is obviously a case of two different concepts, but the various differential factors such as the hours of work, the office worker/manual worker ratio, the different proportions of self-employed workers and the fact that social surveys cover establishments employing more than 50 people do not seem sufficient to explain such a reversal.

All these difficulties, which seem to exist only in the case of the Community countries, the United Kingdom and Japan, but not the United States, for which the statistics appear consistent, have led to the adoption of the following line of approach:

- analysis at sector level, on the basis of the industrial survey, of turnover, purchases and net production value or value added in 1962 - 1963;
- the development from 1962 to 1968, in the manufacturing industries, of value added, the wage bill including social security contributions, etc. borne by the employer, and gross operating profits, on the basis of the national accounts.

The analysis compares the various factors without looking into the causes of the differences in level, which may range from customs protection to occupational training, technological development, prices policy and the structure of firms. Subsequent work will need to concentrate on ascertaining these causes.

I. THE POSITION BY SECTOR IN 1962 - 1963

The figures given are for 1962 in respect of Germany, France, the Netherlands, Belgium, Luxembourg, the United Kingdom, Sweden and the United States and for 1963 in respect of Italy and Japan.

1) The turnover of Community industry

The information relating to the extraction industries is indicative only, since in this particular sector geological conditions are highly unfavourable to the Community countries, the United Kingdom and Japan, at least in respect of coal, iron ore and petroleum and this does not allow the influence of the other factors in efficiency to be suitably appreciated.

The value added by the Community's extraction industries and the people employed in them represents only on average 5% of total industry, ranging from 2% in Italy to 8% in Belgium.

The inherent characteristics of building and civil engineering and of the production and distribution of electricity, gas and water similarly explain their exclusion from the analysis carried out in this chapter.

Attention must be drawn to the economic significance of turnover.

At the level of the firm, turnover represents the total value of sales which does reflecting not only the scale of its production but also of its purchasing and sub-contracting.

At sector level, to add together the turnover figures for several companies means duplicating accounts in so far as they trade among themselves. In particular, all sub-contracted work is counted twice. Consequently, the more firms there are in a sector, the more risk there is of turnover figures being distorted upwards.

Lastly, turnover includes costs and indirect taxes, which means that in countries where the cost of energy and indirect taxes are high, the turnover may be correspondingly higher.

In 1962 - 1963, industrial turnover figures per person employed could be compared as follows:

	Manufacturing	Extractive industries
	(in thousands of dollars at the then rate of exchange)	
United States	23.2	17.4
EEC	9.3	6.9
Luxembourg	12.3	6.3
Sweden	11.7	18.5
France	10.9	6.3
Netherlands	9.7	5.1
Germany	9.5	7.1
Belgium	8.6	5.1
United Kingdom	7.9	. .
Italy	7.1	8.0
Japan	6.8	3.3

The turnover achieved per person employed in the manufacturing industry in the United States was about twice that of Sweden and Luxembourg, and more than three times that of Italy and Japan.

This situation had various causes. With respect to Luxembourg, as is shown in table No. 2 attached, the relatively high turnover reflected essentially that of the iron and steel sector, which accounted for more than two thirds of the turnover of national industry. Indeed at that time, in the basic metallurgy industry in most countries other than the United States, the turnover per person employed was 12 to 13 thousand dollars per year. In Sweden and France, most sectors showed a high level of turnover per person employed.

The figures in Japan were lower than those in the Community countries, except in clothing, chemicals, metal engineering, electrical engineering and transport equipment where they were close to those of certain member countries, if not higher, and in the basic metallurgy industry, where they exceeded the Community average.

TABLE No. 2

Turnover per person employed in 1962-1963 (f)

(in thousands of dollars at the then rate of exchange)

SECTOR	NICE (+) Classification	Germany (a)	France (a)	Italy (a)(f)	Netherlands (a)	Belgium (a)	Luxembourg (a)	U.S.A. (b)	U.K. (c)	Sweden (d)	Japan (e)(f)
Extractive industries	1	7.1	6.3	8.0	5.1	5.1	6.3	17.4	-	18.5	-
Coal	11	6.1	5.0	5.6	4.9	4.9	-	13.1	-	3.2	-
Metal ores	12	5.8	10.2	5.9	-	-	7.3	21.6	-	18.9	-
Petroleum and natural gas	13	47.5	22.3	56.5	-	-	-	18.9	-	-	-
Manufacturing industry	2+3	9.5	10.9	7.1	9.7(g)	8.6(h)	12.3	23.2	7.9	11.7	6.9
Food and tobacco	20+21+22	16.8	21.9	14.0	16.5	13.9(1)	15.6(m)	37.0	15.8	28.9	7.8
Textiles	23	7.7	8.7	5.3	7.1	7.8	-	16.7	6.4	8.4	4.9
Clothing and leather	24+29	5.5	5.9	2.7	5.2	4.3	(3.9)	11.5	4.5	7.1	4.4
Timber and furniture	25+26	7.2	6.1	3.5	7.3	6.1	7.7	12.6	5.8	9.8	4.3
Paper	27	10.0	12.2	8.5	11.4	8.6	-	21.1	6.8	14.6	8.1
Publishing and printing	28	6.1	9.3	7.0	5.8	7.1	6.8	14.5		7.8	5.8
Rubber and plastics and man-made fibres	30	9.1	11.4	8.3	7.5	7.9	13.7(k)	21.5(i)	7.1	9.9	5.9(k)
Chemicals	31	13.3	16.0	12.6	13.7(1)	11.3	13.4	34.7	13.4	17.5	12.4
Refining of petroleum	32	80.5	76.8	38.2	-	63.5	-	199.5	46.2	37.2	46.2
Non-metallic minerals	33	7.9	8.3	5.5	6.8	6.1	7.4	18.3	5.8	8.3	5.1
Basic metal-working	34	10.9	12.8	10.0	13.9	10.2	12.8	24.1	9.7	13.7	12.5
Metal engineering	35	7.4	8.3	4.7	7.1	6.3	8.7	20.3	7.2	9.0	4.8
Non-electric machinery	36	8.1	11.2	7.5	6.9	7.4	7.6	18.6	6.2		5.9
Electrical engineering	37	7.2	9.9	7.5	7.9	6.4	7.3	16.1	5.8	8.8	6.5
Transport equipment	38	10.5	9.8	7.9	11.3	11.0	17.5	25.4	6.6	11.0	9.4
of which: car manufacture	383	12.3	11.5	11.3	12.3	20.8	-	40.8	9.6	-	-

(a) Source : ESSO survey 1963
(b) Source : Survey of Current Business
(c) Source : Annual Abstract of Statistics, London
(d) Source : Statistical Abstract of Sweden
(e) Source : Japan Statistical Year book
(f) All firms, Italy and Japan: 1963
other countries: 1962
(g) not including petroleum industry
(h) not including manufacture of man-made fibres of the diamond industry
(i) not including manufacture of man-made fibres and amylaceous products
(j) including manufacture of man-made fibres
(k) rubber only
(l) including amylaceous products (heading 304)
(m) except tobacco (heading 22)

(+) NICE = Nomenclature of Industries in the European Communities.

2. Purchases

The purchases of raw materials (1), energy and sub-contracting factor is difficult to analyse if the details, and the special characteristics of each sector and each country are not gone into.

In fact, a high purchase figure per person employed may reflect:

- a competition handicap as regards supplies, due, for example, to the distance of raw material sources (iron ore and coking coal in the case of the Japanese iron and steel industry), to the protection of farmers in the case of the food industry, or to an inadequate or overtaxed source of energy or again to poor negotiating power at the raw materials end of the production process;
- a predominance of sectors using a small labour force in relation to the value of the product (oil refineries) or situated at an advanced stage in the manufacturing process (assembly of motor vehicles);
- differences in the types of activity within sectors (ordinary or special steel, basic chemicals or pharmaceuticals);
- a high sub-contracting frequency;
- a combination of trading (resale of products) and manufacturing whose effects cannot always be eliminated by the statistics available.

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(1) Including purchases of semi-finished products and products for resale unaltered.

In 1962 - 1963, per capita purchases in the manufacturing industry of the various countries were as follows:

United States	14.3
EEC	5.3
Luxembourg	8.5
Sweden	7.1
France	6.9
Netherlands	5.9
Belgium	5.2
United Kingdom	5.2
Germany	4.9
Japan	4.5
Italy	4.1

Table No. 3 attached, which shows the figures per sector, deserves closer examination than it is possible to give here.

It sets out, sector by sector, the considerable disparities existing in purchases of supplies in the various countries. Differences ranging from 1 to 3 may be seen between one country and another in the Community. The high level of purchases by French industry is repeated in most sectors and probably arises in part from the relatively unintegrated structure of industry and the high level of indirect taxation. The French figure is however slightly exceeded by that for Sweden (1) and also in some sectors by that for Luxembourg. On the other hand, the level of purchases in the Italian industries is low and often lower that that of Japan.

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(1) The very high purchase figures per person employed in the timber and paper industry in Sweden is to be interpreted not as a handicap but as a reflection of the high productivity of labour.

T A B L E No. 3

Purchases of raw materials and energy (r) per person employed in 1962-1963

(in thousands of dollars at the then rate of exchange)

SECTOR	NICE Classification	Germany (a)	France (a)	Italy (a)(f)	Netherlands (a)	Belgium (a)	Luxembourg (a)	Sweden (d)	Japan (e)(f)
Extractive industries	1	2.1	2.1	4.5	0.7	1.9	2.1	1.3	1.1
Coal	11	1.5	1.4	2.8	0.6	1.9	-	-	-
Metal ores	12	2.1	5.2	2.2	-	-	2.0	-	-
Petroleum and natural gas	13	28.3	5.7	44.6	-	-	-	-	-
Manufacturing industries	2+3	4.9	6.9	4.1	(g) 5.9	(h) 5.2	8.5	7.1	4.5
Food	20+21+22	10.1	15.6	10.1	12.1	9.2	(m)12.4	24.7	(m)5.8
Textiles	23	4.2	5.8	3.1	4.3	5.2	-	4.7	3.4
Clothing and leather	24+29	2.9	3.5	1.3	3.2	2.5	2.3		3.1
Timber and furniture	25+26	3.6	3.4	1.6	3.9	3.4	5.3	6.1	2.9
Paper	27	5.3	7.6	5.2	6.7	5.1	-	10.3	5.6
Printing and publishing	28	2.1	5.1	3.2	2.3	3.2	3.3	2.6	3.1
Rubber plastics and man-made fibres	30	4.3	6.7	4.6	(i) 3.8	(f) 4.4	(k)10.7	-	3.6
Chemicals	31	6.2	10.4	7.1	(j) 7.2	6.2	9.7	9.4	7.6
Refining of petroleum	32	49.5	43.4	17.7	-	50.6	-		39.7
Non-metallic minerals	33	3.0	4.1	2.7	2.9	2.6	3.7	3.3	2.8
Basic metal-working	34	6.0	8.0	6.2	7.9	6.1	8.4		9.7
Metal engineering	35	3.4	4.7	2.4	3.7	3.2	5.5		2.7
Non-electric machinery	36	3.8	7.3	4.0	3.6	3.7	4.4	5.4	3.4
Electrical engineering	37	3.4	5.9	4.2	3.9	3.2	4.3		3.9
Transport equipment	38	5.9	6.4	4.7	7.9	7.9	14.4		6.2
of which: car manufacture	383	6.8	7.4	6.9	8.2	16.7	-	-	-

(a) to (m): see notes to Table No. 2

(r) Raw materials, etc., energy, industrial services, purchases for resale.

It is specially in the field of heavy industry, probably as a result of its marked vertical concentration, that Germany has lower purchase levels than Japan, which allows her to achieve a relatively low general average for the whole of the manufacturing industry. The real yield of industrial activity is not simply sales less purchases. Indirect taxation still has to be deducted.

The object of this chapter is not to judge the advantages or disadvantages of the various methods of taxation. Consequently, it is enough to state that in 1962 - 1963 the amount per person employed of indirect taxation net of subsidies in the manufacturing industry may be estimated at (1):

(in thousands of dollars per annum at the then rate of exchange)

	1962 - 1963
France	1.2
United States	0.8
EEC	0.8
Sweden	0.7
Germany	0.7
Netherlands	0.7
United Kingdom	0.6
Italy	0.5
Belgium	0.4
Luxembourg	0.4
Japan	0.2

If purchases and indirect taxation be deducted from the turnover figure, we obtain the gross value added to the factor cost per person employed (2) and this reflects the operating profits of industrial activity.

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(1) Estimates based on the national accounts or, failing these, on relative positions deduced from input-output tables for 1959.

(2) The wear on equipment reflected by depreciation is not, however, deducted from this result.

3) The value added by industry

This is the increase in the value of products brought about by industrial activity.

Different variants of this concept are in use in the different countries. It has been said that the net value of production is the value added plus the cost of non-industrial services borne by industry. The figures of the 1963 SOEC survey are value added figures for France and net production value figures for the other Community countries (1). The figures relating to third countries are those for value added.

The value added may be gross, i.e. including depreciation, or net, where this is excluded. The figures listed here include depreciation in all cases except for Japan, where depreciation is not included for firms employing more than 10 people.

Finally, the value added may be calculated at market prices, i.e. include taxes, or at factor cost, where indirect taxes are deducted.

As far as possible, the figures have been adjusted to reflect gross values calculated on factor cost.

Here, also, attention must be drawn to the meaning which may be attached to this concept. The gross added value at factor cost unquestionable represents the sum of money gained by industry thanks to its activity and with which it must pay its workers and executives (2), cover its depreciation, pay its direct taxes, service its debts and ensure the remuneration of its capital. However, the differences in levels which may be recorded do not necessarily reflect differences in productivity or rates of profit.

The value added is still in fact influenced by price levels, which may be artificially raised by a highly protective customs system, the

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(1) An estimate supplied by the Statistics Office of the Federal Republic of Germany puts the difference between the two concepts at about 16% for Germany.

(2) and also its non-salaried employees.

existence of a monopoly or of concerted practices or else artificially lowered price-freezing measures.

However, in so far as the value added does not arise from abnormal prices, a high value may be considered favourable. It is not however a guarantee of a break-through in trade, in the face of competitors who record lower values but whose lower wages may allow them to sell at lower prices.

In 1962 - 1963, the gross value added per person employed calculated on factor cost was:

(in thousands of dollars per annum at current value)

United States	8.8
EEC	3.4
Sweden	4.4
Germany	3.9
Luxembourg	3.8
France	3.5
Netherlands	3.2
Belgium	3.1
United Kingdom	2.7 (1)
Italy	2.6
Japan	2.1

In relation to the situation resulting from the turnover figures, Sweden maintained its position, Germany and the Netherlands improved theirs. Luxembourg and France went down considerably by comparison with the United States, while Belgium, the United Kingdom, Italy and Japan, although not falling so far, remained at the bottom of the list of countries considered above.

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(1) figure from the national accounts.

Table No. 4 attached hereto sets out by sector the figures for value added. As it has not been possible to deduct the indirect taxes for all sectors, two sets of figures are submitted, one based on factor cost and one on market prices, for Community countries in which this calculation has been made. The sector figures available for the United Kingdom seem too far from the concept of value added to be usefully included in this table.

In 1962, the value added per person employed, calculated on factor cost, represented, in the United States, in the various sectors, at least two or three times that of the member countries of the Community with the best results.

In terms of value added calculated on market prices, Sweden reached somewhat higher levels than the best recorded in the Community, except in three sectors: rubber and plastics, where it was slightly exceeded by Germany, basic metallurgy where the Netherlands was ahead and the refining of petroleum products where the Common Market countries achieved higher figures, perhaps as a result of differences in indirect taxation.

As for Japan, its level of value added calculated on market prices was lower in all cases than the lowest figure recorded in the Community, except with respect to transport equipment, where it was higher than that of the Netherlands and about equal to that of Italy and Luxembourg.

Within the Community, the situation differed from one sector to another. Germany reached the highest levels in most of the sectors, but yielded first place to France for the food industry and to the Netherlands for the paper industry, basic metallurgy and electrical engineering.

The lowest figures were in Luxembourg in all the sectors other than non-metallic minerals, basic metallurgy and metal engineering where it was

TABLE No. 4

Net production value and gross value added per person employed in 1962-1963

(in thousands of dollars at the then rate of exchange)

SECTOR	NICE Classification	GERMANY		FRANCE		ITALY		NETHERLANDS		BELGIUM		LUXEMBOURG	U.S.A.	JAPAN	SWEDEN
		NPV fc(p)	NPV mp(a)	GAV fc(u)	GAV mp(a)	GAV fc(o)	NPV mp(a)	NPV fc(p)	NPV mp(a)	GAV fc(p)	GAV mp(a)	NPV mp(a)	GAV fc (b)	GAV mp (e)(f)	GAV mp (a)
Extractive industries	1	4.0	5.1	3.8	4.5	3.0	3.5	4.4	4.5	2.9	2.9	4.2	9.8	-	14.5
Coal	11	4.0	4.6	3.5	3.8	1.5	2.8	4.2	4.3	2.7	2.7	-	8.1	-	2.1
Metallic ores	12	3.6	4.0	5.3	5.7	3.6	3.6	-	-	-	-	5.0	10.1	-	14.9
Petroleum and natural gas	13	-	19.9	(r)8.6	20.3	11.1	12.2	-	-	-	-	-	10.8	-	-
Manufacturing industry	2 + 3	3.9	4.7	3.5	4.4	2.6	3.1	3.2	3.9	3.1	3.5	4.2	8.8	2.3	5.1
Food and tobacco	20+21+22	3.9	6.8	4.3	6.8	2.8	4.1	-	4.4	3.6	4.7	(m)3.1	8.1	(m)2.0	6.4
Textiles	23	3.0	3.5	2.4	3.0	2.0	2.3	2.9	2.9	2.3	2.5	-	5.6	1.5	3.9
Clothing and leather	24+29	2.3	2.6	2.0	2.4	1.4	1.5	2.0	2.1	1.7	1.9	1.6	4.5	1.3	3.2
Timber and furniture	25+26	3.2	3.7	2.3	2.7	1.7	1.8	2.8	3.1	2.5	2.7	2.5	5.5	1.4	4.1
Paper	27	4.2	4.8	3.9	4.6	3.1	3.5	4.4	4.8	3.1	3.5	-	9.4	2.5	5.1
Polishing and printing	28	3.7	4.1	3.7	4.5	3.3	3.8	3.4	3.5	3.7	3.9	3.5	7.5	2.7	5.3
Rubber and plastics and man-made fibre	30	4.2	4.9	(t)3.8	5.0	3.0	3.8	3.5	3.8	3.1	3.5	3.6	(l)8.5	(k)2.3	4.9
Chemicals	31	6.4	7.2	5.3	6.3	4.4	5.6	6.1	6.7	4.8	5.2	3.7	13.5	4.8	8.0
Refining of petroleum	32	11.4	31.8	(s)14.8	34.8	7.5	21.0	-	-	7.3	13.4	-	34.2	6.5	11.6
Non-metallic minerals	33	4.5	5.0	3.4	4.3	2.5	2.8	3.7	4.0	3.2	3.5	3.9	8.9	2.3	5.2
Basic metal-working	34	4.3	5.0	(u)4.3	5.1	3.8	4.1	5.8	6.2	4.1	4.2	5.0	10.8	2.8	5.7
Metal manufactures	35	3.6	4.1	2.9	3.8	2.0	2.4	3.2	3.5	2.9	3.1	3.2	8.2	2.1	4.9
Non-electrical machinery	36	4.0	4.4	(v)3.9	4.7	3.2	3.7	3.5	3.7	3.7	3.9	3.5	9.4	2.5	
Electrical engineering	37	3.6	3.9	3.7	4.4	3.2	3.5	4.3	4.6	3.2	3.4	3.0	8.1	2.6	5.1
Transport equipment	38	4.4	4.7	3.7	4.0	(q)4.0	(q)3.5	3.1	3.4	3.2	3.4	3.2	11.7	3.2	5.3
of which: car manufacture	383	-	5.6	3.9	4.5	-	4.8	3.5	4.3	3.9	4.5	-	16.0	-	-

Remarks: fc = factor cost
mp = market prices

Notes (a) to (m): see Table No. 2

(n) source: il valore aggiunto delle imprese nell'anno 1963 - ISTAT

(o) source: 1963 industrial survey - INSEE

(p) estimates based on SOEC figures from national accounts for 1962, failing which, SOEC input-output tables for 1959

(q) source (n) has 4.2 instead of 3.5 for the NPV mp

(s) estimated figure based on 1963 SOEC survey

(t) except anylaceous products industry (head. 304)

(u) including iron works and large scale plating works (head. ex. 351)

(v) including sheet metal works (head. ex. 354.2) and construction of machinery and railway and tramway equipment connected with foundries (head. ex 382.2)

replaced by Italy, and transport equipment, where the Netherlands recorded the lowest figure.

The general impression given by the table is that, apart from some sectors where one country or another was strong, the situation was marked by an average level in most sectors in France and the Benelux countries, Germany being somewhat above this and Italy to about the same extent below it.

II. DEVELOPMENT BETWEEN 1962 AND 1968

As has already been shown, there are differences between industrial statistics and national accounts for most of the Community countries, as well as for the United Kingdom and Japan.

The most striking fact is that, whereas the national accounts give relatively lower values than the industrial statistics in respect of four countries, the opposite is the case in respect of France.

Such differences seriously complicate analysis and make well-informed choices more difficult. Consequently, without underestimating the psychological and financial difficulties holding back the progress of statistics in most European countries, the need for greater uniformity of existing statistics must be emphasized.

The development between 1962 and 1968 is set out for the whole of the manufacturing industry. The information concerning the Community countries, the United Kingdom and Japan, is taken from national accounts. No information is available for the Grand Duchy of Luxembourg.

1. Added value at factor cost

From 1962 to 1968, the gross added value at factor cost per person employed, developed as follows:

Gross added value at factor cost per person employed 1962 - 1968

	In thousands of dollars per annum		United States = 100 percentages	
	1962	1968	1962	1968
United States	8.8	11.7	100	100
EEC	2.9	4.7	33	40
France	3.8	6.1	43	52
Netherlands	2.9	5.3	33	45
Germany	3.1	4.8	35	41
Belgium	2.8	4.4	32	38
United Kingdom	2.7	3.4	31	29
Japan	1.7	3.3	19	28
Italy	1.9	3.2	22	27

It will be seen that in 1968, in spite of a certain amount of progress, the efficiency of Community industry still only reached 40% of that of American industry.

Between 1962 and 1968, it was the Netherlands, Japan and France who improved their positions most in relation to the rest, while the United Kingdom lost ground. The relative progress made by Italy, Belgium and Germany was lower than the Community average.

Attention must be drawn to the fact that improvements expressed as percentages are not confirmed in absolute terms, as is shown by the disparities in thousands of dollars per annum per person employed, in relation to the Community:

	1962	1968
United States	+ 5.9	+ 7.0
Japan	- 1.2	- 1.4

2. The wages and salaries bill

This covers all money paid out either directly in the form of wages, or indirectly in the form of social security contributions, etc., borne by employers, for the remuneration of all wage-earners and salaries staff at all levels.

For the requirements of this analysis, the wages and salaries bill is divided here, as all the other variables, by the number of persons employed and not by the number of wage-earners. The figures can therefore not be used for comparisons of wage levels, for which they are not intended. Indeed, the figures given here are particularly low as the number of non-salaried persons employed is high when one takes account of self-employed persons, members of their families or other persons paid out of the profits of undertakings.

The proportion of non-salaried persons employed varies considerably from one country to another as is shown by the following percentages relating to 1967 - 1968:

United States	2%
Sweden	5%
Germany	7%
Netherlands	7%
France	7%
Belgium	12%
Japan	17%
Italy	19%

If it were a question of comparing the direct and indirect incomes of wage-earners, the figures presented should at least be corrected on the basis of these percentages.

Between 1962 and 1968, the wages and salaries bill (including social security contributions etc. borne by employers) per person employed grew as follows:

Wages and salaries bill per person employed - 1962 - 1968

	In thousands of dollars per annum		United States = 100 percentages	
	1962	1968	1962	1968
United States	6.3	8.2	100	100
EEC	1.8	2.9	29	35
France	2.3	3.8	38	46
Netherlands	1.8	3.3	29	40
Germany	1.9	2.9	30	35
Belgium	1.8[E]	2.7[E]	29	33
United Kingdom	1.9	2.4	29	30
Italy	1.2	2.0	19	24
Japan	0.8	1.6	13	19

E = Estimate

Thus, between two dates, the wages and salaries bill per person employed progressed more in all other countries than in the United States. The most outstanding increases were in the Netherlands, Japan and France and the least in the United Kingdom.

As in the case of added value, the absolute disparities continued to increase:

	1962 (in thousands of dollars	1968 per annum)
United States	+ 4.5	+ 5.3
Japan	- 1.0	- 1.3

3. Gross yield

The development of gross operating profits still has to be briefly looked at. This corresponds to what remains to industry after paying for its

purchases of all types, its sub-contracting, indirect taxes, wages and salaries and social security contributions etc. borne by employers. It is accordingly the amount remaining to cover depreciation, to finance its own investments, to service its debts, in particular in the form of interest payable on bonds, to set aside reserves, to pay direct taxes and to distribute dividends. This notion is therefore not very far from the gross cash flow concept which has recently become popular in Europe.

It is a concept that must be interpreted with care, and is not the same as profit. A company which is heavily in debt or which has to set aside a large amount of capital per person employed for depreciation may have a very high gross operating profit without making any real profit.

From 1962 to 1968, the gross operating profit per person employed developed as follows:

Gross operating profit per person employed - 1962 - 1968

	In thousands of dollars per annum		United States = 100 percentages	
	1962	1968	1962	1968
United States	2.5	3.5	100	100
EEC	1.1	1.8	44	51
France	1.5	2.3	60	66
Netherlands	1.1	2.0	44	57
Germany	1.2	1.9	48	54
Belgium	1.0[E]	1.7[E]	40	49
Japan	0.9	1.7	36	49
Italy	0.7	1.2	28	34
United Kingdom	0.8	1.0	32	29

E = Estimate

Over this period, the Community has thus improved its position in relative value compared with the United States, although less than Japan, while the United Kingdom's relative leeway increased somewhat.

In the Community, the progress made by the Netherlands was marked, but in the other member countries more or less uniform.

In absolute figures, the phenomenon recorded for the other variables is repeated and the disparities in relation to the Community increase, or remain almost the same.

	1962	1968
	(in thousands of dollars per annum)	
United States	+ 1.4	+ 1.7
Japan	- 0.2	- 0.1

The following table sets out the share of the added value allocated to the principal factors in 1962 and 1968.

Percentage breakdown (1) of added value at factor cost between:

	Wages and salaries (including social security contributions etc. borne by employers)		Gross operating profit	
	1962	1968	1962	1968
United States	72	70	28	30
EEC	62	62	38	38
United Kingdom	70	70	30	30
Italy	63	63	37	37
France	61	62	39	38
Netherlands	62	62	38	38
Belgium	64[E]	61[E]	36[E]	39[E]
Germany	61	61	39	39
Japan	47	48	53	52

E = Estimate

(1) Added value = 100.

If the much higher percentage of non wage or salary-earners among persons employed in the Community and Japan than in the United States be taken into consideration, it would appear that this would account for most of the disparity recorded. In fact, what is striking about this table is the similarity and relative stability of these two factors in time and in each of the regions concerned (1).

In the United States, the analysis of gross operating profits may be taken further. The figure of 2,500 dollars per person employed in 1962 may be apportioned as follows:

in thousands of dollars per annum at the then rate of exchange

depreciation	0.8
miscellaneous	0.2
gross profit	1.6
direct taxes	0.7
net profit	0.8
of which - distributed	0.4
held in reserve	0.4

This information is available by sector for each year.

On the other hand, in the Community, the information available of the same type covers samples which rarely exceed 50% of industry and therefore cannot claim to be sufficiently comparable, in particular on an international scale.

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(1) The Director General of the Statistics Office of the United Nations, Mr. P.J. LOFTUS, reached similar conclusions in respect of 17 countries in all five continents in a report entitled "La part des salaires dans le produit industriel", which appeared in "Analyse et Prévision", February 1970.

III. THE TAX LOAD

Taxation rates are not without influence on the dynamism of industry. Therefore, a brief examination of the relative tax-load borne by industry in the various countries can scarcely be omitted here.

In 1967, the share of indirect taxes in total taxes was as follows (1):

France	73.1%
Italy	65.3%
Belgium	59.0%
Germany	58.8%
United Kingdom	54.2%
Luxembourg	50.2%
Japan	49.0%
Netherlands	43.8%
Sweden	40.5%
United States	38.6%

These differences had considerable repercussions on price levels as is shown by the ratio of turnover to added value at factor cost which, on the basis of the above figures, gives for example for France a turnover equal to 3.4 times the added value at factor cost and 2.7 times for the United States and Sweden.

This underlines the danger of comparing industrial firms in terms of turnover figures which appear higher because they include an amount representing taxes paid by the consumer.

A consumer tax has more repercussions on price levels than other taxes and at the same time reduces the market which it affects.

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(1) ECSO National accounts.

Apart from its specifically sectoral effects, its influence on domestic demand is comparable in overall economic terms to that of a direct tax on households. The difference in impact is therefore found above all in the level of prices. Consequently, it is not in the framework of industrial policy but in that of a common monetary policy that the Six Member States should proceed to such harmonisation of taxation methods as appears necessary to ensure converging price level trends in the various member countries.

It has not been possible to isolate here the direct tax load borne by industrial firms alone.

Although the rate of company profits tax varies inside the Common Market (1), an examination of national accounts leads to more uniform results, as the table below shows:

	Direct taxes on companies in percentages of the gross domestic product at market prices	
	1960	1967
Luxembourg	5.6	2.5
United States	4.5	4.6
Japan	4.1	3.6
Netherlands	3.2	2.5
United Kingdom	2.7	2.0
Germany	2.7	1.9
Sweden	2.4	2.1
France	2.3	1.9
Italy	1.7	1.8
Belgium	1.6	1.9

The converging trend is striking. Apart from the United States, where the percentage is more or less constant, all the other countries have converged towards 2% of the Gross Domestic Product which is roughly the figure for six of the ten countries tested.

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(1) 9 to 25% in Italy, 20 to 40% in Luxembourg, 30% in Belgium, 43 to 46% in the Netherlands, 50% in France, and in Germany 15% on distributed profits, 51% on undistributed profits.

The proportion of direct company tax in total tax revenue has converged similarly in most of the countries to a figure of between 8 and 10% of the total tax load.

Lastly, total direct and indirect taxation affects, as we have seen, the volume of demand and may thus influence industrial activity. Consequently, it is interesting to look at the differences in the overall tax load in the various countries.

	Overall tax load in percentages of the gross domestic product at market prices	
	1960	1967
Sweden	27.9%	34.6%
United Kingdom	24.7%	26.8%
Germany	23.8%	24.6%
United States	23.4%	23.2%
Netherlands	22.2%	24.5%
France	22.2%	22.6%
Luxembourg	21.4%	22.1%
Belgium	19.2%	23.2%
Italy	18.4%	19.5%
Japan	15.9%	15.5%

Two countries stand out significantly from the rest - Sweden at the top and Japan at the bottom - while the remainder gravitate around the United States level, i.e. 23%. Among these, the United Kingdom is situated at the upper limit of the bracket and Italy at the lower limit.

It would appear therefore that the overall tax load is not unfavourable to the Community countries in relation to their main

competitors, except Japan. Inside the Community, however, there are still substantial differences in taxation methods.

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CONCLUSIONS

Without claiming to be completely accurate, the information given in this chapter brings to light certain salient features concerning the position of industry in the Community in relation to that of certain of its competitors. The comparisons have been made by converting the national currencies into dollars at the official exchange rates, which do not reflect the real differences in purchasing power. As a result, they are over-pessimistic for Japan and for the Community (in particular Germany , since the statistics used refer to the period before the revaluation of the German mark).

Complex studies have been undertaken, notably by OECD, under the direction of first M. GILBERT, and then M. MADDISON, with the aim of estimating the discrepancy between exchange rates and the real local purchasing power of currencies. Their findings are no doubt imperfect, but it seemed here, for the comparison undertaken, that it would have been even less accurate to take the official exchange rates

rather than to make corrections whose margin of error is less than if no corrective were used. The figures quoted here are only approximations.

The influence of non-salaried employed persons has also already been underlined. In an effort towards better understanding another adjustment has been attempted by allotting to such persons an income equal to that of the others and deducting that income from the gross operating profit. The two series of figures are presented together.

The table sets out the three main component factors in terms of real purchasing power.

Main components of value added in terms of real purchasing power - 1968[1]

In thousands of dollars per person employed (adjusted to purchasing power)

	Gross added value at factor cost	Wages and Salaries including social security contributions etc. borne by employers		Gross operating profit	
		A	B	A	B
United States	11.7	8.2	8.3	3.5	3.4
EEC	7.1	4.4	4.9	2.7	2.2
France	8.5	5.3	5.7	3.2	2.8
Germany	7.7	4.7	5.0	3.0	2.7
Netherlands	7.2	4.5	4.9	2.7	2.3
Japan	6.3	3.1	3.7	3.2	2.6
Belgium	6.2	3.8[E]	4.3[E]	2.4[E]	1.9[E]
Italy	5.1	3.2	4.0	1.9	1.1
United Kingdom	4.4	3.1	...	1.3	...

E = estimate

A = per person employed

B = corrected to take account of the remuneration of persons employed but not earning a wage.

According to these figures, in 1968 the value added per person employed in the Japanese manufacturing industry, expressed in terms of real purchasing power, would have exceeded that for the English, Italian and Belgian manufacturing industries. The wages per person employed would have been similar to those for the United Kingdom. The gross operating profit of Japanese industry would have even been higher than the Community average.

There was a difference of 4,600 dollars per annum per person employed between the value added by the manufacturing industry in the Community and the same industry in the United States. Having regard to non-wage-earning employees, the remuneration of labour in the Community was still 3,400 dollars per annum per head of working population lower than that recorded in the United States.

Finally, the gross operating profit per person employed after the remuneration of non-wage-earners would have been 1,200 dollars lower in the Community than in the United States.

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(1) The purchasing power/rate of exchange coefficients have been brought up to date at 1968, on the basis of price indices of capital goods, from the data supplied for 1965 by A. MADDISON in "Production, employment, productivity, levels compared twelve industrialised countries" a translation of which appeared in "Analyse et Prévision" V, 1968, who are bringing up to date the work of M. GILBERT and his team (OECD 1958).

Comparison is made easier if the different values are expressed as percentages of those of the United States.

Main components of value added in terms of real purchasing power, as compared with the United States = 100

	Gross added value at factor cost	Wages and Salaries including social security contributions etc. borne by employers		Gross operating profit	
		A	B	A	B
United States	100	100	100	100	100
EEC	61	54	59	77	65
France	73	65	69	91	82
Germany	66	57	60	86	79
Netherlands	62	55	59	77	68
Japan	54	38	45	91	76
Belgium	53	46[E]	52[E]	69[E]	56[E]
Italy	44	39	48	54	32
United Kingdom	38	38	-	37	-

E = Estimate

A = per person employed

B = corrected to take account of the remuneration of non-wage-earning persons.

Estimated in real purchasing power, the value added per person employed in Community industry would have been, in 1968, 61% and in Japanese industry 54% of that of the United States. The industrial efficiency of the United Kingdom would have been the lowest among the countries studied. Within the Community, German industrial efficiency would have been 50% higher than Italian. Given the contradictions between industrial statistics and national accounts, it is difficult to draw conclusions about the high rate of efficiency of French industry.

Estimated in terms of real purchasing power, the average wage-bill would have been, in the Community, more than 40% lower than that recorded in the United States.

However, the above table calls for the following reservation: the fact of excluding from the gross operating profit the remuneration of non-wage-earning persons employed in industry and including it in the wages and salaries bill on the assumption of equal payment as between wage-earning and self-employed persons, probably results in an overestimate for Japan, where it is a question above all of self-employed workers on low incomes, and in a slight under-estimate for the western countries.

In conclusion, while the position of Community industry is improving, it is still very far from that of American industry and it may even be stated that in absolute figures, the gap is not closing, but widening.

In terms of local purchasing power, the value added per person employed in Japanese industry already exceeds the figure for industry in two Community countries.

Considerable disparities persist within the Common Market, not in the allocation of value added as between the remuneration of labour and gross operating profit which is similar, but in the absolute levels of the different data just mentioned.

Balanced industrial development must nevertheless be achieved for the Community.

The differences in situation which have been recorded do not all arise from differences in the organisation of production techniques. Certainly it is important that industrialists should modernise and adapt the production process. But these differences also originate in the environment and the policies pursued, which may help to stimulate, or else to slow down, industrial activity.

The following three parts of this document deal with environmental improvements and types of action likely to contribute to consolidating the structure of Community industry and increasing its efficiency.

CHAPTER II

THE LIFE OF FIRMS

The purpose of this Chapter is to consider how the life of firms is reflecting the efforts made by industrialists to adjust to the new situations resulting from structural changes, the new dimensions offered by the Common Market and the extra competition consequent on the liberalisation of trade with third countries. In concludes with a comparative analysis of the size of industrial establishments.

I. BIRTH-RATE AND DEATH-RATE OF FIRMS

The appearance and disappearance of firms are part of industrial life and a brief analysis of this phenomenon might be useful. Statistics on the subject are rare and the information available is not comparable from one country to another because the mode of compilation, the concepts used and the fields covered are different. Figures were found for Germany, France and Belgium but those for Belgium had to be rejected because they concerned joint stock companies only. Consequently, individual firms in existence earlier which have opted for the joint stock company system appear in these statistics as newly-established businesses and this leads to a considerable overestimation of the number of new firms.

The impression which emerges from the German statistics could be surprising. As shown in Table 5 attached, in 1966 and 1967, in all sectors of the manufacturing industry, the number of businesses which closed down in fact greatly exceeded the number of newly-established businesses and each year left a job deficit equal to approximately 0.5% of the persons employed in the manufacturing industry.

However, it should be recalled that the two years for which information is available are precisely those of economic regression.

TABLE No. 5

ESTABLISHMENTS SET UP AND CLOSED DOWN IN GERMANY

SECTOR	YEAR	SET UP		CLOSED DOWN		BALANCE	
		Number	Persons employed	Number	Persons employed	Number	Persons employed
Manufact.	1964	159	5191	...	...	...	...
	1965	161	4731	...	...	...	...
	1966	114	4624	803	58372	689	53748
	1967	130	3969	887	73431	757	69462
Food	1964	13	649	...	...	...	...
	1965	11	287	...	...	...	...
	1966	7	229	39	2297	32	2068
	1967	14	432	60	3161	46	2729
Textiles	1964	10	599	...	...	...	...
	1965	5	132	...	...	...	...
	1966	2	32	73	9819	71	9787
	1967	6	188	102	7811	96	7623
Clothing	1964	25	648	...	...	...	...
	1965	31	755	...	...	...	...
	1966	18	1310	212	10669	194	9359
	1967	23	688	211	9666	188	8978
Timber and furniture	1964	8	303	...	...	...	...
	1965	4	161	...	...	...	...
	1966	3	74	57	2608	54	2534
	1967	11	394	53	3584	42	3280
Leather	1964	5	106	...	...	...	...
	1965	6	292	...	...	...	...
	1966	4	90	66	3548	56	3458
	1967	4	113	72	4128	68	4015
Chemicals	1964	22	552	...	...	...	...
	1965	23	534	...	...	...	...
	1966	16	820	36	2208	20	1388
	1967	22	749	49	5555	27	4806
Non-metallic minerals	1964	...	...	...	...	...	...
	1965	1	218	...	...	...	...
	1966	2	178	8	598	6	420
	1967	1	10	8	1029	7	1019
Metallurgy, Mechanical engineering	1964	38	813	...	...	...	...
	1965	43	1169	...	...	...	...
	1966	39	962	161	16168	122	15226
	1967	29	806	190	24343	161	23537
Electrical engineering	1964	8	188	...	...	...	...
	1965	13	265	...	...	...	...
	1966	12	629	44	4532	32	3903
	1967	8	127	55	7010	47	6883
Other	1964	30	1333	...	...	...	...
	1965	24	910	...	...	...	...
	1966	11	300	123	5905	102	5605
	1967	12	552	87	7144	75	6592

Note : Close-downs in the extractive industries were as follows:
In 1966 - 21 establishments employing 33,558 persons
In 1967 - 15 establishments employing 19,675 persons.

Source: Die Standortwahl der Industriebetriebe in der Bundesrepublik Deutschland - Institut für Raumforschung - Bonn 1966.

As the newly-established businesses were obviously recorded while they were starting up, it is possible that the number of staff shown is under-estimated, the figure being that of the initial staff. The statistics show indeed that newly-established businesses employ on average far fewer persons than did those which have been closed down. It should however be noted that in respect of sectors which are overall in a state of expansion, the labour released probably finds employment in firms already in existence whose activities are expanding.

The French statistics differ considerably in character from the German statistics. Unfortunately they do not give the total number of persons employed, but cover 8% per annum of the total number of firms included in the 1962 survey. Changes of activity are recorded at sub-sector level, which means that a firm which changes from one sub-sector to another within the same branch appears in the statistics both as a newly-established business and as a business which has closed down. Although these figures are not intended to cover all cases of newly-established or terminated businesses and while estimates exist which exceed them by more than one-third for certain years, the fact remains that this method has a tendency to exaggerate the number of changes of activity and that the most reliable information is to be drawn from an examination of the balance of the two operations. If these statistics were to be believed, the total number of manufacturing firms is decreasing in France by approximately 2.5% per annum.

As shown in Table 6, the French statistics are more differentiated than the German. They show indeed sectors where the number of newly-established businesses prevail over the number of businesses closed down. This is the case in the paper industry for the year 1964 only, but it is regularly true for the rubber and plastics industry and electrical engineering, while in the oil refining, non-metallic minerals and machinery sectors, the direction of the movement alternates from one year to the next. In the transport equipment sector the

TABLE No. 6

FIRMS SET UP AND CLOSED DOWN IN FRANCE

SECTOR	OPERATION	1962	1963	1964	1965	1966	1967
Manufacturing	estab.	18 681	17 759	18 590	19 297	19 085	18 442
	clos.	28 827	29 301	27 354	27 660	27 329	27 061
	bal.	-10 146	-11 542	-8 764	-8 363	-8 244	-8 619
Food	estab.	1 619	1 590	1 535	1 740	1 744	2 031
	clos.	2 895	2 564	2 863	2 838	2 994	2 769
	bal.	-1 276	- 974	-1 333	-1 098	-1 250	- 738
Textiles	estab.	709	619	677	649	576	519
	clos.	1 504	1 540	1 203	1 518	1 479	1 574
	bal.	- 795	- 921	- 526	- 869	- 903	-1 055
Clothing	establ.	4 186	3 810	3 511	3 218	3 134	2 934
	clos.	9 316	9 096	8 894	8 273	7 518	7 218
	bal.	-5 130	-5 286	-5 383	-5 055	-4 384	-4 284
Timber and furniture	estab.	2 152	1 995	2 182	2 284	2 100	2 008
	clos.	3 220	3 078	3 070	3 157	3 034	3 202
	bal.	-1 068	-1 083	- 888	- 873	- 934	-1 194
Paper	estab.	151	138	162	143	156	135
	clos.	196	198	144	165	192	165
	bal.	- 45	- 60	+ 18	- 22	- 36	- 30
Leather	estab.	262	292	232	232	219	182
	clos.	793	858	770	751	692	691
	bal.	- 531	- 566	- 538	- 519	- 473	- 509
Rubber and plastics	estab.	495	427	444	445	471	455
	clos.	410	469	347	363	436	450
	bal.	+ 85	- 42	+ 97	+ 82	+ 35	+ 5
Chemicals	estab.	496	447	418	327	472	462
	clos.	578	716	420	434	513	474
	bal.	- 82	- 269	- 2	- 107	- 41	- 12
Oil refining	estab.	26	32	62	44	65	28
	clos.	26	37	18	30	45	86
	bal.	-	- 5	+ 44	+ 14	+ 20	- 58
Non-metallic minerals	estab.	751	738	921	928	853	793
	clos.	862	926	750	755	814	926
	bal.	- 111	- 188	+ 171	+ 173	+ 39	- 133
Basic metal working	estab.	102	112	120	112	123	120
	clos.	187	189	140	148	196	194
	bal.	- 85	- 77	- 20	- 36	- 73	- 74
Metal engineering	estab.	2 522	2 336	2 557	2 670	2 383	2 335
	clos.	4 073	4 117	4 230	4 203	4 081	4 035
	bal.	-1 551	-1 781	-1 673	-1 533	-1 698	-1 700
Machinery	estab.	726	627	708	780	748	666
	clos.	659	733	557	927	670	697
	bal.	+ 57	- 106	+ 151	- 147	+ 78	- 31
Electrical engineering	estab.	1 013	937	1 103	1 255	1 373	1 286
	clos.	850	982	765	803	987	1 010
	bal.	+ 163	+ 15	+ 338	+ 452	+ 386	+ 276
Transport equipment	estab.	2 195	2 182	2 491	2 838	2 922	2 779
	clos.	1 998	2 235	2 029	2 117	2 247	2 220
	bal.	+ 197	- 53	+ 462	+ 721	+ 675	+ 559

number of newly-established businesses almost always exceeds that of businesses closed down and reflects above all the expansion of the car manufacture sub-sector. The real reduction in the number of firms is particularly pronounced in the furniture and food industries, the sector which employs the largest percentage of staff in establishments of 1 to 4 persons. In relative terms, the reduction in the number of firms in the textile sector is equally important, since for 1967 it reached 7% of the total number of firms in the sector. The decrease is also considerable in the leather industry, where it has exceeded 5% each year from 1962 to 1967.

These statistics make it clear that industry is a "melting pot" in which many firms are disappearing, many others changing over from one activity to another, while at the same time many new units are emerging.

II. ESTABLISHMENT OF SUBSIDIARIES, COOPERATION, HOLDINGS IN OTHER FIRMS, MERGERS

Their establishment, conversion and closing-down are not the only great events in the life of firms. They may go into partnership, merge and establish subsidiaries. A brief analysis of the trends as regards cooperation, the acquisition of shares in other firms, mergers and new subsidiaries in other countries is called for here.

For this purpose, the Commission has entrusted to Opera Mundi Europe, the task of analysing the information it has been collecting since 1961 in this field. The survey has been limited to the 15 sectors or sub-sectors of the manufacturing industry which seemed to be the most significant, but nevertheless it covers more than 15,000 operations. These have been classified in three broad categories:

- unilateral establishment in another country, i.e. the establishment of a subsidiary in another member country of the Community or in a third country or the establishment of a subsidiary by a third country company in a member country. Operations confined strictly to one country have not been included;

- cooperation agreements, minority holdings of shares, reciprocal holdings, the establishment of common subsidiaries or common parent companies - all these operations represent partnerships between firms in which they co-operate more or less closely, while each preserves its identity and the greater part of its independence. They may be broken down into three classes:
  - operations within one country, those between firms in two or more member countries and those involving firms in third countries and companies in the Community;
- mergers or take-overs, i.e. the most extreme forms, which imply the domination of one company by another or the legal disappearance of at least one of the partners. These are broken down into national operations, Community partners operations and operations involving third countries, but in the latter case, an additional breakdown shows where the Community company dominates and where, on the contrary, the third country company is dominant.

The field of the survey covers the period from 1961 to the first half of 1969 inclusive. The overall data for all 15 sectors, analysed for each year, are reproduced in Table 7.

Apart from a fall in 1963, the number of operations carried out each year has continued to increase, rising from 1,507 in 1961 to 2,096 in 1968 and to an annual average of 2,716 in the first half of 1969.

Among the international operations the commonest is the unilateral establishment of subsidiaries, representing as it does 58% of the total, while mergers and take-overs are less common (11%).

The figures have been analysed from three different angles, namely:

- the types of operation practised between the Common Market countries;
- the relation between national and trans-national concentration inside the Community;
- the role of third countries.

There have been 2,300 cases of unilateral establishment in other member countries as against 1,001 of cooperation and 257 groupings (1). However, from 1961 to 1968, growth rates were in the inverse order, namely 26% for subsidiaries established in other countries, 54% for firms depending on cooperation and 84% for mergers. It can therefore be estimated, in a sense, that the evolution is relatively favourable to the industrial integration of the Community, since all three forms of unification are progressing and those involving the collaboration of companies in several countries are tending to make up their leeway in relation to unilateral operations.

However, it should be stated that cases of cooperation and mergers are multiplying more rapidly at the national level at Community level. While in 1961 there were 100 cases of "national" cooperation as against 104 of "Community" cooperation, in 1968, there were 231 as against 160. Again, in 1961, there were 131 national mergers and 19 Community groupings recorded, while by 1968, the number had reached 272 as against 35. This phenomenon is the more disquieting since it is combined with another, namely: in all the categories, operations involving third country companies exceed intra-Community ones, often very considerably.

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(1) For simplicity's sake, the terms "cooperation" and "grouping" are used hereafter to cover all the more or less similar operations previously described.

TABLE No. 7

	1961-1969 - ALL SECTORS UNILATERAL ESTABLISHMENT OF SUBSIDIARIES IN OTHER COUNTRIES			CO-OPERATION-MINORITY HOLDINGS RECIPROCAL HOLDINGS COMMON SUBSIDIARIES COMMON PARENT COMPANIES			MERGERS-TAKE-OVERS (or controlling minority)				
Years	From Member Country to Member Country (1)	From Third Country to Member Country (2)	From Member Country to Third Country (3)	between firms in the same Country (4)	between Common Market firms (5)	between Member Country and third Country firms (6)	Same Member Country (7)	Different Member Countries (8)	By a Member Country in a third Country (9)	By a Third Country in a Member Country (10)	Totals
1961	241	351	71	100	104	362	131	19	26	102	1507
1962	232	348	76	141	114	343	162	11	21	85	1533
1963	195	379	63	55	61	228	157	28	9	82	1257
1964	273	476	139	132	123	335	172	34	18	110	1812
1965	247	409	142	177	140	364	228	17	20	70	1814
1966	320	467	154	205	112	289	221	31	20	93	1912
1967	320	496	196	166	104	292	253	32	36	115	2018
1968	304	381	191	231	160	387	272	35	29	106	2096
1969(1)	160	239	126	145	83	197	265	30	36	57	1358
Totals	2300	3546	1158	1352	1001	2797	1861	257	215	820	15307

Source: Opera Mundi
(1) first six months

3,546 third country companies have established subsidiaries in the Community as against 2,300 Community firms in other member countries; 2,797 cases of cooperation with third country firms are recorded as against 1,001 cases between firms in the Community; there have been 820 take-overs by third country companies as against 257 groupings of member country companies. It should be pointed out, however, that all three types of operation on the part of third country companies are increasing only very slightly from year to year, whereas Community operations are developing more rapidly.

Another aspect should be brought to light: relations between Community and third country firms. Whether it is a question of establishing subsidiaries abroad or of taking over a controlling interest, third countries are approximately four times as active in the Community as Community countries in third countries. Here again, in particular in regard to the unilateral establishment of subsidiaries in other countries a progressive rectification of the situation can however be noted, for the number of operations initiated by the Community is increasing more rapidly than those originated by third countries (1).

Table 8 shows in which sectors the different operations have been carried out. It is impossible here to analyse them in detail for a series of other parameters would have to be introduced in order to be able to assess the relative importance of the sector in terms of the number of firms, the value added and the rate of development, which would take us outside the province of this report. However, this type of analysis will be carried out later by the General Directorate of Industrial Affairs. It appears that the sectors in which the various operations most frequently take place are mechanical engineering, chemicals, electrical engineering, metal-working and foodstuffs. If account be taken of the number of firms in the different sectors, the figure of 199 operations in the aerospace industries is by no means negligible, even although half involve cooperation with third countries. For this sector as for iron and steel, national grouping predominates and cases of trans-national grouping are rare.

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(1) It has not been possible, in this preliminary survey to distinguish between operations involving firms in third countries in Europe and those involving firms outside Europe.

T A B L E No. 8

SECTORS	1961-1969 - Detail by sector Unilateral establishment of subsidiaries in other countries			Co-operation - Minority holdings Reciprocal holdings Common subsidiaries Common parent companies			Mergers-take-overs (or controlling minority)				
	From Member Country to Member Country (1)	From Third Country to Member Country (2)	From Member Country to Third Country (3)	Between firms in the same country (4)	Between Common Market firms (5)	Between Member Country and third Country firms (6)	Same Member Country (7)	Different Member Countries (8)	By a Member Country in a Third Country (9)	By a Third Country in a Member Country (10)	TOTALS
1. Food and drink industry	226	224	69	173	95	210	277	21	12	81	1388
2. Textiles	238	200	94	129	63	184	225	20	11	49	1213
3. Paper industry	34	101	13	27	18	70	59	4	9	29	364
4. Chemicals	478	772	271	238	217	581	352	66	86	199	3260
(a) Petrochemicals and plastics	(148)	(192)	(66)	(70)	(58)	(180)	(80)	(26)	(27)	(45)	(892)
(b) Pharmaceuticals	(77)	(138)	(40)	(17)	(32)	(51)	(55)	(11)	(11)	(56)	(494)
5. Petroleum and derivatives	86	115	45	63	34	119	41	18	8	32	561
6. Building materials	140	159	49	120	90	106	132	13	8	17	834
7. Glass	16	21	5	15	18	30	30	5	2	5	147
8. Mechanical engineering	542	927	310	244	221	660	284	46	24	181	3439
9. Metal works and foundries	210	290	93	149	81	279	194	28	18	73	1415
10. Iron and steel	16	17	3	19	8	26	42	3	3	3	140
11. Electrical and electro-mechanical engineering	239	332	138	97	101	243	146	18	24	94	1432
12. Electronic engineering	72	369	67	50	32	192	56	11	10	56	915
13. Aerospace industries	3	19	1	28	23	97	23	4	-	1	199
TOTALS	2300	3546	1158	1352	1001	2797	1861	257	215	820	15307

(1) Source: Opera Mundi

The table also brings out the sectors which are at present in the process of vast re-organisation, in particular the foodstuffs and textile industries, as revealed in the high figure given for mergers by firms in the same country (277 for the food industry, 225 for the textile industry).

Most of the general phenomena described are repeated in almost all the sectors. For example, in all the dealings with third countries, the third country is dominant in all sectors, with the exception of mergers in the iron and steel industry where the balance has been kept. An exception to the general rule however are the glass industry and aeronautical engineering where cases of co-operation within the Common Market are more numerous than cases of unilateral establishment in other countries.

III. THE SIZE OF ESTABLISHMENTS

According to the 1962 survey, the number of companies differs little from the number of establishments in the Community countries.

In the manufacturing industry, there were 1,583,653 establishments for 1,540,795 companies. The number of persons employed per establishment and per firm was therefore practically the same (13 as against 14). The difference varied from sector to sector, but was always lower than 10%, with the exception of the chemical industry where there were 19,170 establishments for 16,207 firms and in oil refining which had 580 local units for 382 firms. The difference was marked too in the extraction industries, where 19,689 firms had 25,428 establishments.

Different criteria may be used to evaluate the size of companies and establishments.

It has not been judged necessary to reproduce here any information relating to the large world-wide companies, which is given regularly in the specialist press.

The basic criterion used here will, as in Chapter I, be the persons employed. This is by no means ideal, but is the only information available in detail. The other usual criterion is turnover.

Detailed statistics as to size classification established on comparable bases according to turnover are unfortunately not available. In addition, we recall the remarks made in Chapter I above on the risks inherent in international comparisons made on the basis of turnover. However, the average turnover figures per establishment in the manufacturing industry alone in 1962-1963 reveal fairly impressive differences.

	average turnover per establishment (manufacturing industry) in thousands of dollars	per company
United States	1,431	..
United Kingdom	862	1,125
Sweden	770	..
Luxembourg	[illegible]	223
Germany	189	204
Netherlands	149	170
France	147	153
Japan	118	..
Belgium	116	114
Italy	56	59

It is clear that these differences are not normal, as will be seen from the statistics based on persons employed; they result for the most part from the very large number of small firms with a low turnover which still exist in the Community and in Japan.

The following analysis covers establishments in the manufacturing industries (1).

In 1962-1963, the average number of persons employed per establishment was as follows:

United States	53
Belgium	27
Netherlands	27
Germany	17
France	11
Italy	7

(1) The figures reproduced are for the most part taken from "Structures industrielles et concentrations - essai de comparaisons internationales", a paper represented in November 1968 at the University of Paris by M.J.P. NIOCHE.

The influence of very small establishments on these averages was a determining factor, as is shown by the percentage of the total labour force employed in establishments of less than 10 persons.

United States	3%
Belgium	7%
Netherlands	8%
Germany	13%
Japan	15%
France	19%
Italy	28%

A comparative analysis of the size of establishments in the manufacturing industry as a whole has little meaning as the optimum sizes differ from one industrial sector to another.

The phenomenon of industrial structure according to size of establishment is difficult to describe in a few pages as it does not lend itself to a synthesis of the multitude of cases encountered, and the coefficients used by the experts on industrial concentration, apart from the fact that they are often incomprehensible to the non-initiated, are not ideal.

The method used here, which is not ideal either but has the merit of simplicity, will consist in shwoing for each sector and for each country the size category accounting for the highest percentage of persons employed in 1962 - 1963 referred to below as the standard size.

If the standard size most frequently encountered in industry in the more developed countries be taken to be the optimum size, this survey tends to show that it be the category of <u>more than 1,000 persons per establishment</u> for:

- rubber and plastics,
- chemicals,
- glass,
- basic metal working,
- mechanical engineering,
- electrical engineering,
- ship-building,

- car manufacture,

  and even precision instruments

and the category of 100 to 499 persons for:

- foodstuffs
- textiles
- clothing
- leather
- timber
- furniture
- paper
- printing and publishing
- non-metallic minerals (except glass)
- metal engineering

Curiously enough, the intermediate category of 500 to 999 persons does not seem to fit any particular sector and seems to be essentially a transition size.

This explains that according to the relative importance of the different sectors in the manufacturing industry of a country, a predominance of the size of 100 to 499 over the size of more than 1,000 persons may quite well reflect a better degree of adaptation than the opposite case.

In all the countries studied, the first two places were taken by these two categories of establishment, except:

- in the Netherlands, where the second place was not taken by the class of 100 to 499 but by that of 50 to 99 persons,
- in Italy, where the establishments of more than 1,000 persons employed less of the labour force than those of 1 to 4 persons
- in Japan, where the establishments of more than 1,000 persons shared second place with those of 20 to 49 persons.

It is indispensable therefore to examine each sector separately and Table 9 below reproduces the key data.

TABLE No. 9

STANDARD SIZE

Sector	Germany	France	Italy	Netherlands	Belgium	United States	Japan
Manufacturing	1 000 + 28%	100 to 499 27%	100 to 499 22%	1 000 + 28%	100 to 499 28%	1 000 + 31% 100 to 499 31%	100 to 499 22%
Food	1 to 4 22%	1 to 4 33%	1 to 4 27%	50 to 99 22%	100 to 499 31%	100 to 499 41%	100 to 499 22%
Textile	100 to 499 41%	100 to 499 42%	100 to 499 33%	1 000 + 31%	100 to 499 44%	100 to 499 42%	100 to 499 22%
Clothing	100 to 499 30%	1 to 4 29%	1 to 4 49%	50 to 99 33%	100 to 499 29%	100 to 499 44%	20 to 49 22%
Timber	1 to 4 25%	1 to 4 25%	1 to 4 51%	50 to 99 31%	20 to 49 30%	100 to 499 30%	20 to 49 28%
Furniture	100 to 499 34%	1 to 4 41%	1 to 4 38%	50 to 99 33%	20 to 49 24%	100 to 499 41%	20 to 49 22%
Paper	100 to 499 45%	100 to 499 45%	100 to 499 36%	50 to 99 29%	100 to 499 39%	100 to 499 46%	100 to 499 25%
Rubber and Plastics	1 000 + 33%	1 000 + 29%	1 000 + 24%	1 000 + 24%	1 000 + 37%	1 000 + 34%	1 000 + 36%
Chemicals		100 to 499 34%	100 to 499 28%	1 000 + 37%	100 to 499 35%(b)	1 000 + 37%	1 000 + 33%
Non-metallic minerals	100 to 499	100 to 499 32%	100 to 499 29%	50 to 99 37%	100 to 499 32%	100 to 499 36%	100 to 499 26%
Basic metal-working	1 000 + 66%	1 000 + 67%	1 000 + 41%	1 000 + 50%	1 000 + 70%	1 000 + 54%	1 000 + 42%
Metal engineering	100 to 499 32%	100 to 499 25%	100 to 499 31%	50 to 99 24%	100 to 499 31%	100 to 499 37%	20 to 49 23%
Mechanical	1 000 + 39%	100 to 499 36%		1 000 + 25%	100 to 499 28%	1 000 + 33%	100 to 499 28%
Electrical engineering	1 000 + 48%	100 to 499 30%	1 000 + 59%	1 000 + 67%	1 000 + 65%	1 000 + 53%	1 000 + 40%
Car manufacture	1 000 + 78%	1 000 + 66%				1 000 + 82%	1 000 + 40%

(a) but also: 500 to 999 - 24%
(b) but also: 1 000 + - 32%
(c) figures subject to professional secrecy rules
Source: 1963 Survey E.C.S.O.

The first line indicates the size of establishment in which the highest percentage of the total labour force of the sector is concentrated.

The second line gives this percentage.

In the food industry, the standard size of 100 to 499 persons prevailed in the United States (41% of the total labour force of the branch), in Belgium (31%) and in Japan (22%). In the Netherlands it was replaced by the class of 50 to 99 persons which employed 22% of the labour force. In the three countries, Germany, France and Italy, a completely different phenomenon appeared, the predominant class being that of 1 to 4 persons, with 33% of the labour force in France, 27% in Italy and 22% in Germany, where 21% of the labour force was also accounted for by the 5 to 9 category. In none of these three countries however was the standard size (100 to 499) negligible, as it employed 24% of the labour force in France, 22% in Italy and 19% in Germany.

In the textile industry the standard size accounted for 44% in Belgium, 42% in France and in the United States, 41% in Germany, 33% in Italy and 22% in Japan. The Netherlands differed considerably from this figure, with 54% of their labour force in larger units than the standard one (1) as against 43% in the United States and 34% in Germany.

In the clothing industry, three countries were in the standard category: the United States (44%), Germany (30%), Belgium (29%). The Netherlands were centred strongly on the size immediately below, of 50 to 99 persons (33%), Japan on the size of 20 to 49 persons (22%), while in Italy and in France, it was the size of 1 to 4 persons which predominated, with respectively 49% and 29% of the labour force of the sector. In contrast with Italy, France employed a fairly high percentage of the labour force (25%) in firms of the standard size.

In respect of the timber industry, it is difficult to speak of a standard size, the United States having 30% of the labour force in the 100 to 499 category, the Netherlands 31% in the 50 to 99 category, Belgium and Japan respectively 30% and 28% in the 20 to 49 category. On the other hand, the smallest size (1 to 4), prevailed in Italy, with 51% and in France and Germany with 25%, of the labour force of the sector.

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(1) i.e.: in the two categories of more than 1,000 persons and 500 to 999 persons.

For the furniture industry, countries were in the same categories as for timber, except for Germany, which moved into the 100 to 499 category where it came near to the percentage of the United States (34% as against 41%). The situation was reversed also for France and Italy, very small firms employing 41% of the labour force in France as against 38% in Italy.

In the paper industry, all countries came in varying degrees into the 100 to 499 category, except for the Netherlands, where the 50 to 99 category predominated, although 26% of the labour force was in firms of the standard size. It should be noted that in that sector, Germany and France came particularly close to the American structure.

As regards the rubber and plastics industry, in all countries the labour force was employed by units of more than 1,000 persons, but in the Netherlands and Belgium by those of 500 to 999 persons also, whilst everywhere second place was taken by the 100 to 499 category.

In the chemical industry, three countries were situated in the 1000 + category: the United States and the Netherlands with 37% and Japan with 33%. Germany, for which the figures are not available, was certainly in that group. On the other hand, the class of establishments with 100 to 499 persons was predominant in Belgium (35%), in France (34%) and in Italy (28%). Belgium belongs however to the class of more than 1000 with 32% of its labour force.

In the non-metallic minerals sector, all countries were in the 100 to 499 category, except again the Netherlands, which favoured the size of 50 to 99 persons.

For basic metal-working, as for rubber and plastics, the 1000 + category took first place, but to different degrees: 70% in Belgium, 67% in France, 66% in Germany, 54% in the United States, 50% in the Netherlands, 42% in Japan and 41% in Italy.

For metal engineering, the standard size of 100 to 499 employees was again found in the United States (37%), Germany (32%), Belgium and Italy (31%) and France (26%). The Netherlands kept to the size of 50 to 99 (24%) and Japan to that of 20 to 49 employees (23%).

In the mechanical engineering industry, three countries were in the 1000 + category: Germany (39%), the United States (33%) and the Netherlands (25%). Three others were in the 100 to 499 category: France (36%), Belgium and Japan (28%). The lack of comparable data did not allow Italy to be placed here, although she probably belonged in the latter group.

For electrical engineering all countries, except for France, clearly favoured the 1000 + category, the Netherlands coming first with 67%, followed by Belgium (65%), Italy (59%), the United States (53%), Germany (48%) and Japan (40%). At the time France had 30% of her labour force in the 100 to 499 category as against 26% only in firms employing more than 1000.

Details of transport equipment, which is a hybrid class, will be illustrated here by two sub-sectors.

In ship-building, all countries favoured the maximum size, but to varying degrees: Germany 69%, Belgium 64%, France and Japan 61%, the United States 56%, the Netherlands 44%.

For car manufacture, the standard size was also everywhere more than 1000 employees: 82% in the United States, 78% in Germany, 66% in France and 40% in Japan, where sub-contracting is a well-known phenomenon.

Quoted here almost as a Greakish phenomenon, the precision instrument industry had opted for very large sizes in the United States (43%) and in Germany (28%). It evolved in Japan from the 100 to 499 category (24%) to the 1000 + category (22%), whilst in France it remained firmly in the 100 to 499 category (28%) with a slight upward break-through to that of over 1000 (9%), while remaining strongly rooted in firms employing less than 5 persons, (16%), which is a unique case among the countries under consideration.

Another fact should be mentioned. The proportion of small establishments which is particularly high in Italy and in France is not found only in light industries, but in nearly every sector, even the most unexpected such as chemicals and electrical engineering. For rubber and plastics, which are greatly similar, showing a high level of concentration in all countries, establishments employing less than 10 persons employed nevertheless 12% in France and 15% in Italy of the labour force working in that sector, while the percentage varied between 2 and 4% in all other countries. Similarly, in Italy, basic metal-working, a sector which is symbolic of large-scale activities, employed over 1% of the labour force in establishments of less than 5 persons.

It is rather edifying that Japan, whose industry is generally considered as consisting of several giants and a vast number of very small firms, never reached a level approaching that of France or Italy as regards the proportion of the labour force employed in establishments of less than 5 persons, except for the paper industry and ship-building.

It is difficult to make a balanced assessment of these various situations and of the effects of their superimposition in the manufacturing industry.

However, as regards the three standard sizes of firms, the countries are placed as follows:

	Labour force employed		
	1000 +	100 to 499 persons	under 20
United States	31%	31%	7%
Germany	28%	25%	18%
Netherlands	28%	14%	15%
Belgium	25%	28%	13%
France	17%	27%	25%
Japan	16%	22%	26%
Italy	14%	22%	35%

It is significant to note that this order is practically the same as for the value added per person employed expressed in terms of real purchasing power at the same date, as set out in Chapter I.

Attention should still be drawn to the very big establishments which employ more than 1,000 persons, for which it may be seen that size is not necessarily the privilege of the United States.

Indeed, in terms of average staff per establishment of more than 1,000 persons, the following are the sector figures:

	FIRST PLACE		SECOND PLACE	
Foodstuffs	Italy	2 033	United States	1 853
Textiles	United States	1 734	Netherlands	1 657
Clothing	Germany	1 780	Italy	1 637
Timber	United States	1 856	Japan	1 355
Furniture	Germany	1 637	United States	1 514
Paper	Netherlands	2 224	United States	1 539
Rubber and plastics	Italy	2 904	France	2 879
Chemicals (+)	Netherlands	2 355	United States	2 255
Non-metallic minerals	Netherlands	2 405	Belgium	1 725
Basic metal working	Netherlands	4 070	Germany	3 417
Metal manufactures	Germany	1 959	United States	1 732
Mechanical industry	Belgium	3 840	Netherlands	3 330
Electrical eng.	Netherlands	6 389	United States	3 683
Ship building	Germany	4 212	Japan	4 009
Car manufacture	Germany	5 053	France	4 025

(+) Figures for Germany not known, being subject to professional secrecy.

T A B L E No. 10

SIZE OF ESTABLISHMENTS

Average number of staff per establishment of more than 1 000 persons

(year 1962-1963)

SECTOR	Ger.	Fr.	It.	Neth.	Belg.	USA	Jap.
Manufacturing	2 680	2 311	2 245	2 519	2 331	2 580	2 266
Foodstuffs	1 585	1 301	2 033	1 361	1 670	1 853	1 636
Textiles	1 526	1 603	1 619	1 657	1 525	1 734	1 485
Clothing	1 786	1 300	1 637	1 612	-	1 600	-
Timber	1 065	-	-	1 243 (1)	-	1 856	1 355 (1)
Wooden furniture	1 637	-	-	-	1 317 (2)	1 514	1 285 (2)
Paper	1 384	1 348	1 162	2 224	1 116 (2)	1 539	1 449
Rubber and plastics	2 471	2 879	2 904	1 266 (2)	1 603 (2)	2 189	2 061
Chemicals	-	1 769	2 116	2 355	2 209	2 255	2 179
Petroleum							
Non-metallic minerals	-	1 667	1 234	2 405 (2)	1 725	1 598	1 653
Basic metal working	3 417	2 919	2 460	4 070	2 776	3 179	3 287
Metal engineering	1 959	1 474	1 442	1 705	1 665	1 732	1 574
Mechanical	2 340	1 790	-	3 330	3 840	2 174	1 883
Electrical engineering	2 390	1 830	2 190	6 389	3 070	3 683	2 568
Ship-building	4 212	3 503	-	2 357	2 406	3 925	4 009
Car manufacture	5 053	4 025	-	-	-	3 232	3 238

Where the number of establishments of more than 1 000 persons is less than 5, the figure is given in brackets.

The dashes replace the data which are business secrets.

It would seem therefore that any weakness in European industry in this particular field would not come from the fact that the size of the large establishments would be less than that in the principal competitor countries (see Table No. 10), but rather from the fact that there would be proportionately fewer of them, at least than in the United States, particularly in France and Italy.

Passing from the establishment to the firm, in 1962 firms of more than 1 000 persons employed in the highest percentage of the total labour force of the manufacturing industry in all the Community countries except Italy, where it was still concentrated in the firms employing less than 10 persons. The percentage of the labour force occupied by firms employing more than 1 000 persons were:

Luxembourg	59%
Germany	40%
France	32%
Belgium	28%
Netherlands	24%
Italy	22%

It has been stated above that there is a fairly large similarity between the degree of concentration and the value added per person employed. In the United States from a thorough study of the 1963 survey it may be concluded that a certain relationship exists between the size of establishments and the level of wages (1).

The statistical year book of the Federal Republic of Germany gives further confirmation, as is shown by the following Table No. 11 which shows for a series of industrial sectors or sub-sectors a certain number of firms classified according to their volume of production and at the same time indicates for each of the classes the value added per person employed.

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(1) "AN INTER INDUSTRY ANALYSIS OF WAGES AND PLANT SIZE" by Stanley H. Masters in "The Review of Economics and Statistics" August 1969 Harvard University Press.

TABLE No. 11

VALUE ADDED PER PERSON EMPLOYED BY SIZE OF FIRMS
FEDERAL REPUBLIC OF GERMANY 1966

Total production from ..... to no less than DM	Firms	Persons employed per firm	Value added per P.E. in 1 000 DM	Firms	Persons employed per firm	Value added per P.E. in 1 000 DM	Firms	Persons employed per firm	Value added per P.E. in 1 000 DM	Firm	Persons employed per firm	Value added per P.E. in 1 000 DM
	heading 251 Saw Mills			Heading ex 260.1 Manufacture and repair of wooden furniture			heading ex 260 Manufacture of chairs and tables			heading 36 Construction of non-electrical machinery		
250 000 - 500 000	35	9.9	17.1	33	24.0	18.2	26	21.6	17.8	-	-	-
500 000 - 1 million	91	18.1	17.3							40	42.1	19.1
1 million - 2 millions	57	30.0	20.6	48	37.9	20.9	25	41.8	18.4			
2 millions - 5 millions	43	58.6	20.5	61	73.8	24.5	45	79.3	21.6	86	105.4	19.5
5 millions - 10 millions	5	340.6	24.8	28	137.2	29.2	27	164.1	23.5	81	208.3	21.7
10 millions - 25 millions				18	259.7	28.5	18	314.1	25.2	94	445.4	21.2
25 millions - 50 millions				6	691.5	27.9	-	-	-	58	950.9	22.7
50 millions -100 millions	-	-	-				-	-	-	40	1 696.5	22.9
more than 100 millions	-	-	-	-	-	-	3	2 470.0	26.0	22	3 956.7	23.9
	heading 271 Manufacture of pulp, paper and board			heading ex 272 Processing of board			heading ex 28 Printing			Heading 381 - Construction except 381.3 ship-building		
100 000 - 250 000	11	17.7	17.3	16	19.3	8.8	-	-	-	-	-	-
250 000 - 500 000							75	30.5	17.0	15	35.3	18.5
500 000 - 1 million				17	41.3	10.4						
1 million - 2 millions	29	72.4	23.6	22	45.8	15.3	88	57.7	17.4			
2 millions - 5 millions							99	110.9	18.9	12	110.9	16.2
5 millions -10 millions	36	262.6	27.9	24	146.3	16.1	42	225.6	20.1	15	288.4	17.9
10 millions -25 millions							38	427.2	20.1			
25 millions-100 millions	19	820.2	30.5	-	-	-	13	952.2	23.0	9	845.9	18.8
more than 100 millions	5	4 342.0	35.3	-	-	-	-	-	-	9	5 877.9	17.3

TABLE No. 11 (contd.)

Total production from	Firms	Persons employed per firm	Value added per P.E. in 1 000 DM	Firms	Persons employed per firm	Value added per P.E. in 1 000 DM	Firm	Persons employed per firm	Value added per P.E. in 1 000 DM	Firm	Persons employed per firm	Value added per P.E. in 1 000 DM
	heading 301.3 Rubber processing			heading 302 Processing of plastics			heading 3 .1 Ferrous metal foundries			heading 355 Manufacture of finished articles in sheet steel		
100 000 - 250 000	-	-	-				-	-	-	-	-	-
250 000 - 500 000				92	22.6	15.0	-	-	-			
500 000 - 1 million	26	38.5	15.4							24	19.4	18.7
1 million - 2 millions				70	51.5	16.5	30	48.5	17.9			
2 millions- 5 millions				75	96.0	19.3	32	107.8	18.6	36	64.7	19.5
5 millions-10 millions	23	148.0	18.9				21	225.0	21.1			
10 millions-25 millions				72	266.6	21.6				18	254.5	19.8
25 millions-100 millions	28	959.3	19.1	14	895.8	23.3	15	699.8	21.7	4	1 391.0	18.7
	heading ex 355 Food manufacture			heading ex 355 Ironmongery (locks, wrought-iron)			heading ex 355 Cutlery manufacture			heading ex 355 Manufacture of finished articles in sheet steel		
100 000 - 250 000				-	-	-				-	-	-
250 000 - 500 000	13	13.1	15.0				24	15.5	11.4			
500 000 - 2 millions	22	31.7	20.4	23	45.0	16.3	24	37.0	15.6	32	29.5	19.5
2 millions - 5 millions	25	84.9	23.0	18	114.3	17.3						
5 millions - 10 millions				13	234.5	19.5	27	241.4	19.9	49	123.4	20.8
10 millions - 25 millions	17	326.7	23.2									
25 millions - 50 millions				13	620.7	21.0						
50 millions -100 millions	-	-	-	-	-	-	-	-	-	30	455.3	26.2

Source: Statistiches Jahrbuch für die Bundesrepublik Deutschland 1969.

It can thus be seen that, although in certain sectors such as non-ferrous metal foundries the size does not seem to affect the value added, in almost all the others, the differences are often considerable. In the mechanical industry, for example, the value added per person employed in 1966 in 40 firms employing on average 42 persons, was 19.1 thousand DM as against 23.9 thousand DM in the 22 firms employing on average about 4 000 persons. In the paper industry it was 17.3 thousand DM in the 11 firms employing an average of 18 persons and 35.3 thousand DM in the 5 firms employing an average of 4 342 persons. The table shows various other examples of this trend.

The 1963 French industrial survey also gives an indication at the level of industry as a whole. From the following table it can be seen that in 1962 in France the value added at market prices per person employed was 12 600 francs for firms with less than 10 employees as against 28 600 francs for those with more than 1 000 employees.

Size of firm	Number of firms (as %)	Value added at market prices per person employed (in thousands of Fr F.)
Less than 10	88.2	12.6
10 to 19	4.7	17.3
20 to 49	4.0	17.6
50 to 99	1.5	17.8
100 to 199	0.8	18.4
200 to 499	0.5	19.9
500 to 999	0.2	20.8
1 000 +	0.1	28.6
	100.0	20.8

The English surveys of 1958 and 1963 also confirm this relationship between the value added per person employed and the size of firms, as shown in the table below:

Size of firms (number of persons employed)	Number of firms		Gross added value at factor cost per person employed (in pounds sterling)	
	1958	1963	1958	1963
1 to 24	--	45 276	896	1 019
25 to 99	14 257	11 551	859	1 115
100 to 199	4 261	3 376	880	1 142
200 to 499	2 979	2 342	916	1 205
500 to 999	993	845	953	1 314
1 000 to 1 999	488	449	1 045	1 333
2 000 to 4 999	289	318	1 084	1 418
5 000 to 9 999	106	112	1 083	1 523
10 000 to 19 999	42	60	1 108	1 501
20 000 to 49 999	24	28	1 182	1 440
50 000 and over	8	10	1 159	1 612

There are certain obvious exceptions, such as the size categories 25 to 99 and 100 to 199 in 1958 and 20 000 to 49 999 persons in 1963. However, these are not enough to affect the general impression of the systematic differences in value added per person employed between the smallest and the largest firms, which may be as much as 60%.

Incidentally, this table shows the evolution of the structure of firms in the United Kingdom between 1958 and 1963, where there is a considerable decrease in the number of firms in all the categories below 2 000 persons and a clear increase in all the categories above that number.

Unfortunately, in the absence of a second harmonised survey, it has not been possible to present a picture of recent trends in the size of establishments and firms in the Community.

In respect of establishments, the French example would seem to show that, while the labour force employed in industrial establishments with less than 10 employees has decreased steadily from 1906 to 1966, the degree of concentration of industrial establishments employing more than 10 persons has on the contrary remained very stable over the same period (1). On the other hand, in view of the movement towards mergers and the acquisition of holdings in other companies described under section 2 of this Chapter, there seems to be no doubt that the size of firms has, at least for the last few years, been tending to increase rapidly.

CONCLUSIONS

Several conclusions may be drawn from this Chapter.

Section 1 shows, although very imperfectly, the significant

(1) "La concentration de l'industrie s'est-elle accentuée depuis le début du siècle ?" by M. DIDIER and E. MALINVAUD in "Économie et Statistique" 2 June 1969.

proportions of the phenomena of industrial firms closing down and new ones established. Cases are reported daily in the newspapers, but they are not adequately reflected in statistics. Such movements have serious industrial and social consequences and the third part of this document will be devoted to the means which industrial policy can employ to guide them and minimise their social consequences.

From section 2 it can be seen that the industrialists of the Community tend mainly to join forces either with other national firms or with firms in third countries but much less with firms in another Community country. The Commission on the other hand is bound to consider this latter form of co-operation more orthodox in the best interests of building up the Community. Chapter II of the second part of this report will be largely devoted to this problem.

Section 3 shows that, in numerous industrial sectors, the size structure in certain member countries was, at least in 1962, far from that which appeared to be the most efficient. It hardly seems probable that these weaknesses in structure can have been entirely eliminated since. There are then, in the industry of the Community, restructuring problems which must be solved in order to ensure the independence and expansion of industry and a proper income for the workers. We shall be returning to this subject in all the three following parts of this document.

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The inadequacy of the statistics available for industry has been brought out several times in this first part.

In order to make the forecasts, the need for which is expounded in Part three below, and in order to make the choices called for by industrial policy, we need at least to know the present situation, and such is not the case at present at Community level.

Need it be recalled that in Chapter I above, it has not been possible to present the position by sectors for any year later than 1962, and that considerable differences which it has not been possible to explain have been found between the data derived from industrial statistics. national accounts and social statitics.

Obviously, the first act of industrial policy should be to endow the Community with industrial statistics machinery comparable to that which countries like the United States and Japan have succeeded in perfecting, and which is probably not without some effect on the success of their industry.

Among the improvements to be aimed at the following may be mentioned:

- first of all, the explanation and then the elimination of disparities in statistics thanks to the general adoption of common definitions at Community level and if possible at the level of the main industrial countries for the factors which are essential for the analysis of the industry, particularly with regard to the value added variants and the definition of industrial sectors;

  Here, some tribute should be paid to the work done by the services of the United Nations, OECD and the SOEC, which however have not yet been carried through to a conclusion.

- more account to be taken in statistics of the objectives of industrial efficiency and growth which have been expressed in the past mainly by physical values which do not reveal the relative economic importance of the various types of industrial production. The result is that, in the more difficult sectors, such as chemicals, mechanical or electrical engineering, i.e. those where the only common denominator is monetary value, the present statistics do not provide sufficient indications;

- most industrial statistics are only illustrative and partial in character; from special surveys it is possible to find out the hourly wage of a male or female worker for the various industrial sectors, but this information is not generally embodied in a coherent whole which would allow it to be situated in relation to industrial activity. At the present time, it seems that only national accounts and input-output tables present a coherent picture from which serious analysis of economic phenomena can be made;

- The minimum factors on which information should be available at the level of the sub-sectors of the Community industries nomenclature (NICE 3 - figure classification) are:

  - turnover;
  - indirect taxes;
  - subsidies;
  - value added at factor cost;
  - wage-bills;
  - social security contributions etc. payable by employers;
  - gross operating profit;
  - depreciation;
  - investments;
  - reserves;
  - loan servicing and rents;
  - direct taxes;
  - distributed profits;
  - number of persons employed (annual average);
  - number of wage-earners (annual average);
  - the value of fixed assets.

In the first stage it is not essential to have information on all these factors each year, but industrial policy choices will not be possible at the level either of the public authorities or of the firm for as long as there is not most of this information available, say once every ten years, which is not too dated.

- As regards trends in structures, it is also essential to obtain at fairly close intervals, information broken down by sector on:

  - newly established businesses;
  - businesses closed down;
  - concentrations;
  - the size of establishments and firms by number of persons employed and by turnover, or better still by value added at factor cost, with the firm categories indicating also wage-bills and operating profits.

For the purposes of competition policy, it would also be useful for the Commission to receive regularly more complete information concerning firms which would enable it to calculate the degree of concentration in the various sectors.

Much of this information is in fact available, but is kept by various authorities and departments, such as the tax authorities, who use it for their own purposes.

With present organisation, the existing information is not generally assembled by Statistics Institutes and therefore does not become available.

The means allocated to statistics should therefore be increased, in particular with a view to more frequent surveys on the subject of industry, and speed up exploitation of the results. The frequency of industrial surveys in most European countries answers the requirements of the 19th century and no longer responds to the current rate of change. Computers will not be of any use unless information is available to be fed in.

In making these proposals, the Commission is not unaware of the efforts made by the national Statistics Offices of the Member States and by SOEC. It wishes to support these efforts, which are developing in an insufficiently favourable environment where the essential importance of the assistance to be gained from good statistics is not yet grasped.

Part two

IMPROVEMENT OF THE ENVIRONMENT OF COMMUNITY FIRMS

INTRODUCTION

Part one has shown that there is still a considerable gap between industry in the Community and industry in the United States. This gap has not been evaluated in terms of overall production, because the immediate concern of the Commission is not to achieve records for Community industry. It is concerned essentially with the reasons why it is not yet possible for Community industry to ensure for its own population a standard of living equal to that reached elsewhere when this state of affairs is not even justified by sacrifices made in the interests of further development.

It is not for the Commission to enter into the considerations of the delicate balance to be maintained between the immediate satisfaction that ought to be given to workers and the limits that must be set to ensure the future growth of industry. These problems are the province of agreements between employers' organisations and trade unions whose long-term aims are identical. It is, in fact, only thanks to considerable greater profitability that it will be possible to achieve a lasting improvement in the workers' standard of living. The Commission has the simplest aim of helping as far as possible to give industry in the Community the means it requires to retain its independence, improve its profitability and accelerate its expansion.

This part of the report will be devoted to the environmental problems facing firms, which are very significant and which the public authorities can often help to solve without encroaching upon the prerogatives which industrial management must retain.

Many aspects of the environment of industrial firms will hardly be touched upon. A selection has been made which takes account of action by the Commission in the sphere of other policies which it is not yet time to be explained in detail. Energy policy plays an essential role in industry, being such an important factor in determining production costs. This policy has already been the subject of a memorandum, so that it need not be further expanded here. It is sufficient to recall the need for great stringency in examining the reliability of supplies, so that there may be no pretext for measures which would obstruct the lowering of the price of energy.

An efficient industrial policy is inseparable from a dynamic social policy. It is indeed the latter which makes it possible to ensure the proper training of workers - an essential condition of efficient industry, the occupational en geographical mobility of the labour force and, for those who have not been able to anticipate industrial conversions, temporary support to enable them to catch up. The projected reform of the social Fund is the answer to these fundamental preoccupations.

Regional policy is also complementary to industrial policy and can, moreover, by enlightened selection, ensure a better geographical balance of industrial development and reduce any excesses which the latter might display in its quest for efficiency. The memorandum on regional policy has already examined these aspects.

Industrial activity is affected by short-term economic fluctuations in some sectors more than others, especially in those which demand a heavy capital outlay which is slow to show returns, and even more when they are confronted by a demand which speculates on their lack of elasticity. Although present preoccupations concern the more permanent aspects of development, it must not be concluded that short-term economic policy, which is also the subject of important work by the Commission, does not form an inherent part of the research into the improvement of output and the development of industry.

Transport policy has contributed towards the realisation of the common market in goods in particular by suppressing unjustified discrimination and support measures. It is at present carrying on its more fundamental task, which consists of harmonising conditions of competition and organising the Community transport market. This task, on which the Community institutions must concentrate their efforts, is of great importance for the whole Community economy and in particular for industry.

It is particularly important for industry that the restructuring to be achieved by the common transport policy should lead to the creation of dynamic companies able to satisfy collective needs efficiently at the lowest possible cost.

More simply, this part of the report will deal successively with:

- obstacles which still exist to the achievement of an internal market at Community level and which make it less attractive to industry;
- obstacles to the essential grouping of firms so that they may adapt their structures and activities to Community requirements;
- problems of financing which may hold back the development of Community industry;
- new problems which the development of international economic relations poses for Community industry.

CHAPTER I

ACHIEVEMENT OF THE INTERNAL COMMUNITY MARKET

One of the most important aims referred to in the Treaties, handling the free movement of goods, is not an end in itself. The end pursued was certainly not to increase the volume of transport without any other benefit. It was to give firms a market proportionate to the size they must attain so that their productivity may ensure a high standard of living for the population and at the same time the capacity to resist outside competition.

This result has not yet been fully attained. Considerable progress in liberalisation has certainly been achieved between the six countries, but their six markets taken as a whole are far from resembling a single market.

The different price levels for similar products in the different member countries bear sufficient witness to this. There are many explanations and they often derive from mental attitudes and traditions. In particular the following should be cited:

- insufficient knowledge on the part of consumers of products manufactured in other Common Market countries, combined with a routine fidelity to accustomed brands;
- insufficient adaptation of products of one country to the tastes and habits of consumers in another;
- the price policies of certain producers and distributors and agreements which are contrary to the Treaties, which in some cases tend to consolidate differences rather than eliminate them, sometimes through fear of reprisals.

Apart from these psychological and economic factors, which should gradually diminish if they are not so directed as to become antagonisms, two institutional factors stand in the way of free competition between member countries of the Common Market.

On the one hand, an almost inextricable network of technical obstacles arising from legislative provisions concerning safety and health, industrial standards or the regulations governing public services make a product designed to give the maximum guarantees in one member country unacceptable in another and vice-versa. The result is that a manufacturer who wishes to sell a product in the single market must often manufacture six different articles.

On the other hand, public contracts are still, at Community level, reserved principally for national producers. At present in the Community countries, less than one per cent of public contracts are passed with firms in other member States. This percentage, which scarcely exceeds that of the contracts signed with third countries, is certainly not normal for a single market.

One must therefore ask what are the consequences these imperfections for the building of Europe, seen here from the angle of the efficiency and expansion of industry.

I. TECHNICAL OBSTACLES TO TRADE

Technological and industrial development carry steadily increasing threats to the individuals who use the products, either because of the serious defects which certain of their essential components may show or of the nuisances resulting from their use or production. This places upon the public authorities the obligation to take steps to guarantee the health and safety of the workers, commercial integrity and respect for nature and the human habitat.

The objectives pursued are essentially the same in all the countries, but the regulations differ enough to wall off markets in spite of the abolition of customs barriers and the other restrictions referred to in the Treaties.

The disparity which exists in these rules from one country to another depends on a whole series of reasons bound up with history legal procedure. The chief reason is to be sought in the differing situations of industry in the member countries. A country where a product is entirely imported tends to lay down strict rules, often based on inspections prior to putting it on the market, without too much concern with the cost of the operation. On the other hand, a country heavily engaged in production of the same article will have to take into consideration the effect on industry of rules which, if excessively severe, would penalise its own production.

Article 100 of the EEC Treaty empowers the Commission and the Council to seek, at Community level, a harmonisation of national provisions.

It is important first of all to harmonise objectives by defining the nature of the protection which the public authorities wish to ensure. It is then appropriate to harmonise the machinery - rules for manufacture or inspection - which enables these objectives to be achieved.

The work undertaken in this field has already shown the improvements to which comparison of several national systems can lead thanks to the ensuing exchange of experience but it is more specifically the industrial aspects which need to be dealt with here.

The disparity of regulations within the Common Market affects the profitability of industrial establishments in different ways. First of all it obliges producers who wish to export to the markets of other member countries to spend money on investigations, studies and research in order to adapt their products to different specifications. Then it requires them to manufacture different components, to diversify their production lines and their stocks, in short to complicate the whole process of production, stocking, sales, after-sales service and sometimes sub-contracting, or even procuring supplies of raw materials.

In any case its consequence is to make Community production more costly than it ought to be (1).

The principal consequence of the first factor, that of expenditure on research and the adaptation of products, is to establish discrimination between large companies, particularly if they are multi-national, and small and medium-sized firms.

The means of ascertaining the special features of the different countries' regulations in sectors where international trade has not hitherto been general, are not in fact within the reach of all. It involves, for the export market, setting up or calling on the assistance of technical services and sending very highly qualified personnel abroad for long periods.

All this can be achieved fairly easily by large firms because they have the qualified staff and because the additional cost is spread out over a very long production line and represents only a negligible fraction of the cost of the individual article. For medium-sized and small firms the difficulty is often insuperable unless there is an arrangement with a trade association. Small firms have not the means and the cost of the operation would be prohibitive in comparison with the quantity of products marketed. The continued existence of technical obstacles in the Common Market thus favours large firms in relation to medium-sized and small ones.

To remedy this situation the Commission has worked out a general programme covering:

- a work schedule in respect of industrial products and foodstuffs;
- measures for simplifying the procedure for adjusting Directives adopted to technical progress;

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(1) As an example, it has been calculated that an agricultural tractor costs 4.27% more ex-factory for the market of other member countries than for the home market.

- an undertaking on the part of member States to respect the "status quo" for all products included in the general programme;
- the decision to allow automatically reciprocal recognition of the checks carried out in a country provided certain conditions are met.

This last decision is by far the most important from both the policy and practical points of view. It marks the point of no return of Community action in this connection, because it will henceforth allow a product checked or approved in its country of origin to be sold on the market of other member States without repeating these formalities provided the rules for checking and approving have been harmonised.

The general programme was approved by the Council on 28 May 1969. It provided that by 1 January 1970 the Commission would submit 94 draft directives of which the Council would adopt 44 (1).

If it be remembered that according to the programme the Commission must submit 91 additional proposals between now and 1st July 1970 and that the Council must approve 152 directives in 1970, whereas it only approved one in 1969, it will be realised that an exceptional effort is needed.

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To ensure real progress in this field a number of conditions must be fulfilled:

1. State regulations

(a) Mere harmonisation of existing regulations runs the risk of perpetuating or even aggravating a difficulty which is already felt by member States owing to the extremely voluminous and technical nature of this kind of legislation.

(1) This estimate takes account of certain groupings subsequent to the approval of the general programme.

It seems that the solution of this problem must lie in dividing the responsibility between the Community and national public authorities on the one hand, and industrial circles on the other. The public authorities would define the interests to be protected and the fundamental requirements to be complied with. Industry would supply, through voluntarily drawn up rules and also by its harmonisation agencies, the parameters to make it possible to determine easily, but at the same time definitely, whether a product complies with the general legislative provisions.

This idea, which is already developing in certain member States, should be widely encouraged and pursued at Community level. In certain specific cases the solution known as "reference to standards" has already been proposed to the Council by the Commission.

(b) The task of harmonising manufacturing specifications is never completed. It has to follow the industrial improvements and innovations which are succeeding one another at a visibly increasing rate, while the need for strict control of industrial nuisance is rapidly being grasped by public opinion and the public authorities.

States are therefore led to introduce more and more new regulations. In such cases, the State which first discovers the need for a new regulation should give priority to a directive adopted at Community level, in order not to add to the difficulties of harmonisation. Although it is not specifically provided for either in the Treaties or in the 1969 General Programme, this solution would be a logical follow-up to Community action in regard to the elimination of obstacles to trade.

(c) It has been shown that the implementation of the General Programme demands considerable efforts on the part of the Commission and the Council. It is too soon to judge the results which may be achieved during the next months and it is only in their light that the adequacy of the procedure at present in force can be gauged.

In any case, with the merger of the Treaties it now seems necessary to provide machinery better fitted to deal with this problem than that prescribed in Article 100 of the EEC Treaty. It may indeed be wondered whether the directive is the legal instrument best suited to the end in view.

Whereas more flexible procedure ought to be introduced where basic decisions are concerned, the total elimination of technical obstacles might, however, necessitate Community measures for applying the harmonised law. Indeed, while the harmonised legislation is applied by each member State in its territory, there is still the danger that divergent administrative measures may detract from the uniformity of the law.

Standards

To a certain extent the absence of harmonisation of industrial standards has similar effects on the profitability of industry to those deriving from disparities in regulations.

The field of industrial standards is in fact governed by four pressure groups:

- producers who want to standardise in order to broaden their range of production, but who in general would like to avoid a too stringent check on the quality of their products;
- private consumers who would like to have a wide range of products available for their own needs, but who insist on the stringent checking of quality;
- public users who include certain private ones dominating the market who impose purely and simply their own conditions;
- public authorities who, in their capacity as public users generally have their own specifications independently of the regulations which they issue in the public interest.

This has given rise to three types of situation. In some cases public authorities and users who are in a strong position have imposed their desires, which in general are reflected in the conditions of contract. In others producers enjoying a strong position have succeeded in imposing their desires on users. In the majority of cases producers and users co-operate in national standards institutes in order to find common denominators for their divergent interests.

Thus, according to the relative strength of all the parties concerned - which varies for each industrial product in each of the member countries of the Community - and according also to existing traditions and mental attitudes, a variety of solutions have been adopted in an enormous number of cases which must now be harmonised at Common Market level.

To overcome such difficulties collaboration between the Commission and standards institutes should be promoted by inducing the Community countries to set up proper machinery for it. In particular it seems necessary for standards institutes to pursue certain definite courses of action, two of which are indispensable: the first, the immediate one of eliminating existing obstacles as quickly as possible; the second, the permanent one, of organising action on the basis of criteria of economic interest.

In addition, standards institutes should co-ordinate their programmes with a view to developing the "reference to standards" system mentioned above.

The creation at present being envisaged, of a Community Reference Bureau whose function would be to contribute, in collaboration with existing advisory bodies, to working out certain parameters in the matter of safety, nuisance and industrial standards, would make a very large contribution to the definition of standards and the adoption of common regulations applicable throughout the Community.

The proportions which problems of nuisance and environment are assuming entails the risk in particular, in the absence of a common method of analysis and of definition of regulations, of producing a plethory of new technical obstacles whose justification could not be contested if the Community had not taken measures to forestall them by preparing regulations to meet the threats that certain industrial developments might hold for society.

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II. PUBLIC CONTRACTS

The functioning of an integrated market presupposes that the parties concerned, sellers and buyers, are willing to take advantage of the abolition of customs barriers. Such is the case when the two parties respond primarily to motives of profitability.

On the other hand, when one of the parties pursues other objectives, considered more important than profitability, the movement for integration of the markets may be thwarted. This is the case with public contracts.

Public contracts have in fact sometimes become, for States, an instrument of industrial, regional and short-term economic policy.

Only one country in the Community possesses a central body for all public contracts. Here detailed statistics are available which it has not been possible to gather for the other member countries where the fragmentation of the public markets prevents any overall picture. This report will therefore give figures for that country only, simply because of the inequality of the information available and not with any view to judging that country's policy. In France, the proportion of public contracts concluded with foreign suppliers represented 0.55% of the total in 1966, of which 0.29% were with suppliers in other member countries. In 1967 these percentages rose to 0.99% and 0.51% (1) respectively. The Commission is convinced that similar situations exist in the other member States, the smallest countries, however, being those which most often have to get their supplies from outside.

Nevertheless, the economic importance of public contracts is far from negligible. Government expenditure in goods and services

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(1) "Le recensement des marchés publics en 1967" in Statistiques et études financières" No. 244, April 1969.

reaches the proportion of 18% in the United States and 13% in the United Kingdom in relation to the gross national product. In the Community countries it varies from about 3% in Luxembourg, Belgium and Italy to 5% in the Netherlands and France and 9% in Germany.

From these figures it is not possible to deduce the impact which public contracts may have on the free movement of goods and services at industrial sector level. On the basis of the French statistics (1) one finds that in 1962 the proportion of public contracts in the total consumption of the various products was as follows (in %):

Aeronautical engineering products	99.6	Refined mineral oil products	10.2
Natural gas	67.3	Primary processing steel products	11.7
Shipbuilding products	59.1	Metal-working products	11.0
Building, public works	43.0	Semi-finished non-ferrous metal products	10.1
Electronic equipment	30.7	Services to firms	9.6
Coal lignite, patent hard coal fuel	30.5	Iron and steel products	8.8
Sea and air transport	29.0	Foundry products	8.2
Electrical equipment	25.5	Motor-cars, motor-cycles, bicycles	7.7
Telecommunication services	21.1	Miscellaneous minerals	7.5
Auxiliary transport services	17.8	Transport by rail, road and inland waterways	7.0
Electricity	17.4	Paper and board	6.8
Heavy machinery	17.0	Furniture and bedding	8.4
Water and miscellaneous	14.7	Organic chemicals	6.2
Precision tools	12.5	Pharmaceutical products	6.1
Main gas	12.2	Unworked and sawn timber	6.0
Press and publishing products	11.2	Parachemical products	5.2
Rubber and asbestos products	10.9		

The sectors considered are still relatively vast and if it were possible to get down to the level of the product, it would doubtless be found that for certain of them public demand accounts for the main part of the market.

The Commission's action aims at eliminating national measures to regulate public contracts which constitute an obstacle to the free movement of goods or supply of services. This action is based on three provisions of the Treaty of Rome.

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(1) including figures for public corporations.

Pursuant to Article 30 and the following Articles of the EEC Treaty on the elimination of measures having equivalent effect to quantitative restrictions, the Commission aims at abolishing all laws, regulations and administrative measures or practices which give preference to national products in relation to products imported from other Community countries or which exclude products of other member States from supply contracts.

Pursuant to Article 59 and the following Articles on the freedom to provide services, its action aims at abolishing any provisions of the same nature as the above which apply to public works contracts.

Finally, pursuant to Article 100, the Commission is working towards the harmonisation of administrative procedures relating to contracts both for supplies and for public works.

This action by the Commission and the Council relates, however, only to public contracts in the strict sense and the explicit rules which the State lays down for public undertakings, even where governed by private law.

On the other hand, a growing percentage of public contracts are carried out by mutual agreement, a procedure whose freedom from discrimination at Community level it is difficult to judge. This is a phenomenon, common to the majority of countries, which has originated in the growing specialisation of public works and services and the purchases resulting therefrom. In these cases in fact the formal procedure of calling for tenders and their public or limited adjudication do not permit of the thorough, quick and efficient negotiation necessary in such cases. This system is, moreover, often useless because of the very limited number of firms likely to comply with the requirements.

As a percentage of all public contracts, contracts by mutual agreement during the last few years represented approximately:

in France	70%
in the United Kingdom	50%
in Norway	30%
in the United States	25%
in the Netherlands	25%

The proportion rose with the degree of specialisation and technicality of the sector, but was not negligible in the more traditional sectors, as the French statistics show: (contracts by mutual agreement as percentages of total public contracts)

- aerospace industries 99%
- electric and electronic machines and apparatus 88%
- machines and mechanical apparatus 76%
- building 46%
- civil engineering 39%

At the present stage it is evident that the advantages of the Common Market are not granted to all industrialists and in any case hardly ever in respect of public contracts. For sectors whose existence and development are essential to the future of Europe and whose activity often depends on Government decisions, finding a solution is the subject of the fourth part of this document.

For the traditional sectors, the Commission, while pursuing its action in the legal sphere, hopes that the development of the Community will make it possible to overcome the psychological obstacles which are a determining factor here.

Far from leading to a reinforcement of administrative protectionism in relation to third countries, the progressive free access to public contracts proposed by the Commission could also be of benefit to third countries, subject to reciprocity and to reasonable attention being devoted to the "infant industries". A common public purchasing policy would allow the Community to adopt a more active and positive attitude in international negotiations concerning public contracts.

Lastly, compliance with the Treaties in the matter of public contracts must be furthered by action at Community level to achieve really free access to the market in sectors where, for reasons other than the existence of laws or regulations, free movement is not really ensured. This action, which is of value in particular for certain sectors of advanced technology, is explained in Part IV.

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CHAPTER II

CO-OPERATION AND CONCENTRATION AMONG FIRMS IN THE COMMUNITY

This chapter deals with the means at the disposal of firms for modifying their structure and size and establishing ties with other undertakings. It does not imply any judgment concerning the economic problem of the size of firms. It concerns small and medium-sized firms as much as large ones.

Nor is to be construed as systematically encouraging co-operation and concentration, whose effects are beneficial to firms and the public at large only in certain situations and certain conditions. In a given situation, firms require the types of organisation, dimensions and strategies which one might term optimum, that is to say best capable of ensuring their profitability and their development. The small or medium size of very many firms in modern industrial society often satisfies that requirement. The continued existence and indeed the increasing number of such small and medium-sized firms meets the need for the fulfilment of a multitude of specific functions which the large firm is not in a position to do so as effectively: specialised production, the manufacture of new products, provision of services, sub-contracting, etc. But like the large firms, the small and medium-sized ones must move with the times.

Intra and extra-Community competition should speed up the re-structuring process and help to adapt the structure and size of Community firms more rapidly to the new economic conditions.

The modest size of some of them is a question of tradition rather than of economic necessity, just as the structure of certain large firms is inherited from the past and can no longer ensure profitability and dynamic growth. The transition from a national economy to a continental economy demands a measure of co-operation, reorganisation and concentration at European level, which had hitherto been postponed and it also gives the lesser undertakings fresh opportunities to set up new establishments and to expand.

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The effect of the creation of a single market for all products and the free movement of people and the means of production within the Community is not solely to widen the outlets for European firms and intensify competition on the markets of the Six. The economic union thus created greatly alters the strategy situation for Community firms and forces them to change their structure, their methods and often their size in order to adapt themselves to the new conditions of the Common Market.

These changes in the attitude, structure and size of firms are indeed the economic ends to be sought after if the Community is expected to provide increased productivity, a better capacity for financing and research, greater ability to compete in the international field, in a word, quicker and more assured industrial growth.

We know that industrial competition is not solely a question of the quality and the price of products, but equally depends, according to the case, on dynamic marketing, on policy as regards setting up subsidiaries, on the ability to change, to diversify and to expand, on finance, on research potential and on the varying degrees of association with other groups or firms in the technical, financial and commercial fields.

Competition obliges groups or companies constantly to adapt their overall policy and calls for effective strategy on their part, which can lead to considerable restructuring at a group, firm, company or factory level. It must be noted that such restructuring does not always mean greater concentration; it may also be expressed in specialisation or the grouping of certain activities and the dropping of others.

But to bring about the free movement of people, producer goods, consumer goods and capital without at the same time creating for firms an environment characterised by the same security and facilities as the national one amounts in some cases to a considerable reduction in the benefits derived, and which one is entitled to expect, from the Community in the matter of the organisation, efficiency and dynamism of firms.

It is true that a certain number of firms in the Community have already extended their subsidiaries to other countries of the Community or to third countries.

But the legal, fiscal and political difficulties of these operations, no doubt inevitable between countries which do not belong to the same community, must be eliminated from our member countries for the benefit of Community industry as a whole. Those firms which are already widely established within the Community would then be in a better position to make use of their potential. Those which have been deterred so far from such operations by the difficulties and cost of setting up an establishment outside their national frontiers, would find throughout the territory of the Community easier and surer conditions for development.

Thus, the objective as regards the Community must be:

- to adapt or introduce, national or Community legal provisions relating to company law so as to allow companies in the Community to co-operate, to enter into contracts, to set up establishments or to merge, while respecting the rules of competition, anywhere in the territory of the Community, as simply and with a great legal security as in their own country;
- to adapt existing legal provisions to ensure that there is no fiscal inequality in the relations between companies and establishments active in more than one Community country;
- to reach a stage where industrialists realise what new dimensions and opportunities the Community is opening up for them;
- to establish within the Community a political climate favourable to the development of ties of all kinds between companies in different member states.

To achieve that objective, member States and the Commission have taken a certain number of steps to faciliate establishment of subsidiaries, co-operation and mergers accross frontiers inside the Community. The progress made is still far from satisfying the requirements of the situation.

That is why in the interests of the Community and of firms, it is indispensable in the face of growing international competition to carry the steps already taken to a rapid conclusion and to add to them wherever necessary.

I. THE LEGAL AND FINANCIAL FRAMEWORK

A merger in the accepted legal sense is generally little more than the final stage of a process of co-operation between the companies concerned. Indeed, there are many cases of companies which do not consider such a step necessary. For this reason other legal forms of association assume considerable importance.

Many forms are open to firms and are already being used. Some improvements and extensions are, however, desirable in order to meet the manifold requirements that are necessary for firms in the Community.

The various modes of association reviewed below are not an exhaustive catalogue; only the most important ones have been selected. It must be noted moreover, that in practice the requirements of each specific case lead to variants, intermediate or combined forms and ad hoc arrangements. All grouping is a "made to measure" operation.

1. Co-operation agreements

These allow for all kinds of variants in purpose and choice of partners. The best known forms are joint purchase or sales contracts, research and development agreements, and specialisation agreements.

An enquiry by the German section of ECESP (the European Committee for Economic and Social Programming) covering nearly 1 500 cases of international co-operation, shows that of 850 examples of association for a specific purpose (disregarding licence contracts) 55% relate to co-operation in marketing, 35% to research and development and 20% to production (1).

(1) ECESP/RKW (Rationalisation Board for German Industry), Grenzüberschreitende Unternehmenskooperation in der EWG, Stuttgart, 1968.

Co-operation agreements do not, of course, mean a concentration, since they neither create an irreversible situation nor even, in most cases, an organic link. Nevertheless, this form of co-operation may lead in practice to a certain unity since with the passage of time, economic units tend to overlap and to become more or less permanently interdependent.

Co-operation may even be of a structural nature, that is to say it may involve certain common management bodies.

Co-operation agreements are as a rule an essential stage prior to more integrated collaboration between two or more firms. Because they allow the status and independence of the partners to remain intact, they do not arouse the same psychological inhibitions as would a merger or a take-over.

The benefits and difficulties of collaboration can be estimated during this phase which is often an essential testing bench for more extensive economic integration at a later stage.

In many cases these co-operation agreements have to be modified, since they do not always provide a satisfactory solution to the problems of organising, managing and financing the partner firms.

Particularly as regards finance, it does not appear that co-operation agreements allow of an appreciable increase in the amount of external finance which the partners can obtain over and above their joint resources. For that reason the contracting firms may consider it essential to adopt a more structural form of integration.

Co-operation agreements may create difficulties with regard to the rules concerning competition laid down in the European treaties. More than once, industrial circles in the Community have given it as their opinion that the rules of competition and the interpretation and application thereof by the Community authorities are such as to hinder the necessary efforts towards co-operation between firms in the Community: the rules of the EEC Treaty, the Regulations in application of them and the administrative provision reveal, so they say,

a mistrust from the start on the part of the Community with regard to co-operation agreements; the few decisions of general import would seem to place the firms in a legally insecure position; the complex notification and examination procedures would also appear to be a serious obstacle.

While the uncertainty inherent in all new regulations may indeed have created such an impression, no doubts can be entertained today in the light of the Commission's declarations of principle and its decisions which have created precedents.

The Commission has pointed out on many occasions in recent years that it had not the slightest intention of hindering the efforts towards co-operation which the Common Market and the current competition conditions required and which the Commission itself supported. In its communication of July 1968, in particular, the Commission gave notice of its intention to encourage and facilitate co-operation between small and medium-sized firms and also of its conviction that co-operation between large firms was both permissible and desirable.

The decisions of the Court of Justice and the Commission have specified that Article 85 (1) shall apply only when competition is restricted to an appreciable extent.

Moreover, even in cases where competition was appreciably restricted, the Commission gave the parties the benefit of Article 85 (3) in so far as the agreement was essential to improve production, to promote technical or economic progress and was at the same time reasonably advantageous to users.

The experience gained with the Decisions of the Commission and the Judgments of the Court in specific cases makes possible the progressive formulation of rules of general application.

These may be of various types. Article 85 (1) prohibits in general all agreements which have as their object or effect the restriction of competition within the Common Market. By a negative attestation concerning the application of that clause the Commission gives legal confirmation that a certain form of co-operation is not prohibited because competition is either not restricted at all or only very slightly so:

- the communication of the Commission of July 1968 listed the categories of agreement which do not come under the prohibition embodied in Article 85 because it is neither their object nor their intention to restrict competition.
- moreover the Commission intends to take steps to deal with the case of agreements of limited importance entered into by firms whose total turnover and share of the market do not exceed certain limits.

Pursuant to Article 85 (3), co-operation affected by the prohibition in 85 (1) may be exempted therefrom where it can be shown that the constructive aspects of the agreement outweigh the appreciable restriction of competition. In this context:

- there is a first Regulation on exemption by category in favour of exclusive agency agreements,
- the Commission is currently working on draft regulations to introduce similar exemptions by category for types of co-operation connected with the establishment of common standards, research and development, specialisation and certain agreements on joint selling or purchasing.

Regulation No. 17 made it compulsory to notify all agreements between firms so that the Commission could watch over the application of Article 85. Generally speaking, firms in the Community have overestimated the administrative or legal difficulties of that requirement or have read into it prejudice on the part of the Community against such agreements.

Meanwhile, in order to simplify the task of firms, exemptions from notification for certain categories have also been introduced (to date for agreements on common standards and prototypes, and in the sphere of research). The Commission intends to propose an extension of such exemptions to cover development and specialisation agreements, subject to certain conditions.

The Commission looks to the measures adopted as a whole or in preparation to simplify to a large extent the task of firms. It intends to pursue its course of action by interpreting Article 85 in such a way as to give considerable support to the desired forms of co-operation.

The various interpretations of Articles 85 and 86 may have led to the belief that the EEC Treaty forced the Commission to adopt a sterner attitude towards co-operation than towards concentration. That is not the Commission's own interpretation which is conscious of the fact that co-operation agreements are often the prelude to closer forms of integration and that it is not always possible for undertakings to change over to concentration without going through a transition stage. Even where there is no ultimate prospect of concentration, Article 85 (3) allows co-operation if it produces the desired economic effects.

2. The intermediate forms of co-operation and concentration

In the national law of all the member States there are various legal procedures which allow firms to exercise one or more of their functions jointly.

These legal procedures are characterised by a flexibility of form and functioning which is akin to that of purely contractual co-operation; like the latter, they do not in principle change the legal status or independence of the participating companies.

They are, therefore, undeniably more akin to co-operation than to concentration, even when they have legal personality.

This is expressed in fiscal terms as the enjoyment of "fiscal transparence", that is to say that the profits shared among the parties are considered to have been earned by them directly and are not taxed at association level, thus considerably reducing the risk of double taxation.

With regard to the rules of competition, the question of knowing whether concentration or co-operation has occurred is answered first and foremost in the light of facts and not of legal procedure. It is certain that the modes of association mentioned below will lead only on rare occasions to an overlapping of functions of such extent and consequence as to entail an alteration in the internal structure of the undertakings and be considered as more than co-operation.

The legal forms described below have the great advantage, however, of providing old and tried frameworks for co-operation, making provision for structuring and for the means of operation and also make legal provision where appropriate, for the omissions of the participants. By having recourse to them, companies are on firm and familiar ground which is psychologically very good.

Without wishing to draw up a list, one may mention a few which, it is acknowledged, may be adopted by partners of different nationality.

The best-known are certainly the holding partnership and the temporary partnership which exist in most member States of the Community and are associations without legal status. They are formed with a clearly defined activity or objective in view (often in the field of public works).

The consorzio in Italian law is an agreement between firms whose activities are identical or related. It allows considerable latitude with regard to the definition of decision-making bodies and the rules for operation.

The Interessengemeinschaft in Germany is an agreement between undertakings all independent of each other, jointly pursuing one or more objectives and sharing the resultant income and expenses in a pre-arranged proportion.

The most interesting form is without any doubt the Groupement d'intérêt Economique (G.I.E.) which was specially devised in France to provide a framework for co-operation and is enjoying increasing success in that country. This intermediate stage between a company and a partnership allows considerable flexibility to the partners as regards the definition of structures. Although it may be formed without capital, it possesses legal personality. Natural persons as well as legal persons may participate. There is no limit as to size, so that this kind of association is not confined to small and medium-sized firms. The participants may be of any nationality.

The types of collaboration which have just been named may serve as a model for establishing international co-operation (1).

However, the psychological advantage already mentioned of having a suitable and uniform framework for co-operation might induce the Commission, in conjunction with industrial circles in the Community, to examine the possibility of adapting or supplementing the laws of member States to this end or even to establish a Community framework.

The success of the French Groupement d'intérêt économique encourages the assumption that a real need exists in this field. It will soon be possible to judge in proper perspective whether the experience has proved conclusive and whether, as some national professional federations in European countries desire, the other member countries of the Community should adopt a similar formula.

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(1) If however, these forms of collaboration involve appreciable restrictions on competition likely to affect trade between member States of the Community they must, as Community law stands at present, be notified and approval awaited.

3. Financial participation

In itself, the acquisition of a more or less large proportion of a firm's capital does not necessarily show any intention on the investor's part to change the structure or influence the policy of the firm in which he is taking out a holding. He may simply be making a financial investment.

However, in most cases financial participation reflects a very specific strategy on the part of the investing company.

Such acquisitions of holdings by a mutually agreed direct transfer of part of the capital, or by buying shares on the market (in some cases by public offer), or by exchange of shares (1), guarantee in the first place greater cohesion than mere contractual ties. They are very often a step to confirm existing co-operation which has become so close that its disappearance would threaten the stability of one of the partners.

However, in certain cases another form of financial association is preferred for the purposes of co-operation between firms, namely the foundation of a joint subsidiary. This makes it possible to define clearly the functions to be pooled, to isolate the risks and to ascertain the results of co-operation. A certain number of joint subsidiaries, however, have experienced serious difficulties as a result of disagreement between the parent companies over providing the financial means indispensable to their subsidiary for keeping up developing its activity. Such difficulties are particularly frequent when the joint subsidiary is intended for the development of new products, where the financial risks are greater.

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(1) Reciprocal holdings nevertheless take a form which company law tends to reject. Already prohibited in Italy between parent and subsidiary companies, they are limited and regulated in France, Italy and Germany.

The acquisition of a holding is the most frequently employed form of concentration. Used to a great extent by Community companies and even more by those of certain third countries because of their greater financial resources, the acquisition of holdings is not only an alternative to the merger, which is not always possible legally or from taxation standpoint; it also has the advantage of being easier to achieve, particularly as it can be spread over time.

Such acquisitions of holdings designed either to secure control of a firm or to guide its policy, nevertheless do not always lead to the expected structural improvements. While they result generally in changes in the board of directors, they do not however always lead to the concerted policy needed to derive the greatest advantage from the concentration so undertaken. This is particularly true when the holding does not constitute a take-over, which is why companies may have been tempted to resort to more complex forms of organisation that can ensure a more concerted policy and management.

Such in particular is the case of the holding company which is equivalent to the constitution of a joint parent company. Side by side with holding companies which are straightforward finance companies, these are growing up in the Community holding companies whose function is to co-ordinate the companies of one group.

The different forms of financial association just discussed are all possible between Community companies, as also between Community companies and companies in third countries. A very serious difficulty arises however when establishing such association, namely which taxation system is applicable to transfers of profits between companies in different Community countries. This aspect will be examined below.

Furthermore, in acquiring holdings Community companies suffer a serious handicap by comparison with certain third country companies, since they have less capital available. For this reason we must point

here to the need to set up promptly at Community level legal machinery to facilitate mergers between companies in more than one member State, since mergers that are not total take-overs do not generally require such extensive financial means as the acquisition of holdings.

4. The law governing industrial groups

Forms of concentration other than mergers and take-overs in the legal sense just discussed give rise to a new economic entity: the industrial group. Financial co-operation, whether or not backed up by personal co-operation together with commercial or technological interdependence create relations of domination or of solidarity between firms which are legally separate entities.

Such forms of association are not governed by any laws and regulations in most member States.

In fact, except in the Federal Rpublic of Germany, company law recognises only the company, an autonomous corporate body whose administrators are supposed to administer its assets in the exclusive interest of the company itself and of all its shareholders.

Obviously in practice it is often otherwise and the interests of one company are frequently subordinated to those of another company which dominates it. This raises the problems of the liability (sometimes criminal) of the administrators, the protection of the interests of the minority shareholders, and the protection of the creditors of the dominated company.

German law codified the phenomenon of economic concentration in the new "Aktiengesetz" of 1965. This defined in law the concepts of associated firms; dominant and dependent companies; the "Konzern" (several dependent companies under the sole direction of a dominant company; or the "Konzern" said to be "egalitarian", where several companies join under the one management while remaining independent of one another.

It establishes the conditions (in particular as regards public notification and the drawing up of association contracts) in which the association may be legally recognised, and it fixes the limits, penalties, compensations, liabilities and controls required to guarantee the interests of the minority shareholders and creditors.

Other member States are pursuing preparatory work in this sense. Such adaptation of legal frameworks to economic realities is equally necessary at Community level since groups of firms are destined to become a more widespread phenomenon throughout the Community territory.

The draft statute for a European Commercial Company (Sanders draft) contains a chapter regulating the formation of groups by legally autonomous companies (one of which has to be a European company).

It is likewise important to introduce rules for associations of companies governed by different national laws. This would mean:

- that the Community would need, in pursuance of Article 54 (3) (g), to adopt a directive laying down common principles for a body of law governing industrial groups in the matter of the protection of the partners and creditors of their constituent firms (the Commission has indeed begun work on these lines);
- that the member States other than Germany would also need to initiate or pursue the formation of a body of law on industrial groups.

5. Companies set up under Public Law

To achieve specific common objectives, the States occasionally have recourse to ad hoc legal procedures which allow them to set up companies with multinational status. The functions of such companies are very varied, ranging from non-competitive public services to

activities on the fringe of the private sector (1).

The negotiation of an international treaty to govern the status and conditions of operation of such companies would nevertheless be such a complex matter that one cannot easily propose recourse to this solution. At most recourse could be had to it if the need arose to merge or bring about co-operation between public services and public corporations in different member States.

In the Euratom treaty another form of multinational company is mentioned: the joint enterprise. At this stage the joint company represents the most elaborate company form in the Community framework. True, its functions are restricted to activities in the nuclear field. Moreover, the rules governing the setting up of joint companies seem such as to encourage the setting up of joint subsidiaries limited to a specific activity rather than real reorganisation.

While the little use which the Community industries (2) have made of this possibility may be regretted, it might also be asked if this form of co-operation could not be made available, after adapting its existing legal basis, to industrial activities other than nuclear ones

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(1) One may quote by way of example:

- the Basle-Mulhouse airport
- Eurofima (a European company financing railway rolling-stock)
- the "Société internationale de la Moselle"
- Scandinavian Airlines (S.A.S.)
- the "Union charbonnière Sarro-Lorraine (SAARLOR)" which is a Franco-German joint-stock company, with two registered offices, and with subsidiaries under both French and German law.

(2) So far four joint enterprises have been set up, of which only one engages in plurinational co-operation.

in the fields of advanced technology (1).

Indeed the granting of this status could allow the member States to place certain specific forms of industrial co-operation (for example between one or more public corporations) on a suitable legal footing.

6. Mergers

By merger is to be understood the greatest degree of concentration whereby the partners either both lose their legal identity and assume together a new one, or else one of them is absorbed into the other.

Such operations are almost impossible between companies of different nationalities, as company law in member countries raises obstacles that are difficult to overcome.

Such is the case in the Federal Republic of Germany, where merger operations are subject to judicial control. As such control cannot be imposed legally on a foreign company, a merger between a German company and a company of another nationality is not possible.

In the Netherlands, company law does not recognise mergers, either at national or international level. "Mergers" are a form of financial concentration (purchase of a controlling interest or total purchase and transformation of the company taken over into an investment company).

In Belgium, France, Italy and Luxembourg, international mergers are legally possible when it is a matter of a foreign company being taken over by a national company. In other cases, company law in France, Belgium and Luxembourg requires the unanimous decision of the shareholders, a requirement which it is impossible to fulfil when the capital is dispersed. In Italy no unanimous decision is required,

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(1) The Commission's study of the question of extending the application of this statute is in progress.

and shareholders who are opposed to the take-over have no recourse except to sell out.

Such requirements severely limit opportunities for international mergers.

In addition to fiscal obstacles, which will be considered later, differences between member countries' legislation governing company charters are also an obstacle to association between companies of different nationalities.

The Community is endeavouring to remove these obstacles by a combination of measures.

Amongst the functions carried out in pursuance of Article 54 (3) (g) of the EEC treaty (right of establishment: directives co-ordinating the guarantees required from profit-making companies), there should be mentioned:

- as a first achievement, the Directive of 9 March 1968 on publicity to be given to action on the part of companies, the validity of commitments assumed by companies and acts which are void;
- the forthcoming submission to the Council of a Commission proposal for a directive on the constitution, maintenance and modification of the company's registered capital;
- the proposal for a directive soon to be submitted on the harmonisation (or introduction in countries where they do not yet exist) of provisions governing mergers between companies of the same country. The adoption of a Community mergers system will indeed be greatly assisted by simultaneous harmonisation of the internal systems of each country;
- the existence of a preliminary draft proposed on the harmonisation of the content of annual accounts and methods of valuation.

In pursuance of Article 220 (3) of the EEC treaty:

- member States signed a Convention on the mutual recognition of companies and legal persons on 29 February 1968;

- a preliminary draft convention on possibility of mergers between companies in different member countries, by take-over or by the establishment of a new company, is in preparation and may be submitted during 1970 to the Council of Ministers. It will provide the necessary framework for intra-Community mergers.

Finally, in 1965, the government of a member State proposed adopting a statute for a European Commercial Company as a specific and speedier solution to the problems of concentration and co-operation between companies in the Community.

This idea immediately aroused lively interest in economic circles. One uniform statute is easier for firms to apply than different harmonised charters. The major psychological obstacle inevitably raised by the change of nationality would disappear or be greatly attenuated if multinational mergers were to tend to the formation of a European Company.

The resulting facilities would be particularly appreciated by medium-sized undertakings which experience more difficulty than very big ones in expanding across frontiers.

As early as April 1966 the Commission submitted to the Council of Ministers a memorandum on a European limited liability company. The same year, it requested Professor Sanders to produce a report and draft statute for such a company. The Council then instructed a group of experts to examine the problems in the way of concluding an agreement in this field. Significant differences of a political and technical nature have prevented any decisive progress being made.

The Commission can only point to all the importance it attaches in common with economic circles generally, to the rapid completion of the draft statute as a substantial step towards providing the necessary legal framework for the development of Community industry. The technical difficulties still remaining are not by any means insuperable. Whether it be a matter of registered or bearer shares, workers' participation or entitlement to the statute, these must be a political will to work out solutions acceptable to all. That is why in the spring of 1969 the Commission decided to prepare its won draft statute for a European limited liability company which it will be submitting to the Council very soon.

The resumption of work on this project, with determination at political level to remove the last obstacles, would show better than anything else the governments' intention of encouraging the development of co-operation between companies in the different Community countries.

The adoption of a European statute would have considerable psychological impact, especially if it were accompanied by other progress in the achievement of economic and monetary union. It would be interpreted by business circles as an encouragement for the creation of really multinational undertakings and would greatly contribute, by removing or considerably attenuating the national loyalties of firms, to solving the difficult problems of moving the decision centre or not, which will be considered later.

In conclusion, while the legal means at the disposal of Community firms display serious deficiencies, opportunities exist nevertheless, although very little use has been made of them. This state of affairs depends on a certain number of factors which deserve furhter examination.

Before proceeding to that examination, one last problem must however be touched on: the interpretation of Article 86 of the EEC treaty with regard to the process of concentration of firms in the Community.

Hitherto the Commission's efforts have been concerned mainly with the definition of the forms of co-operation which enable firms to operate more rationally and to increase their productivity and competitivity in an enlarged market.

In fact, it has been rightly pointed out that in most industrial sectors Community structures so far display a dispersion of production potential rather than an excess of concentration.

From now on, however, several sectors will be seeing a greater degree of concentration and their number must grow if the process of intra-Community co-operation and concentration develops as required.

Such developments pose the political and economic problem of the preservation of real competition inside the Community, having regard to external competitors.

Already in its memorandum of 1965 on the problem of concentration in the Common Market, the Commission stated its opinion that a concentration of firms amounting to a monopolisation of the market must be regarded as abusive exploitation of a position of power.

The principle of supervision and approval a posteriori which prevails at present by virtue of Article 86 in all fields other than coal and steel, may seem advantageous to firms. However, there is no evading the conclusion that public authorities will be unable to remain indifferent to certain developments. That is why, at the right time, it will doubtless be necessary to formulate more modern and precise legislation on concentration - legislation which, while simplifying administrative procedures to the maximum, would also allow the Commission to guarantee the preservation of real competition, whatever forms are taken by that concentration (1).

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(1) The Commission already made a proposal to this effect in regard to the energy sector in its memorandum on initial guidelines for a Community energy policy.

Moreover, for sectors where the degree of concentration is high, the authorities of the Community and of member States might do well to introduce machinery for consultation without delay.

Lastly, the tendency to form groups covering several sectors, which is emerging in the majority of highly industrialised economies constitutes a new form of concentration. This process, which raises important problems as much from the point of view of competition as from that of industrial efficiency, calls for a thorough examination by the competent Community authorities.

II. FISCAL OBSTACLES

Apart from certain legal obstacles of which we have just been speaking, fiscal obstacles are the most serious ones in the way of the international grouping of firms, which is why the Commission has listed them in detail in its programme for the harmonisation of direct taxation (1).

These obstacles differ according to the form of concentration concerned:

- in the case of real mergers and transfers of assets it is the tax on the transaction itself which usually constitutes a prohibitive obstacle;
- in the case of the acquisition of holdings, it is the system of taxation to which the group (parent company and subsidiaries) will be subject which constitutes a serious obstacle.

The importance of these two questions led the Commission to give them priority and, on 15 January 1969, to lay before the Council two proposals for Directives, one concerning the taxation regime applicable to mergers, the other with the taxation regime applicable to parent companies and subsidiaries.

The proposal for a Directive concerning the common tax system to be applied to mergers, break-up of companies and transfers of assets between companies of different member States is based on the principle that the tax system where mergers are concerned must be neutral, that is, it must neither constitute an obstacle nor an encouragement to concentration. Mergers must be prompted by economic and not fiscal motives.

This proposal for a Directive is designed essentially to solve the two problems of taxing the increase in capital assets the merger brings about and of the taxation regime to which the merger company and its foreign establishments (the company taken over) are subject.

It is proposed that increases in assets no longer be taxed when the merger is decided but only when they are actually realized (for example, on the transfer of the property concerned or on the winding up of the company taken over).

(1) Communication to the Council of 26.6.67.

This postponement of the tax is subject to a twofold condition: the assets to be transferred must be entered in the accounts of a continuing establishment in the country of the company which is taken over and be written off against the value for which they appear in that company's fiscal balance-sheet.

With regard to taxing the profits of the consolidated company, the Directive allows firms a choice between two systems:

- the taxation of profits in the country where they were made; or
- the world system, i.e. calculation of tax in the country of the head office and in accordance with the rules in force there on all the profits made in the Community, deducting all taxes paid in other member States, such system not implying, however, that unchanged establishments are exempt from paying taxes to the member States in which they are located.

Both methods have the advantage of eliminating double taxation, which as things are may still take place.

The second proposal for a Directive is concerned with a common taxation regime to be applied to parent companies and their subsidiaries in different member States. Its practical importance is great, since the acquisition of holdings is already possible and indeed frequent within the Community.

The aim of this Directive is to eliminate double taxation when the profits of subsidiaries are distributed to the parent company. The network of existing bilateral agreements in this matter between Community countries is incomplete and they do not always operate satisfactorily. According to the proposed Directive:

- profits transferred or distributed by the subsidiary and taxed before distribution will no longer be taxed at the level of the parent company;
- profits will no longer be subject to tax deduction at source, either at the level of the subsidiary or at that of the parent company (though there will of course be deduction at source where the parent company redistributes such profits to its own shareholders).

For this system to apply, the holding must represent a certain percentage of the capital. Member States are nevertheless authorised to retain their own figure where this is more favourable.

The Directive finally proposed that the Community should give groups an opportunity, where the holding in the subsidiary exceeds 50%, of opting for the system of consolidated profit.

These two proposals for Directives do not solve all the fiscal problems posed by concentration between companies of various member States. However, they seem capable of solving the main ones, leaving the others for solution as fiscal harmonisation is progressively achieved within the Community. That is why a prompt decision on these two Directives is likely to make a decisive contribution towards the restructuring of Community industry. Such a decision is all the more necessary because external competing companies established in the Community often make use of a certain number of tax expedients (1) which lessen the effects of double taxation.

III. THE ROLE OF COMPANY MANAGEMENT

There is no need to stress that the abolition or adjustment of the obstacles and difficulties just mentioned will have real significance only if Community firms make use of the opportunities thus offered to them. It must be admitted that hitherto they have availed themselves only to a limited extent of possibilities already in existence. The instances of co-operation or concentration achieved in the Community in past years have mainly concerned firms in a single member State, and in the case of multi-national operations, cases of association between companies in member States and others in third countries have been more numerous than those between companies in different member States, as shown in Chapter II of Part 1 above. This past development is easily explained. In many indus-

(1) such as the setting up of an intermediary "tax haven company" between the external parent company and the income-producing establishments in Europe, enabling - thanks to the action of prices and to various sums payable between the group's companies - taxable income to be kept down to a minimum in the various member States while the main part of the profits is transferred to the "tax haven company" situated in a third country where taxation rates are more favourable.

trial sectors of the Community and more especially in certain countries, the dispersion of industry was such that certain groupings, easier to achieve in the national framework, were necessary before any further development of the firm's strategy. The merger of certain firms in third countries looking for European partners, their more favourable financial propositions for the immediate future in the case of buying of business or acquiring holdings (1), and their technological lead has often encouraged European firms to give preference to offers from outside. Without being unmindful of the value and advantages for Community firms of association with others in the same country or outside the Community, the Commission is convinced that the pursuit of the present trend would not be favourable either to the achievement of a real single market within the Community or to the future vigour of Community industry.

As previously recalled, Community countries have, during recent years, seen a substantial increase in national concentration which in certain sectors has led to the formation of units powerful in national terms but still not large enough to face international competition or to conduct the research and make the necessary investments to remain in the technological and economic forefront of modern industry. Following the formation of such numerous groups, the opportunities still existing in the national field are now fewer in certain sectors, either because the present degree of concentration allows no further advance in that direction within the country or because the prospective partners seem insufficiently complementary from the technical, trading or financial points of view. Very often the efficiency of concentrations in the national field is limited because the rationalisation of the means of production is not matched by a parallel enlargement of the market.

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(1) The reason for these more favourable propositions seems to be not only in the more dynamic strategy and more powerful financial resources of certain third country firms, but also in differences in the real purchasing power of currencies in relation to their exchange rates.

While this kind of concentration is necessary in certain cases, particularly in weak or declining industrial sectors, in dynamic sectors it no longer constitutes the best answer to modern forms of competition or does it make the best use of the new opportunities offered by the setting up of the Community. The success of large world-wide companies rests on a rational division of powerful production units or on marketing in many countries, rather than on exporting from the country of origin. The change in competitive conditions has often meant that to succeed on a market a firm has to be in it not only at the distribution but also at the production stage, in order to be able to make better adjustments to market conditions.

These considerations are equally valid inside the Community. Indeed, the abolition of customs tariffs is only a first stage in the setting up of a single market.

The price differences which exist from one country to another for identical products alone show the imperfections of the single market in its present state. The previous Chapter recalled some of the causes at the root of these discrepancies.

In the face of this situation, whose consequences may continue for some time to come, firms have several possible attitudes open to them:

- either to isolate themselves within their own market, which for the firm amounts to rejecting the opportunities of the Common Market and adopting a defensive attitude which in the long term can only result in loss, or
- singlehanded or in collaboration with firms in the same country to try to overcome the obstacles by setting up an entirely new distribution network or new production units in other Community countries, or
- to seek co-operation or concentration with a company in the country where it is desired to enter the market.

It is not possible to give a clear preference to one or other of the two last-mentioned solutions. The sector and the size of the firm wishing to establish itself abroad are determining factors.

It must however be recorded that the setting up of an entirely new trade network or production unit in a little-known country, in a country whose trade practices and consumer attitudes a firm knows little, gives rise to acute difficulties of adjustment and is very costly, often prohibitive indeed for small and medium-sized firms.

To sum up, should a widening of its field of action prove necessary for a firm, it seems that there are often specific advantages in effecting it by means of concentration or co-operation on a multinational rather than a national basis.

The problem of choosing between a Community partner and one from outside the Community is also posed very differently according to the characteristics of the firm, the sector and the form of association envisaged.

It is for the management of the firm to assess the advantages and disadvantages of the various choices open to them as regards co-operation, the acquisition of holdings, the founding of subsidiaries or of joint holding companies. It would seem, however, that in the choices which have been made two important factors have not been given their proper weight.

The first is concerned with legal and political security and the facilities which the Community framework offers already and will be offering increasingly. Although there are obstacles and difficulties within the Community, institutions and procedures exist to overcome them and the Treaties are there to guarantee the same security to companies and, later, the same facilities in the Community market as in the national market. However, many firms which still lack international dimensions are seeking to acquire them in the first place by association with third country companies although they are not yet properly established in the Community where collaboration conditions might well prove easier or more fruitful and serve as a test-bench for subsequent extensions towards third countries.

The second factor is the importance of taking over firms in another Community country which do not wish or are unable to carry on independently.

Community companies have most certainly shown much less eagerness than their third country competitors to exploit such situations. Such an attitude appears to disregard the substantial growth prospects of the Community economy. Through failure to investigate or sometimes for want of satisfactory offers, potential Community purchasers have thus missed decisive opportunities for their subsequent expansion.

The Commission is not unaware of the complexity and risks attaching to any co-operation or concentration which is not in the form of a controlling-interest, especially as between firms in different countries. It seems indeed that the failure of many grouping operations may be ascribed to difficulties of a sociological and psychological order.

The few surveys (1) carried out show that the reasons for the breaking up of groups already formed are mainly: disagreement regarding objectives, lack of confidence, incompatible management methods. In the experience of specialists in this field, those same factors are responsible for a very much larger number of failures at the negotiation stage.

Every operation seeking to place several firms under the one management necessitates compromises which are difficult when each of the firms concerned has its peculiarities, its own management traditions, objectives, ways of dealing with its workers, production and marketing techniques. Between partners of different nationalities, there must be added the language difficulties and clinging national practices in particular with regard to relations between management and labour, with competitors and with the public authorities. Lack of knowledge of what is normal practice in other countries easily gives rise to misunderstandings and mistrust.

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(1) In particular the ECESP survey, already mentioned, which records 20 failures for a total of almost 1 500 cases of international co-operation, but specifies that the real percentage of failures, regarding which those concerned preserve a very understandable discretion, must be very much higher.

Difficulties of this kind are by definition not amenable to direct action by public authorities. Only firms themselves can avoid or overcome them and this only by the meticulous and systematic preparation of the grouping operation.

The experience of specialists in this field, of whom there are still too few in Europe, it is true, has enabled certain rules of conduct to be worked out - a "merger management" guide which if followed will avoid disappointment and failure.

Thus, co-operation or concentration presupposes a knowledge on the part of each of the partners of their own potential and objectives.

The existence of long-term forecasts enabling the future development of each of the partners to be foreseen with accuracy is an important factor in success.

The grouping operation itself must be planned and organised. The analysis and comparison of the structures of the firms seeking to amalgamate and of their technical, economic and human potential makes it possible to define reserved spheres and the objectives of the new group.

The organisation of the grouping operation is generally, above all between equal partners, a gradual process. A full organic merger is not only technically difficult to achieve straight away but it also carries the risk of missing out essential stages and ending up with an artificial structure. Very frequently, the group has to be formed gradually.

Lastly, regroupings not only do most grouping operations not yield immediate financial results but they involve costs of reorganisation, investment and withdrawal of capital which, for a relatively long time, will be a drain on the partners' profits.

The strict planning of the operation will enable this expenditure to be foreseen and the necessary funds to be allocated to it so as to achieve faster the increased profitability which is the end in view.

In conclusion the Commission must emphasize the role and the responsibilities of company managers in the structural changes in progress in industry. It is largely they who must ensure that these changes contribute to the establishment of a real single market and to the creation of firms able to confront severe competition on the world market in the best possible conditions. It is also up to firms themselves to ensure that the major sectors of European industry are not relegated to the role of sub-contractors for firms outside Europe.

That is why the Commission thinks it essential that industrialists in the Community who wish to join forces with other firms should first ask themselves whether any possibility exists of a partner inside the Community. Professional bodies and employers' organisations in the Community could play here an even more active and useful role by making their members aware of the restructuring problems which are arising in one or other branch and in bringing the various parties concerned together. The difficulties which industry faces in adapting to a Community dimension are partially explained by the lack of documentation and information on the development of each branch of industry at Community level and at international level. A systematic examination of the situation in the professional organisations of the Six in the light of thorough documentation would facilitate preparation for the changes which must come about.

It is particularly desirable that small and medium-sized firms should be given help in seeking possible partners in other member States. Despite a few small attempts in this direction, scarcely any organisations exist in Europe to whom such offers or requests could be forwarded with the necessary guarantees of discretion.

The banking sector would seem at first sight to be the best equipped for undertaking or developing such operations, as is shown by the action of the American banks set up in the Community who give

this kind of assistance to companies who wish to co-operate with firms in the Community.

It would therefore seem eminently desirable that, by collaborating with one another and creating where necessary specialised joint subsidiaries, the large banks of the various member countries should come to the assistance of industry in this field and thus encourage the necessary restructuring activities. In order to be truly effective, such services should not be restricted to the regular clients of the participating banks but should be open to all the firms interested.

IV. POLITICAL AND SOCIAL PROBLEMS

The Governments of member States have on certain occasions in the past shown serious concern regarding moves towards collaboration, the acquisition of holdings and concentration going on between firms in the Community. Their concern has on occasion been reflected in a refusal to allow the proposed operation to be carried out.

The reasons behind this attitude should not, in the opinion of the Commission, remain insuperable obstacles to the reorganisation of the Community's industry. So much is at stake for the future of the economy of the Community and for the industries in question that it is essential to tackle the basic causes of these difficulties in order to devise a concerted or joint solution.

1. The social aspects

In order to be efficient, grouping operations may entail, in the first instance, rationalisation accompanied by reductions in the number or changes in the nature of jobs. The cutting down of staff in the case of multi-national group, even if accompanied by the creation of jobs of another kind or in another place, has a particularly serious social and psychological effect. Such social changes are the less welcome because their cost is borne by the country concerned. The difficult but essential retraining of coal and steel workers

in the Community could only be carried out in more favourable conditions because of the considerable means which the High Authority was able to devote to the various forms of social action which accompanied the changes of occupation.

The Commission deems it essential that the expansion of Community solidarity (1) with regard to social questions should benefit first and foremost those industries where restructuring is required as a result of Community integration.

Moreover, trans-national restructuring and the moving of decision centres which may follow present extremely complicated problems for management and labour in particular for the workers' representatives since negotiations become international and practices and conditions may change. Such problems must be solved by efforts to seek co-operation at Community level in the trade unions and between management and labour.

2. Foreign investments

On several occasions in the past, the Commission has emphasized the vital contribution which foreign ivestments make to the economy of the Community. These investments frequently represent a sizeable contribution to the productivity, technology and financial resources of Community industry and are one of the most effective means of achieving international division of labour.

The Commission is convinced that the right response to this competition which the industry of the six countries has to face from within the Community itself does not lie in a restrictive attitude but in the strengthening of the structure and vigour of European undertakings.

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(1) cf. The Commission's opinion, submitted to the Council on 4 May 1969, on the reform of the European Social Fund.

To establish "protectionism" for the benefit of firms can only place them in an artificial environment which would scarcely be favourable to their expansion in or outside the Community.

The very rapid growth of foreign investments in the Community during the last ten years may, however, in certain sectors, present difficult political and economic problems, as is demonstrated by the attitude displayed by one or other member State in the course of specific operations.

These problems are posed in different terms depending on whether the operation is a new investment or the acquisition of a minority or majority holding in companies in the Community.

In the first case, the net increase in the means of production leads undoubtedly to fiercer competition but necessitates the creation of new jobs and recourse to new technologies. Such new investments have not usually caused member States to take different attitudes. It can even be said that the general desire of member countries to attract such investments has led to such vying in the granting of state aid that sometimes foreign firms have been placed in a better investment position than their competitors in the Community.

Harmonisation of aid is essential (1) in order to reconcile the necessities of regional development with fair conditions of competitior

When it comes to take-overs or the acquisition of minority holdings in Community firms by firms from third countries, member States have adopted attitudes which are often at variance; this may be explained by the different views as to the relative importance of the various sectors and by differences in the policy they each follow. This divergence of national policies is undoubtedly a serious problem

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(1) See part III Chapter I.

for the Governments of member States in certain cases of inter-community grouping. Indeed the creation of multi-national groups in the Community presupposes the adoption of a common policy by the member States with regard to them.

An essential component of this common policy is the adoption by member States of a common attitude to the taking-over of firms in certain sectors by companies from third countries. Member States have been studying the far-reaching changes which the acquisition of such interests produces in the structure of the sector of industry concerned and which, much more than the setting-up of new firms with foreign capital, distorts the balance of the forces at work.

This problem is particularly marked in sectors where as a result of the present weakness of European industry, such take-overs are likely to create an obstacle for some time to come to the birth and development of trans-national European industries. The consequences, not only as regards competition between products but also for the future of the sector in question (balance of financial and technological forces at work in the sector, possibility of keeping up activity in the sector at national or Community level, in short the need to amend the entire strategy in the sector concerned) illustrate the interdependence of industrial structure policy and the attitude to the acquisition of holdings by outside companies. A Community industrial structure policy would indeed be very difficult to put into practice if a common attitude to such operations were not defined.

The Commission does not think by any means that a concerted attitude in this matter should be reflected in a restrictive policy in regard to take-overs or the acquisition of holdings by firms from third countries. But in cases where such operations run counter to the objectives pursued by governments - which need not necessarily be purely economic but may also be bound up with security consider-

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ations and for the sake of which the public authorities have made considerable financial and economic sacrifices - the Commission considers that a concerted attitude is essential. It does indeed appear necessary for member States henceforth to take action at Community level of the kind they have been taking hitherto at national level and which is no longer satisfactory precisely because the national framework is too small. This concerting of their action should make it possible to adopt a common policy in regard to the few sectors in which take-overs on a large scale would imperil the legitimate aims pursued by member States or defined by the Community. It would rest with the framers of industrial policy to work out on a Community scale the alternative solutions which may prove necessary.

3. Problems of national defence

Some firms devote part of their production to items required for national defence. Whether these are specifically military or also have uses in civilian life, the firms in question may experience like problems of reorganisation and growth which justify an endeavour to co-operate or join with other firms in the Community. In the absence of any Community authority for defence and armaments, such projects might arouse legitimate apprehension on the part of the governments concerned.

There is no need to stress that the existence of dynamic firms is basic to defence potential and that the withdrawal of a firm from international competition is no guarantee of efficiency. That is why, in the Community framework, the problems which arise can only be settled case by case with governments negotiating individual solutions where necessary.

However, the problems of industries engaged in national defence cannot be solved satisfactorily unless considerable progress is made towards political union. The absence of European political union represents in particular a major handicap for the rational organisation of technologically advanced military production.

4. Public enterprises

In the past, public enterprises in the competitive sector have stood aside from the co-operation and reorganisations which have occurred among firms in the Community. While some technical agreements have been concluded in recent years, they have not led so far to any specialisation or restructuring. The basic reason for this lies in the function and structure of public enterprises. The advantages from multi-national co-operation or concentration are, however, as great for public enterprises in the competitive sector as for private firms, and there is no economic reason for dismissing the possibility or necessity of co-operation or mergers in this sector too. The same is true, moreover, for public services in the non-competitive sector. It must be admitted that the creation of the Common Market has had scarcely any effect on progress in co-operation between the public services of the six countries of the Community beyond such collaboration as had been instituted in a wider international framework. It seems desirable that the whole of the Community economy should benefit from the advantages which would undoubtedly result from closer co-operation and perhaps in some cases from a measure of integration on the part of non-competitive public services in the Community. One such aspect of this could be a joint purchasing policy.

In respect of co-operation and concentration amongst publicly-owned competitive enterprises, such operations would no doubt raise

delicate legal and, in particular, political problems. Moreover, these problems present themselves in different ways according to whether the two partners are both from the public sector undertakings or whether one is publicly-owned and the other privately-owned. In the latter case, the differences in objectives and management methods have hitherto represented particularly difficult obstacles to overcome.

The solution of a common subsidiary seems at the present time the best method of organising collaboration between public enterprises or between public enterprises and private firms in the Community. Examples of such operations are however very few and, as was stressed above, we must ask ourselves whether, in order to encourage such collaboration, it is not necessary, to widen the field open to the establishment of joint undertakings, within the meaning of the Euratom Treaty, which thanks to their statutes would correspond to the requirements of the parties concerned.

The problem of association between public enterprises in different member countries requires closer examination, in particular with regard to the possibility of working out a special legal formula for this kind of co-operation. For the immediate future it is still possible to resort to an ad hoc formula worked out by intergovernmental negotiation.

The activity of public enterprises, even those in the competitive sector, has to benefit the whole of the economy. In the Community, this can no longer be simply a national matter but must take into account the objectives of the new economy of which the national economy is henceforth to become a part. That is why, far from remaining outside the movement towards collaboration and restructuring inside the Community, their very nature obliges public enterprises to facilitate and effect in their own field the modernisation and restructuring required from the Community point of view. Public concerns can and must make an especially large contribution to furthering the objectives of Community industrial policy by methods of collaboration which may perhaps differ from those open to private firms.

). Movement of the decision centre

This is a psychological and political problem which is probably the most difficult obstacle to be overcome where multi-national mergers inside the Community are concerned.

The union between the six countries has been conceived in order to enable them together to attain the rank of a great economic power. However, in the absence of political integration, the process of economic integration engenders national rivalries which prevents the Community from achieving its true objective. Thus, steps which have recently been taken towards sizeable multi-national grouping operations have immediately aroused disquiet, reserve and even opposition on the part of national authorities and attitutes showing very little 'Community spirit' on the part of public opinion. However, it is impossible to evolve joint production and joint markets while at the same time refusing to divide responsibility for the organisation and control.

In recent years some member States have rightly been concerned at the unsuitable structure and inadequate size of some of their firms. Grouping was necessary at national level in cases where the sector structure was not yet on a large enough scale nationally to ensure the survival of firms and also to enable a policy of restructuring to be pursued at Community level. But in order to put their firms in a better bargaining position vis-à-vis their potential partners in the Community, member States have continued to encourage and even force certain grouping operations at national level. Trends being mostly parallel, discrepancies in size have sometimes taken on different proportions, but they remain nevertheless.

The grouping possibilities depend on the overall size of the industrial sector concerned, which is in fact never the same from one country to another. That is why to seek an equilibrium thanks to purely national solutions leads to an impasse.

In the first place, in countries where industry is not foremost in the economy, this method is likely to lead to the loss of the decision centre in the grouping process.

The movement towards national concentration of industry cannot go on in some sectors without making any further restructuring at European level impossible and without leading to a number of monopolist situations at national level. This process, if not arrested, will not only cause the industrial sectors so organised to lose the advantages of multi-national structure but will also constitute an obstacle to the final establishment of a single market, in particular in the growth industries which depend on public orders and funds. Lastly, this process is likely to transform the balanced and stimulating competition intended by the Treaty of Rome into a confrontation where political considerations and national prestige will carry more weight than economic arguments.

The problem of the different size of partners in proposed grouping operations, especially mergers, is quite considerable. Between large firms, the larger one considers that its size should assure its superiority, which often causes the other firm to lose its identity in fact if not in law, whilst the smaller concern will temporize in the hope of finding an alternative solution that will allow it to retain its identity or put it into a better bargaining position. These two attitudes mean that restructuring plans which are essential for Community industry are sometimes suspended.

In fact, at company level the fate of being swallowed by one or other industrial giant is rarely unavoidable. If no partners can be found of their own size firms have to resort to methods which safeguard their own identity and also carry some at least of the advantages to be gained by forming a group. As we have seen, there are forms of association such as co-operation or the founding of joint subsidiaries or holding companies which, coupled with provisions to

suit the particular case, allow firms of different sizes to associate without automatically making the smaller subservient to the larger.

In addition, the problems arising often present themselves differently if one considers the sector as a whole. At sector level, a country's largest firms do not necessarily have to take over their equals in a neighbouring country, particularly in the light of the maintenance of effective competition on the Community market. Very often several possibilities exist for a firm which is not the largest in the Community to absorb smaller companies in other member countries where the sector in question is nevertheless in general more developed. Thus, a multi-national framework undoubtedly offers many more possibilities of achieving a balance in the size of undertakings and in the distribution of decision centres than a purely national framework.

In certain sectors vital to the future of the Community - in particular in the advanced technology sectors - (cf. Part IV below) it is not possible for one firm to maintain itself in each sector in each of the six Community countries and sometimes the Community is not large enough to support a firm in the sector in question at all. Often these sectors are those which have most prestige in the eyes of public opinion and of the authorities and where the problems raised by losing the decision centre are most severely felt. The choice in this case lies however between keeping the decision centre in the Community and transferring it to a third country.

Movement of decision centres within the Community is unavoidable, but a watch should be kept to ensure that it does not happen in one direction only. This problem has become urgent above all because the member States have decided upon a degree of economic integration which overlaps the political field. The answer to this problem cannot be found in halting economic integration but in improving political decision-making.

Whilst sharing the concern of the governments as to the need for a speedy reorganisation of the Community's industry, the Commission considers that this cannot be conceived at national level. That is why the policies pursued hitherto and the action taken by governments or specialist organisations in existence or to be set up must be agreed jointly at a Community level.

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CONCLUSIONS

As the European Community assumes its full dimensions, it seems essential that the instruments and machinery necessary for a common industrial structure policy should be at its disposal. Such a policy cannot be concerned solely with measures to smooth out difficulties in certain sectors, nor again solely with action to promote sectors of advanced technology. It must also be aimed at industrial structures as such, that is to say, at the main alternatives for reorganisation which the public authorities cannot regard with indifference since they more or less determine the whole future development of the sectors in question.

There is already one method whereby it is possible to study in common general problems of industrial structure and to work out guidelines, namely the drawing up of detailed medium-term economic policy programmes. Certain important sectors such as shipbuilding, electronics and the textile industry are already or will soon be subject to common guidelines of this kind.

Such moves, however, do not always permit agreement to be reached with regard to certain specific problems which give rise to great anxiety and call for decisions by more than one member State, on account either of the under-organisation of one sector, over-haste concentration or a large influx of foreign investment.

For reasons which have been stated in this chapter, the Commission believes that it is no longer possible to postpone the confrontation and co-ordination of action by member States in these different fields. It should concentrate on the policies pursued with regard to the restructuring of firms and their consequences for the Community. It should also be concerned with the attitude

to be adopted in regard to certain foreign investments, with particular reference to the continuance of real competition on the Community market and the need to allow the development of European companies in certain sectors. Lastly without prejudice to the Commission's powers with respect to concentration and to those few sectors where only a limited number of firms will be able to continue in existence, it could lay down guidelines for the necessary grouping operations. Investigations should be limited to the most critical sectors in each member State and should be opened at the request of a member State or of the Commission. In short, the Commission considers that a machinery and a forum for discussion should exist in the Community for specific structural problems which, because of their importance, have a bearing on the future of Community industry.

The framework for discussion should be such as to ensure the rapidity, flexibility and efficiency. Bearing in mind the political and economic importance of the problems, it would seem necessary to discuss them at ministerial level.

The problem of machinery to facilitate and encourage the cross-frontier restructuring of Community firms is one that was first raised some time ago.

The function of such machinery is twofold. On the one hand, it gives financial assistance to firms which need capital for certain take-over operations and to meet the charges and costs of all kinds which mergers and take-overs generally involve. On the other hand, such machinery can take the place of a middleman to whom the prospective partners know that they can address themselves.

With regard to the middleman function, the national agencies which exist or are being set up are supposed to intervene in national affairs. The Banks of the Community, despite the creation of certain specialised multi-national subsidiaries, have until now had few successes to their credit at Community level: it is certain that to intensify their activities in this field, in particular by creating or strengthening specialised agencies responsible for putting prospective partners in the Community in touch with one another and providing all the accompanying services, would meet a particularly urgent need. Should these initiatives come to nothing, the possibility of setting up Community machinery for this purpose should not be disregarded.

The results obtained in Great Britain by the Industrial Reorganisation Corporation show, on the other hand, that a public body with sufficient financial resources can contribute efficiently to the restructuring of industry if it is managed flexibly and dynamically and has the confidence of business circles. The French Government, in setting up the Institut de Développement Industriel had the same objective in mind - it is often asked whether the Community should not be provided with such a machine. A thorough survey, if necessary within the context of studies relating to the enlargement of the Community or to the merger of the Treaties, should be undertaken to see whether similar machinery could not be set up at Community level.

The Commission considers it essential at least that the competent national authorities should, by means or organised co-operation, help to extend industrial restructuring to the Community as a whole.

Although, in certain sectors, in particular the advanced technology industries, direct action is justified by the part played by public authorities in financing industrial development the Commission considers that, as a general rule, action with regard to European

industrial concentration should be left to the firms themselves which should, however, be encouraged in that direction by the removal of the difficulties which now exist. The European Investment Bank could very well support such action as was recognised to be of European interest.

Already the European Investment Bank and the Commission indirectly thanks to ECSC funds, have intervened in restructuring operations by granting loans for operations involving direct capital investment. Such action should be supported (1).

The E.I.B., within the framework of Article 130 of the Treaty of Rome, could no doubt multiply its activities and relax its rules in the light of the real financial problems which, at different stages, restructuring operations and industrial co-operation could present.

The action of the European Investment Bank would be made considerably more effective if it were possible for the Community to grant certain facilities for those restructuring operations deemed to be the most essential and urgent. Such facilities would, moreover, be warranted by the particular difficulties which multi-national mergers generally have to meet as compared to national mergers. They might take the form, once the necessary legal basis had been established, of guarantees which would be financed from the ordinary budget of the Community and would back up the Bank's policy of loans for restructuring purposes.

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(1) The foregoing considerations are developed without prejudice to any proposals which the Commission might later wish to make with respect to the various Community credit facilities offered to industry.

The possible extension of the role of the Bank to operations other than loans in order to facilitate certain restructuring operations without weighing too heavily on the financial structure of undertakings should also be the subject of a thorough survey, in particular with regard to the legal forms to be adopted.

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CHAPTER III

COMPANY FINANCING

The very general conclusions to which this Chapter will lead make it unnecessary to state here a large number of reservations regarding the lack of uniformity of the information available and the multiplicity and peculiarities of the situations covered both of which greatly diminish the accuracy of any analyses that can be attempted on the basis of the data given (1).

The analysis, which is only an overall analysis of firms' sources of finance (self-financing and external financing) and of their financial structure, has made it possible to bring out certain problems concerning at the same time all firms and certain categories of firms (small and medium-sized firms, firms with a high rate of innovation, public enterprises). Studies in depth are still necessary to reach more specific conclusions on these various points.

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(1) These defects have led to the use of two sets of firms:

- those drawn from national accounts, which cover all firms. Their drawback is that they reflect an average of widely differing situations;
- those based on the balance sheets of as representative a sample of companies as possible; the criteria for selection and the accompanying methods vary however from country to country.

The two sets of data drawn up independently become significant when they show the same trends.

I. FIRMS' SOURCES OF FINANCE

A first method of analysis of firms' sources of finance is to separate internal sources (self-financing) from external sources (shares, bonds, debts). In view of the variety of circumstances, the incidence of short-term economic factors and the fact that the two forms of financing are complementary, it does not seem appropriate to go here into the advantages or disadvantages of the two modes of financing or the most desirable proportions on which recourse should be had to them. This method of analysis does, however, need to be accompanied by an examination of the distribution in company balance-sheets of undertakings of their own funds (capital and reserves) and debts. The relationship between these two factors makes it possible to reach certain conclusions more useful than those which emerge from a comparison between self-financing and external financing.

1. Self-financing

Brief definitions describe self-financing as "the surplus of operating income over operating expenditure actually paid out". A more specific definition which is generally accepted is that it corresponds to "the growth of assets, or the reduction of debts, achieved by a firm during one financial year by means of financial resources drawn during that year which do not derive from new capital or loans or from the realization of other assets" (1).

Table 12 gives the break-down of sources of company finance and of the uses to which they are put. According to this Table, the proportions in which financing requirements are met from internal sources are as follows, in decreasing order:

- United States and Germany : 65%
- Netherlands, United Kingdom, Belgium and France: between 55% and 60%
- Italy : 45%
- Japan : between 25% and 30%

(1) Marcel Malissen

TABLE No. 12

Overall financing of firms
Annual flow

(in %)

		SOURCES							USES		
		Internal	External						Gross fixed capital formation	Stocks	Financial investments
			Shares	Bonds	Long and medium-term loans	Short-term loans	Other	Total			
Germany	av. 1960/66 (a)	68.3	4.1	1.4	11.2	6.8	8.2	31.7	80.8	6.4	12.8
	av. 1960/65 (b)	62.8	11.3	12.8			13.1	37.2	74.6	8.1	17.3
Belgium	av. 1964/67 (b)	55.1	9.4		11.9	23.6		44.9	77.0(1)	5.0	18.0
France	av. 1961/66 (a)	52.9	6.5	3.6	20.0	14.3	2.7	47.1	78.1	6.3	15.6
	av. 1960/66 (b)	55.9	10.3	15.3		7.8(2)	10.7	44.1	62.1	15.1	22.8 (3)
Italy	av. 1960/66 (b)	45.1	19.0	6.2	17.0	12.7(2)		54.9	71.0	15.1	13.9 (3)
Netherlands	av. 1960/66 (b)	58.0	8.3	17.1		14.5	2.1	42.0	60.6	14.0	25.4
Japan	av. 1960/65 (a)	31.6	7.5	2.3	58.1		0.5	68.4	42.8	7.7	49.5
	av. 1961/64 (b)	25.1	10.3	1.6	14.5	48.5		74.9	43.4	9.1	47.5
United Kingdom	av. 1963/66 (a)	73.5	10.6		15.9			26.5	55.1	13.2	31.7
	av. 1961/66 (b)	55.4	11.6	11.5	21.3		0.2	44.6	54.1	13.5	32.4
U.S.A.	av. 1960/66 (b)	67.5	1.7	7.4	3.6	14.9	4.9	32.5	64.3	8.1	27.6

Sources:

(a) Data from national financial accounts
(Germany: Deutschen Bundesbank (Netherlands: Central bureau voor de statistieken

(b) Data from sample balance-sheets
(Belgium: Kredietbank (Japan: Ministry of Finance
(France: SEDES (United Kingdom: Ministry of Labour, Board of Trade
(Italy: Banca d'Italia (U.S.A.: Federal Reserve

(1) this percentage also includes the investments portfolio
(2) The total amounts of short-term liabilities and short-term assets are not shown under sources and uses: the balance only (surplus of liabilities over assets) is entered under sources.
(3) Net worth.

In the first place it should be noted that the rate is low in Italy and Japan which are the two countries that enjoyed the highest industrial growth during the period under consideration. If it be agreed that self-financing must first and foremost cover gross fixed capital formation, it can be seen that this has been achieved up to a level of:

- 100% approximately in the United States, the United Kingdom and the Netherlands
- 70 - 80% in Germany, France and Belgium
- 60 - 70% in Italy and Japan.

The same percentage may reflect very different situations: poor growth combined with low profitability or strong growth with a satisfactory return. One should therefore avoid drawing negative conclusions here from the financing methods or the yield of Italian and Japanese industries. To self-finance to the extent of 70% doubled and even trebled production, as is the case with Italy and Japan during the period under consideration, is a distinctly better performance than that of the United States which self-financed to 100% a growth of only 60% in its production during the same period.

On the other hand, the 80% self-financing of a production growth similar to that of the United States indicates the relative weakness of Germany, Belgium and France, whilst the 100% self-financing of the United Kingdom is of little significance since it coincides with a very moderate rate of production growth.

No analysis of trends in the rates at which gross fixed capital formation was covered by self-financing during the last ten years is given here, since the figures available give a clear picture only of the short-term economic trend which is deliberately left out of this report.

The fact remains however that, for various reasons, firms in member countries, in particular Italy, need to have recourse to external financing to a greater extent than United States firms.

2. External financing

The external financing sources shown in Table 12 are shown again in Table 13, but expressed this time as a percentage of total external financing. In spite of the different systems resorted to, certain striking facts may be noted.

In the first place, there is much less recourse to financing by means of share issues, relatively speaking, in the United States than in European countries. The reason for this is mainly that the yield of American firms enables them to face up to their present rate of development without having recourse to share issues to increase their capital. However, it should be noted that American companies had in the past made sure of sufficient capital since the total market capital value of companies in the Community in 1966 was only 11% of that of American companies

Germany	18	thousand	million	dollars
France	18	"	"	"
Italy	9	"	"	"
Netherlands	8	"	"	"
Belgium	4	"	"	"
EEC	57	"	"	"
USA	515	"	"	"
United Kingdom	161	"	"	"
Japan	29	"	"	"

On the other hand, American and British firms issue bonds on a much larger scale than companies in other European countries or in Japan, where the bond market is only a secondary means of financing industrial firms. That market is in fact taken up to a great extent in the Community by State loans, loans from public organisations, public enterprises or public or semi-public bodies specialising in long or medium-term industrial credit which usually act as intermediaries between the finance market and firms, in particular small and medium-sized ones.

T A B L E No. 13

Breakdown of external financing of firms

		Shares	Bonds	Long-term or medium-term loans	Short-term loans	Other	Total
Germany	av. 1960/66 (a)	12.9	4.6	35.3	21.4	25.8	100
	av. 1960/65 (b)	30.4	34.4			35.2	100
Belgium	av. 1964/67 (b)	21.0		26.5	52.5		100
France	av. 1961/66 (a)	13.8	7.6	42.5	30.4	5.7	100
	av. 1960/66 (b)	23.3	34.7		17.7	24.3	100
Italy	av. 1960/66 (b)	34.6	11.3	31.0	23.1		100
Netherlands	av. 1960/66 (b)	19.8	40.7		34.5	5.0	100
Japan	av. 1960/65 (a)	11.0	3.4		84.9	0.7	100
	av. 1961/64 (b)	13.7	2.1	19.4	64.8		100
United Kingdom	av. 1963/66 (a)	40.0			60.0		100
	av. 1961/66 (b)	26.0	25.8		47.8	0.4	100
U.S.A.	av. 1960/66 (b)	5.2	22.8	11.1	45.8	15.1	100

Source: cf. 'Table 12'.

Another reason behind this is the cost of issuing bonds. These costs as a percentage of the amount received by the issuer, recorded in September 1966, were as follows:

	Recurring costs (1) (excluding interest)	Non-recurring (2) charges	Total
Germany	1.10	0.46	1.56
Belgium	0.46	0.43	0.89
France	0.47	1.66	2.13
Italy	2.92 (3)	0.57	3.49
Netherlands	0.37	0.42	0.79
USA	0.16	0.09	0.25
United Kingdom	0.39	0.20	0.59
Japan	0.48	0.56	1.09

Source: OECD

Similarly, European firms only avail themselves to a limited extent of the possibility of convertible bond issues and recourse to the Euro-bond market, although there is progress in that sphere.

In fact European firms generally compensate for such limited financing by means of bond issues by having recourse to the above mentioned public or semi-public intermediaries or to special private loan systems resembling bond issues (Schuldscheindarlehen, onderhandse leningen) or again to the usual forms of bank financing.

Short, medium- and long-term credits do indeed usually represent the major external sources of finance for firms. The increasing inclination of the public for liquidity tends to bring about a relatively generous supply of short-term credit by comparison with the medium-term or long-term credit available, a state of affairs which is not always compatible with the orthodox financing of industrial expansion.

(1) Banker's commission and tax payable by the issuer.

(2) Issue costs proper, stamp duty, issue premiums and redemption premiums.

(3) It should be noted that in Italy these charges include the tax on "ricchezza mobile" (movable assets).

This situation reaches its peak in Japan where financing of undertakings is based mainly on bank credit, in particular on short-term credit which is often granted with an automatic renewal agreement. And so the President of a major Japanese bank finds himself able to say:

"If Japan had kept to monetary orthodoxy, the country's economic growth would have remained unremarkable and its astonishing rise to a place among the industrial nations leading the world economy would have been impossible." In Japan, in order to combat this situation several public establishments and three private banks are authorised to collect capital principally by issuing one-year and five-year debenture bonds and to grant firms medium-term and long-term loans for amounts which may be as much as twenty times their capital and reserves.

For the EEC countries, the following Table shows the loans which it has been possible to transform from short-term to medium or long-term in recent years.

Medium and long-term loans to the economy financed by liquid and short-term savings

(annual variations)

	1965		1966		1967		1968	
	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)
Germany	5.54	78.9	5.57	88.8	4.75	82.7	5.15	78.3
France	2.76	78.6	2.96	75.1	4.78	84.2	5.52	85.7
Italy	1.33	56.3	1.33	49.1	2.06	56.6	2.15	53.1
Netherlands	1.31	86.2	1.62	87.6	1.72	87.3	2.05	89.5
Belgium	0.47	73.4	0.76	82.6	0.60	64.5	0.62	60.2

Source: EIB 1968 Annual Report

(1) In thousands of millions of dollars

(2) as a percentage of total medium and long-term loans to the economy.

Italy's percentage which is distinctly lower than that of the other countries, is accounted for by the fact that banks are not legally entitled to grant medium or long-term credit. In that country, financing must be effected as in Japan either by specialised medium-term or long-term credit institutions which issue bonds or by means or short-term loans automatically renewed, a procedure which is not without risk.

3. The financial structure of firms

Tables 14 and 15 show the main assets and liabilities by the end of a financial year, the former in terms of percentage, the latter in terms of financial ratios for six countries in respect of which such could be calculated.

From the point of view of the soundness of financial structure, American and English firms are in a select position with:

- the highest percentage of their own sources of finance;
- the highest ratios for financing from their own sources and from permanent funds;
- the most favourable relation between their own funds and their medium and long-term liabilities.

On the other hand, the relationship between medium and long-term liabilities and cash-flow (which unfortunately could not be worked out in any comparable way for the United States) for British firms comes between the figures for German and French firms, such liabilities representing about two-and-a-half years of cash-flow. This confirms the fact that the United Kingdom's superiority over the EEC in respect of financing is the consequence of the lower rate of growth of its economy during the period under consideration.

TABLE No. 14

Financial structure of firms

Comparison of summary balance-sheets

		Assets			Liabilities			Sources
		Net fixed assets (1)	Stocks (2)	realisable and liquid (3)	Own funds (4)	long and medium-term debts (5)	short-term debts (6)	
Germany	1960	57.8	18.3	23.9	48.1	19.2	32.7	Statistiches Bundesamt. Wirtschaft und Statistik. Random sampling of balance sheets of about 1900 limited companies.
	1965	59.6	16.9	23.5	46.3	22.8	30.9	
France	1959	43.9	25.3	30.8	47.0	14.8	38.2	Centrale des bilans de la SEDES Random sampling of balance sheets of about 400 large companies
	1966	50.9	20.8	28.3	47.7	15.3	37.0	
Italy	1965	69.2	17.1	13.7	37.4	27.4	35.2	Mediobanca. Random sample of balance sheets of 354 companies.
	1967	68.7	16.9	14.4	36.6	27.0	36.4	
Japan	1960	51.9	15.0	33.1	28.9	25.8	45.3	Bank of Japan. Economic statistics of Japan. Random sample of balance sheets of some 500 industrial firms
	1966	46.7	11.8	41.5	23.6	27.2	49.2	
United Kingdom	1960	43.2	26.6	30.2	62.5	11.6	25.9	Ministry of Labour, Statistics on Incomes, Prices, Employment and Production-Board of Trade Journal.
	1966	46.2	24.6	29.2	57.6	14.1	28.3	
U.S.A.	1960	47.7	23.6	28.7	65.5	13.7	20.8	Federal Trade Commission. Securities and Exchange Commission. Quarterly Financial Reports for Manufacturing Corporations.
	1966	47.4	24.3	28.3	58.9	16.8	24.3	

TABLE No. 15

Financing ratios (calculated on the basis of Table No. 14)

		Financing of Investments		Own funds/ medium and long-term debts	Short-term assets/short-term debts	Working capital/ stocks	Medium and long-term debt/ self-financing for the year
		out of own funds $\frac{4}{1}$	out of permanent assets $\frac{4+5}{1}$	$\frac{4}{5}$	$\frac{2+3}{6}$	$\frac{4+5-1}{2}$	
Germany	1960	0.83	1.16	2.50	1.27	0.52	1.85
	1965	0.77	1.16	2.03	1.28	0.56	2.34
France	1959	1.07	1.41	3.18	1.45	0.71	1.73
	1966	0.94	1.24	3.12	1.29	0.58	2.87
Italy	1965	0.54	0.94	1.36	0.87	(x)	6.61
	1967	0.53	0.93	1.36	0.86	(x)	6.10
Japan	1960	0.56	1.05	1.12	1.05	0.19	....
	1966	0.51	1.09	0.87	1.07	0.35	....
United Kingdom	1960	1.45	1.71	5.41	2.11	1.16	2.11 (xx)
	1966	1.25	1.55	4.05	1.80	1.04	2.64
U.S.A.	1960	1.37	1.66	4.80	2.51	1.33	....
	1966	1.24	1.60	3.51	2.16	1.16	....

(x) Negative working capital fund
(xx) Year 1961

In the light of these figures, the situation of French firms would seem to be slightly better than that of German firms: the margin of investment covered by firms' own funds and long-term assets is higher, the comparison between the former and medium and long-term liabilities more favourable. The level at which short-term liabilities are covered by short-term assets and stocks by working capital is however approximately the same in both countries. On the other hand, German firms have a better long-term liabilities cash flow rate (2.5 years cash-flow as against nearly 3 years for French firms). This would point to the slight superiority of certain French ratios being attributable on the one hand to differences in rate of growth by comparison with Germany during the same period, and on the other hand to the special arrangements whereby a number of German firms finance themselves by borrowing from banks with which they are associated.

In every case, Italian and Japanese firms show the least favourable ratios. Italy is the only country where the ratio for investment financing by means of permanent assets is less than 1, which results in a negative working capital.

Taking the above data as a whole, a main fact becomes apparent. Certain companies have fragile financial structures because they are facing extremely rapid growth (Japan and Italy). Certain have sound structures for opposite reasons (United Kingdom). Only United States firms, thanks to their high rate of profit, have succeeded in combining a rate of self-financing equal to or exceeding 100% with a rate of growth which in recent years was close to that of the Netherlands, Germany and Belgium, and greater than that of France.

I. IMPROVEMENT IN THE CONDITIONS OF FINANCING OF UNDERTAKINGS IN THE COMMUNITY

No action aiming at improving companies' financing conditions can bear fruit unless the management has the necessary inclination to invest. There is no automatic correlation between capital available and investments, as previous experience has shown, where, for example, improvement in self-financing led firms to take over other companies rather than set up new production units.

In the Community, the inclination to invest seems to be still situated at a relatively modest level in certain sectors and certain countries. Reasons for this are varied. From the structural angle, in certain countries the very large number of family businesses whose own resources are quickly exhausted but whose management dislikes sharing control is certainly an unfavorable factor. The lack of long-term programming in most firms and sometimes also certain negative aspects of government economic policy may be behind many a missed opportunity.

In addition, psychologically, the desire to hold on to what one has generally overrides the desire to expand. That is why a reform of firm structures and better management must accompany any State action in this field.

1. Financing of firms in general

(a) Self-financing

Among the moves aimed at improving financing conditions, those generally first thought of concern self-financing. The fact that self-financing is the first method to be discussed must not be understood, in the view of the Commission, as giving priority to it; indeed, beyond a given percentage it may sometimes be replaced advantageously by other methods of financing.

It is very difficult to pin-point the factors on which action to encourage self-financing should concentrate. It is in fact the degree of profitability and the profit margin of firms which support self-financing and determine to a great extent the level it will reach.

Accordingly, action to increase firms' self-financing capacity coincides to a large extent with action to improve their general environment. It is unnecessary to stress that the standard of management also plays a major part in this respect.

Since the problem of environment is discussed thoroughly elsewhere in this document, it seems preferable to draw attention here to the improvement in the conditions of access to the capital market and its enlargement to Community dimensions.

(b) Improvement of the conditions of access to the capital market

In recent years, European firms do not seem, in general, to have met insuperable difficulties in financing their investments from external sources. The major part of that financing has been done by banks and other credit institutions. The reason for this mode of financing is to be found not only in the way in which the European finance market operates but also in the fact that very many European firms are too small to have direct access to the capital market. Available information on financing by banks or similar institutions and on the relations existing between banks and industry is too fragmentary at the present stage to allow any overall judgments to be made or any suggestions to be offered. It would seem, however, that in most of the Community countries substantial progress still needs be made to achieve the most modern forms of co-operation between banks and industry.

In the report of a specialist group on "the development of a European capital market", the need for a development of direct international credit and for interpenetration of banking networks was stressed and suggestions were made. The study of these problems

should be pursued and solutions sought with regard to guarantees and the setting up of financing syndicates so as to accelerate the current modernisation of the Community banking system.

With regard to direct recourse to the stock and share markets which is equally important to industry, it must be admitted that this is often made difficult by the regulations in force and the trend is more towards bond issues than increases in registered capital. The advantages which firms may find in financing by means of share issues as compared with bonds or loans should nevertheless be stressed. They reside mainly in the fact that the burden is lesser in the event of liquidity difficulties in times of economic regression and in the greater freedom of action in taking certain risks when the firm's production is markedly directed towards innovation.

It must moreover be admitted that, in general, firms are not particularly favourable to issuing new shares, and only have recourse to this method in most cases in order to restore a proper balance between their resources and their liabilities, or for reasons of prestige vis-à-vis rival firms or again to meet the requirements of a credit institution. In more cases than one might tend to think an increase in capital is ruled out owing to the family character of the company or the fear of a group gaining control of part of its capital. Furthermore, weakness of stock exchanges in some countries in recent years has led to financing rather by means of capital loans than by new share issues. During the period 1953-68 the prices of industrial shares, expressed in terms of constant purchasing power, i.e. brought into line with consumer price indices, showed an average annual increase (composite rates) as follows:

11 % in Germany
8 % in the United States
7 % in the United Kingdom
6 % in Japan
5.5% in Netherlands
4 % in France
3.5% in Italy
0.2% in Belgium (excluding colonial shares)

The disadvantages of the poor buoyancy of prices in certain countries have been aggravated by sudden sharp upward and downward fluctuations which have discouraged people from investing their savings in shares.

One way to correct the imbalance between risk capital and loan capital would have been to have recourse to the intermediate method of convertible bonds. That method is however far from having been sufficiently developed in the Community. It nevertheless presents advantages both to savers, who take more limited risks than when buying shares while preserving the chance of appreciation, and to firms which can thus issue shares indirectly at a price close to that of their shares on the stock exchange at the time of issue, which is not the case with new share issues in the Community.

On these grounds, one may ask whether the issue of convertible bonds should not be encouraged by the State in all member Countries by placing them under the same taxation regime as ordinary bonds until they are converted into shares.

Taxation regimes do indeed have a great influence on the choice of a financing method by firms and also on investors' decisions.

Thus, as regards the increase of capital by means of bond and share issues, the tax rules of certain member States acted as a brake in so far as such operations were substantially taxed, proportionately to the new capital brought into the firm.

Such a system does not incline companies to have recourse to the stock and share market.

On 17 July 1969, the Council adopted a Directive abolishing capital duty and stamp duty on bonds and a reduction of such charges on shares in certain member States.

Various methods of deduction at source on share dividends and interest on bonds, as well as the fact that in certain countries shares are mostly registered, also lead firms to favour bonds rather than shares.

As to dividends, the main problem is that of double taxation, whether or not deducted at source. Whilst the payment of interest on bonds is deductible from the taxation profits of the company paying the interest, dividends are liable on the one hand to profit tax payable by the distributing company and on the other to income tax payable by the shareholders. Thus, at present, after deduction at source, with a profit of 100, firms can pay approximately:

	To the resident shareholder (1)	to the resident bondholder (2)
in Germany	57	100
In France	50	75
In Italy	47.5	69
In the Netherlands	42.5	100
In Belgium	56	80
In Luxembourg	51	95

This Table must of course be treated with all due caution in view of the personal income tax payable subsequently and the abatements or refunds of tax or tax credit which may apply. Holders of securities tend, however, to regard the net payment made to them as the yield of their investment.

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(1) Deductions

	Profit tax		Deducted at source
Germany	23.5	+	19.1
France	50	+	-
Italy	50	+	2.5
Netherlands	46	+	11.5
Belgium	30	+	14
Luxembourg	40	+	9

(2) Deducted at source:

Italy: 38%; Belgium: 20%; Luxembourg: 5%; France: 25% with full discharge, or 12% on account for loans issued before 1.1.65 and 10% for those issued after that date.

The capital market is thus geared to a form of financing which limits the spreading of risks, profits and control and is not adjusted to the requirements of rapidly expanding firms which need to make substantial investments. The present operation does not therefore seem to be the best from the point of view of economic development.

It seems consequently necessary to redress the balance between the two methods of financing.

In respect of interest on bonds, the Commission in its Memorandum to the Council dated 5 March 1969 proposed the abolition of deduction at source. This proposal was prompted by the following considerations:

- in so far as deduction at source on interest on bonds is reflected in the rate of interest paid, its abolition would help to check the rise in interest rates and reduce the cost to European firms of financing their investments, an aim which is common to all member States;
- abolition would restore equality between national money markets and the Euro-bond market where there is no deduction at source, since issues are made on markets where non-residents are exempt from such tax;
- the introduction of deduction at source in countries which do not apply it might encourage a drain of international capital, not to say Community capital, towards third countries.

It is therefore inadvisable to maintain the principle of deduction at source in respect of dividends if, for the reasons shown above, it is abolished in respect of interest on bonds. This of course raises the question of tax evasion.

It should be noted that the system at present in force in the various countries encourage abnormal movements of capital, effected for the purpose of evading taxation, and do not really ensure fair taxation. Indeed it is generally the biggest holders of securities

who can most easily transfer their portfolio abroad, whilst small savers have their tax deducted at source.

And so there does not seem to be anything insuperable in the conflicting desires to ensure fair taxation and to improve the operation of the Community capital market by abolishing tax deduction at source. Dealing more severely with tax evasion by other means, which would include international co-operation by the tax authorities in all the countries concerned, seems much more likely to achieve the aims pursued.

Although its situation from the tax point of view is more favourable, the bond market is subject to constraints in the Community which weigh heavily on the money market as a whole: investors' preference for greater liquidity, money markets which are confined and lack buoyancy, distortions in favour of the Euro-bond market.

Furthermore on this rather limited bond market private firms are in competition not only with the State and local authorities but also with public companies, which are obliged to have recourse to bonds to a considerable extent since it is difficult for them to obtain increases in capital from the public authorities or to have recourse to self-financing, having regard to the prices and rates imposed on them for reasons of social or public policy. For instance, during the years 1962/1965, public companies drew from the capital market, in the form of bonds and increases of capital, 7.7% in Germany, 18.3% in France and 22.3% in Italy of the funds available (1).

Table 16 gives details of the sources of financing and the use made of the capital by public companies in those three countries.

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(1) The data given here, gathered by the Centre Européen de l'entreprise publique, do not include banks, insurance companies or local government undertakings. The Italian and French figures are accounted for chiefly by the investments made by public companies in the competitive sector.

T A B L E No. 16

Total financing by public companies

(for the years 1960/1965)

Sources	Germany	France	Italy
- State contribution, Endowment capital and share holdings	10.6	2.9	7.6
- Gross self-financing	34.7	56.9	28.5
- Gross issue of bonds and medium- and long-term credit	16.5	39.4	50.6
- Short-term credit	38.2	0.8	13.3
Total	100.-	100.-	100.-
Uses			
- Technical investments	85.8 (1)	81.4 (1)	67.3
- Financial investments	10.0 (1)	7.0 (1)	27.-
- Redemption of bonds and of long- and medium-term loans	4.2	11.6	5.7
Total	100.-	100.-	100.-

Sources: CEEP: Records of the IVth Congress of April 1968: Public companies and economic development in Europe.

(1) approximate figures.

New capital in the form of increases in the endowment or of share issues, is limited, as also is self-financing. Borrowing at term and bond issues are the principal sources of finance for companies of this kind.

In short, the regulations or conditions in force have tended to make companies turn rather towards bank financing than towards the stock and share market and when they have recourse to the latter, bond issues rather than to share issues. While certain steps have already been taken at national level to correct this trend, it seems appropriate that the Community, in so far as harmonisation is necessary, in particular for the creation of a Community money market, should encourage those forms of financing which are most likely to encourage the dynamic and rapid growth of the Community's industry.

(c) Enlargement of the capital market to Community dimensions

There is a close link between industrial growth and the interpenetration of money markets. This was already stressed in 1966 in the report of a group of Community experts on "the development of a European capital market" where it was stated in particular that the enlargement of the capital market and the close coordination of economic policies would facilitate the financing of economic growth which, in all member States, was becoming increasingly dependent on the capital market:

- a multiplication of external sources of financing would help undertakings to reach the size necessary in the Common Market;
- an approximation of financing conditions in the Community would reduce the distortions which existing differences introduced into competition;
- a diversification of investment opportunities would tend to increase the supply of capital;

- an intensification of transactions in stocks and shares would reduce the risks of the disturbances characterising limited markets.

Furthermore, the interpenetration of money markets would, thanks to increased competition, make finance institutions more efficient and so lead them to grant industry more favourable financing conditions.

It should be noted that little progress has been made as regards the development of a European capital market. With a very few exceptions, no Community dimension exists for most firms when it comes to sources of finance. They still look mainly to the national market.

The reasons for this are well known: they derive from the lack of fixed rates of exchange as well as from taxation and other regulations in member States, the caution of investors and the attitude of firms.

Monetary fluctuations are certainly the main obstacle to the interpenetration of money markets. Exchange risks are in certain countries behind the hesitation of European companies to have recourse to the markets of other member States in order to finance their investments. What has happened to some firms which contracted loans at advantageous rates on foreign markets and were adversely affected by subsequent exchange rate adjustments, can scarcely encourage such operations.

Similarly, except for initial capital grants which they are doing their best to keep to a minimum, parent companies consider that their subsidiaries in other Community countries must develop independently and find all the additional resources they need on the local market. This principle aims not only at avoiding tapping the reserves of the parent company but also at avoiding any exchange risks. And so there seems to be very little prospection of the various money markets on the part of Community companies in order to take advantage of differences in cost to finance their expenditure or that of their subsidiaries. The safety margin afforded by a large percentage of

exports in the turnover does not even seem to be considered by large companies a sufficient guarantee against exchange risks.

This is why the interpenetration of money markets in the Community seems unlikely to develop fully without a monetary arrangement to preclude any changes in exchange rates within the EEC at least for a relatively long time. Unless such a state of affairs is achieved, interpenetration might well be limited to short-term credits where in normal circumstances exchange risks are less. However, should this not prove possible at present, then firms borrowing should be authorised in other Community countries by setting up exchange fluctuation reserves which would be deductible from their taxable income.

The efforts made by the various Community bodies, in particular the Commission, to coordinate economic and monetary policies, and the first progress which the Community has just made in that field are thus contributing directly to improving conditions for the expansion of Community industry.

Side by side with the coordination of economic and monetary policies, it is important to promote integration of money markets by abolishing the various obstacles still standing in the way.

Authorisation to quote securities on foreign stock exchanges would be an important integrating factor. Until now, few firms have shown real interest in such a possibility. The few large European companies which have asked for their shares to be quoted on foreign markets seem to have done so mainly for reasons of prestige and publicity. Fulfilment of the relatively strict and complex requirements for quotation on other European stock exchanges is thought good for the company's reputation. Multiple quotation, however, should it develop enough to bring about a real European market in securities,

would give firms new financing opportunities while ensuring a wider distribution of their capital and maintenance of their share price. It would seem advisable accordingly to carry out the Community-wide harmonisation required to make multiple quotation possible.

On the other hand, Government regulations restrict the possibility for institutional investors to acquire securities from other Community countries. These restrictions constitute a particularly serious obstacle to the interpenetration of money markets, as does also the restricted access to national markets allowed to issuers in other member States. The Commission has been insisting for several years on the progressive adjustment of such regulations and practices.

Lastly, from the point of view of the saving public of institutional investors, taxation of dividends and interest on bonds is a serious impediment to the interpenetration of Community markets. Among the thirty possible bilateral relations between member States (each member State with five others) there are still sixteen cases of double taxation on dividends and fourteen of double taxation on bonds. This can be explained by the fact that out of the fifteen bilateral conventions it would be possible to conclude on the elimination of double taxation between the member States, twelve only are in force at present and some of these are defective in so far as they do not settle the question of tax deduction at source.

The Commission in its memorandum on the adjustment of certain direct taxes with a view to facilitating the development and interpenetration of markets in securities in the EEC, which it submitted to the Council on 7 March 1969, reached the conclusion that the harmonisation of tax deductions at source in respect of dividends could scarcely be considered before a first decision had been made at Community level regarding the system to be adopted to alleviate double taxation.

Indeed, dividends should in principle be subject to double taxation, since they are liable to profit tax payable by the distributing company and to income tax payable by the shareholder.

Three States at present apply systems designed to alleviate double taxation:

- France and Belgium, by granting a tax refund or tax credit to the shareholder;
- Germany, by reducing the rate of tax on companies for the share of the profits to be distributed.

In its memorandum the Commission stated that before forming an opinion, it was waiting for the results of studies being made to ascertain the economic, social and fiscal consequences of the various possible solutions.

The findings of these studies are now being examined by the Commission which, when making its proposals, will choose the solution offering the greatest simplicity in tax-collection methods that is compatible with the elimination of distortions.

In short, the integration of money markets can only be achieved by means of a number of convergent measures whose governing principles and nature were described by the Commission in a memorandum addressed to the Council on 5 March 1969. The main points are as follows:

- Savers to be given the possibility of dealing freely in all securities in the Community thanks to the progressive abolition of the remaining restrictions on access to the various national money markets by issuers in other member States;
- The regulations applicable to institutional investors to be made more flexible to enable them to fulfil their functions freely on

the money markets and contribute to their interpenetration;

- Real fiscal "transparence" to be achieved as regards movement of capital, so as to eliminate distortions which influence the behaviour of both investors and savers.

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Financing of small and medium-sized undertakings

Small and medium-sized firms by reason precisely of their size, or of their legal structure, do not generally have the same access to sources of finance as large firms, whether they look to the capital market or to medium or long-term bank credit. Such firms therefore often meet with serious financing problems which have prompted specific measures on the part of the authorities. These vary from country to country in nature and scope and their conditions of application. They may be classified into four categories:

- setting up of public or semi-public bodies specialising in medium and long-term loans to small and medium-sized companies, at preferential rates of interest, accompanied by a system of guarantees more flexible than that of banks;
- granting of credit on preferential terms through banks, at subsidised interest rates;
- provision of security by bodies set up for the purpose (cooperative credit institutes, etc.) to enable small and medium-sized firms to avail themselves of bank credit;
- setting up public or semi-public bodies whose function is to take up shares in companies.

These various kinds of machinery seem generally speaking, to have met the present financing problems of small and medium-sized firms. They do not seem to be satisfactory, however, when companies have exceptional financial needs owing to rapid development. The liability ceiling of such undertakings being fairly low, the main problem is that of improving the company assets/external finance ratio.

The experience of the Small Business Administration in the United States shows the importance of this problem. To solve it Small Business Investments Companies were set up as private companies

operating under SBA control. Their function was both to take up shares in small and medium-sized firms and to grant them loans. However, firms for which these institutions were set up, in spite of their low liability ceiling have only availed themselves to a limited extent of this possibility to increase their capital. The main reason for this arises it seems in the difficulty these companies have in facing an increase in their capital with all the changes it involves.

Similar ventures carried out in France by the "Sociétés de Développement Régional" have produced comparable results.

The problem therefore seems to lie as much in the attitude of these firms as in giving them the necessary finance. It seems indeed difficult to reconcile entirely the characteristics of the family business with the requirements of large-scale recourse to external finance.

The role of small and medium-sized firms in an economy that is developing rapidly technologically is considerable. It has been noted in particular that numerous innovations are the result of inventions developed by small firms. The small firm seems indeed to provide a better framework for certain innovations than the large firm.

The activity of firms constantly engaged in developing new products is of course characterised by high risks and the capital they require can only take the form of risk capital.

Traditional financial machinery is hardly in a position to provide that type of financing, which presents new problems and necessitates new procedures. The Community is still very much under-equipped with this type of specialised finance institution and therein must certainly be one of the reasons for the small number of new companies being set up in Europe to exploit new technologies. The success of such companies in the United States and their contribution

to the American economy deserve, however, particular attention. In the Community, one of the first aims should be to close what the Americans have called the "appraisal gap", that is, the difficulty of appraising exactly the chances and risks inherent in new processes. This implies a change of attitude on the part of those who are called upon to supply extra finance, whether it be the management of finance houses or the public authorities. Until now, few bodies have adopted a really constructive attitude.

Certain experiments made in the Community do however point the way.

In 1964, a private body whose function was "to supply capital and active help to people wishing to set up new businesses or to develop existing ones with a view to exploiting a new product, process, or service" was set up in Europe by external promoters. It interests itself in innovation and finances production and marketing, since that is the stage at which the greatest financial effort is necessary and normal finance houses are not in a position to make it. Experience has shown that this operation is economically viable provided that all the data exist for a sound assessment of the risks.

In France in 1965 the "Crédit National" introduced a "development aid" financing procedure which consists in making loans to be reimbursed only in the event of success to companies engaged on priority research projects. A similar system exists in the United Kingdom in the loans granted by the "National Research and Development Corporation".

While these few cases are not the only ones they are nevertheless exceptions and it is a fact that many industrial investments cannot be made in the Community for lack of an appropriate mode of finance. This new field of action deserves to be looked into more systematically by

finance institutions in the Community.

Certain relatively new financing methods which aim at limiting the locking up of firms' capital and reducing the need for their own assets are nevertheless a partial palliative to this difficulty of obtaining risk capital, and would seem to be more especially suited to the requirements of small and medium-sized unertakings.

Of these methods, leasing is the best known: it appeared in the United States during the 50's and in Europe during the 60's (in France and in Germany in 1962 and in Italy in 1965).

It is no doubt too early to draw final conclusions as to the efficacy of this method. It should be noted however that in only three years leasing had already acquired in France the relative importance it reached after ten years in the United States and in 1965 it accounted for about 1% of gross investments in the French competitive sector. This system imposes no specific conditions with regard to company assets or security. The agreement is drawn up in the light of commercial considerations discussed between leasing companies and customers. Leasing transactions do not reduce to any great extent other financing possibilities as is the case with loans. In addition, the fact that a leasing agreement may be terminated at any moment and replaced by another to meet a need for more modern equipment makes this method particularly suited to the needs of firms in rapidly developing technological fields, for which the rapidity with which plant becomes obsolete presents serious depreciation problems.

Leasing back, a variant of leasing, enables a firm to recover the amounts invested by handing over ownership to the leasing company while keeping them on hire. This operation helps companies with financing problems to restore a balance by building up their liquid assets.

Lastly, factoring, not so well known in Europe, consists in a firm handing over its trading credits to another firm, which takes over the appraisal of the solvency of customers, assumes the ensuing risks and takes charge of all the commercial accounting relating thereto. This transaction reduces the first firm's commercial risks, management costs and working capital requirements.

The various new forms of financing just described seem likely to bring to small and medium-sized firms a solution to many of their financial problems. It should, however, be stressed that it is possible to take advantage of such forms of financing only where a firm's management is modern and profitability is high.

Prospects and conclusions

Table 17 which shows trends in fixed investments and also the depreciation and savings in the Community countries, as well as in Japan, the United Kingdom and the United States in recent years, makes it possible to draw certain conclusions as regards financing problems which the anticipated growth of investments would present.

Surveys made recently in the various member States to forecast the financing requirements of industry show that in the coming years a slight slowing down in the rate of growth of investments is to be expected in Germany, the Netherlands, and to a lesser extent in France and in Belgium, with a slight speeding up in Italy.

Whilst in the United States, the rates of growth of public and private fixed investments respectively are fairly close, in all other countries (except for Luxembourg), the public sector is developing faster than the private sector.

TABLE No. 17

Gross fixed capital formation and its financing

(at the then prices) Average yearly rate of growth

	Germ. 1958/ 1967	Belg. 1958/ 1967	Italy 1958/ 1967	Lux. 1958/ 1965	France 1958/ 1966	Nether-lands 1958/1966	Japan 1958/ 1966	U.K. 1958/ 1966	U.S.A. 1958/ 1966
Gross fixed capital formation	9.1	10.5	8.7	9.4	11.1	11.4	17.8	8.4	6.6
- Private firms	8.4	9.9	9.2	12.6	10.4	10.9	16.9	7.3	6.7
- Public companies					10.9	12.5	19.7	8.9	7.0
- Public administrations	12.9	15.3	5.8	...	15.0	12.2		10.7	6.4
Depreciation	11.8	6.8	9.5	5.8	10.6	8.0	18.2	6.3	6.3
- Private firms	11.8	6.8	9.5	7.6	10.6	7.7	18.1	6.3	6.3
- Public companies						8.8	17.4	6.8	6.2
- Public administrations	12.9	9.9	10.4	Neg.	13.0	9.8		3.9	
Savings	4.8	10.0	9.7	8.0	11.1	9.8	17.2	10.2	11.1
- Household savings	6.0	8.8	6.2(1)	1.2	13.0	10.5	18.0	22.1	3.7
- Private firms	Neg.	3.7	5.5(1)	...	2.2	5.0	15.3	3.7	12.1
- Public companies						2.8	17.1		8.8
- Public administrations	4.3	...	6.6	15.4	13.3	14.0		13.6	

Source: SOEC: National accounts for Germany, Belgium, Italy and Luxembourg; UN Yearbook of National accounts statistics, for the other countries.

(1) Base year: 1961
(2) Base year: 1959

T A B L E No. 18

Gross capital formation and its financing (in %)

Averages	Germany 63/67	Belgium (1) 63/67	France 63/66	Italy 63/67	Luxemb. 63/65	Nether. 63/66	Japan (1) 63/66	U.K. (1) 63/66	U.S.A. (1) 63/66
Gross formation of capital	100	100	100	100	100	100	100	100	100
Gross fixed capital formation	97.8	97.8	95.6	95.1	99.5	93.5	91.8	94.0	94.1
- private firms	81.0	84.7	59.6	82.8	86.0	59.4	63.2	51.9	76.8
- public companies			23.0			16.0	28.6	29.8	2.4
- public administrations	16.8	13.0	12.9	12.2	13.5	18.1		12.2	14.8
Variations in stocks	2.1	2.3	4.3	4.8	1.3	6.4	8.1	5.9	5.8
Financing	100	100	100	100	100	100	100	100	100
Depreciation	41.3	43.9	41.6	41.0	45.4	33.8	36.4	41.4	54.9
- private firms	39.4	42.9	40.9	39.5	42.3	25.6	32.3	24.7	48.0
- public companies						5.7	2.7	13.9	6.6
- public administrations	1.8	0.9	0.7	1.4	3.1	2.3		2.7	
Savings	60.2	56.6	55.0	69.0	40.6	65.3	65.8	58.9	49.6
- household savings (2)	33.5	43.9	28.5	53.1	26.0	35.9	34.9	19.1	21.1
- private companies	4.0	7.8	7.7	7.6	- 2.1	14.4	11.1	30.5	17.6
- public companies						1.1	19.7	- 1.0	10.8
- public administrations	22.6	3.3	18.7	8.3	16.6	13.7		10.3	
Deficit/Surplus	1.6	1.4	- 3.4	10.0	- 13.9	- 0.9	3.0	- 1.6	3.1

(1) with statistical adjustments
(2) including savings of individual businesses.

With regard to financing, there are two clearly different trends: in the United States, the United Kingdom and the Netherlands on one hand, and in the other countries on the other.

In the United states and the United Kingdom the rate of growth of company savings exceeds by far the rate of depreciation. In the Netherlands, while the two rates are nearly balanced as regards private firms, as regards public companies there is on the contrary the same discrepancy as in the other Community countries. For the second group, i.e. most of the Community countries and Japan, the growth of the savings of private and public companies alike is substantially slower than that of depreciation.

As regards public administrations, the situation varies enormously. In Italy and in Germany, the rate of depreciation exceeds that of savings (the latter showing a decline in Italy). In France and in the Netherlands, the two growth rates are similar. In Japan, the United Kingdom and the United States, growth in the rate of saving is greater than in the rate of depreciation.

By comparison with the growth of the gross fixed capital formation, private savings are developing at a particularly high rate in the United Kingdom, at a relatively satisfactory rate in France, Japan, the Netherlands and Belgium, at a slightly lesser rate in Germany, Italy and the United States and at a lower rate in Luxembourg.

Whilst in all countries company depreciation, family savings and public savings represent the most important sources of financing, company savings also contribute considerably in the United States and the United Kingdom.

This state of affaires presents certain problems for the future financing of the Community's industry, for owing to the low level of company savings, the financing of industrial investments depends more

on funds available on the money market where the public and private sectors are in competition.

While the total amount of available funds seems to be developing fairly satisfactorily, European firms are nevertheless being financed on a market which is in danger of being limited:

- by the increasingly large loans raised by public authorities and companies;
- by the lack of communication between money markets in the Community;
- lastly, by the drain of capital towards the Euro-bond market and by investment fund, investments which are made largely in firms in third countries.

For public companies, to seek a better balance between their own assets and liabilities, on the one hand by reverting to the principle of profitability and on the other hand by increases in capital, will certainly contribute to financing the growth of Community industry. Similarly, whilst increased taxation affects industry as a whole, the financing of public expenditure by an increased public debt reduces still further the means for financing industry by whittling down available funds on the capital market. To seek a better balance between assets and liabilities should be the concern ont only of public and private undertakings but also of public finance.

It is not necessary to dwell further here on the ill-effects of the lack of integration of the Community money markets on the financing of industry. One of these is undoubtedly the creation of the parallel Euro-bond market (1) which remains inaccessible to practically all

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(1) Euro-bond issues in millions of dollars:

1965	950
1966	1429
1967	1878
1968	3660

European firms whose financial backing is not sufficient to enable them to have recourse to it, so that it drains a substantial share of the funds available on the money markets of the Community to third countries.

Any measures contributing to the interpenetration of the money markets will also help to improve that situation, whether it be harmonised taxation, access to the money market of other member States or purchases by investing institutions of securities from all Community countries.

In any case, for borrowing institutions in the Community, whether it be the European Investment Bank or the finance authorities of ECSC - to have more recourse to the Euro-bond market or to the various money markets of the Community would be likely, provided the rates are not prohibitive, to ensure at the same time a greater interpenetration of money markets and a better financing of Community firms. These operations should be carried out with all due regard to the objectives laid down in the Treaties.

It would in addition be desirable for private banks which normally have recourse to the Euro-dollar market to use these funds to support European firms. The setting up of more specifically European investment funds would make it possible to avoid the risks for the financing of Community industry involved in the drain of Community savings towards shares in firms in third countries.

CHAPTER IV

Community firms and the rest of the world

In 1968 the Community became the largest trading power in the world. In that year its trade with third countries reached 65,000 million units of account (imports and exports). This figure represents almost one-fifth of the gross Community product while during the same year for the United States the volume of external trade represented only 8% of the G.N.P. Industrial products occupy an increasing share of the markets: their share of the imports was 27.7% in 1958; in 1968 it amounted to 40.7%. With regards to exports, the corresponding figures were 79.8% in 1958 and 84.4% in 1968.

These figures show clearly that the Community's prosperity depends to a great extent on conditions prevailing on the world market. Community industry must export more and more in order to be able to increase the volume of its production and decrease its costs by means of longer production runs. More and more, the increased needs of large production sectors and growing internal consumption are calling for a rapid rise in imports of raw materials and products which are not to be found in sufficient quantities within the Community. Increasingly, the interplay of comparative advantages is promoting the international division of labour. Such interdependence can but increase thanks to the results of the Kennedy Round, a more or less generalised movement towards the liberalisation of world trade and, above all, an enlargement of the Community.

The influence of this state of affairs, already particularly noticeable in the Community and more generally in the Western European countries as a whole because of the relation of their external trade to their GNP, is made still more marked for European firms by the influx of external investments. The competitive pressure exerted on Community industry at the two levels of production and investment must not be considered as a handicap but as one of the essential factors making for its dynamism. This opening up of the Community to the outside world where industry is concerned implies, however, a very keen sensitivity to decisions on trade policy taken by the Community authorities and by the governments of third countries. That is why industrial policy and trade policy become increasingly interdependent. Aims must be harmonised and consequences foreseen and anticipated.

The Community has clearly expressed by its earlier decisions its rejection of industrial protectionism. Rejecting a protectionist trade policy, it has not yet, however, felt all the consequences of this choice. In other words, Community undertakings must strive to achieve an increase in their exports and in their external investments consistent with the opportunities offered to them.

I. Trade policy and industrial policy

In the world of today trade policies are becoming more and more complex; their traditional instruments, customs duties and quotas, are now only two among many factors. The others, although they do not always appear in international regulations, are not any the less effective as instruments.

1. Customs duties and quotas

Industrial policy imposes certain limits on the concessions it is possible to make in this field, just as trade policy decisions narrow the options for industrial policy. Just as measures to improve the structure of the textile sector or to guide the future of certain advanced technology sectors have to be discussed with due regard to the aims of Community trade policy, so trade policy cannot be pursued independently of the aims of industrial policy, whether overall or sectoral.

The Community paid due regard to industrial policy aspects during earlier negotiations and in particular at the time of the Kennedy Round. However, the effects of the decisions taken and the concessions agreed to have not always been properly assessed by firms. One of the objectives of the Community's industrial policy must therefore be to prepare Community undertakings to face constantly widening competition and to work out measures to facilitate the adjustments that will be needed in certain branches or regions (1). Within the Community, the growth of Community solidarity in social questions and the strengthening of regional operations, both of which are indispensable in any case and concerning which the Commission has put forward proposals, should facilitate this process of adjustment.

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(1) The United States Congress, in the "Trade Expansion Act" of 1962, gave fairly wide powers to the Governement to come to the aid of industries and firms threatened by international competition. Accordingly, provision was made under this legislation for financial assistance to firms finding themselves in difficulties in the form of guarantees or loans and tax relief measures, as well as for aid to workers to facilitate their resettlement. However, up to the present these provisions have had only a very limited application, because the conditions that have to be fulfilled are very strict. The trade Bill submitted to Congress by President Nixon in November 1969 aims at much greater flexibility in these conditions.

Industries which have to face competition from developing countries whose comparative advantage lies in the low cost of labour have a special problem. Contrary to a still fairly widespread opinion, wage levels in an exporting country are no valid justification for specific protection measures on the part of a more highly developed country. On the contrary it is indeed in the interest of industrialised countries to serve more and more solvent partners and thus open up more to exports from developing countries.

However, this development, already all under way, especially within the association framework, and which should culminate in the work of UNCTAD, needs to be planned as precisely as possible so that the sectors concerned know in advance how long they have to adjust to a new situation. Similarly, it should not preclude an effort on a contractual basis if possible, to eliminate offers of goods at abnormally low prices, which disorganise the markets and are contrary to the interests of the exporting developing countries since they lower their receipts.

The prospect of the enlargement of the Community makes it necessary to consider such problems with the closest attention, since the Community's responsibilities in relation to developing countries would be considerably increased following accession, as is probable, of the United Kingdom.

Reciprocity in the process of the progressive liberalisation of trade is considered to be primarily a trade policy problem although its implications for industrial policy, which must aim at equality of conditions of competition not only inside the Community but also between the Community and its main outside competitors cannot be ignored. But, if one looks at the trade policy pursued by certain large industrialised countries, it becomes evident that adequate harmonisation is far from being achieved in tariff or quota protection. During the Kennedy Round the Community already drew its partners' attention to the problem of tariff disparities. In spite of some little progress achieved, this problem remains: the United States tariff level for industrial products is 82% higher than that of the Community and that of Japan is 40% higher (1).

Furthermore, these tariffs, particularly those of the United States, provide for "peaks", which are sometimes extremely high and therefore give especially effective protection to certain sectors or products.

Distortions of competition resulting from tariff disparities are sometimes increased, in particular in the case of Japan, by severe quotas. The efficiency and prime costs of Japanese industries often being not al all lower than those to be found in the Community, the abolition of the last quotas in certain Community countries is thereby made more difficult. This situation can only be prejudicial in the medium term to international trade.

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(1) Unweighted average, all duties. This average stands at 7% for the EEC, 12.8% for the USA and 9.8% for Japan.

It seems essential to achieve in bilateral and multilateral negotiations a certain levelling of protection on the part of the great industrialised countries; otherwise certain countries would find themselves at a given moment powerless and unable to negotiate, while others, having preserved a high level of protection for certain products or sectors, might no longer have any interest in further facilitating access to their market.

A similar approach is required in the case of the concessions which the industrialised countries will be led to make for the benefit of developing countries. The principle of a "fair division of costs", recognised already in discussions in OECD concerning a system of generalised preferences for the benefit of developing countries, must prevent competition from the less-developed countries with low costs from concentrating on the markets of the Community and of other countries envisaging a liberal trade policy.

Lastly, the pursuit of a coherent industrial policy, above all where trade protection is greatly diminished, cannot take place without effective instruments to protect trade against "abnormal" situations, and in particular against the quoting of export prices bearing no relation to cost prices and which are therefore no longer expressive of a real comparative advantage. It may be a question in such cases either of prices manipulated for political purposes or of prices resulting from temporary surpluses or stocks, or again dumping prices. The Community has worked out the main points of a policy in this matter but it still has to fill in certain gaps in its regulations. Thus, the Community quotas which might be applied vis-a-vis state-

trading countries do not offer an entirely satisfactory solution to the problem of the disturbances caused on Community markets by abnormally low prices. This question is not covered by the anti-dumping regulation, since it is not possible to compare such prices with the exporting countries' domestic prices, which are "political" prices fixed by the State. It therefore seems necessary for the Community as a whole to adopt in its future agreements with the countries concerned clauses to attenuate such disturbances like those which are indeed already embodied in the agreements concluded by most of the member States.

Henceforth it can be said that the Community has available the "classical" instruments for pursuing a coherent trade policy and participating in the efforts to liberalise world trade: it now has external tariffs and Community machinery for negotiation; in respect of the other aspects of trade policy, the Treaty prescribes Community procedures for administration and negotiation at the end of the transitional period. The essential thing is thus to ensure that the provisions of the Treaty are applied while duly bearing in mind the requirements and objectives of industrial policy.

. Other factors influencing international trade

The relations of the Community with the rest of the world are no longer governed solely by the classical instruments of trade

policy - customs tariffs, quotas, anti-dumping regulations, etc. Alongside these instruments, governments apply certain measures or "strategies" which sometimes become more important than the classical instruments of trade policy. Consequently, it is clear that the Community should analyse the effects of these and should lay down a common policy towards them in order to ensure acceptable conditions of competition for its industries, which the Community authorities will thus be able to negotiate coherently with the countries concerned.

- Supplies of raw materials

In respect of almost all the basic commodities used by the processing industries, the Community balance of trade shows a deficit. The Community is the largest important world importer of raw materials, with a volume of 7,200 million dollars (1968). This shows the vital interest Community industries have in reliable sources of supply at prices not less advantageous than those paid by their competitors in other countries in the world.

While it is easy to approve of this aim, it cannot be conceded that there are certain factors both in the Community and in certain third countries which make its complete achievement difficult.

Within the Community the common agricultural policy affects directly or indirectly certain products - apart from those necessary for the food industry - which are raw materials for other industries, e.g. fats and spirits. The organisation of the marketing of these products often implies prices distinctly above the world market level. It seems necessary wherever possible to enable industries affected by such measures to get their supplies of such products, whether inside or outside the Community, at world prices, in order to avoid justified claims for increased protection and export rebates in respect of finished products.

A similar problem arises for industries working certain ores. For these primary products indeed the Community is faced with the choice either of ensuring or improving the reliability of supplies for its processing industry by a policy of protection for its own primary producing industries, which would almost inevitably put up prices, or of allowing its processing industries to get their supplies on the world market, with all the risks involved in a more or less entire dependence on the external market. This choice is complicated by fluctuations of the prices of the raw materials concerned on the world market and by the protection and stock-piling policies of certain third countries. The problems resulting from this situation both for Community producers of the primary products concerned and for the processing industries should be studied as a whole in order to assess more accurately the advantages and cost of reliability of supplies, the economic interest of keeping the extractive and primary processing industries in the Community and the requirements of the industries which process and use raw materials. It is not impossible that such a study might lead to the conclusion that, like its strong competitors, the Community must conduct a more active policy of looking elsewhere for the most advantageous sources of the raw materials its industry requires.

A related problem occurs in the energy sector, in particular in the petroleum industry, where the price that must be paid for reliability of supplies is the maintenance of certain indigenous sources and the constitution of stocks, combined with an adequate diversification of external sources.

In any case these are fields where industrial policy and trade policy are so closely interwoven that neither can be decided upon or pursued independently of the other.

- New provisions in trade agreements concluded with State-trading countries

The provisions embodied in government agreements concluded with State-trading countries have changed considerably in recent years. While the problem of quotas has decreased in importance with the independent liberalisation measures decided on by member States and the easing of the embargo rules in respect of exports of strategic goods, problems of economic and technical co-operation and of credit have come to the forefront.

Government co-operation agreements often present the difficult problem of more favourable terms of trade as regards tariffs and quotas for certain products. With regard to tariffs, it should be investigated at Community level whether, apart from the rules governing processing traffic, speficic provisions can or ought to be laid down. With regard to quotas, the divergent attitudes of member States call for the definition of a common attitude which takes account of the principles not only of the common trade policy but also of industrial policy.

The most serious problems derive however from private contracts concluded within the framework of government agreements. A resurgence of barter transactions applying to the whole or part of the operation should indeed be noted in such contracts. Such barter transactions are a permanent threat to the stability of the market. Indeed, in order to get rid of goods which were more or less forced on him and which he is not equipped to sell, the exporter may be led to market them in abnormal

conditions. Hence, it is not so much the State-trading country but the Community exporter who is made to sell in abnormal conditions. Perhaps for the time being, having regard to the prevailing shortage of currency in certain State-trading countries, it is not possible to prevent all barter transactions. But it is still essential that the credit conditions accorded to the exporter by the member State concerned and the goods bartered should not be such as to create serious disturbances for Community industry. Strict application of the safeguard clauses should be resorted to in order to discourage firms which might be tempted to engage in abnormal practices.

Furthermore, the exporting of capital goods and "know how", and in particular the handing over of factories "key in hand" on particularly favourable terms in countries where trade is governed by considerations fundamentally different from those prevailing in countries with a market economy, may sometimes do harm in the long run to Community industry.

Indeed, the products of such factories will be in an exceptionally good position to compete with Community products on the Community market and on third country markets since they will be similar to them, will have had the advantage of more favourable investment conditions, will be able to be sold on the special terms which characterise the exports of the State-trading countries and will not necessarily have to take account of domestic demand, while such countries' markets are not, moreover, freely accessible to Community products.

While the development of exports of capital goods and in particular of factories supplied "key in hand" fulfils a requirement of Community industry the conditions surrounding such exports call none the less for close examination, which can only be undertaken at Community level. Certain advantages must be sought in exchange and certain guarantees must be obtained in order to avoid subsequent difficulties for Community trade and industry.

- Promotion of exports

Almost all industrial countries support their industries' exports by means of certain advantages, chiefly in the form of insurance and credits. Within the Community, the harmonisation of export regulations provided for in Articles 112 and 113 of the Treaty has already made substantial progress but much remains to be done to achieve a real common policy.

It is particularly regrettable that the work begon almost ten years ago on harmonising credit-insurance conditions and time limits has so far yielded few results, and in particular that the draft common policy drawn up by the credit-insurance establishments has not yet come into force. Similarly, the observance of the limits fixed by mutual agreement with regard to the credit terms accorded to third country buyers should be embodied in formal undertakings subject to appropriate supervision.

Indeed, harmonisation is necessary because every deviation risks distorting competition between member States' firms on the world market and this applies particularly to capital goods for whose sale credit terms often pay as important a part as price, quality and delivery dates.

However, a common policy demands more. It is a question indeed of equipping the Community with instruments of trade promotion similar to those available to its competitors. Such promotion which is reflected in numerous services to exporters such as encouragement to participate in trade fairs and similar publicity operations, usually with the assistance of Trade Counsellors, necessitates a considerable administrative effort. Common action in this field would greatly strengthen the efficiency of such measures and thus facilitate penetration and expansion of Community industries on third country markets.

II. The establishment of external subsidiaries by Community firms

The Commission will shortly be making a special communication to the Council concerning foreign investments in the Community. This matter has however already been raised in Chapter II of Part II of this memorandum so that it will suffice here to recall certain facts.

Foreign companies - particularly American - have been buying up or acquiring a controlling interest in Community firms increasingly in recent years and there have also been more subsidiaries of foreign firms in Community territory.

These direct investments have indisputably had considerable impact on the structure of certain Community industries. Their inventory value amounted to about 9,000 million dollars in the case of American capital in 1968. This figure is only a part of the industrial capacity actually controlled by American investments. It does not take account of increases of capital, reinvestment of profits; etc. The figure for the assets actually controlled seems to be substantially higher. It is thought that the share of direct investments of United States origin in gross fixed capital formation in the Community's extractive and manufacturing industries rose from 8.6% to 12.4% between 1964 and 1966.

By comparison with these figures, the external investments of Community firms are very small. According to American estimates, the total value of subsidiaries established in the USA by Community firms at the end of 1967 amounted to about 2,500 million dollars, of which 1,500 million was accounted for by Netherlands firms which had already attained world proportions. The total volume of direct investments by the Community in the United States thus corresponds to that of Canada; it is lower by about 25% than that which Great Britain has achieved. It should however be noted that Community investments in the United States have appeared to grow more rapidly since 1965, in particular in the chemical industry sector.

Corresponding Community figures are not at present available in respect of the rest of the world. The indications are that there is a tendency for Community industries to invest in developing countries rather than in industrialised countries.

This situation presents certain problems. Being present in third country markets thanks to its exports rather than to its foreign subsidiaries, Community industry is more vulnerable to every policy measure, especially of a protectionist nature. Furthermore, this situation hinders Community industries from overcoming certain tariff and other barriers in third countries (particularly

high in certain sectors) from taking advantage of public orders in such countries, from adjusting quickly to the peculiarities of a specific national environment and, lastly, from benefiting through their subsidiaries from the lessons in marketing, management and advanced technology which presence in the markets of the large industrialised countries of the world alone can procure.

A main reason for the low level of direct investment abroad undoubtedly derives from the economic and financial weakness of many Community firms. Thus, in the United States the size of the market is such that a new undertaking must have sufficient coverage to take in rapidly a large share of the market, failing which the customer will go to the better established American competitor. A wide distribution network must usually be set up by the firm itself because it is difficult to make use of a national distribution channel. Finally, few European firms have the managers required for setting up firms in the United States. Such schemes involve high installation costs and a fairly long running-in period before the threshold of profitability is reached.

European firms, not having enough capital in most cases to finance the setting up of their subsidiaries themselves, must often have recourse to the local financial market. Foreign firms usually have much difficulty in procuring local capital.

Community firms which would like to establish themselves in certain third country markets also come up against legislative and administrative difficulties or obstacles.

Besides minor difficulties, such as problems encountered in obtaining the necessary visas for European personnel sent out to the unit established, the effect of the "interest equalisation tax"

on the cost of capital, the influence of the local taxes and duties payable in the American States (which are not covered by international agreements on double taxation and which may be quite a heavy burden, especially when the subsidiary is first set up). Further, it is impossible to obtain orders connected with defence unless all the senior staff of the firm are of American nationality. It is also important to stress two serious difficulties of an administrative or legislative nature which European firms desiring to establish subsidiaries encounter:

- on the one hand, restrictions which limit or prohibit foreign investments in certain sectors such as aviation, electricity, mining, coastal shipping and, in certain states, deposit banks, insurance and the manufacture of alcoholic drinks;

- on the other, the application of American anti-trust legislation, not only to the operation of the foreign subsidiary established within the United States themselves, but also to that of the parent company. The application of the Clayton Act sometimes makes the buying up of American firms by European companies difficult and uncertain where it is liable to lead to control of what is deemed to be an excessive share of the market. Complex at the problems may be which such legislation presents for companies, its application however, could not be regarded as an obstacle to European undertakings unless it discriminated against them. On the other hand, in accordance with the principle of the application of American legislation outside the United States (1) the parent company of a subsidiary abroad may, in certain cases, expect to have restrictions imposed upon it in so far as, through its relations with its American subsidiary, it has an impact on United States' trade.

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(1) This principle also extends to other fields, the most noteworthy example being that of the legislation governing trade relations with Eastern countries.

Such interference may have the effect in certain cases of discouraging investments in the United States.

In Japan difficulties are particularly great. That country's legislation prohibits practically all foreign subsidiaries or controlling interests held by foreigners in Japanese firms. In the face of this obstacle to which are added the difficulties deriving from the very close co-operation between national industry and the Government, many Community firms have been forced to forego any development of their operations on a market which is among the most dynamic in the world (1).

Various obstacles to the establishment of foreign firms in the Scandinavian countries similarly prevent Community industries from setting up establishments in the vicinity of certain sources of raw materials and energy and thus placing themselves on an equal footing with their competitors. These obstacles are especially harmful to branches of industry which are sensitive to Nordic competition.

Community industry is still far from seeing a satisfactory development of its investments in third countries. To arrive at a more balanced situation, restructuring is required in many sectors so that Community firms can achieve international dimensions. The elimination of the obstacles of all kinds in the way of the intra-Community integration of firms which were analysed in Chapter II presents great interest from this point of view. It seems indeed that to acquire a transnational structure at Community level would be the best preparation and sometimes a prerequisite for the effective establishment of firms in third country markets.

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(1) It should also be noted that European firms which, through inability to invest directly, have sought to participate in the development of the Japanese market by granting licences to Japanese undertakings, have also encountered difficulties. Every licensing contract must be approved by the Minister for International Trade and Industry. He often makes his approval depend on the improvement of the conditions of the contract to the advantage of the Japanese firm and refuses authorisation if the contract concerned contains clauses prohibiting the export of products manufactured under the licence, if it is for more than a certain time or if it provides for royalties above a certain ceiling.

The legislative and administrative difficulties which at present hold back firms which would be ready to establish themselves in a third country market are already raising, however, the general problem of equality of access to establishment on the markets of industrialised countries. External economic relations cannot be limited to trade policy alone. They concern every measure which affects international trade and in particular investments which enable those who make them to site their establishments exactly where they judge the economic conditions to be most favourable.

The Community should seek an easing of such restrictions at every opportunity for bilateral and multilateral negotiations which presents itself.

Finally, the presence of Community firms in the developing countries is a special case. The industrialisation of these countries is already under way to varying degrees, and will increase. It is known that it will concern primarily and to a great extent sectors whose relative importance is decreasing in the developed countries. It also involves the extractive industries (with or without primary processing), which are often among the main world sources of raw materials.

From all these angles there is an advantage in fostering active participation by Community firms in this irreversible and desirable process of development.

It is important to take this appropriately into account in bilateral and Community policies of aid to the developing countries, accompanied where necessary by the special measures which certain declining industries in the Community may call for.

Conclusions

The intensification of all kinds of international economic relations, made possible on a world-wide scale by the prodigious development of means of transport and communications, must lead member States to extent their solidarity beyond the traditional field of trade policy in the narrow sense. Indeed, the opportunity

member States have to defend their interests effectively or to win acceptance for their views in international negotiations depends to a great extent, as shown by experience, on their capacity to negotiate as a Community.

It is already time for member States to put their heads together to prepare the economic negotiations of the coming years, the most important of which will be concerned neither with customs duties nor with quotas. The appearance and development of multinational companies of world dimensions, of which the greatest number today have their decision-making centre on the other side of the Atlantic, and which are tending to take the new form of conglomerate, give rise to a series of problems, for example in the fields of competition and taxation, which cannot be dealt with in this memorandum. The Commission has nevertheless embarked on the study of these problems and will report to the Council on them in due course.

Part three

ADAPTABILITY OF COMMUNITY INDUSTRY

Introduction

During the last twelve years Community industries have undergone important changes and have made a very great effort to adjust themselves. The incentive of such effort was, without doubt, the setting up of the Community itself, that is to say the complete opening up of markets between the Six.

These changes are not solely, or even chiefly, an inescapable and painful consequence of Community or international competition. Above all, they fulfil requirements of social and economic progress. It is these changes in fact, which allow the standard of living to be raised and living conditions to be improved.

The adjustments which have been demanded of Community industries seem insignificant, however, by comparison with the changes which will still have to be made in response to the requirements of progress and pressure from social developments, foreign competition and technological advances.

The constant appearance of fresh requirements both in volume and quality is always bringing still futher pressure to bear upon industry and obliging it to produce different quantities and even different products. In addition, this development is constantly throwing open fresh opportunities for expansion. In this respect the rapid improvement of the standard of living in the Community is a particularly favorable circumstance for the development of Community industry.

Trends on foreign markets and in international competition are of no less importance. The rise in the standard of living, more or less rapid in different parts of the world, produces more needs and more outlets for certain sectors of Community industry, while

the appearance in world markets of new competitors, more efficient or favoured by certain production factors, may bring about the disappearance of export outlets and even, sometimes, the loss of a home market. The lowering of freight charges and the acceleration of means of transport, together with the increased foreign investments, have strengthened competition in every sector and are forcing a measure of conversion upon the industries of every country in the world in the direction of greater specialisation and of a growing international distribution of industrial products.

Lastly, increasingly rapid technological innovation is, little by little, affecting the industrial sectors as a whole. The whole industrial economy, in order to survive and progress, must henceforth submit to progress and innovation if not instigate it. And this also leads to serious upheavals in industrial structures. These different pressures will, therefore, oblige Community industries, like the other industrial economies of the world, to develop more and more rapidly, and to adjust themselves constantly, to new realities. Adaptation of products, of the means of production, of the geographical location of production, of the structures of firms and of employment is henceforth a permanent necessity for Community industries if they are to remain competitive.

This does not mean, of course, that industry should allow itself to be led into processes of change which are not in the interests of the world economy and would result in a senseless acceleration of the rate at which equipment and products become obsolete. Such change would only reflect a situation of over consumption resulting in a waste of productive resources running counter to real economic progress. It is essential that the process of industrial adjustment be achieved with due regard to economic and social factors peculiar to the Community and should not consist in simply transposing the experience of other industrial societies. Geographical, demographic, social, cultural and human factors differ widely from one economic group to another and failure would be inevitable if such differences were not taken into consideration.

Among these should be emphasised the absence of any increase in the working population in most member States, social solidarity, which is one of the very constructive features of European society, and the importance attached to living conditions.

And so economic authorities, trade unions and industrialists alike, whose common objective is a dynamic Community economy, should strive to make possible these adjustments by measuring the extent of the necessary changes, by joining forces to fight against the resistances, by facilitating the mobility of the means of production (necessary for adjustment without major crises in the economy) and above all by creating the instruments necessary to prepare and assist those changes or to offset their inevitable social and regional consequences.

These different questions are the subject of the first chapter of this part of the report, in which the adaptability of Community industrial production is discussed.

The two following chapters will be devoted to the two factors determining the ability of an industry to adjust: the management of firms and innovation.

It might seem surprising to give such importance to problems of innovation which are not generally considered vital by comparison with the problems of the adaptability of production and of firms. The Commission considers however, that they are the key to all further industrial development in the Community and has therefore thought it necessary to devote a special chapter to them.

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CHAPTER I

Adaptation of industrial production in the Community

The inter-sectoral shifts of production and of the means of production which are going to occur in the Community are little known and certainly very much unter-estimated. This applies not only from one branch to another of the economy, but also from one industrial sector to another.

Recent trends in the Community economy and in Community industry already show very profound changes whose exact extent it is certainly difficult to assess. Figures for turnover and the volume of production in the different sectors are very incomplete and above all not uniform in the Community, nor do they give more than a very imperfect picture of the extent of structural change.

It has been considered preferable to quote here figures relating to trends in employment. These, which are the result and as it were the ultimate consequence of changes in economic structure, make it possible to assess the latter from the point of view of their most profound and significant effects on society.

If we compare for each of the three large branches of the economy - agriculture, industry and services - the proportion of the working population which they employed in 1967, the proportion of their contribution to the gross domestic product and, by dividing one by the other, the relative economic contribution per worker, we obtain the following results:

Agriculture	Working population	Gross domestic product	Relative contribution per worker
United Kingdom	3%	3%	100
United States	5%	3%	60
E.E.C.	16%	8%	50
Japan	23%	12%	52
Industry			
United States	34%	40%	118
Japan	34%	38%	112
E.E.C.	44%	44%	100
United Kingdom	47%	47%	100
Services			
E.E.C.	40%	48%	120
Japan	43%	50%	116
United Kingdom	50%	50%	100
United States	61%	57%	93

The relative contribution figures make plain the way in which workers are leaving the land, in all countries except the United Kingdom, for the other more remunerative branches. From 1958 to 1966 nearly a third of the working agricultural population of the Community, the United States and Japan moved to the other two branches, in nearly equal numbers to industry and to the services in the EEC and Japan and entirely to the services in the United States.

This one change has moved 1,607,000 jobs in the United States, 3,470,000 in Japan and 4,704,000 in the Community.

The context of this phenomenon is not, however, everywhere. During this period, indeed, the working population in employment increased by 9,859,000 units in the United States, by 5,230,000 in Japan and by only 1,407,000 in the Community. However, while Italy recorded a decrease of 1,300,000, partly due to the migration of Italian workers to other countries, in the other member countries the number of workers increased by a total of 2.7 million.

Although the change in agriculture is certainly the most important phenomenon in present economic development, a large number of other changes are occurring in the other branches of economy.

An almost equally general phenomenon is the decline of employment in the coal industry. Because of the keen competition from mineral oil products and natural gas, and also of more efficient utilisation techniques, which reduce the demand, the coal industry has been obliged to carry out maximum rationalisation throughout, to increase its productivity and to close down its less profitable concerns in a number of regions.

This resulted in the disappearance of 538,000 jobs in the Community from 1958 to 1968.

For reasons due principally to geological conditions and the lowering of transport costs by putting high tonnage ore carriers into service, iron ore extraction encountered difficulties in the Community and had to do away with 37,000 jobs between 1958 and 1968.

In the manufacturing industry, certain sectors have also been under particularly heavy pressures which have affected almost all the industrialised countries, in particular the textile and leather industries and ship-building. These pressures are not generally the result of a lessening demand or a reduction of overall activity in the sector, but of increased competition which obliges firms either to carry out maximum rationalisation and to dismiss workers, or to shut down. In the textile industry during the last ten years 477,000 jobs disappeared in the Community, against 195,000 in the United Kingdom, while in the leather industry the fall in the number of jobs was 55,000 in the Community and 5,000 in the United Kingdom. In the United States during the same period jobs increased by 38,000 units in the textile and 11,000 in the leather industry.

Alongside these extensive movements there are other less generalised movements - in varying directions, moreover - throughout the manufacturing industry. They reflect the constant adaptations which all the industrial sectors have to make. Thus, while from 1956 to 1966 156,000 jobs were created in the clothing and footwear industries in Italy, during the last ten years in the same sector 240,000 jobs have disappeared in Germany, France and the Netherlands.

Similarly, in the last ten years in Germany 99,000 jobs have disappeared in the timber and furniture industry and 25,000 in various other industries, in France 39,000 jobs have been abolished in the metal engineering sector, 11,000 in the basic metal working sector, 7,000 in petroleum refining and 16,000 in miscellaneous industries, while in the Netherlands 28,000 jobs have been abolished in miscellaneous industries.

Thus, even the Community manufacturing industry, which is expected to absorb more than half the agricultural workers and miners who lose their jobs, more than a million jobs have disappeared in the last ten years.

On the other hand, a number of industrial sectors have continued their expansion. Jobs in the mechanical and electrical sectors have increased by 1,600,000, in the chemical sector (rubber, plastics and mineral oils included) by 620,000. There have been overall increases in the number of jobs in the paper and printing sector, the food industry and the timber and furniture sector. In 1967 the Community manufacturing industry was employing 1,911,000 more wage-earners than in 1957 (against 412,000 more in the United Kingdom, 2,122,000 more in Japan and 2,629,000 more in the United States).

The overall figures just quoted still give only a partial idea of the changes which have taken place. They give only the total number of wage-earners per sector and workers deprived of their jobs by staff reductions or by closing-down of their firm but who have found an opening in the same sector are not included. Nor do these figures include those who, having lost their jobs, have retired early and been replaced by new generations or by immigrants.

Nevertheless, even in expanding sectors and in countries where no one doubts the vigour of industry, the number of close-downs is considerable (1). This factor alone affects probably more than 200,000 workers in the Community each year. In all sectors of the manufacturing industry (2) the manpower employed by establishments of various sizes

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(1) cf. Table 5, chapter 2, Part I

(2) cf. Table 9, chapter 2, Part II

tends to concentrate on those whose size is the most rational for the sector in question. The result of this is a continual movement of creation and abolition of jobs.

Another very important form of change in employment, which it is unfortunately not possible to estimate with our present statistical machinery, is the occupational qualification trend in the individual sector or firm. Such changes, which arise from the adaptation of the firm to new products or new methods of production, may, however, cause more radical changes in employment than the passage from one industrial sector to another. The level of remuneration, the qualifications required and working conditions may be fundamentally changed in this way.

None of the changes briefly described above shows the least sign of abatement. It seems, on the contrary, that they are bound to accelerate, having regard to the relative backwardness of the industrial structure of the Community.

The first part of this document emphasised the wide gap which still separates the productivity of Community industry from that of American industry - a gap that can be estimated at more than 50% in terms of value added at factor cost per person employed (1). This gap can only be reduced by fundamental structural changes which will affect both the nature of the products - some of which will disappear while new ones will appear - and the production methods and structure of Community firms, whose size does not, in many sectors, appear to be the optimum for economic efficiency.

In the Community little serious forecasting in this field has yet been carried out. In response to a recommendation of the Council on the subject of employment, the Commission is endeavouring to introduce the machinery necessary to forecast changes in jobs. Up to the present it has not been possible to overcome the combined weakness of existing statistical and forecasting systems. However, a few sectors have been the subject of preliminary studies. These lead us to expect a disappearance of jobs in the Community in the coming ten years of the order of some 240,000 in the coal industry, 200,000 in metal-working and more than 300,000 in textiles.

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(1) at official rates of exchange.

These changes, which should enable Community industry to catch up with its best competitors and not be outstripped by the most dynamic new-comers in the world industrial economy, will alone be able to ensure a satisfactory standard of living for the whole population. Though a fair division of the proceeds of a firm for the benefit of the workers is essential, the salaries and the total remuneration of the workers depend above all on the level of productivity and on the value added by the sector or firm. The possibilities of variation in the ratio of the total wage-bill to the operational profits of the firm are fairly limited (1). Improvement results essentially from variations in the value added, for which, as is shown by the figures for recent years, the possibilities of growth are considerable.

These changes, which are essential for raising the Community standard of living, do none the less pose delicate problems of a social and regional nature. That is why they can only be encouraged if their consequences are foreseen and if everything is prepared and everything possible done not only to protect workers and their families but also to see that they give a real chance of progress in living and working conditions.

With this end in view, sufficient forewarning and the opening of negotiations between management and labour at the level of the firm, the sector or the region, such as exist in certain countries of the Community, seem likely to enable both workers and firms to adjust in the best conditions.

In these conditions all employees alike will agree to contribute, by their personal efforts, to making the necessary changes, without being dominated by the fear of losing their job and of not finding another except on less favourable terms in unacceptable surroundings.

This realistic and dynamic attitude finds its justification in the prospects which are opening up in the different European countries. Statistics and forecasts indicate that in the coming years Europe will probably experience an acute shortage of manpower and that it is already suffering from a lack of qualified managerial staff.

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(1) cf. 1st part, Chapter 1.

Fear of change, the dread of unemployment and the resultant hesitancy have no legitimate foundation except in so far as the machinery which ought to promote, make possible and accompany the changes is not in motion.

Of first importance among the measures which should accompany these changes are those of a social nature. In the first place, better training of young people to meet the new employment needs, the retraining of adults and more generally the possibility throughout industry of training for new jobs, seem to be the primary condition for rapid and successful change. Without an extremely dynamic vocational training policy there is a danger that a phenomenon that is particularly harmful from the social and economic points of view and which is already observable in certain sectors and areas, namely the co-existence of a serious manpower shortage and large pockets of unemployment, may spread in the Community.

Measures to follow social solidarity are also essential. The employee who loses his job must have the necessary resources to cover the inevitable time that will elapse before his resettlement.

The tendency of certain firms to employ only young workers and managerial staff and to lay off the older ones must be restrained by an information campaign to show that it is in the interest of firms to maintain a natural balance between the various age-groups of their staff. The effects of such a campaign could where appropriate be reinforced by fiscal measures. The resettlement of older workers will always be difficult. Specially favourable provisions must be made for them, particularly when the loss of their jobs occurs shortly before the normal date of their retirement. Finally, the worker obliged to leave his job should not have to bear alone the additional expenditure resulting from the moving of his place of work, let alone of his place of residence.

The environmental measures which must accompany these changes are equally decisive. Economic and social infra-structure, and in particular housing, are becoming more and more important.

On the other hand, the advantage given by the law of several member States to holders of long-standing leases in contrast to new leaseholders are a check on the geographical mobility of workers. The creation of a proper infrastructure is a necessary condition for the geographical mobility of firms and workers, and lack thereof is also a direct cause of the phenomenon just referred to, namely the coexistence of a shortage of manpower and of unemployment.

Our purpose here is not to deal with all the problems of growth, change and conversion, nor to analyse all the policies they call for. Only the most directly industrial aspects, namely those linked with the maintenance, development or cessation of production, that is to say, with general sectoral options, will be dealt with in this chapter.

Social policy, regional policy and industrial policy are, all the same, inter-dependent and complementary and cannot, on pain of failure, be pursued separately. The Commission has already submitted to the Council a certain number of proposals on social matters and in particular a plan for the reform of the social Fund. It has also submitted proposals on ways of organising Community action in regard to regional development. The industrial considerations set out in this chapter are thus the third facet of a coherent Community plan of action in which social policy, regional policy and industrial needs will be taken into account.

Industrial development must be set in the general context of economic and social policy, guided by forecasts, supplemented where necessary by intervention in certain sectors and prepared by appropriate social and regional measures. It is on these conditions that the public authorities can permit, assist and indeed accelerate changes in the pattern of industry and, where necessary, direct them for social ends.

To pursue certain of the courses of action just mentioned in the national framework alone raises problems which can no longer be escaped since the inter-dependence of the economies of the member countries has become so close as to be liable to nullify the effects of national action or to produce serious difficulties in the other member countries.

Above all it is important to investigate in connection with these different lines of action to what extent they can be made more effective in order to enable Community industry to make up for lost time, that is to say, to maintain and even accelerate its rate of adjustment and prepare itself to receive within the next ten years a large proportion of the two million agricultural workers and farmers who are too young to retire and of the five million people who represent the excess of the new over the retiring generations.

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I. GENERAL PROPOSALS AND ANALYSIS OF PROSPECTS

The existence of a framework for overall economic development which leaves existing equilibria undisturbed is the primary condition for effective action by the public authorities in the matter of industrial structures. This means that, over and above the smoothing out of short-term economic situations, balanced growth must be sustained in conditions of price stability which present harmful fluctuations in the allocation of resources. An overall industrial development plan calls for a systematic effort at forecasting to facilitate the formulation of major options and the fixing of growth, employment and external balance objectives.

It is to forecasting in particular that the task falls of estimating the likely imbalances in manpower and more especially the future demand. In this sense forecasting is necessary for proper vocational training policy, because it can bring to light the problems which will arise for workers and for the framers of employment policy.

By means of forecasting, too, the minds of workers and public opinion can be prepared for changes which are much better accepted if they are announced in good time and the need for them is understood. By throwing light on the dynamic aspects of industrial development, forecasting may enable managerial staff and workers to make the effort required to ensure that the changes result in an improvement in their conditions.

The purpose of defining general guidelines is not the fixing of quantitative objectives constantly subject to review but the pursuit by the authorities of a medium-term policy based on diagnoses derived from forecasts. This policy must serve as a reference frame for the measures dicussed below, namely specific sectoral action and the necessary social and regional measures. In particular it must allow environmental adaptation to the likely industrial developments, to make these possible and sometimes to accelerate them. The role of

medium-term policy is indeed to eliminate as far as possible all the elements of inelasticity which prevent an economy, and particularly its industry, from developing. Such resistances and obstacles to change and modernisation are not always noticed in time. Whether it be a matter of suitable legislation and taxation, inadequate infrastructures, and in particular poor housing, or badly conceived occupational training, they can none of them be corrected quickly. Often in the past, environment and infrastructure have not followed economic and, in particular, industrial developments. The result has been very prejudicial delays in the modernisation of economic activities, and, worse still, social tensions. To prepare the ground for a more suitable and more stimulating environment is accordingly of the most useful functions of all medium-term policy.

Lastly, medium-term policy must not just prepare the ground for the future, it must in certain cases point the way. It must in particular, by a consensus of political and social forces, fix the priorities to be accorded to economic and social development. Here the functions and objectives of public services are of great importance: education, research, medicine, town-planning, leisure, all call for very considerable resources and an orientation of the economy and of industry that cannot be brought about overnight.

All the Community countries have for some time had forecasting and programming machinery. The adoption by the Community of a medium-term policy calling for forecasts and programming machinery. The adoption by the Community of a medium-term policy calling for forecasts and programming has led to member countries stepping of and adjusting their own work to make it compatible with that of the Community. The Community thus possesses the instruments it needs to guide its industrial policy.

Sector forecasting, it can be seen, is a necessary adjunct to the overall programming referred to above. Justified by the need to give economic agents a basis for their decisions, the forecast of individual sector trends preserves a fair degree of autonomy in relation to overall programming, in so far as its role, especially in an open economy, is not so much to direct as to indicate.

The Community's forecasting instruments are nevertheless still deficient in this sphere. The basic statistics for industry in the Community show serious lacunae, as was stressed in Part I above. While considerable progress has been achieved in regard to national accounts, compatible sector forecasts would be a very welcome addition to the instruments available.

Similarly, more systematic technological forecasting would greatly add, as is shown in Chapter 3 below, to the data available.

In formulating such requests and suggestions, the Commission in no way underestimates the difficulties presented for the Community by overall and sectoral forecasting. It merely wishes to stress the priority which should be given to this work on which the balance and rapid growth of Community industry largely depends.

II. SECTORAL MEASURES

Our purpose here is not to analyse the different sectoral problems or to propose solutions for individual industrial sectors. The Commission has never hesitated in the past to make recommendations and proposals or to take action in matters within its province. The remarks which follow are intended only to show the direction its future action in this field will take.

All governments influence the development of industrial production and structures, whether directly be specific measures, or indirectly by decisions which have another economic purpose. A set of government measures thus determines, to a large extent, the decline, continuation or growth of certain trends of production. The Community also takes decisions in connection with its commercial policy, its agricultural policy, its aid policy and perhaps soon its transport policy, which have a great impact on individual sectors.

It is often mistakenly thought that sectoral action means subsidies and loans and that there is no sectoral policy worthy of the name unless it involves pouring money into the sector concerned. This if true would mean that sectoral measures are never desirable except for sectors in decline or for growth sectors which both, for different reasons, sometimes seek and obtain public funds. On the other hand, for those who, not without reason, are cautious about any subsidising policy, sectoral measures may well seem to be a deliberate attempt to falsify economic mechanisms, to maintain unprofitable industries and to prevent the best allocation of the factors of production.

It seems wrong to pose the problem in such terms. It is true that in the past the recognition of the need for a sectoral measure has often stemmed from the difficulties experienced by the sector concerned. The absence of manifest difficulties in certain sectors does not however, prevent the authorities from taking decisions which concern their life, so that, without always enjoying a "sectoral policy", they are nevertheless subject to one. The difference between the two situations lies in fact mainly in the methods used and in the degree of analysis, forecasting, and, doubtless, publicity, which accompanies the implementation of certain public decisions.

To apply sectoral measures to rising or declining industries only is increasingly meaningless. When the conditions of production or competition are threatening to make the best established industries rapidly obsolete if efforts at modernisation or diversification are not made in time, when innovation is creeping into all sectors and may well give a new lease of life to industries thought to have no future, and to distinguish between declining sectors, sectors of the future requiring stimulation, and other sectors, is becoming increasingly difficult. It is even dangerous in so far as it leads to sectors considered as having no problems being neglected or even penalised.

The anonymous sectors which do not have their own "sectoral policy" account nevertheless for the bulk of industrial production and, consequently, of the national product. Their growth largely determines the growth of the economy. Without going so far as to reserve all the public favours for them, it must nevertheless be remembered that these healthy sectors are the main contributors to the funds transferred, in limited amounts it is true to other sectors of industry, but in vast amounts to other branches of the economy, and that public subsidies and massive inroads have a diffuse but profound effect on the conditions for their development. To oversupport coalmining, transport or agriculture, is in the long run to threaten the mechanical or chemical industries with decline.

Sectoral action by governments takes many forms. We shall discuss here briefly the most interesting, in order to see how far their use at Community level is likely to improve their efficiency.

The first of these measures is undoubtedly the sectoral forecast. Reference was made earlier to overall economic forecasting as giving a picture of overall balances and of the place of the different

sectors in relation to current trends. These forecasts do not suffice, however, to help firms to plan their investments or the public authorities to decide on sectoral action. Qualitative and quantitative sectoral forecasts are also needed. The Commission does not underestimate the risks of error presented by such forecasts, but nevertheless thinks that a more systematic effort would help greatly to reduce them.

Large firms and industrial federations are already carrying out such forecasting. But the framework in which they are working does not always give a full picture of the situation. It is not only at national level but also at Community level that forecasting is now required, since no part of the internal Community market can any longer be considered separately . Such forecasts, which can of course only afford indications, must embody, as is already the case of OECD forecasting for certain sectors, all the known future prospects as regards production and marketing in the rest of the world. They should, if carried out in strict liaison with the industry itself and the trade unions, represent a very useful contribution to Community administration of industry in the six countries. They would help the sectors concerned to anticipate probable trends and time correctly their decisions for growth, diversification or, if need be, conversion.

Some attempts at sectoral forecasting have already been made at Community level. We may mention here, in addition to short-term (one year) forecasts for the automobile industry, forecasts by the Commission, in conjunction with trade unions and employers' organisations, of trends in the textile, ship-building, non-ferrous metals and other sectors, etc. These forecasts are not yet, however, being regularly brought up to date.

The Commission accordingly appeals to industrial federations in the Community and to the European trade unions, in order to support it in the effort to institute forecasts for all the important sectors of Community industry.

It may be wondered, lastly, whether it would not be advisable to extend such sectoral forecasting to actual collaboration such as already exists, by virtue of the European Treaties, in the iron and steel sector and the nuclear sector. In both those sectors general objectives or indicative programmes worked out by all the parties concerned are published at regular intervals and the Commission must receive notification of all the significant investment projects in sufficient time to be able to judge whether they are in harmony with Community objectives. The opinions thus given are intended for the guidance of the firms and the member States concerned and are not binding, nor are they published.

The Commission feels it should be investigated whether this procedure could not be applied to other industries where "investments are slow to mature and particularly heavy while production is of a decidedly specific nature and spread sufficiently throughout the economy for it to be possible to link up probable future demand with the trend foreseen in general wealth" (1). This could be the case with the energy sectors other than coal and atomic energy, where such procedure already exists (2).

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(1) Policy report of the High Authority, ECSC, February 1965.

(2) the Council of Ministers of the Community recently stressed "the advisability of developing medium-term forecasts and guidelines for the different forms of energy".

The second type of sectoral action often resorted to by governments and, now, in most cases, by the Community, consists of trade policy measures. Chapter 4 of Part II above stressed sufficiently the relation between trade decisions and sectoral policy for it to be necessary to dwell on the subject now. It is enough to remember that trade measures are not confined to the manipulation of customs tariffs, the opening of tariffs quotas, the abolition of quotas or anti-dumping measures. They also include trade agreements, credit insurance and in general all the administrative and economic services whereby the authorities facilitate access to third markets for the nation's industry. Similarly, in the context of increasingly intense world competition, decisions taken by third countries concerning access to the market or control of raw materials may call for certain sectoral measures on the part of the Community.

Another kind of sectoral action is indirect. Its primary objective is not the sector in question, but another sector, another branch of the economy, or even the restoration of an overall economic equilibrium. Such measures may be good or bad for certain sectors. It is for a coherent sectoral policy to measure effects and to assess their merits, in order that decisions may be taken in full knowledge of the facts. There is no need to stress, for example, the interdependence of agricultural policy and the food industry, energy policy and the chemical or metal industry, transport policy and the iron and steel industry or even short-term economic policy and the iron and steel industry when short-term economic policy leads to price freezing. Decisions taken without enquiry into the sectoral consequences have often irremediably weakened the industries in question without this being what was wanted. It is only with difficulty that compensatory measures manage to restore a balance. The administrative complications which they entail most often constitute a permanent handicap for the

industry in question. Because it is indirect, this aspect of sectoral action is very often neglected. Nevertheless, the true cause may be found there for many serious sectoral difficulties.

Another set of sectoral measures, more discrete in this case, forms undoubtedly the most modern aspect of action by the public authorities: this is the use of stimulants by the public authorities to rejuvenate certain sectors and orientate them to the future. Such measures take various forms, such as small subsidies to certain professional research bodies, documentation and information clearing-houses, productivity centres, retraining and occupational training courses. Such action, which differs from major technological promotion, is no less likely to bring, at a cheaper price, new methods and a new breath of air into the sector concerned. It would seem advisable to envisage certain of these measures at Community level, when the problems which have to be solved concern a large part of this sector in Community countries and when the pooling of means is likely to lead to greater efficiency. The Commission considers these problems so important that the whole of Chapter III below is devoted to them.

There remain the better known sectoral measures: loans and subsidies in all their forms. A distinction must be made here as regard loans granted on market terms by public or semi-public bodies, to firms which, because of their size, or by reason of the current economic situation cannot have access to the normal sources of finance. The motivation for such loans must be sought less in the abnormal situation of the firms in question than in the organisation, or possibly the malfunctioning of the money market. Such loans thus seem to be aimed at restoring equality of access to sources of finance, for the benefit of the less-favoured firms.

In so far as the purpose of subsidies or subsidised interest loans is mainly sectoral, the Commission must on the other hand consider them with considerable circumspection. The consequences which they may have on competitive production in other member States led the authors of the European Treaties to set up preliminary Community examination procedure.

Leaving aside research and development subsidies, it must be said that many of these subsidies in fact lead to keeping on inadequate structures and production processes and lead too often to the deferment of conversion, inevitable though it may be.

The regional aspects of such subsidies will be considered later. It is they which most justify the granting of considerable financial advantages to firms.

Apart from matters of a social and regional nature, those of industrial development proper may, in certain circumstances and subject to the necessary precautions to ensure that it plays a constructive part at Community and not simply at national level, justify certain sectoral subsidies. This is the case in particular where:

- the inertia of firms or preliminary handicaps in relation to external competition (advanced technology) cannot be overcome except thanks to aid on the part of the authorities to companies embarking on production;
- The common interest requires public action to promote the more efficient factors of production by instigating or accelerating the effort of firms to rationalise or reorganise their production;
- The difficulties experienced by Community industries result in artificial distortions of competition caused by the action of third countries.

Assistance to put a sector on a healthy footing is one example of such sectoral aid. This is designed to encourage and facilitate the closure of production capacity in certain sectors with redundant and, at the same time, outdated equipment. The textile sector provided some recent examples of the application of such measures. As the object is to rehabilitate one sector more rapidly or in better ways than could be brought about by market action only, they should be able to contribute to the modernisation of Community industries. The difficulty of controlling this kind of aid and the considerable and constant risk of its being misdirected is bound, however, to lead the Commission either to avoid such intervention or to lay down very precise conditions for authorising it.

After this very brief analysis, it would seem appropriate to recall three principles that are behind all sectoral action.

The first is that in order to be effective, sectoral action can scarcely ever be undertaken in isolation, but must generally involve other kinds of action, which may range from forecasting to the subsidising of research. Above all, it must be supported by action in other fields - regional and social in particular.

Secondly, sectoral action must not be limited to catastrophic situations. It must, on the contrary, endeavour to avoid negative solutions such as the partial or total closing down of undertakings, always costly from an economic point of view, and painful from a human standpoint. Thanks to timely forecasts, it should facilitate conversion to an activity with a future, wherever the standing of the firm concerned warrants it.

Lastly, properly thought out sectoral action should not be directed towards a particular type of production but should rather be concerned with the employment of workers and the dynamism of the firms which guarantee it. This means that if the future is unpromising for one line of production the survival of the firm must take precedence over continuing it and the ground must be prepared for diversification or conversion if necessary.

The Commission will need to translate the suggestions and proposals of a general nature contained in this memorandum into action appropriate to the various sectors.

In order to carry its action to a successful conclusion, the Commission proposes, with the help of industry, to make a thorough analysis of the situation and the anticipated development in the various sectors.

This analysis should make it possible to take coherent action in the various industrial sectors instead of the haphazard action sometimes taken both at national and at Community level.

III. SOCIAL AND REGIONAL MEASURES

At the beginning of this chapter we recalled the conditions for achieving speedy and important changes. The first is that adequate opportunities for vocational training should be available for young people and adults alike. In this respect all the member States are making great efforts and providing considerable sums of money. It would seem necessary, however, to intensify this action if we are to eliminate the contradictions which still exist in more than one sector and more than one region where relatively serious unemployement does hand in hand with a grave shortage of skilled labour. As we have already emphasized, if the intensified efforts to provide training are to be fruitful they must be accompanied by more accurate anticipation of trends in employment. But action is also necessary to inform workers who are interested in how they could make the effort to retrain themselves and in the advantages which they would derive therefrom.

In its opinion on the reform of the Social Fund, submitted recently to the Council of Ministers, the Commission proposes a number of ways in which the Community might assist workers in all categories to train and retrain as necessary. By ensuring continuity of income during periods of unemployment or retraining, by facilitating the retraining of managerial staff, by helping workers to settle where industries can best be sited, the Social Fund will be able to simplify greatly the necessary close-down, concentration and modernisation operations. By facilitating the adjustment of occupational skills, it will also enable firms to make internal conversions and adapt to new conditions of competition.

In the past, the European Communities, thanks to E.C.S.C. and the Social Fund aid, have given financial support in excess of 225 million units of account in more than 1,500,000 cases of resettlement of workers.

For economic, social and psychological reasons, the Commission attaches prime importance to a continuation of this effort on a broader basis. It is not without consequence, indeed, that the Community, often blamed by public opinion for the changes bound up with any increase in competition, should be making a contribution to the effort to avoid or minimise the social repercussions of those changes. The proposals for the reform of the Social Fund submitted by the Commission to the Council some months ago should allow the Community to confront these problems with fresh weapons.

Regional measures are equally important for the success of industrial changes, regardless of whether the regions are in expansion or decline. Only with readjusted or new infrastructures can industry hold its own, develop or establish subsidiaries elsewhere.

Too often regional policy is synonymous with conversion in areas in decline. This narrow and insufficiently forward-looking view generally results in slowing down the necessary development without laying any foundation whatever for future expansion. A decisive factor in the speedy adaptation of an industrial economy is without doubt its geographical organisation.

Since regional policy is not the subject of this report, the Commission merely wishes to point out here certain industrial needs which must be taken into consideration when deciding upon regional measures.

In the first place, measures which have as their objective the industrial development of certain regions must aim primarily at creating a suitable environment, that is to say they must provide not only material things, particularly the means of transport, but also intellectual amenities: universities, educational establishments, cultural life and leisure opportunities.

Too often regional action has been concentrated on direct aid to investment while the conditions for receiving such aid were not met.

The result was often a scattering of new factories which was not conducive to the building up of an industrial fabric dense enough to be able to develop thereafter spontaneously. The concentration of official action on certain areas and certain development poles by the creation of the necessary infrastructure would seem to be a guarantee of the industrial efficacity of regional policy.

Secondly, regional considerations calling for the creation of more jobs should not lead to the establishment of new industrial units in sectors which are already experiencing serious difficulties or are likely to experience them in the near future.

This would amount to encouraging, with State aid, the setting up of activities which would be threatened in the near future. It would therefore be advisable that conversion operations in one country should not run counter to similar ones elsewhere and care should be taken in selecting the recipient sectors so that in the Community as a whole no aid should be given to investments in sectors threatened with saturation.

Lastly, the problem of regions trying to outbid each other in offering direct aid to investment is sufficiently well known to make it unnecessary to go into it at length. Such outbidding makes operations carried out with a view to creating new jobs unnecessarily costly and thanks to excessive aid makes it possible to set up businesses which will never be profitable and could not have been set up without aid even in the regions naturally most favourable to industrial development. It is in the long run mainly advantageous to firms which are so well-established or so mobile that they are not confined to the region or country concerned and can turn this outbidding to their advantage. This outbidding is reflected not only in the unnecessarily high level of the aid granted but also in a progressive extension of the systems of aid to all the Community territories which do not suffer from economic congestion.

In seeking a balanced development of industrial activity at regional level, the Commission wishes to re-affirm here that discipline and common objectives in granting aid to regional development are indispensable in the Community.

To achieve this, the Commission is at present endeavouring to secure

- that the most important aids granted in a regional context should be subject to prior examination, and
- that aid schemes themselves should be directed towards greater transparence and a certain harmonisation of intervention rates.

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The need for a scale of priorities for cohesion in the various forms of action referred to above complicates the working out of a coherent strategy. It is on this condition that it is possible to estimate the social cost and the real contribution of the measures envisaged in the various sectors thanks to specific policies.

A start has been made on this with the elaboration and implementation of the Community's medium-term economic policy programmes.

Their contribution to the development of the Community is already a major one. It would not have been possible to draw up this memorandum, which implements as far as industrial trends are concerned, the first two medium-term economic policy programmes of the Community, without all the work done in the Committee and its specialised groups and sub-groups.

CHAPTER II

Business management and the training of personnel

Efficient management is without doubt a determining factor in the adaptability of firms as was already emphasised in the second medium-term economic policy programme, and the importance of this factor continues to increase with current economic trends where:

- increasingly intense competition demands the optimisation of all the factors affecting competitivity;
- the widening of markets calls for speedy adaptation to varying environments;
- accelerated technological development repeatedly calls for choices and strategic decisions.

Since the quality of management depends very largely on the quality of the men concerned, training problems must also be dealt with in this chapter.

I. BUSINESS MANAGEMENT

The present state of economic research does not allow one to measure the importance of the management factor in the development of a country's economy or even in the development of a firm. But there are numerous and convincing examples of innovation decisions which have given rise to new firms or to spectacular recoveries or expansion. Conversely, when European firms or industries earn as they so often do, lower profits than their American counterparts, even when the initial resources seem to be much the same, it is no longer, or only

rarely doubted that this is to be ascribed largely to less efficient management and so the expression "management gap" came into its own.

It is certainly wrong to blame the management gap for the whole difference in level between the economy of the Community and other more advanced ones. Since management means using available resources in a particular environment, it is evident that the end result will be noticeably influenced by the distinctive features of both those factors. This is not invalidated by the high returns of businesses set up by third countries in the Community. Since direct investment abroad is usually the work of dynamic firms and is generally directed towards attractive markets, it is only logical that its growth and profitability should be above average: in 1967, for example, the profits of the branches of foreign firms in the U.S.A. increased by 15% while the profits of American industry remained static.

It has been clearly shown that the productivity of the labour force in any economic area depends to a great extent on the average level of education of the population (1). In the United States, for example, it is estimated that there is a 20% difference in productivity between the Pacific regions and the Southern region.

Likewise, the greater mobility of American professional managers ensures both competition in regard to ability and a diversity of experience which is lacking in Europe because ownership and management and hence the business and the manager so frequently go together.

These general remarks are in no way a denial of the existence of a management problem in European firms or the need for constant effort on the part of all concerned to improve the efficiency of managers. In particular, efficient and up-to-date management is not, as some would seem to believe, the exclusive preserve of large firms backed by considerable financial resources.

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(1) See particularly, E. Denison, Why growth rates differ, Brookings Institution, 1967.

Analyses concur in emphasising that modern management is based chiefly on an attitude, a state of mind, in which techniques and equipment merely play a supporting role. The most important approach will always be that of the head of the various directors who foster in their firm the habit of making rational decisions based on a quantitative assessment of the various alternatives and their consequences and forming part of a systematic plan.

It is a question of being rational rather than intuitive and instituting communication and participation in addition to authority.

There can be no question here of breaking down management into a catalogue of techniques. It is however, useful to recall some of the essential principles which have not yet fully permeated European management.

1. A first fundamental aspect of management, not fully recognised in Europe, is the need to work out a long term objective for the firm (1).

   In a rapidly developing world any firm must regularly ask itself where it is going. This critical self-examination must start with decisions as to how best to employ the technical, commercial, financial and human resources at its disposal, while not forgetting to take environment into account. The long term plan will be expressed as quantified targets in terms of profitability, productivity, rate of expansion which, if they are to be achieved, call for definite strategies (geographical markets, products, investment, personnel). It must be a question of making a decision, fixing an objective which the firm means to pursue actively and constantly as opposed to merely extrapolating from the past.

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(1) In the U.S.A., in 1953, approximately 20% of large and medium-sized firms engaged in long-term planning. In 1958, that percentage had gone up to 50 and at present it is put at 80 - 90 (Cisdec, Università Bocconi, Milan). An enquiry carried out in 1968 among Italian firms employing more than 250 people shows that 44.9% of them engaged in medium-term programming and 17.9% drew up a strategic plan (SUCCESSO, December 1968).

This long-term planning must be based on forecasts (macro-economic, study of markets, technological). It must be noted here that European firms are too inclined to consider this forecasting procedure as not devolving upon them and to rely entirely on the public authorities to take care of it.

2. A second characteristic of contemporary management is its greater concern with the market than with production.

Still fresh in the memory of European firms is a long period of shortage during which the supply of raw materials and the technical problems of production were all-important and marketing was a simple matter. Since then, the increase in available resources, the growth in productivity, technical progress and the interpenetration of markets have created intense competition in respect of supply; the increased purchasing power of populations and wider ranges of choice have created a more exacting demand as regards quality and are constantly changing it as regards structure. It cannot be denied that European industry has adapted itself to changed conditions and has made considerable progress in this field. Nevertheless, while European firms are directing their efforts progressively towards the market and the satisfaction of collective and individual demand, the definition of market objectives and the adaptation of products to the market and to demand still leave much to be desired. In particular, European management is furthest behind in the most advanced and directly significant operation such as checking the profitability of marketing by product, by customer, by seller and by region or area. That this leeway exists is confirmed by the fact that marketing problems call for the greatest efforts from European subsidiaries in adapting themselves to conditions in the U.S.A.

3. A systematic cost/benefit analysis of alternatives leads logically to the adoption of quantitative methods of management on a scientific basis. Once a particular volume and a particular stage of improvement have been achieved, these quantitative management methods call for computerisation.

The computer is only a tool, however. The effort of systematic reflection on the standardised factors for which one uses a computer was and still is possible without it; but its use speeds up the progress considerably, increases accuracy and brings out the cause and effect relations.

In practice, the introduction of a computer into a firm has often been a cause of disappointment. For want of sufficient preparatory study, a number of firms have had to restrict work with the computer to purely administrative tasks. These unfortunate experiences have caused many directors to be prejudiced against scientific management methods.

The adoption of quantitative methods supported by the use of a computer must come in gradually and can only succeed if certain requirements are fulfilled:

- the firm's directors must be sensitive to the advantages of rational management, must know how to make use of the data available, how to estimate the gains (this is all the more important since they are not always immediately recognisable in the accounts but take other forms such as time saved, better information, etc.);
- priority must be given to the organisation of data-collecting machinery;
- the firm must have the services of the indispensable specialists and it is important that they make every effort to ensure that information is supplied in such a way as to be understood by non-specialists;
- a judicious choice must be made among the problems to be dealt with by quantitative techniques. It is superfluous to submit minor problems comprising a small number of variables to the computer; common sense will supply the answer more cheaply. It is equally useless to expect the computer to supply the factors on which to base a decision if the available information is incomplete or inconsistant: in the absence of adequate information the computer will simply give the wrong answer more quickly.

Here it must be recalled that scientific management systems are becoming less and less the privilege of large firms. The development of smaller computers as well as of time-sharing and even of co-operation in management matters is giving small and medium-sized firms increasing access to methods of management which call for electronic equipment.

4. A rational attitude on the part of the directors, a market strategy and the introduction of scientific methods will become fully effective if a fourth factor is present: participation by personnel at all levels in the life of the firm, its options and its progress.

This is of course a qualitative problem for which there is no obvious solution. The aim must be to achieve active and creative co-operation at all levels.

It would seem undeniable that this factor is first and foremost a question of option in the matter of organisation: communication, delegation, participation and greater attention to personnel problems.

In Europe, responsibility for personnel matters is often wrongly considered to be less important than duties on the commercial or production side. It is thus often thrust into the background.

This idea, when combined with a bureaucratic type of organisation in which the motive force drives only from top to bottom and information is compartmentalised, prevents anything more than a very slight involvement on the part of the individual.

There can be no motivation without some responsibility: a wide dissemination of information about the aims and achievements of

the firm, planning of careers and information to staff on this subject and, above all, the delegation of responsibility at all levels would appear to be the requisite conditions for a dynamic modern firm.

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Public authorities, professional organisations, further-training centres, will only be able to help a firm in this respect if it first undertakes a critical examination of its own motivation, organisation and strategy and draws the relevant conclusions.

Before the purchase of costly equipment, better management calls for other kinds of investment:

- there is a certain amount of bias against graduates of business schools: it is thought that these young executives either cost too much or would not submit to the classic forms of management. This attitude fails to recognise the need to recruit and pay for trained staff giving guarantees of greater and more speedily achieved efficiency and it runs the risk of aggravating existing handicaps (1);
- in many cases firms will save considerable time and money by submitting its structure and management methods to the keen scrutiny of independent outside experts;
- a firm which is convinced of the importance of the management factor must logically accord "training and further training" a correspondingly important place in its organisation.

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(1) 20% of graduates of European business schools are recruited by international firms, nearly all of them American.

II. TRAINING

Apart from the problems of the training of workers referred to in the preceding chapter and which will be the subject of proposals in another context, training raises three main problems from the point of view of industrial policy:

- the training of senior management staff;
- the recruitment of engineers, research workers and highly qualified specialists;
- the adaptation of general education to the needs of a rapidly changing economy.

There can be no question of discussing these problems exhaustively here and we shall accordingly confine ourselves to the factors which directly affect the growth of industry. The Commission intends to contribute to the definition of a European policy on post-graduate education in its next memorandum on scientific and technological policy.

1. Management training in Europe

As management becomes more scientific and less intuitive, the need for management training becomes more urgent. Whatever the intellectual abilities and character of the individual and whatever he has gained by experience, it is certain that adequate training will bring him more surely and above all more rapidly to optimum efficiency in his duties as a manager.

Similarly, the rapid development of the scientific bases of management requires a regular up-dating of knowledge (1).

When we speak about the training and further training of business executives, we touch upon an extremely wide subject which spans different levels (directors, senior, or junior managerial staff), requirements (specialised courses, or on the contrary, more general courses) and methods (intra - or extra-mural training).

All these variations correspond to definite and specific needs. However, from the point of view of our subject, two levels and two types of training would seem to have priority:

- the university or post-university level which thanks to one or two years of thorough training must provide industry with a sufficient number of young men versed in modern management methods, from whom future directors will be recruited;
- directors at the height of their responsibility or about to reach it, who must be made aware of the principles of modern management in order to recruit efficient staff and promote efficient techniques.

These two forms of training are generally provided in the same training centres in Europe, although the problems they present may be different.

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(1) An optimum schedule for the training and further training of business managers may be outlined as follows:

Age	Duration	Nature of course
23-25 yrs	2 yrs	Post-graduate in business administration
29 yrs	6 wks	Specialised retraining called for by a change in the firm or in the functions of the person concerned
36 yrs	12 wks	Training for general management
47 yrs	2 wks	Familiarisation with new techniques

From a recent survey (1) of the largest European business schools (22 centres in 12 European countries) (2), it is possible to extract the following information:

- capacity in Europe is quite insufficient: taking all the courses together, the 22 schools turn out 3,500 students of whom approximatively 500 are post-graduate students. For the same countries it has been estimated that in 1980 the annual demand for new business executives will be 85,000. This output of the European schools must be compared with the 45,000 graduates, 5,000 post-graduates and 350 doctorates in business administration (15% university graduates) produced by the American universities.
- the means at the disposal of the training centres are quite inadequate, and this has repercussions on their equipment and organisation;
  - on average, there are fewer than 15 full-time teachers and assistants in each centre;
  - 63% of schools do not have access to a computer (10% possess a computer, 27% are linked up to a computer)
  - 70% of business schools have neither a long-term plan nor a research programme. Only 16% have a research centre with a separate budget.
- this results in a considerable dependence on American business schools: 40% of the teaching material comes from America; the 22 European schools have altogether 38 bilateral arrangements with American institutions.

Steps taken in the last twenty years have not always met on the part of industry with the interest and support they deserve and this explains to a large extent the more restricted development of this kind of training in Europe. While some firms contribute

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(1) conducted at the request of the Commission by "European Business".

(2) Germany, France, Italy, Belgium, Netherlands, Denmark, Spain, Great Britain, Ireland, Norway, Switzerland, Czechoslovakia.

significantly to the running and development of training centres, this support is not forthcoming as much as could be wished, since many managers are still sceptical, as much regarding modern management methods as about the efficacy of systematic training .

This attitude, which is more wide-spread in some member countries than in others, does not necessarily stem from a lack of dynamism but rather from a concept of management which attaches more importance to personality and experience than to training.

Moreover, it has been observed that business schools are outside the framework of the higher education system and that in some countries there is even a gulf between the two. The universities tend to ignore teachers of management, because it is a recent discipline, whilst the latter wish to escape from the dogmatism of traditional education.

This situation is prejudicial to both parties because it hinders the cross-fertifisation of ideas and methods by exchange of teachers and teaching material. It is important that post-university centres should be able to rely on a multi-disciplinary infrastructure, whilst retaining their freedom of action.

Lastly, another characteristic of European business schools is that they lack international appeal. With about three exceptions they have hardly more than 5% non-national students. This no longer seems compatible with the requirements of economic life which is becoming more international every day.

Comparing experience, exchanging teachers, collaboration over research projects, a wider appeal to non-national participants, teaching more frankly international in outlook, have all become essential.

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The evolution of transnational European industrial structures, the need for which is emphasized in several chapters of this memorandum, requires a qualitative and quantitative improvement and an internationalisation of the training of future directors, failing which a growing number of European students will go to transatlantic business schools, but with no similar movement in the other direction to balance this phenomenon.

2. Recruitment of high-grade technical staff

With regard to the training of engineers, research workers and specialists, industry in the Community does not suffer, apart from some exceptions, from any quantitative or qualitative deficiencies in its higher education.

Apart from the problem of the general crisis in higher education, which is outside the scope of this memorandum, two questions deserve to be examined here:

- the depth of higher-grade engineers and technicians on the labour market
- the shortage of data-processers.

a) The depth of higher-grade technicians and engineers on the labour market

The Commission has submitted to the Council three draft directives concerning the right of establishment of engineers and technicians. They suggest solutions which would facilitate, in the immediate future, the free movement of engineers and would allow them, under certain conditions, to make use of the qualifications gained in their country of origin.

These proposals do not however solve the problem of the mutual recognition of diplomas nor the approximation of courses and methods. Without waiting for such results to be achieved, the exchange of teachers and inter-university contacts should be increased.

A study undertaken at the request of the Commission by the Institut de la Communauté Européenne pour les Etudes Universitaires, (I.C.E.E.U.), regarding the training of engineers in the European Community has already shown although the final results are not yet available, that there is in every member State a serious lack of knowledge about the training given in other member States.

This lack of knowledge, added to the social obstacles (differences in social systems), cultural obstacles (language barriers , children's education), functional obstacles (posts reserved for nationals in public services and companies), hampering regulations (diplomas, possession of qualifications, public services), mean that firms' opportunities to recruit technical staff are restricted to the national framework.

The I.C.E.E.U. study has a three-fold purpose:

- as soon as it is completed it will place at the disposal of undertakings a more or less exhaustive catalogue of engineering schools giving detailed information of the kind of training offered;
- it will provide the essential basis for the free movement of technical staff and the achievement of what might be called a common market in technical and scientific grey matter.

The importance of this second objective from the industrial policy point of view cannot be overestimated. The interpenetration of technical staff would in fact have the advantage not only of offering a wider choice to firms but would also make it easier to achieve European dimensions and perfect the unification of the market from the commercial point of view, by attenuating the traditions and prejudices which, in many fields, in fact restrict intra-Community competition.

Finally, the I.C.E.E.U. report should make it possible to work out guidelines for a training policy. It already seems clear that it would be a serious error to stop short at a minimum European course of studies for engineering schools, which might impede efforts at improvement and innovation. It would be more profitable to attempt to define the career of engineer with an eye to future needs: to the qualifications obtained after a basic course of training, could be added new ones depending on the periodical in-service training necessitated by the accelerated development of techniques.

b) The shortage of data-processers

According to a study which appeared in the Netherlands monthly journal "Maandblad voor Bestuurlijke Informatieverwerking" in February 1968, requirements in specialists at different levels in the field of data-processing will increase from 156,000 in 1968 to 291,900 in 1972 for the six countries of the Community (see the tables on the following pages).

In view of these very rapidly increasing requirements, the opportunities for training remain so very inadequate that a real "bottle-neck" has appeared in the development of this sector and in the utilisation of data-processing in the Community's economy, as was noted by the PREST study group (specialist group on data-processing). (1)

According to the above source the number of instructors at the various levels of training is 1,359 for the six countries, and 457 for Great Britain.

Germany	576
France	406
Italy	205
Netherlands	86
Belgium/Luxembourg	86
Community	1,359
U.K.	457

Various steps have been taken at national and European level in order to solve this problem. At international level we may mention:

- the European Data-Processing Institute envisaged by the PREST (1) study group
- the International Institute for Technology Management envisaged by the OECD for the training of innovation management specialists,

(1) PREST - Politique de Recherches Scientifique et Technique (Scientific and Technical Research Policy"

TABLE No. 19

Data-processing personnel requirements by country and by category

	1968	1969	1970	1971	1972
Netherlands					
Senior executives and directors	1 300	1 600	1 800	2 000	2 300
Organisation analysis engineers	1 200	1 400	1 600	1 900	2 100
Systems analysts	800	900	1 000	1 100	1 300
Programmer analysts	1 000	1 200	1 400	1 600	1 800
Programmers	2 000	2 300	2 600	3 000	3 400
Operators, key-punchers, etc.	5 500	6 400	7 300	8 300	9 500
	11 800	13 800	15 700	17 900	20 400
Belgium/Luxembourg					
Senior executives and directors	1 300	1 500	1 700	2 000	2 300
Organisation analysis engineers	1 100	1 400	1 600	1 800	2 100
Systems analysts	700	800	1 000	1 100	1 300
Programmer analysts	900	1 100	1 300	1 500	1 700
Programmers	1 800	2 200	2 500	2 900	3 300
Operators, key-punchers, etc.	5 400	6 200	7 100	8 000	8 900
	11 200	13 200	15 200	17 300	19 600

	1968	1969	1970	1971	1972
Federal Republic of Germany					
Senior executives and directors	7 600	8 900	10 500	12 300	14 200
Organisation analysis engineers	7 000	8 200	9 700	11 400	13 100
Systems analysts	4 200	4 900	5 800	6 900	7 900
Programmer analysts	5 800	6 700	8 000	9 300	10 700
Programmers	11 100	13 000	15 400	18 000	20 700
Operators, key-punchers, etc.	31 300	36 500	43 400	50 800	58 900
	67 000	78 200	92 800	108 700	125 000
Italy					
Senior executives and directors	2 500	3 000	3 600	4 200	4 900
Organisation analysis engineers	2 300	2 800	3 300	3 800	4 400
Systems analyst	1 400	1 700	2 000	2 300	2 700
Programmer analysts	1 900	2 300	2 700	3 200	3 600
Programmers	3 600	4 400	5 200	6 100	7 000
Operators, key-punchers, etc.	10 300	12 300	14 700	17 100	19 700
	22 000	26 500	31 500	36 700	42 200

	1968	1969	1970	1971	1972
France					
Senior executives and directors	5 000	6 000	7 100	8 300	9 600
Organisation analysis engineers	4 600	5 500	6 600	7 700	8 900
Systems analysts	2 800	3 300	4 000	4 700	5 400
Programmer analysts	3 800	4 500	5 400	6 300	7 300
Programmers	7 300	8 800	10 400	12 200	14 000
Operators, key-punchers, etc.	20 500	24 700	29 300	34 400	39 500
	44 000	52 800	62 800	73 600	84 700
United Kingdom					
Senior executives and directors	5 600	6 700	8 000	9 400	10,800
Organisation analysis engineers	5 200	6 200	7 400	8 700	10 000
Systems analysts	3 100	3 700	4 500	5 200	6 000
Programmer analysts	4 200	5 100	6 000	7 100	8 200
Programmers	8 200	9 800	11 700	13 700	15 800
Operators, key-punchers, etc.	23 100	27 700	32 900	38 500	44 300
	49 400	59 200	70 500	82 600	95 100

TABLE 20

Recapitulation of data-processing personnel requirements

	1968	1969	1970	1971	1972
Netherlands	11 800	13 800	15 700	17 900	20 400
Belgium/Luxembourg	11 200	13 200	15 200	17 300	19 600
Federal Republic of Germany	67 000	78 200	92 800	108 700	125 000
Italy	22 000	26 500	31 500	36 700	42 200
France	44 000	52 800	62 800	73 600	84 700
Community	156 000	184 500	218 000	254 200	291 900
United Kingdom	49 400	59 200	70 500	82 600	95 100

some of whom would receive training in data-processing for this special branch.

Moreover, the majority of universities are at present developing their teaching in the field of data-processing. It seems however that they are experiencing some difficulty in recruiting teachers at the appropriate level.

The adaptation of general education to the needs of an industrial society

The adaptation of education to the needs of a rapidly developing industrial society is also beyond the scope of this memorandum. Nevertheless, having regard to the lively discussions and the significant reforms which, in the majority of industrialised countries and in particular in the member States, are in progress on this subject, it does not seem out of place here to call to mind briefly some aspects of this question.

At least as important as specific training is the inclusion of business management problems in general education curriculum. It is now scarcely conceivable that the education offered to the school and university population, very many of whom will turn towards management careers, should not include a preparation for those careers just as it is beginning to prepare people for medicine or engineering even before the final choice of a career.

A report devoted to industrial policy should also emphasise how false is the contrast between a utilitarian concept of education, which would be concerned exclusively with making strictly specialised producers and consumers available to industry and the so-called "humanist" concept, according to which the sole object of education should be to raise men to the highest cultural level which their innate ability allows while completely ignoring the needs of the economy.

The speeding-up of change which is characteristic of a modern industrial economy must in fact lead to a preference for ability to adapt more than for any other quality. If it be admitted that this quality requires a solid basic training rather than over-narrow or too early specilisation, it will be seen that humanist and utilitarian objectives can quite easily be reconciled.

Firms will be looking more and more for men capable of changing their speciality. Already, for this reason, they tend to prefer the more mobile young men to the experienced men who are often considered to be unadaptable. The serious social problem raised by unemployed managerial staff of 50 and over will get worse if measures are not taken to make men more mobile at any age, which presupposes not only more retraining but the inculcation from university age of a preparedness for change.

More fundamental and more removed from immediate industrial problems is the questioning by a section of present-day youth of the aims of material progress. By putting the accent foremost on the qualitative aspects of development, as the Commission has tried, for its part, to do here, the Community would contribute usefully to the reintegration in the European socio-cultural framework of those young people who today seem to be withdrawing from it, while at the same time strengthening the support its ideals have already won among the younger generation.

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A EUROPEAN MANAGEMENT AND TRAINING FOUNDATION

The improvement of the management of European firms is essential for the adaptation of industry to the new conditions resulting from the enlargement of markets. It calls for a training and manpower mobility policy which oversteps the national framework.

European industry, in particular the large firms, must concentrate more on such problems: it would be in their interests to organise a study of management at Community level by arranging for constant exchanges of experience and establishing regular contacts with Universities and other higher education institutes.

A European management and training foundation which European industry would undertake to set up and to finance at least in part, could play a decisive role in this field.

By bringing together within the flexible framework of a body independent of the States and the Community, representatives of Universities, higher education schools and institutes and industry, such a Foundation, whose structure would be flexible thanks to its independence of States and of the Community, would fulfil a triple function:

1. It would serve as centre for the study of company management. The best specialists could thus collate their experience and examine in particular the adaptation to the special conditions of Western Europe of techniques which have been tested in the United States.

2. It would forecast as accurately as possible the requirements of industry in the matter of higher-grade technical and managerial staff and match them with the output of educational establishments.

3. It would maintain regular contacts with Universities and higher education schools and institutes and stimulate and encourage them to develop and improve their courses. It would at the same time contribute to the preparing and keeping up to date, for the use of firms and of students, a catalogue of schools and institutes, with and without university status, public and private, describing

as precisely as possible the specialities of each and lastly, encourage international exchanges of teachers and students, thus facilitating the free movement of senior personnel in the Community and preparing future managerial staff for transnational European firms.

Far from taking the place of such organisations as already exist, such as the "Fondation Université-Industrie" in Belgium or the recently set up "Fondation Nationale pour l'enseignement de la gestion des entreprises" in France, the British Foundation for Management Education, EIRMA (European Industrial Research Management Association), which was set up by OECD and has instituted University-Industry Contacts Committee, the EAMTC (European Association of Management Training Centres) in Brussels, or the "Association Europe-Université-Industrie", the Foundation envisaged would provide a meeting place and be a criving force in a field where a maximum of independent initiative must be combined with a maximum of Community or European joint action.

The advisability of government support for such a Foundation should be weighed up subsequently in the light of the functions of general interest it could fulfil and having regard to the various ventures which are even now calling on or which might call on public financial aid. The work in progress on the subject of post-graduate education with a view to the framing of a European scientific and technical policy will help to clarify how a European Management and Training Foundation could successfully fit into an institutional framework whose contours are only beginning to emerge.

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CHAPTER III

Industrial innovation

As emphasised in the last chapter, the industrial economy is being forced by the increasingly rapid development of requirements, products and methods of production to undergo constant changes which companies can no longer avoid without endangering their existence or having to undergo conversion in what are often difficult social, technical and financial conditions.

While the constant adaptation of products and methods of production depends on the proper management of the firm and on the existence of a favourable environment, the essential driving force is innovation.

The establishment of a new firm, a high rate of profit, the conquest of new markets, lower cost prices, even sometimes the ability to resist competition, will in future almost always depend on innovation or the capacity to assimilate it, i.e. the ability of a firm to put on the market new or technically superior products or products manufactured using new and more economic techniques.

This statement, clearly valid for scientific industries, whose activities depend on development and the exploitation of scientific knowledge (chemicals or electronics for example), can increasingly be shown to apply equally to the more traditional industries.

Whether thanks to the setting up of new firms or the expansion of existing ones, innovation is largely responsible for the creation of new jobs and for the growth of a country's industrial economy. In

this sense, it is an essential factor of full employment, the level of earnings and international competitiveness (see Table 21).

At the level of the firm, in the modern competitive economy, only new products can be expected to yield high profits, while new and more productive manufacturing processes must be introduced to offset shrinking profits from the sale of old products.

The advantages which the novelty of a product or manufacturing process confers on a firm are usually only temporary. Competitive or technically more advanced products appear on the market and the firm is obliged to innovate once more in order to maintain its expansion. It must in fact replace its products at an ever increasing rate. Thus, the average "life" of a mechanical or electronic product is no more than 7 or 8 years. For capital goods in the same fields, that life is no more than 3 or 4 years. In respect of the agricultural and food industries, the results of studies carried out in the United States show that in less than ten years, 80% of the products used will be new products. Pharmaceutical products are reckoned to have a life of about ten years.

Lastly, in addition to the financial advantages which ownership of an invention can bestow on a firm (thanks in particular to the sale of licences or know-how), it also serves as an instrument of industrial and commercial strategy. The possession of a patent and of know-how may place a company temporarily in a position of absolute monopoly, or may bring it a considerable competitive advantage giving

it a dominant position in a particular sector of production.

Licensing and know-how agreements are also used as a means of bringing pressure to bear on other firms. Certain companies in fact sometimes impose on firms wishing to conclude licensing and know-how agreements with them conditions much to the advantage of the owner of a particular invention, such as the conclusion of a general agreement for the exchange of information, an obligation to concede licences for all improvements on the original invention, an obligation to sell at certain prices or through certain commercial channels, restrictions on exports, transfers of capital, etc. (1).

It is difficult to assess the degree of innovation in industry. The very thorough studies undertaken by the O.E.C.D. do not yet enable precise comparisons between different industrial countries to be made. Disparities between one sector and another and between one firm and another in the same sector would seem to exclude any comparison except between companies producing similar goods.

The reasons for the difference in the frequency of innovation are also difficult to identify: the main ones would seem to lie in the amount of research whether public or private, the more or less efficient dissemination of information, the dynamism of the market and the greater or lesser ability of firms to take advantage of their own

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(1) Here it must be remembered that the abuse of patents by creating technological monopolies or by refusing to exploit the product or license others to do so, is now being examined in the Community, with particular reference to the proposed European patent.

T A B L E No. 21

Trends in employment, remuneration and degree of innovation for the different sectors in the United States

Sector	Number of persons engaged in production (in thousands)			Remuneration by sector (in millions of dollars)			Percentage of new products sold (1)	
	1963	1965	1967	1963	1965	1967	1963	1965
Transport equipment	1 136	1 138	1 462	9 445	10 033	13 894	27	34
Electric and electronic engineering	1 561	1 659	1 971	10 717	12 173	15 380	18	22
Mechanical engineering	1 578	1 793	2 025	11 383	14 201	17 335	16	23
Precision instruments	364	386	449	2 677	3 020	3 779	15	18
Chemicals	868	912	1 005	6 939	7 863	9 480	14	16
Motor vehicles	745	845	833	7 095	9 166	9 225	11	10
Building materials	615	647	646	3 904	4 414	4 826	9	13
Textiles	897	932	967	3 950	4 616	5 211	9	13
Foodstuffs	1 779	1 793	1 813	10 484	11 398	12 677	8	12
Paper, board	623	641	681	4 197	4 662	5 365	8	10
Rubber	419	469	517	2 736	3 289	3 911	7	6
Coal	156	150	146	1 041	1 124	1 244	4	6

Source: Survey of Current Business - United States Department of Commerce
Mac Graw-Hill Surveys

(1) Products which did not exist five years earlier. No figures after 1965 are available.

technological inventions or those they have otherwise acquired. A combination of these different reasons may well explain the inferiority of the Community which certainly exists today in relation to the United States and which may already be apparent in certain sectors in relation to Japan and the USSR. Certain signs, such as the number of patents taken out (Table 22), the structure of trade in industrial products (Table 23), the intensity and the nature of American investment in Community industry, leave little doubt regarding that relative inferiority.

T A B L E No. 22

Number of patents taken out in the U.S.A., Japan and Great Britain by Europeans; and in Europe by the Americans, Japanese and English - Year 1967 (1)

Country of issue	Country of origin									
	Germany	Belgium	France	Italy	Luxembourg	Netherlands	Total EEC	U.S.A.	Japan	Great Britain
Germany	37 102 11 520	359 140	3 128 912	1 000 198	28 14	1 445 535	43 062 13 319	11 884 3 406	2 062 297	3 870 964
Belgium	3 514 3 465	1 607 1 586	1 970 1 963	460 460	24 24	943 943	8 518 8 441	4 693 4 644	357 357	1 227 1 227
France	7 615 7 632	532 540	17 347 (2)15 246	1 210 1 145	33 37	1 256 1 208	27 993 25 808	10 630 10 911	1 457 1 116	3 466 3 467
Italy	4 917	270	2 433	7 253	27	898	15 798	7 450	786	2 264
Luxembourg	429 377	254 236	817 753	64 88	56 63	118 82	1 738 1 599	396 368	18 14	159 146
Netherlands	3 437 427	452 65	1 433 199	396 41	19 1	2 491 322	8 228 1 055	5 131 602	559 41	1 521 193
Total EEC	57 014 23 421	3 474 2 567	27 128 19 073	10 383 1 932	187 139	7 151 3 090	105 337 50 222	40 184 19 931	5 239 1 825	12 507 5 997
U.S.A.	5 734 3 766	319 176	2 385 1 558	866 471	 7	711 507	10 015 6 485	64 118 14 378	3 354 1 424	4 597 2 799
Japan	3 975 1 133	179 41	1 162 386	377 106	12 9	867 281	6 572 1 956	11 460 3 432	61 721 13 877	2 319 611
Great Britain (3)	6 894 6 870	377 369	2 729 2 686	900 876	25 25	848 809	11 773 11 635	13 740 13 676	1 977 1 980	25 786

(1) The first line figures refer to applications, while those given second refer to issues of patents
(2) The figures include special medicine patents
(3) The figures on the second line refer to complete descriptions registered and not to patents registered

Source: "La Propriété Industrielle" - December 1968.

T A B L E No. 23

Break-down by certain industrial sectors of American exports to the EEC and vice-versa
Idem between Japan and EFTA (1)

Industrial sector	Reference year	EEC exports to			EEC imports from			EEC trade balande in		
		USA (1)	Japan (2)	EFTA (3)	USA (4)	Japan (5)	EFTA (6)	USA (1-4)	Japan (2-5)	EFTA (3-6)
Paper pulp, paper-board	1966	13.5	1.7	91.1	161.7	2.8	604.5	-184.2	- 1.1	-513.4
	1967	12.4	10.5	97.3	159.3	2.6	569.5	-146.9	+ 7.9	-472.2
Chemicals	1966	248.0	115.0	1 016.0	562.0	56.0	562.0	-314.0	+ 59.0	+454.0
	1967	241.0	146.0	1 125.0	589.0	46.0	623.0	-348.0	+100.0	+502.0
Textiles	1966	203.1	21.0	680.8	197.1	50.0	354.4	+ 6.0	- 29.0	+326.4
	1967	184.0	31.7	668.8	211.7	40.7	295.6	- 27.7	- 9.0	+373.2
Telecommunications apparatus	1966	26.0	1.1	110.7	48.2	21.6	56.2	- 22.2	- 20.5	+ 54.5
	1967	29.8	1.6	126.6	59.1	19.7	53.6	- 29.3	- 18.1	+ 73.0
Transport	1966	820.4	17.7	1 111.2	88.1	15.0	317.6	+732.3	+ 2.7	+793.6
	1967	811.2	18.2	1 089.4	83.5	38.8	303.7	+727.7	- 20.6	+785.7
Aircraft	1966	56.6	2.0	48.5	223.7	0.8	32.4	-167.1	+ 1.2	+ 16.1
	1967	63.8	0.5	70.6	316.4	-	67.2	-242.6	+ 0.5	+ 3.4
Apparatus and instruments for scientific, medical and measuring purposes	1966	85.6	7.0	150.0	117.5	31.5	126.3	- 31.9	- 24.5	+ 26.7
	1967	95.0	10.1	162.8	128.4	34.1	127.8	- 33.4	- 24.0	+ 35.0
Electrical apparatus and instruments for measuring and checking purposes	1966	12.0	2.1	44.2	84.0	3.0	55.0	- 72.0	- 0.9	- 10.8
	1967	15.9	3.1	49.0	95.5	3.8	60.8	- 79.6	- 0.7	- 11.8
Computers	1966	10.8	3.6	83.2	46.5	2.7	55.7	- 35.7	+ 0.9	+ 27.5
	1967	12.3	4.3	79.8	110.3	5.2	58.1	- 98.0	+ 0.9	+ 21.7

(1) The figures are given in millions of dollars on the basis of the declared transaction values.
Source: OECD Accessible statistics do not enable figures to be known for industrial sectors concerning Great Britain alone, but they refer to EFTA as a whole.

The figures include in particular transactions concerning the armed forces, external aid, the finishing and repairing trade, transactions in respect of new ships and aircraft, electrical power and gas, sea products unloaded straight from the high seas.
The figures exclude in particular direct transit trade, temporary imports and exports, transactions in respect of used ships and aircraft.

This problem of innovation, which conditions present competitiveness, but above all the future development of Community industry, is in fact at the very centre of industrial policy.

In the first place, the firm's environment must continually stimulate innovation. The possibility of making vast financial means available, the presence of competent research workers and technicians, a market developed to absorb new products and big enough to enable costly investment in research and development to be paid off quickly - these are the conditions of success in innovation efforts on the part of firms.

In the aftermath of the second World War, the countries of the Community, held up for many years in their economic and technological advance, cut off during the same period from the rest of the world and in particular from the United States where the most intense innovation is located, ravaged by more than a few years of war, had to devote many years to reforming their production process and making up for lost time in matters of technology. Although this lag is not yet made up, the conditions for the assimilation of innovation by the European economy seem, however, to be almost to hand. The enlargement of markets entailed by the setting up of the Community together with the general modernisation of the economy progressively create the demand which is necessary to an industry focused on innovation.

The Community market is certainly still far from representing the same volume as the American market in respect of new products. Consumption of aircraft, electronic computers, machine tools with digital control, scientific measuring apparatus and even of electric power plants still remains substantially lower in the Community than in the United States (Table 24).

T A B L E No. 24

(A) Aeronautical industry: Number of turbo-jet and turbo-propellor aircraft in service in 1968

Type of aircraft and country of origin	Place where the aircraft is in service		
	EEC	USA	U.K.
Turbo-jets			
Long-haul			
USA	104	692	25
Europe			46
Short, medium-haul			
USA	60	558	-
Europe	89	79	50
Total			
USA	164	1,250	25
Europe	89	79	96
Turbo-propellors			
USA	14	304	-
Europe	68	84	166
Other		23	1

Source: SORIS Survey.

(B) Electronic computers: Number installed at the end of 1967.

Country	Number of computers	Compound average rate of growth: Period 1961-67
Germany	3,800	53.4
Belgium-Luxembourg	520	45.9
France	2,600	48.3
Italy	1,700	52.2
Netherlands	600	47.2
Total EEC	(1) 9,220	(3) 50.7
United States	(2) 40,100	(3) 33.2
United Kingdom	(1) 2,850	(3) 42.4

Source: (1) W.K. De Bruijn - Computer in Europe in 1966
Recent Developments in European Markets

(2) E.O.P. Industry Report, July 1968

(3) SORIS estimates

(C) Machine-tools with digital control: Number installed at the end of 1968

Germany	1,100
Belgium	50
France	630
Italy	400
Netherlands	70
Total EEC	2,250
United States	16,500
United Kingdom	1,900

Source: "SOBEMAP" survey.

(D) Electric power stations: Maximum possible net installed power in 10^3 MW

Country	1966	1967	1968	1969	1970	Rate of annual growth: period 1966-69
Germany	39.9	42.3	43.8	46.4	48.8	5.1
Belgium	5.1	5.7	6.1	6.2	6.2	6.7
France	27.9	29.3	32.0	33.8	36.5	6.6
Italy	24.2	26.1	27.2	27.9	30.3	4.8
Luxembourg	1.2	1.2	1.2	1.2	1.2	0
Netherlands	8.0	8.3	8.9	9.6	10.4	6.3
Total EEC	106.3	112.9	119.2	125.1	133.4	5.5
United States	266.7	288.2	309.4	333.2	355.9	7.7
United Kingdom	48.2	51.9	57.6	62.9	68.4	9.2

(1) Concerns forecasts

Source

- for the EEC: "Statistiques de l'Energie Electrique" - Statistical Office of the Community
  "Rapport sur la conjoncture" - Direction Générale Energie
- for the United States and the United Kingdom
  "Bulletin Annuel de Statistiques de l'Energie Electrique pour l'Europe" 1968 - United Nations
  "L'industrie de l'Electricité" - 19th Survey - OECD.

Certain products which are already on the market on the other side of the Atlantic are not yet in demand in Europe.

Only a modernisation of the Community economy in its entirety and promotion of its rapid growth will allow such disproportion in demand to be corrected. It is, however, possible in certain cases to hasten this development by creating and even to a certain extent anticipating demand.

The other essential factor in the development of innovation is how the firm is managed. The desire to acquire new technological knowledge and above all the decision to put it into practice is indeed one of the fundamental factors in company policy. No intervention by the public authorities can restrain firm managers from innovation. It is for the manager to decide whether he ought to modernise his production processes or involve his undertaking in producing new articles. Such decisions - or absence of decisions - also have weighty consequences for the future of the firm; decision-making with regard to innovation is no different from decision-making in relation to the management of the firm as a whole.

In such a context, what kinds of action can be taken by States or by the Community in favour of industrial innovation ? Independently of the operations set out in Part 4 below, which are mainly concerned with large sectors where intervention by the public authorities takes on special forms, any operation liable to hasten the acquisition, diffusion and use of new technological knowledge in the undertakings undoubtedly represents the most modern form of public service that an administration can render to the economy.

The stake, namely the very future of the Community's industry, is too important for governments and Community institutions not to give all possible assistance in this field to Community companies. That is probably the most effective long-term industrial action that the public authorities can take.

The details of such action are nevertheless difficult to define and put into effect. All countries have made experiments in this matter and the Community has not yet been able to determine a line of action in this field.

Amongst the methods used to encourage innovation and to make it a feature of the economy, three seem to be particularly important: technological forecasting, research, and the dissemination of knowledge. In these the efforts of governments and of industry must be combined and complementary.

Since the dynamism of innovation and the sound guidance of the research work and company investments depend to a large extent on hypotheses regarding technological changes and the future requirements of the company, a first question arises: to what extent do the present methods of forecasting meet this need within the Community?

Secondly, are Community research policies suited to the needs of industrial development?

Lastly, the profitability of research being closely bound up with the way in which knowledge filters through to the firm, it must be asked in what conditions this takes place at present.

At the present stage of Community discussions and studies, this chapter does nos aim at anything more than reviewing certain serious shortcomings within the Community and proposing some guidance for the development of subsequent Community action.

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I. TECHNOLOGICAL FORECASTING

By multiplying considerably the technical possibility of satisfying the ever-increasing range of present or potential needs, but also by demanding mobilisation of the growing human means and financial resources, technological progress is imposing more and more difficult choices.

The increase in technical opportunities has in fact complicated the detection and objective evaluation of the factors in decisions making. Although one can to a certain extent invent and manufacture to order, it is still necessary to know what one wants to invent and manufacture, at what price and within what time-limits. Furthermore, limited resources and high costs make the consequences of decisions extremely serious because they often lead to irreversible situations.

As Mr. Eric Jantsch (1) states: "The basic conditions for meaningful normative technological forecasting - clearly defined constraints at the various impact levels (including goals at the level of broad social impact) and abundance of technological opportunities - have been generally fulfilled, for the first time in Western civilization, for approximately the past 25 years. The growing recognition of normative forecastin underlies the development of technological forecasting in a modern sense, i.e. as a management discipline conforming to the new modes of technological innovation and closely related to planning."

In the previous chapter, the importance for industry of the fullest and most sophisticated economic forecasting possible was emphasised. Such forecasting, whether done by the firm or by the authorities is however incomplete and subject to error if it does not make sure of including also the already known or foreseeable developments in technology.

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(1) See the report by Mr. Eric JANTSCH on "Technological forecasting-OECD - 1967".

In fact, as economic scientific knowledge increases and forecasting techniques take shape, technological forecasting and economic forecasting are becoming interwoven to the point of blending together. This is already so in the case of certain large American firms or administrations which have reached the peak of the programming methods which an administration or company can apply to its own development.

Hitherto it does not appear that any government has yet attempted to integrate fully technological forecasting with economic forecasting in general. Efforts have already been made in this direction, however, and there is no doubt that national economic programming will rely more and more on the two types of forecast. This consideration alone would justify a special effort in technological forecasting.

But technological forecasting includes in addition certain specific objectives which concern the development of innovation. Whether this forecasting is done by the authorities or by industry, the results will facilitate technological choices and make possible or accelerate innovations by spurring on the establishment of the necessary structures. The remarkable work the OECD has done in this connection (1) has so clearly high-lighted the importance of technological forecasting not only for a research policy but also for the development of industrial innovation, that there is no need to dwell on it here. One needs only recall the wide gap which exists in this field between Europe and the United States.

The majority of the large United States companies assign a not inconsiderable part of their research staff either full-time or part-time to exploring technological possibilities and probabilities. The experience thus accumulated over more than ten years has given many of these companies a mastery in exploring the possibilities of innovation and in implementing them which European companies are only

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(1) cf. Mr. Erick Jantsch - as quoted.

beginning to realise. Private or university institutes of world-wide repute are moreover backing up the efforts of American firms by general prospecting studies or by specialised consultations at the request of industry. Thus in the United States (1) some six hundred companies equipped with a specialised service or having recourse to external institutes, are already spending nearly 65 Million dollars a year on technological forecasting, while in the whole of Western Europe similar expenditure by companies appear to be less than 1 million dollars.

The consequences of this situation cannot fail to be serious for Community industry. In the absence of adequate technological and economic evaluation, the establishment of priority objectives for applied research is particularly difficult, as has been found, for example, in regard to atomic energy. In that field, the Community as a whole seems to have suffered, taking account of its means, a comparative "over-development" of research, which has let it to explore too many ways without being able really to concentrate its efforts (2). The result of this absence of precision in forecasting was that the Community achieved the industrial breakthrough in nuclear power stations only after several years delay and in more hazardous conditions.

Too often without "radar", Community industry either does not dream of innovation or does not dare to make changes, so great are the uncertainties. This lack of means of forecasting often contributes to delay in the penetration of innovation into European industry.

Without denying the value and interest of the services rendered to European undertakings both by existing European institutes and by American institutes (3), it can be asserted that the reinforcement of technological forecasting machinery in the Community would be a valuable contribution to the modernisation of Community firms and the more rapid penetration of technological innovation in Europe. This reinforcement

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(1) cf. E. Jantsch - as quoted p. 301.

(2) In 1967, for example, it is estimated that the Community devoted 741 million dollars to nuclear research for peaceful uses, against 937 million dollars in the United States.

(3) The work of the American institutes clearly tends to be based on experience, environment and American needs and, because of this, cannot always meet specific European problems.

will come essentially from the development of specialised institutes in Europe and from the multiplication of forecasting departments in European firms.

Having regard to the existing lag, the question must however be asked whether the Community could not encourage such development by certain forms of action in this field. Moves in this direction have already been made in certain member States. Joining forces at Community level and comparing work in course of progress, should make it possible to achieve more efficiency, taking account of the limited means at the disposal of the Community and above all of the urgency of this matter for the development of European undertakings.

It is certain that an analysis at Community level of the development of European society in the next twenty to thirty years and a tentative estimate of its future needs in regard to collective equipment and environment would help considerably to determine the broad lines that research in the Community should follow and to define industrial aims. The Community framework should ensure that this long-term technological forecasting effort brings not only mutual enrichment as regards knowledge but also better co-ordination in the allocation of resources. It should also allow attention to be paid to the specific conditions and objectives of European technological development.

Certain preparatory work for a long-term technological forecast of this kind is already under way both in the Committee on Medium-Term Economic Policy (PREST Group) and in the Commission. The methodological difficulties which the organisation of such action presents

(1) still need going into more deeply. The Commission reserves the

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(1) The methods of programming associated with technological forecasting have developed considerably in the last few years. Mr. E. Jantsch, in the above-mentioned work, reviewed more than one hundred distinct versions of these methods, which be breaks down into four categories:

(i) the exploratory methods, which, starting from an existing basis of certain knowledge, objectively explore the future possibilities opened by this knowledge;

(ii) the normative methods, which first determine the objectives, requirements, desiderata and missions for the future and proceed by working back towards the present;

(iii) the closed-loop systems which make use of these two approaches, and

(iv) finally, those methods which proceed from intuitive thinking directly applied.

Among these methods, three are worth special mention:

(i) the "Delphi" method, a sophisticated version of the "brain storming" method, which endeavours to improve intuitive reflection with a view to making it easier to define and choose objectives at higher levels: social, economic, scientific, military, and other objectives;

(ii) the method aimed at systematically exploring technological possibilities and analysing their consequences;

(iii) the pertinency graphs, of which the PATTERN system (Planning Assistance through Technical Evaluation of Relevant Numbers) has been the promoter, for normative forecasting.

right to submit later detailed proposals for the organisation of such action.

For the present, and more simply, it seems indispensable to have a better knowledge of the impact of technological innovations on the structure of Community industry and the degree of adaptation of the Community productive machinery to their requirements.

In other words, there is a need to catalogue or identify more systematically:

- the technological changes in production and the means of production;
- the impact of these changes on the development of the various industrial sectors;
- the consequences for industry of the appearance of new needs.

The object of this work would be twofold:

- to facilitate the formulation of an overall industrial policy and the choice of sectoral measures at national and Community level;
- to assist industries to choose between the alternatives offered to them by improving their knowledge of technological changes and their industrial consequences.

It must in fact be realised that at present the amount of knowledge possessed by the authorities, and doubtless by a large proportion of industrialists, about the technological innovations which have already occurred or are foreseeable in the world economy and their consequences for industry is still very inadequate. In the absence of such information choices are made particularly difficult for firms and the authorities alike. Indeed, no policy at official or company level seems possible in sectors such as textiles, steel, motor-cars or the food industry without a precise appraisal of the changes which are now taking place.

The Commission therefore proposes to call together at regular intervals a small group of industrial technology experts from the Community countries. By comparing their work and their forecasts on the basis of specific questions which would be submitted to them, they would be able to throw considerable light on certain industrial policy orientations and options. Having regard to the interdependence of innovation in the various sectors, the work of this group should not be limited to a few sectors but should concern the industrial economy as a whole.

II. RESEARCH AND DEVELOPMENT IN INDUSTRY

Problems of research have been the subject of particularly difficult discussions in the Community for many years. This memorandum is not the place to put forward new proposals for scientific policy. It is not possible, however, to speak of industrial development without coming up against certain problems of research which have a direct influence on it. The discussions in progress on this subject in the Community and the decisions being prepared are extremely important for the future of European industries.

Member States are allocating an increasingly greater part of their budgets to research and development; however, the amount of public money spent on research in the Community in 1967 still represented less than one-fifth of the money spent on research by the American authorities (1). The main cause of the difference between the amount of government research in the United States and in Europe remains above all in the amount of public money available on both sides. This is something which is not likely to change in the near future.

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(1) In 1967, public financing of domestic expenditure on research and development (State and higher education, excluding social sciences) amounted to 2,965 million dollars in the Community as against some 16,700 million dollars in the United States, 1,250 million dollars in Great Britain and 550 million dollars in Japan.

The comparison in the volume of research financed by private funds, i.e. mainly by firms themselves, is equally unfavourable to the Community (1).

The percentage of turnover devoted by large European firms to research is not always lower than that of American firms.

However, this percentage applies in the United States principally to much higher turnover figures, so that American firms derive much greater profit from a relatively comparable financial effort.

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(1) In 1967, about 2,670 million dollars in the Community as against 8,950 million dollars in Great Britain. These figures which, like those in the note on the preceding page, are taken from the statistical survey carried out by the OECD in 1967, exclude the social sciences.

T A B L E No. 25

Research expenditure of various firms, as a percentage of the consolidated turnover of the group

Figures taken from 1968 balance sheets and articles in the press and in periodicals	Turnover (1) (in dollars)	Research expenditure (in dollars)	% spent on research
Germany			
Siemens	2,187	155	7.0
Hoechst (3)	1,998	73	3.7
Bayer AG (3)	1,931	84	4.3
AEG	1,463	125	8.5
BASF (3)	1,820	66	3.6
KRUPP	1,535	25	1.6
GHH/Aktienverein AG	1,410	36	2.5
BBC/Mannheim	337	27	8.0
Belgium			
Solvay	655	16	2.4
ACEC	216	8	3.7
UCB	125	6	4.8
France		(2)	
Rhône Poulenc (3)	1,384	55	3.9
CGE	1,118	50	4.5
Thomson H.H.B.	1,025	26	2.6
CAFL (Entreprise, Nov.1968)	216	1	0.5
SFAC (SEF, mai 1969)	208	1	0.5
Jeumont-Schneider	137	3	2.4
Italy			
Montedison (3)	2,324	49	2.1
Finmeccanica (IRI) (4)	610	28	4.6
Carlo Erba (3)	124	5	4.0
Netherlands			
Shell (Chemicals, 1130)	8,941	109	1.1
Philips	2,685	205	7.6
AKO (3)	1,464	41	2.8
Staatmijnen	300	11	3.7
VMF	276	6	2.0
Rijn/Schelde	112	2	2.0

United States			
General Electric	8,382	600	7.2
II (FD, Oct. 69)	4,066	210	5.2
Westinghouse (FAZ, Nov.69)	3,296	300	9.1
Union Carbide (3)	2,686	83	3.1
Monsanto (3)	1,793	86	4.8
Dow (3)	1,653	84	5.1
Celanese	1,260	42	3.4
United Kingdom			
ICI	2,970	77	2.6
General Electric + EE	2,395	84	3.5

Sources: (1) Taken from "Chiffres-clés des valeurs européennes" Investment Group, Oct. 1969

(2) Parent company, without subsidiaries. Figures taken from "Enterprise" Nov. 1968 and balance sheets.

(3) Chemical Age, July 1969

(4) Information supplied by the firm.

Whilst it is difficult for budgetary reasons to increase public expenditure on research rapidly, the same is often also true of private research expenditure by firms, taking into account the turnover and profits of Community industry. One effective instrument for encouraging the financing of research is taxation policy: this seems to have already been very widely used by the various Governments. For while the various kinds of research expenditure are subject to different tax regimes in one and the same country, firms are often able to select the most advantageous method on the basis of their situation as regards profits. Tax concessions vary from country to country but their importance seems to remain at a relatively comparable level in the Community except for the Netherlands where special tax privileges are not provided for. It is clear that these systems are, in the first place, of benefit to big undertakings carrying out large scale research and which can consequently make full use of possibilities of tax savings.

In short, although it shows a firm upward trend in Europe, in 1967 the whole of research expenditure (private and public) in the Community still represented only a small percentage of that in the United States (under 25%). These percentages must however be interpreted having regard to the much larger share given to military and space research in American expenditure.

The same size effect is also to be found with regard to manpower. There were about 700,000 research workers, engineers and technicians employed in research in the United States in 1963 (1) compared with 268,000 in the European Community (38%), or 3.63 per 1000 inhabitants in the United States against 1.49 in the Community.

There is no doubt that such disproportions have considerable consequences on the technological development of European economies.

In order to limit the disadvantages resulting from such a state of affairs, it is therefore important that the resources which the Community has available be directed convertedly towards aims and methods which will enable the purpose of the research to be attained as efficiently as possible.

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(1) There is unfortunately no more recent figure available.

(1) Pooling of research resources

A. Government Research

This objective was forcefully stressed by the Council of Ministers of the Community in its second medium-term economic policy programme.

"National research policies in the countries of the Community are often characterised by a fundamental discrepancy between the ambitious goals and inadequate means" ...

"... faced with that situation, a research policy common to member countries could no doubt be considered as being the only real solution. It would mean laying down in common the chief guidelines for research and pursuing them partly by Community action and partly by national action, with special attention to criteria of efficiency (dimension and convenience of exception). That objective could (however) be reached progressively, by making sure that national priorities first become compatible, and then complementary or convergent according to needs".

The organisation and management of research certainly raise particularly complex problems and few countries have succeeded in mastering the necessary technique. International cooperation increases the complexity. There does not seem, however, to be any other course for the countries of the Community than to cooperate for all research requiring very substantial means. Past experience and the recent developments in the Community show that this is indeed the intention of the governments of the six countries. But because of the methods adopted, the twenty-five or so international scientific cooperation organisations of which the Community States are members, have met with little success. The European Atomic Energy Community, although powerfully structured, has also experienced serious difficulties.

The reasons for difficulties are numerous and well-known: lack of coordination in drawing up programmes, of agreement when it comes to the specific allocation of work, of common industrial objectives.

In order to help to overcome these difficulties, the Commission will shortly be submitting to the Council a memorandum on the various problems which a Community research policy will raise and the various decisions called for as regards the definition of objectives and arrangements for achieving them.

B. Cooperation between firms in the matter of research

Firms in the Community, as pointed out above, are also, as regards their own research, in a position of considerable financial inferiority by comparison with certain competitors, in particular in the U.S.A. This inferiority has been behind the concentration movement which has taken place in the Community industry but the movement is limited and in some cases concentration may not be the best solution from the point of view of industrial structures. Hence the emergence to a small extent as yet, of cooperation between firms for the joint pursuit of certain kinds of research.

Such cooperation has taken various forms: sharing out the work and exchanging the findings, joint subsidiaries, research centres for individual sectors of industry. These various methods, particularly suitable where small and medium-sized firms are concerned, have the Commission's support (1). The question now is to see what additional encouragement could be given to such cooperation.

In sectors whose technology lags especially far behind that of competitors in third countries, the partial financing of research from public funds would seem to be a wise measure of sectoral policy. One may also wonder whether the recourse of action proposed in Part IV

(1) See Part II, Chapter II.

below should not benefit primarily firms in several Community countries which are co-operating. Industrial development contracts and joint orders for advanced technology goods should contribute to encouraging such co-operation.

2. Purpose of research in relation to industry

The purpose of research in relation to industry finds twofold expression: in the objectives assigned to research and in the methods used to carry it out.

As regards objectives, any analysis is made particularly difficult by the disparities in data and the different classifications used for the breakdown of private and public research expenditure.

On the basis of available figures, the Community countries devote their research funds on the one hand to applied research and development in combination and on the other to basic research, in a proportion very similar to that found in the United States. But the proportions vary greatly, even from one Community country to another, according to the sphere in which the research is carried out (cf. table 26). Within the Community it might prove necessary to channel some funds towards research more closely linked to industrial development, which seems to receive very little public financial aid, at least in certain countries. This course could only be decided upon, however, after a more thorough analysis of research expenditure, and an overall review of research policy.

The channeling of research funds differs considerably from one country to another. Thus, in 1967, about 55% of all public funds devoted to research in the United States went to industry as against 44% in the United Kingdom, 33% in France, 27% in Germany and noticeably smaller percentages in the other countries of the Community (average for the EEC: 27%).

TABLE No. 26

Expenditure on R & D by Central Public Administration, per objective - year 1967

Objectives	Germany		Belgium		France		Italy		Netherlands		Community	
	1,000 ua	%	1,000 ua	%	1,000 ua	%	1,000 ua	%	1,000 ua	%	1,000 ua	%
1. Nuclear R & D	235,619	19.5	19,997	22.6	363,354	20.3	98,900	34.6	22,584	11.1	740,544	20.7
2. Space	75,416	6.3	6,995	7.9	106,764	6.0	21,234	7.4	6,342	3.1	216,751	6.1
3. Defence	260.944	21.6	1,100	1.2	604,651	33.8	14,331	5.0	7.789	3.8	888,815	24.9
4. Natural environment	22.123	1.8	2.389	2.7	11,869	0.7	2,050	0.7	3,993	1.9	42,424	1.2
5. Health	24.874	2.1	2.991	3.4	31,638	1.8	4,219	1.5	6,711	3.3	70,433	2.0
6. Human environment	9,868	0.8	2,002	2.3	44.764	2.5	5,598	2.0	5,615	2.8	67,847	1.9
7. Agricultural production	27,262	2.3	4,498	5.0	77,556	4.3	4,435	1.5	20,531	10.1	134,282	3.7
8. Industrial products	48,594	4.0	11,593	13.1	176,077	9.8	4,192	1.5	16,656	8.2	257,112	7.2
9. Data processing, automation	16,945	1.4	-	-	11,444	0.6	794	0.3	-	-	29,183	0.8
10. Social sciences	20,718	1.7	728	0.8	16,609	0.9	5,226	1.8	8,268	4.1	51,549	1.4
Total 1 - 10	742,363	61.5	52,293	59.0	1,444,726	80.7	161,069	56.3	98,489	48.4	2,498,940	69.9
11. General promotion of knowledge (excluding higher education)	81,360	6.7	9,153	10.3	138,726	7.8	36,253	12.7	9,796	4.8	275,288	7.7
12. General promotion of knowledge (higher education)	384,525	31.8	27,195	30.7	202,165	11.3	88,617	31.0	95,367	46.8	797.869	22.3
Not broken down	-	-	-	-	4,173	0.2	-	-	-	-	4,173	0.1
TOTAL	1,208,248	100.0	88,641	100.0	1,789,790	100.0	285,939	100.0	203,652	100.0	3,576,270	100.0
of which developing countries	(-)	(-)	(607)	(0.7)	(24,508)	(1.4)	(-)	(-)	(1,670)	(0.8)	(26,785)	(0.7)

Source: doc. 21796/XII/ST/69-F final (These figures include the social sciences)

This method of channelling research, together with the disparity already mentioned in Government support to research meant that in 1967 American industry had in hand Government funds for R & D to an amount 17 times greater than French and United Kingdom industry and over 37 times greater than German industry. This state of affairs produces a number of consequences prejudicial to European industry.

In the first place, Community industry, even though it may avail itself of the results of research carried out in Government Centres, does not have the same thorough knowledge of technological discoveries and their implications as does American industry. It cannot be denied that such knowledge can only be acquired by actually carrying out the research.

Secondly, Government contracts are an important extra source of work and finance, often decisive for the research laboratories of American firms, which could not keep up research on such a scale solely with their own financial resources and for their own immediate purposes.

And so Government contracts support to a substantial extent the research effort of companies, even though they are for specific research differing from the research the company in question intended to finance in any case.

Government authorities in the Community have set up at national level and, to a lesser extent, at Community level, important Government research centres whose use could be partly affected by changing the place where certain research is carried out. That problem is moreover bound up with the difficulties experienced by certain Government research centres owing to their very success and to the completion of a number of their prospects.

In the current process of reorganisation of Government research in the Community, the Commission considers, however, that account should be taken of the handicap it would be for industry if too few public contracts were offered to it.

In view of the constant rise of Government research expenditure in the Community, the Commission considers that a solution must be sought not by reducing the activities of Government centres but by redirecting their activities towards certain fundamental or public service research projects, without excluding of course the possibility of such centres working to some extent for industry.

III. DISSEMINATION OF KNOWLEDGE

Technological development over the last thirty years has produced such an explosion of knowledge that its processing has become a real science. In the United States approximately 100,000 reports and over 900,000 articles are published every year in various technical magazines and professional journals, and about 7,000 books dealing with technical subjects are printed. These publications, however, represent only 40% of published material in the world, and at the present rate scientific publications as a whole double every 10 to 15 years.

This rapid growth of the rate of publications of scientific information is counterbalanced by a reduction of the duration of validity of the information gathered, and necessitates particularly strict management.

This development presents difficult problems for firms which must have in good time all the technological information in their sector in order to be able to take rational investment decisions, to avoid the unnecessary duplication of research and to channel investment towards products which are really new and marketable.

Until recently, the traditional methods of recording and classifying scientific information had enabled firms to procure somehow, although at considerable cost, the information essential to them. But faced with the present deluge of knowledge, traditional methods (card indexes, abstracts, etc.) are no longer likely to provide a solution to all the classification and selection problems presented by so much data. From now on, it is only by making use of electronic machines that the problems of scientific documentation can be solved.

The cost of electronic data-processing is high (1) and consequently means that only a small minority of firms can have a full documentation centre.

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(1) The present cost of processing and storing scientific data on the basis of an abstract is about 2 dollars and the cost of documentary research about 30 dollars.

This is why the need to use collective technical documentation services is being increasingly felt by firms. Such services or centres can build up documentation which is both compatible and exchangeable, i.e. Such as can easily be supplemented by information from elsewhere or exchanged for information gathered in other centres, which leads specialists in scientific information to work out methods of classification and analysis common to a sector, to a number of sectors and to a number of countries.

Without doubt, with such an instrument in its hands, the industry of any country is well-armed for technological and economic competition.

1) Situation in the Community

In the Community, a big effort has already been made as regards the dissemination of knowledge and the results obtained are by no means negligible. The situation remains, however, very unequal from one sector to another and very little is being done at Community level. Most centres are national and limited to one sector or sub-sector of industry. The resources are still modest, recourse to electronics is infrequent and there is sometimes a total dependence on external sources of information.

Leaving aside the very many private and public documentation centres poorly equipped in terms of finances and personnel, and usually specialising in one particular question, the number of large-scale documentation centres in the Community which are internationally known can be assessed at about 26. Many such centres are private, but all are supported by public funds to a varying extent. Ten or so of these centres have automatic or semi-automatic equipment. They generally cover one single industrial sector, although some, such as the "CNRS" in France, the "CNDST" in Belgium and the "ZDM" in Germany, cover a relatively wide field.

The total amount of private and public funds used to operate these centres seems to be about 15 million dollars.

At sector level, to mention only the most important sectors, atomic energy and aerospace research are the most favoured from the point of view of the dissemination of knowledge and the mechanisation of data-processing. All member countries have an atomic information centre. With the"CID" (1), the Community has set up such a centre, whose competence and efficiency are acknowledged. In the aerospace sector, there is in Paris the ESRO - Aerospace Documentation Centre which is linked by teleprocessing to a data-processing system in Darmstadt.

Similarly, in the field of metallurgy the dissemination of knowledge at the level of member States would in general appear to be adequate, but international cooperation could be intensified. In Italy, the Experimental Metallurgical Centre is mechanised. As regards non-ferrous metals, however, documentation is restricted to specialised industries and is not available to other possible users.

In chemistry and the food industry, there are numerous centres. The IDG (2) in Germany should be mentioned in particular. These centres often specialise in particular fields (foodstuffs, pharmaceutical products, etc.). However, it is the Chemical Abstracts Service of the American Chemical Society which is most influential. This service operates on a commercial basis but with the support of the Federal Government.

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(1) Centre for Information and Documentation

(2) Internationale Documentation Gesellschaft für Chemie.

In the Community countries, medical information is disseminated fairly satisfactorily. Special mention should be made here of the Excerpta Medica Foundation (Amsterdam) and the specialised publications of the French CNRS. But there again, however, it is the American Medlars system which is most widely used.

In the field of electronics, information is scarcely available at all. The biggest firms gather their documentation for their own use. In Great Britain, the INSPEC project is being developed, with the purpose of centralising documentation in the fields of physics, electronics and automation.

To come back to the problem as a whole, industry in the United States has far greater resources at its disposal. By comparison with the 26 leading Community centres, there are about 70 centres of similar or larger size in the United States, but with considerably more substantial resources (100 million dollars in all as against 15 million dollars in the Community).

It is logical that having regard to the Americans' advanced technological level, Europeans should have recourse to information from the USA. It does not, however, seem right that they should more or less wholly rely on centres outside the Community in certain particularly important fields.

That is why the aim of those handling these problems in the Community must be to arrange exchanges with the most advanced centres in third countries on a reciprocal basis, or for a fee, while avoiding monopoly situations which would place Community industry in a position of complete dependence.

There is no doubt that it is in the interests of industry to obtain the necessary access to available scientific and technical information. Technical and scientific research, education and industry have in that field similar interests. All potential users of better-disseminated knowledge must collaborate to build up the necessary resources.

There are few spheres in which world cooperation would be as profitable as in this. At the present stage, the non-fulfilment of certain preliminary requirements makes it difficult to achieve such cooperation. These requirements are in particular:

1. the existence of a sufficient number of documentation specialists;
2. the establishment of internationally applied rules which would enable data to be processed by computer;
3. efficient and rational methods of gathering and storing information.

The Commission is endeavouring, in collaboration with member countries, to define a common policy for the dissemination of knowledge, in particular in the sectors most important for the Community, so as to ensure to all those concerned equal access to information in those sectors.

2) Action to be envisaged

There is no doubt that is is essentially on industrialists that the task falls of seeking by all means at their disposal, and in particular through co-operation at the firm level and at Community level, solutions to the problems they face in gaining access to scientific information of all kinds.

The Commission would like to stress here the special part which could be played by professional organisations established at Community level.

However, Governments cannot remain aloof in this matter. The scope and importance of the question are such that Government action seems justified to ensure that as efficient a dissemination of knowledge as possible, to encourage it in those sectors where it is lacking, and to control abuses which might result from inequality of access to the various dissemination systems.

Such action might take the following forms:

(a) Rationalisation of systems of dissemination of knowledge

The Community has already begun to study the problems of co-ordination and joint action in the dissemination of knowledge at Community level.

In the Committee on Scientific and Technical Research Policy (PREST), a specialist group has been set up for information and scientific and technical documentation (IDST), instructed to: "define the nature and role of machinery which would allow the member States to pursue permanently concerted policies in the matter of information and scientific documentation;

"- adopt a sectoral approach to the study of the 'Community system for the processing and dissemination of information' while paying special attention to existing overlaps between sectors and the compatibility of the sectoral systems likely to be proposed, in order not to preclude the possibility of working out an overall European system if it seems advisable to establish such a system progressively;

"- develop sectoral work, bearing in mind that information structures are and will remain - on the whole - decentralised (it will therefore be the duty of the IDST group to pay particular attention to the question of intersectoral link-ups and to point to particular fields in respect of which centralised solutions seem necessary);

"- give priority to bibliographic documentation when defining the system the group will study, seeking however to specify the cases where it would be desirable to provide for extensions to legal, economic and other data;

"- take account in its work of the coexistence of public and private firms and so go on to study the problems raised or which might be raised by the coexistence of different scales of charges;

"- discuss and give the PREST Working Party its opinion on the following points:

- the use of one working language or of several;
- establishing of rules to apply among member States;
- harmonisation of courses of training for documentation personnel;
- the advisability of drawing up at Community level an R & D programme for data processing methods."

The work of the Group began with a study of information problems in agriculture, metallurgy, medicine and patents.

At a time when the dissemination of knowledge is in process of organisation in Europe, such a rationalisation effort is particularly valuable, both for the coordination of resources and for the definition of a common terminology. In this respect, the work of the Information and Documentation Centre of Euratom (CID - Centre d'Information et de Documentation), is an encouraging example. This body has evolved a nuclear documentation system based on data processing, which has made it possible to store references to over one million documents. Upon request, the CID carries out either retrospective research or periodic research according to an information requirement profile. The quality of the work done by the CID led the International Atomic Energy Agency in Vienna (IAEA) to use to a large extent the methods of classification and the terminology used in the Community (INIS project).

It would therefore be appropriate that the work of the PREST Group on analysing the problems relating to the dissemination of knowledge in some sectors be extended to other sectors in order to achieve a common terminology and even lead, in certain cases, to the creation of other Community information and documentation services. To bear full fruit however this action must be geared to industry, i.e. it must endeavour to render the best service possible to firms in the Community.

And lastly, it is only in so far as it proves possible either at private or at Government level to set up a comprehensive and modern system for the dissemination of knowledge by means of well-organised cooperation within the Community that balanced collaboration in the shape of exchanges of information can be envisaged with equivalent centres in third countries. Because there is no such concerting of effort, European industry can only have access to information stored in the major centres of third countries on inequal terms and at a very high cost.

(b) Specific aid to be given in certain cases

Independently of the considerable support the State gives by rationalising systems of codification and dissemination of knowledge, it very often intervenes to help financially in the setting up or the running of documentation and information centres.

It would seem wise to coordinate the efforts of member States in this field, in order to encourage firms to rationalise their activities at Community level or at least to adopt systems which would make it possible to exchange information between Community countries.

A specific problem is furthermore posed for small and medium-sized undertakings which do not have such departments or belong to branches of industry that do not possess such documentation centres, or again which cannot pay to have access to them. Moreover, as these smaller firms are somtimes obliged to undergo conversion or completely change their activities, access to a multi-sectoral documentation centre is of particular interest to them.

In the United States, the Small Business Administration, among its many activities on behalf of small and medium-sized firms, has put at their disposal this type of general documentation centre to which they have access free of charge.

At present there are in the Community no such multi-sectoral centres. It would seem that by setting them up useful support would be given to the development of the activities of numerous small and medium undertakings. Such national or international centres should adopt classification and dissemination methods that are compatible at Community level, so that exchanges of information and documentation can be carried out by teleprocessing.

(c) Patent law

Suitable legislation concerning patents is likely to improve quite substantially the dissemination of knowledge.

Patents have long fulfilled two functions:

- ensuring temporary exclusivity of exploitation to the inventor so that he may draw a profit from his invention;
- giving information on new processes and products in appropriate terms, limiting thereby industrial secrecy and wasted research effort.

Whilst patents today still fulfil their first function more or less satisfactorily, this is certainly no longer true as far as the second is concerned, owing to the particularly long delays in the issue of patents in countries which only grant them after due examination.

In those countries, such as Germany and the Netherlands, until quite recently it was not unusual for patents not to be granted until 5 to 10 years after the application was lodged. This delay was caused by the increasing number of applications, the technical complexity of the inventions and the methods of examination adopted by patent offices.

To make up for the long delays in the publication of patents granted, the most frequently suggested solution is the obligation to publish patent applications after a relatively short time, say 18 months. In the last few years, this solution has been adopted in the Netherlands and more recently in Germany. It should be noted, however, that this measure, while it makes it possible to know much sooner than formerly the degree of innovation reached by firms forces competing firms to make the kind of examination as to patentability previously carried out by the patent offices.

Another improvement, suggested in particular in the preliminary Draft Convention on the European Law on Patents drawn up in 1962 at the request of the Commission and of the member States of the Community consists in postponing the examination as to patentability by making the investigation of anteriority immediate and automatic. This solution is the one preferred in the draft text concerning the establishment of European procedure for issuing a European patent (1) which lays down that a "new invention" certificate, drawn up by the International Patent Institute in The Hague should accompany patent applications as soon as possible.

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(1) Now being drawn up by an intergovernmental conference in which the six countries of the Community are participating, together with Austria, Denmark, Great Britain, Greece, Ireland, Norway, Portugal, Spain, Sweden, Switzerland and Turkey.

These recommendations and this work seek to reconcile speed in the granting of patents and legal guarantees for the patent-holder by advocating rapid procedure for the publication, either of the patent application accompanied by anteriority research, or of the provisional patent followed more or less rapidly by the issue of a final patent after thorough examination as to patentability.

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Technological forecasting, research and the dissemination of knowledge are little known and sometimes unspectacular stimulants to industrial development. Their role is nevertheless as decisive as fiscal policy, sectoral aids or commercial policy. They are indeed an essential element in the environment of a firm, and however diffuse their results may at times be, they open up for firms horizons without which there can no longer be a competitive industrial economy.

This general action is directed towards the industrial economy as a whole and all firms. It is not sufficient, however, in certain sectors where technological innovation necessitates a mobilisation of funds such that even the resources of even the biggest firms are no longer enough and public funds themselves, at the level of a country of fifty million people, can no longer give adequate support. The action to be pursued in these sectors is the subject of the fourth part of this document.

Part four

THE PROMOTION OF THE ADVANCED TECHNOLOGY INDUSTRIES

The Community's achievements in this respect

INTRODUCTION

It is difficult to say exactly which are the advanced technology or growth industries. As said previously, the distinction between "classical" industries and industries relying heavily on technological innovation has less and less foundation. Innovation is invading the most traditional industries, whilst the restructuring going on in industry is combining departments engaged in classical production with departments specialising in fields characterised by major innovations.

Although the problems dealt with in the first three parts of this document are common to all industries, it would seem that there is one type of firm or industrial activity which requires a separate place in the analysis of industrial problems, namely industries whose function is to produce or cooperate in the production of new materials to perfect which necessitates the convergence of more and more human, financial and industrial resources and entails technological hazards and commercial risks far greater than those normally accepted and borne by firms. For those industries, innovating capacity and industrial power are not only aids to economic competition: they are the condition sine qua non for engaging in certain kinds of production. In other words, for the production of certain technologically advanced products, minimum thresholds of industrial, financial and technological capacity exist, below which the production in question is doomed to failure or to permanent unprofitability.

Among this kind of production is found major nuclear and electronic equipment and overspace engineering. Tomorrow, other sectors may in their turn come to have a similar minimum threshold.

It must be noted that, in the Community, firms engaged in the type of production referred to above are often small by comparison with their main competitors from third countries who have achieved the most spectacular industrial break-throughs (cf. Table 27 a, b and c).

TABLE No. 27 a

List of some of the firms in the EEC countries, United States, Japan and the United Kingdom, whose main activity is the manufacture of electric, electromechanical and/or electronic equipment, showing turnover and staff for 1968.

	Turnover in millions of $		Total staff	
Germany				
Siemens AG (67/68 balance sheet)	(a)	2,187	(b)	256,400
AEG Telefunken	(a)	1,463	(a)	146,400
France				
C.G.E. (Group)	(c)	1,102	(c)	77,000
Thomson-Brandt (Group)	(b)	1,016	(b)	76,000
Schneider S.M. (Group)	(c)	1,100	(c)	70,000
Italy				
Montecatini-Edison	(b)	2,316	(b)	142,300
Olivetti	(b)	593	(b)	60,700
Netherlands				
Philips	(b)	2,685	(b)	265,000
Belgium				
A.C.E.C.	(c)	128	(c)	13,750
Total for the 9 Community firms		12,590		
United States				
General Electric	(c)	8,382	(c)	306,100
IBM	(c)	6,889	(c)	241,900
Westinghouse	(d)	3,296	(d)	138,000
RCA	(d)	3,014	(d)	125,000
General Dynamics Corp.	(c)	2,662	(c)	100,400
North American Rockwell Corp.	(d)	2,639	(d)	121,000
Total		26,882		
Japan				
Hitachi	(b)	2,282	(b)	154,200
Mitsubishi Heavy	(b)	1,807	(b)	95,300
Matsushita Electrical	(b)	1,688	(b)	73,100
Tokio Shibura Electric	(b)	1,598	(b)	128,000
Nippon Electric Co.	(b)	529	(b)	47,800
Total		7,904		
United Kingdom				
Gen.Electric/English Electric	(b)	2,155	(b)	233,000
Hawker Siddeley	(b)	918	(b)	98,000

Source: (a) Annual report
(b) Fortune
(c) Société Editions Economiques et Financières
(d) Moody's

T A B L E No. 27 b

Electro-mechanical industry

List of principal firms in the EEC, EFTA and the United States producing electromechanical equipment

Firms	Annual construction capacity of alternators or of turbines or of complete turbo-alternators	Maximum annual deliveries of alternators, for steam and hydraulic turbines for the period 1966-1968 (> 10 MW)		Maximum annual delivery of steam turbines (> 10 MW) for the period 1966-1968		Estimated annual needs (electrical power put or to be put into service) 1968:	1975:
Germany		1966	4,532 MW	1968	4,706 MW	3,400 MW	6,000 MW
KWU	(1) 6,000 MW turboalt.						
MAN/GHH	...						
BBC Mannheim	(2) 3,000 MW turboalt.						
Belgium		1966	444 MW	1966	112 MW	450 MW	750 MW
ACEC	(3) ± 450 MW alternat.						
France		1967	3,668 MW	1967	3,149 MW	2,200 MW	3,800 MW
CGE/Alsthom	(4) ± 2,000 MW turboalt.						
Jeumont-Schneider	(5) ± 2,500 MW turboalt.						
C.E.M. (1970)	(6) 1,400 MW turboalt.						
Italy		1967	3,278 MW	1967	1,636 MW	3,000 MW	4,200 MW
Ansaldo meccanico Nucleare, TIBB	(7) 4,000 MW turbines for thermal power stations						
ASGEN, MARELLI, TIBB	(7) 4,000 MW alternat. for thermal power stations						
TOSI, ASGEN, RIVA	(7) 1,600 MW turbines for hydraulich power stations						
MARELLI, ASGEN, TIBB	(7) 1,600 MW alternat. for hydraulich power stations						
Netherlands		1967	205 MW	1968	413 MW	750 MW	1,350 MW
VMF/Stork/W	(5) 300 MW turbines						
Rijn-Schelde	(8) 600 MW turbines						
EEC		1967	11,429 MW	1968	8,724 MW	9,800 MW	16,100 MW

United Kingdom EE/G.E.C. Parsons	(9) ± 10,000 MW turboalt.	1967	10.802 MW	1966	9,863 MW	4,200 MW	8,600 MW
Switzerland BBC Group	(10) 1,500 MW turboalt.						
United States General Electric Westinghouse	(11) 18,000 MW turboalt. 18,000 MW turboalt.						

SOURCE: SOURCE: OECD SOURCE: OECD

(1) Siemens Nachrichten - April 1969
(2) Unit being built for the Tennessee Valley Authority U.S.A. (press source)
(3) Figure for maximum annual deliveries of alternators by Belgian industry in the years 1966, 1967 and 1968 (OECD)
(4) Total capacity of turboalternator units built in 1968 (press source)
(5) Figures supplied by the firm
(6) "Le Monde" of 6.2.70
(7) ANIE (Associazione Nazionale Industrie Elettrotecniche ed Elettroniche)
(8) Information supplied by the firm. Rijn-Schelde is reported to be able to build three 400 MW turbines every two years
(9) Estimate on the basis of 1967/68 deliveries (OECD)
(10) Estimate
(11) AEC estimate - 1969.

TABLE No. 27 c

Aerospace industry

List of some firms in the EEC countries, the United States and the United Kingdom showing turnover and staff - 1967

	Turnover in millions of $	Total staff
EEC		
- Messerschmitt-Bölkow-Blohm (G) (merger in 1969) (1)	164	19,000
- Sud-Aviation + Nord-Aviation + Sereb (F) (merger in 1970) (1)	500	40,500
- N. Dassault-Breguet (1968) (F)	330	12,600
- Aeritalia (I) (merger Fiat avio + Aerfer)	62	7,800
- VFW + Fokker (G + N) (merger in 1969) (1)	146	15,600
- Other	556	68,500
Total EEC	1,758	164,000
United States		
- McDonnel-Douglas (2) (3)	2,798	134,000
- Boeing (2) (3)	2,862	141,800
- General Dynamics (2) (3)	1,510	69,000
- Other	16,088	823,200
Total United States	23,258	1,168,000
United Kingdom		
- Rolls-Royce (aerospace)	605	73,400
- B.A.C.	439	36,500
- Hawker-Siddeley	364	48,000
- Other	202	90,100
Total United Kingdom	1,610	248,000

(1) Figures shown are the combined total turnover and combined total staff in 1967.
(2) Aerospace activity only.
(3) Number of staff corresponding to the share of aerospace engineering in the turnover.

Source: SORIS.

These tables call for the following remarks:

In the vast field of electrical, electromechanical and electronic engineering, the six leading American firms in 1968 achieved a combined turnover of nearly 29,000 million dollars, i.e. more than double that of the nine largest Community firms (12,600 million dollars). The six leading American firms each exceed 2,500 million dollars, General Electric alone showing a turnover of more than 8,000 million dollars, whilst only three Community firms pass the threshold of 2,000 million and indeed the activities of Montecatini-Edison overstep considerably the electrical sector. The five leading Japanese firms alone achieved a turnover of almost 8,000 million dollars.

If one considers heavy electromechanical equipment (turbo-alternators) alone, the overall disparity is less pronounced, but the unit capacity of each of the two American giants, General Electric and Westinghouse, amounts to thrice that of the biggest Community firm (KWU) and six times that of the next two (BBC Manheim and CGE Alsthom). As regards nuclear power stations (of 100 MW or over), four American firms have built or are building to order 93 power stations representing a total power of 75,000 MW (of which 74 61,000 MW power stations built or to be built to order by General Electric and Westinghouse), whilst ten Community firms must be content with 22 power stations with a total power of about 10,000 MW.

No very exact figures are available for the computer industry data processing. It appears, however, that in 1968 the total turnover of Community firms (excluding subsidiaries of American companies) did not exceed 130 million dollars, whereas that of the American firms amounts to 8,750 million, or 67 times that figure, and 25 times if Great Britain's turnover figure be added to that of the Community. Moreover, it is interesting to note that in the United States, the total turnover for the computer industry represents 39% of the total turnover of the electronics industry, whereas in the Community it represents only 1.7%.

Lastly, the situation is also very unequal in the aero-space sector, the total turnover of American firms in 1967 representing more than thirteen times that of the Community's firms, which is barely greater than the turnover of British firms in this field.

This underdevelopment of the Community's industry clearly results from the limited means available to each of the member States and the narrowness of the markets in which the firms have operated up until now. True, the governments have attempted to overcome such handicaps in recent years by engaging in international co-operation. But so far the programmes being implemented in various frameworks and using very different methods have not produced entirely satisfactory results from the point of view of industrial development. It may be useful to analyse the causes of this relative failure (Chapter I), before suggesting in the following three chapters guidelines to prepare the way for a common or concerted industrial development policy for the major advanced technology sectors.

CHAPTER I

International technological cooperation and industrial development

Efforts at technological cooperation made in Western Europe in recent years have been characterised by a total lack of cohesion. They have been pursued in the framework of inter-governmental agreements, in specialised international organisations and even in a Community, but sectoral, framework, viz. Euratom. Up to now, no joint comparison of methods and results by the responsible authorities of Member States has been possible. That is the fundamental reason, the Commission believes, for the disappointments experienced.

Doubtless the setting up of the PREST Group, following the Council's Resolution of 31 October 1967, enabled common guidelines to be worked out for several activities, certain of which are of great industrial interest, in particular electronic data-processing. Moreover, the Group has recently undertaken a systematic study of research policies, national programmes and budgets. This will only have achieved its object if it leads not only to a better use of available research means, but also to a research structure more geared to the needs of industrial development. That is why the joint study of problems by the Commission and national authorities should extend to the conditions required for giving the findings of research an application in industry.

The remarks which follow are merely designed as a point of departure for this mutual study.

They are concerned with:

- the industrial and financial organisation of jointly pursued technological development programmes;
- the marketing of the resulting products and of technologically advanced products in general;
- relations with third countries.

I. Joint technological development programmes

The efforts at cooperation in recent years have brought to light certain facts:

1. It has not been possible to organise cooperation on the most rational financial and industrial lines. Such cooperation must indeed bow to short-term political and economic considerations of national interest, leading to compromises which are incompatible with efficiency. The need to keep a strict proportion between the national contributions paid and orders placed with the country's industry, leads to dispersion which is the more serious inasmuch as account must be taken of the higher or lower-grade contracts assigned to the participants. Also the costs of such operations are generally higher than they would have been if the order had been placed with a single firm or a well-knit group of firms.

2. The management of cooperation agreements is not governed solely by the rules of efficiency. It also depends on political considerations which thus weigh on the successive decisions that have to be taken in the carrying out of the project. This kind of management, which has sometimes been termed "diplomatic" has sometimes led in the past to a precarious financial situation or serious hold-ups in financing. The problem of covering the almost inevitable unforeseen increases in cost is particularly difficult to solve in such circumstances. Financial problems have therefore often been a stumbling-block to cooperation and have sometimes led to its suspension or partial

failure, as was the case with the European space project.

3. Lastly, the aim of cooperation is the production, and not the development of powerful industrial firms. It has scarcely any impact on the restructuring of firms for whom such cooperation is considered merely a passing phase. Firms which participate in such projects do not always see their potential notably strengthened thereby and once the cooperation is over they must search for a new project and new partners. Thus the opportunity to foster the development in the Community of trans-national European firms capable of facing competition from the most powerful firms in third countries (cf. Part II, Chapter II) is allowed to slip by.

II. Marketing of products

The markets for advanced technology products, including those which are the result of international cooperation, have not really experienced as yet the benefit of the enlargement which should have resulted from the creation of the Community. In fact, orders for technologically advanced goods remain very largely reserved in each country to the national industry, where this exists.

The reasons for such closed markets in Community countries are many. The main reason is without doubt the tendency for governments to guarantee to their industries the existing internal outlets. Repeated in each country where national production exists, such a policy obviously leads to the exclusion from the market of the products of Community partners. That tendency is reinforced by the legitimate desire of governments to ensure that the research and development funds they have allocated to their public research centres and the contracts they have financed, show an industrial and commercial return. Thus

the foundation is laid for future closed industrial markets at the research and development stage.

Where national industry is weak or non-existent, so that the country concerned finds itself excluded from an international programme, it is hardly encouraged to give preference to goods and equipment produced by its partners which in this case appear more as competitors. Taking into account the low level, and sometimes absence, of customs protection (Table 28), it will tend in preference to turn to products from third countries and to solicit subcontracts.

TABLE No. 28

Comparative Table of Customs Duties

Equipment	EEC		United Kingdom		United States	
	CCT No.	Rate of duty applicable %	CCT No.	Rate of duty applicable %	CCT No.	Rate of duty applicable
Nuclear						
Fuel elements (Euratom)	ex.84-59-B II	10	ex.84-59-B	11	ex.660-85 ex.678-50	7(1) 8(2)
Electromechanical and nuclear equipment (reactor vessels and equipment for reactor construction)	84-59-B II-c	10	ex.84-59-B	11	ex.660-85 ex.678-50	7(1) 8(2)
Aeronautical						
Aircraft	88-02-B II C	8(3)	88-02 A (14) 88-02-B	14 11	694-40	8(13)
Aircraft parts	88-03-B	8(4) (5)	ex.88-03	11	ex.694-30 ex.694-60	20(5) 7(7)
Electronics						
Electronic data-processing machines able to use punch-cards. Central units of such machines.	ex.84-53	8.2(8)	84-53-A	14	ex.676-15 ex.676-20 ex.676-23 ex.676-30	9(9) 8(10) 10(11) 8(12)

(1) As from 1 July 1970: 6%

(2) As from 1 July 1970: 7%

(3) As from 1 January 1970: 7% - levying of this duty is provisionally suspended.

(4) As from 1 January 1970: 7%

(5) This duty is provisionally suspended in respect of imported articles designed to be fitted on aircraft which are themselves free of duty or built in the EEC. This suspension is subject to compliance with formalities and conditions to be specified by the competent national authorities.

(6) As from 1 July 1970: 17 %
(7) As from 1 July 1970: 6.5%
(8) As from 1 July 1970: 7.8%
(9) As from 1 July 1970: 8 %
(10) As from 1 July 1970: 7 %
(11) As from 1 July 1970: 8.5%
(12) As from 1 July 1970: 7 %
(13) As from 1 January 1970: 7%
(14) Helicopters of 2,000 kg. or less empty weight.

Besides the attitude of public purchasers, for whom it is traditional to reserve certain kinds of order for national industry, the persistence of closed markets also depends on habits and mental attitudes which change only slowly. It is also true that financial ties and business relations, if not personal relations as well, help to keep orders in the home market.

These facts are confirmed by the low level of intra-Community trade in advanced technology equipment, although the available statistics do not allow us to give a complete table.

The situation is at its least favourable in the field of electronics, where intra-Community trade represented approximately 15% of the turnover of the electronics industry in 1965. It must however be noted that trade between the EEC and third countries was slightly higher than intra-Community trade and that there was intra-Community trade in the most advanced equipment, in particular data-processing equipment, between the subsidiaries of large American companies in the Community, as part of a scheme of specialisation among the various factories they control. Apart from these operations, most of the intra-Community trade in electronic goods is in common consumer goods.

Where the electro-nuclear field is concerned the Commission has already shown in its "Report on Nuclear Policy in the Community" of 9 October 1968, the extent to which the markets remain national. The only exception which may be singled out is the order placed in Germany by a Netherlands electricity producer. Although this order was coupled with very considerable sub-contracting to Netherlands industry, it gave rise to considerable criticism, showing the degree of psychological resistance which the achievement of a common market in the advanced technology sectors meets with.

It must be added that the situation is no better for conventional power stations.

Lastly, in the aeronautical industry the make-up of commercial air fleets in the Community (regular routes) is as follows:

Composition of commercial air fleets in service in April 1968 showing countries of origin.

Country	Total value		Origin						Total in %
			EEC		USA		U.K.		
	$ m	%	$ m	%	$ m	%	$ m	%	
Germany	452.1	2.6	13.3	2.9	416.2	92.1	22.6	5.0	100
Benelux	381.2	2.2	40.6	10.7	339.4	89.0	1.2	0.3	100
France	544.2	3.1	191.3	35.2	336.0	61.7	16.9	3.1	100
Italy	291.5	1.7	83.8	28.7	185.4	63.6	22.3	7.7	100
Total EEC	1669.0	9.6	329.0	19.7	1277.0	76.5	63.0	3.8	100
U.S.A.	10668.0	61.7	105.0	1.0	10203.0	95.6	360.0 (1)	3.4	100
U.K.	1069.0	6.2	-	-	210.0	19.6	859.0	80.4	100
Other	3887.0	22.5	555.0	14.3	2656.0	68.3	676.0	17.4	100
World total	17293.0	100.0	989.0	5.7	14346.0	83.0	1958.0	11.3	100

(1) including a few Canadian aircraft.

Source: SOEC
SORIS

Without doubt the low level of intra-Community trade is partly explained by the absence of Community production in certain fields. The situation is nonetheless a vicious circle, since production by third countries, which has developed thanks to their vast internal markets will always be in a position of technical and economic superiority on the divided Community markets.

It is thus no exaggeration to say that there is no real common market - neither free internal movement of goods nor protection against third countries - for advanced technology products. This is the more serious since the advanced technology industries are precisely those whose development is, if not out of the question, at least very difficult without the support of a large, unhampered and reasonably protected internal market, in particular during the first phase of their development. In fact the advanced technology industries suffer in Europe from permanent discrimination, compared with the traditional industries, since the latter have fully benefited from the liberalisation of international trade and from the establishment of a common market. The national support given to growth industries has not compensated for the effects of the market remaining closed for which, moreover, it is partly to blame. Therefore, we should not be at all surprised when we see the growing gap in competivity between Europe and the United States in this sector, at the very time when the American government is trying to check European steel, textiles and chemicals crossing the Atlantic. If this process is not reversed, it will mean that Western Europe will be specialising, without being aware of it, or at least without desiring it, in traditional products and this will compromise her chances of expansion and her technological independence in the long term.

III. Relations with third countries

In the technological fields, more than in any other, relations with third countries take on a two-fold aspect: co-operation and competition.

As regards co-operation, the member States have already recognised the need to suggest to other European countries, and in particular to candidate countries for membership, collaboration in the political, scientific and technical fields. It is also intended, in this context, to organize co-operation in the electronic computer industry.

Moreover, the member States are engaged individually in various kinds of intergovernmental or institutional co-operation.

But, since the Community has not yet examined for itself the conditions of an overall strategy for technological and industrial development, it is not in a position to confirm whether European non-member countries would be ready to take part. The Commission is convinced that the success of co-operation with other European countries is largely dependent on agreement over the organisation, financing and management of programmes, the trans-national restructuring of undertakings and the opening up of the market in advanced technology goods.

The definition of a uniform attitude to the industrial aspects of technological co-operation would considerably reinforce the chances, and therefore the attraction, of more balanced co-operation with the other major partners, in particular the United States.

At the present time, the absence of such an attitude, even among member States, in regards to scientific and technical co-operation agreements with third countries or to patents and take-overs (cf. Part II, Chapter II), considerably weakens the position of the Community and that of Western Europe as a whole.

The simultaneous pursuit of rival national objectives, even when moves towards co-operation have been made and the absence of a Community dimension in the technological development policy leads member States to restrain their ambitions and to draw insufficient profit from the finance and manpower mobilised which, in some sectors, especially the aeronautical and nuclear industries, are quite considerable (1).

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(1) There is no room here for an analysis of the situation in each of the major advanced technological sectors. The Commission had already made an analysis for the nuclear sector and has now completed one recently for industrial grouping in the sector of heavy electro-mechanical equipment. It also intends, as regards the other major sectors, to rate an exhaustive and continuous study of the industrial applications of research, the evolution of industrial structures and the degree to which the common market has really been achieved.

The consequences for the Community have been serious. France has indeed ensured a not inconsiderable position for its aeronautical industry and Germany has been able, thanks to its industrial strength in the field, to enter into world competition in the commercial production of nuclear power stations. Compared to the successes of American industry in the same fields, these European successes are small and above all their future threatened. The enormous aeronautical exports by the United States to Europe as well as the establishment of American companies in the Community's electronics industry and perhaps in other sectors, show the imbalance of the forces in the field; as for spatial matters, despite very real efforts Europe has not, up until now, had any significant results.

In order to remedy this situation, the method of different kinds of co-operation with no overall plan is not the right one. It is in any case incompatible with the requirements of industrial development.

Indeed, the more one comes down from fundamental research to practical application and mass production, the more the requirements of concentrated effort, a large market and a coherent strategy must be met.

CHAPTER II

Rationalisation of technological development and the introduction of Community contracts for industrial development

By industrial development contracts the Commission means contracts placed by public authorities with industry for the production of new goods or equipment intended for marketing and whose future profitability can be guaranteed.

With regard to what precedes technological development, the Commission reserves the right to formulate guidelines in another document relating to policy for scientific and technological research.

The influence of national technological development policies in favour of separate national markets is obvious. It is at the development level that technical variations often begin and that industry takes certain attitudes that it will not be possible to justify at a future stage and which make further collaboration more difficult and the free movement of goods impossible.

However important this may be, it is not, however, the only consideration which militates in favour of Community action in this field. Inasmuch as it is the development and initial production stage which is by far the most costly, it is the industrial development contracts which represent the heaviest burden for industry and for the public authorities. The development cost of the prototype MACH 3 bombers amounts to more than a thousand million dollars, the development of fast breeder reactors probably exceeds 2 thousand million dollars, the development of a large-capacity long-haul subsonic aircraft or an IBM 360 type computer represents approximately a thousand million dollars.

No one would deny that to assemble such funds at national level is becoming more and more difficult for Western European countries. It remains to be seen how to overcome the difficulties involved in international cooperation analysed in the preceding chapter, i.e. how to ensure stable financing and to foster the development of competitive industrial structures.

In order to achieve these aims Community machinery for placing contracts seems essential, as this seems the only solution able to reconcile the pooling of efforts by member States and the most modern methods of management of industrial development projects. The very idea of a Community industrial development contract should make for a stricter selection of projects and for more efficiency at all stages of their realisation. The combination of the industrial objective, rational execution of the project and continuity in its financing could be established from the start when the contract was being drawn up. The discipline which would be imposed by these contracts on the public authorities as much as on the industrialist, would be the best guarantee of their efficiency. Lastly, only they could ensure the optimum degree of competition that can be achieved in these fields, since they would be competed for by those various European groups with the ability to fulfil them.

At this stage, the Commission thinks it preferable to mention the main problems involved in setting up suitable machinery without drawing any final conclusion as to the choice of solutions.

I. The selection of projects

Community contracts must be reserved for the development of industrial products which still require a financial effort exceeding the capacity of a firm or of a country. This means that the products concerned must be new ones, which require research or complicated technological improvement.

They must also be of real value for the development of the industrial sector concerned in the Community. The commercial aspect in particular must be taken into consideration and products for which an analysis of the potential market showed no favourable prospects for the Community and export markets should be rejected.

At the present time, it is the fields of activity mentioned at the beginning of this section which seem to have a prior call on such contracts: electronic computors, aeronautical or space projects, possibly nuclear prototypes, in so far as Community co-operation in this field moves towards this new form of management.

It is likely however that projects will appear in the near future in other fields such as biomedicine, the improvement of new pharmaceutical and chemical products or the development of certain basic physics instruments. The Community does not at the present time enjoy the same technological stimuli as the United States, which devotes a very large part of its development contracts to the conquest of space or to defence. The absence of these two stimuli must not be considered by the Community as an insuperable obstacle to its own technological development but as an opportunity for it to concentrate its efforts on other goals of an economic and social nature, such as the environment, habitat, transport, exploitation of the ocean, etc.

II. Execution of the project and the selection of contractors

The contracts should indicate very clearly the mutual obligations of the public authorities and of industry. There can be no question of subsidising the research departments of certain firms without a precise definition of the aims in view.

It is not unlikely that the final version of the contract will need to be arrived at in several stages, the first being a precontract definition, the second a definition of the mode of execution, and the third concerning technological and industrial development proper.

The choice of contractor should be made on the basis of criteria of cost, efficiency and industrial policy, that is to say with not only the production of a prototype in view, but also, as far as possible, the development of trans-national competitive firms. Thus the Community must, in general, reserve contracts for firms prepared

to become involved in a process of lasting reorganisation. The choice should also bear in mind the need to maintain sufficient competition in each sector.

When trans-national firms are resorted to, this should not of course preclude sub-contracting. In fact some contracts will necessitate the collaboration of a large number of firms in the same project. The important point is that there should be only one person in charge, responsible to the Community, even if several firms have been grouped for the execution of the project. Competition must also be ensured at sub-contracting level in order to give the greatest number of firms in the Community the opportunity of taking part in the execution of the projects.

The realisation of large-scale projects requires the development of highly complex management methods with which the authorities, and above all industrial firms, are still too little acquainted in the Community. The change in the scale of projects as well as the novelty of the framework will involve strict mutual discipline on the part of all parties to the contract.

A delicate problem, linked to the execution of all development contracts, is the ownership and dissemination of knowledge. The solution to this problem seems to depend to a large extent on the mutual contribution to the financing of the project by each party to the contract. In any case, the contractor should be under an obligation to exploit the results stemming from a contract within a reasonable period.

III. Financing

Continuity of financing should be ensured throughout the life of the project, in a manner which would leave part of the risks to be borne by industry (1). This means that if the conditions are respected by the contractor, there can be no suspension of financing during the execution of the contract. Suspensions of payment or refusals to contribute to justified increases in costs have, in fact, in the past constituted one of the greatest difficulties in the completion of joint projects.

(1) Such riks-sharing may take several forms such as co-financing, subsidies to be refunded if the project is successful, or guarantees to cover certain technological hazards. The latter solution has already been proposed by the Commission for the construction of nuclear power stations.

Where there is uncertainty, firms try in addition to cover themselves by putting up their costs and by not committing more than a part of their resources to the operation in case the project is abandoned. The increased industrial efficiency which will be required of firms should find its counterpart in the absolute security of the undertakings given by the public authority. It does not look as if such continuity can be guaranteed except by entering the necessary amounts in the Community budget for the duration of the project.

In the interests of proper financial administration, the necessary funds must appear in the Community budget under a special head. Having regard to the solidarity of Community finance and also the prospect of benefit to the whole of the Community's industry from such contracts, it does not seem that a special method of financing is required.

Without doubt the inclusion in the Community budget of the sums necessary to finance technological development projects of European interest represents an extension of Community financing of whose political implications the Commission is well aware. Nevertheless, this step, by lessening the present predominance of expenditure on agriculture, would contribute to the solution of one of the most difficult problems presented by Great Britain's request for membership in a manner consistent with Community interests.

With a view to encouraging industry to achieve the desired reorganisation and to put forward projects spontaneously, it would be advisable to enter an amount in the budget, without waiting for the conclusion of the first contracts. Subsequently, the budget entries should correspond to the expenditure foreseeable on the basis of the rate at which contracts are concluded and their amount.

IV. Procedural and institutional aspects

Although it is premature to formulate specific proposals concerning the institutional machinery needed to ensure the efficient management of such contracts, the Commission believes some preliminary remarks may be useful.

Initiative for schemes should rest jointly with member States, the Commission and industry, so that each can stimulate the others' imagination. The preliminary investigation should be carrid out by the Commission with the support of experts from member States, and decisions on the selection, content and financing of projects should be taken by the council.

Once a project is decided on, the choice of firms should be made in a manner which reconciles the requirements of industrial efficiency with the national interests of member States. This would be facilitated if several projects involving different sectors could be examined simultaneously. This would be a means of avoiding the tendency to fragmentation in the definition of projects or in their execution.

Similarly, the management methods should be the most modern ones and involve the minimum of administrative hindrances. A form of control which leaves full and complete responsibility to industrial contractors should be ensured.

Community development contracts would thus offer a threefold interest. On the one hand, they would enable the public authorities in the Community to organise with the greatest efficiency their action on behalf of new industrial development projects, thanks to the pooling of efforts and the opening of markets. On the other, it would give Community institutions an additional means of action which they now lack for the encouragement of the trans-national restructuring of firms in sectors where there is the greatest need for it. Lastly, it would enable a balance to be maintained between national interests in a manner more in accordance with industrial management than can be the case with ad hoc co-operation in individual projects.

The connection between these three objectives should be stressed. It is through the integration of their firms in European groups and the opening up of their markets that member States must seek their industrial future in sectors of advanced technology. The institution of Community development contracts would foster this trend and guide it so that it contributes to the harmonious development of the various regions of the Community.

Pending the Council's decision on the above suggestions, the study of the projects already presented or shortly to be presented to the Community authorities should not be held up. It would be advisable subsequently to consider the possibility of allowing certain projects already under way to benefit by Community financing, in order to ensure a proper overall balance between the industrial interests of member States. In any case, the success of the schemes at present under consideration requires that the firmest guarantees be given to firms with regard to continuity of financing.

CHAPTER III

Achievement of a common market in the advanced technology sectors

The achievement of a real common market is hindered in the case of advanced technology goods by the tendency of public or semi-public purchasers or even certain major private purchasers to purchase solely from national industry. Where such measures come within the scope of Articles 30 et seq. of the EEC Treaty prohibiting measures with an effect equivalent to quotas, or of the provision prohibiting discrimination on the basis of nationality, it is the Commission's duty to ensure their abolition. In this field, the Commission adopted in 1966 and 1969 several Directives designed to help ensure compliance with the Treaty obligations which became immediately applicable with effect from 1 January 1970.

The Commission is, however, aware that a change of mental attitude is as essential among public purchasers as it is among certain private purchasers, in order to ensure complete transparence of the markets in fields where comparison of prices is difficult and national interests and prestige are also deeply involved. This is particularly evident in cases where the fact of the market being closed is not due to the purchaser's status but to influences, habits, business relations and financial ties. For example, where there is a limited number of major purchasers in a country, they cannot, when choosing their suppliers, entirely neglect all considerations of national, social or regional solidarity.

That is why the Commission considers it essential to back up the expected effects of the application of the provisions of the Treaty by concerted purchasing policies on the part of purchasers of advanced technology goods for such time as the transparence of the market does not seem assured and regardless of the reasons therefor.

Indeed it seems likely that if an effort is not made with support from governments to persuade purchasers, the common market is likely to remain theoretical in certain sectors, and in particular in those of advanced technology.

Thus, noting that national markets in advanced technology goods are almost completely closed, the Commission considers that at least during an initial stage a concerted purchasing policy for such goods is essential to ensure the achievement of a real common market.

The aim of this concerting of policies would be consultation at Community level by purchasers and users concerning prospects and orders and the joint working out of guidelines safeguarding the interests of Community industry.

The advantage to industry of concerted policies would be obvious, namely

- possibilities for firms to programme their investments and production;
- encouragement to rationalise industrial structures;
- longer production runs and standardisation.

An improvement in the conditions of competition could moreover bring significant advantages to customers: concerted purchasing policies should indeed stimulate competition between a few more efficient and stronger industrial groups in the Community which are more likely to innovate and to produce at competitive prices in a transparent market such as does not exist at present. Thus, the large American agencies do not confine themselves to encouraging the continued existence of several firms competing in the production of an identical kind of product. The standards they impose are so

strict that for a firm, the fact of obtaining a contract to supply advanced technology equipment is an important mark of its technical and economic superiority. In such circumstances, firms concentrate their efforts very largely on obtaining such orders. In this sense, on the artificial market thus created, the laws of competition come into play even more rigourously than on private markets.

Obviously, to work out a system for concerting purchasing policies at Community level presents a number of difficult problems. These revolve around the following points:

1. In which sectors should policies be concerted ?
2. How can this be organised ?
3. Which firms would benefit by such a measure ?

I. Sectors in which policies might be concerted

Purchasing policies might be concerted in those sectors of advanced technology where for some reason it appears that the operation of a common market is not ensured in the normal way.

In such sectors orders are sometimes placed by the State itself or by local authorities. More frequently they come from decentralised public authorities, semi-public bodies, public companies or even private firms.

For the reasons stated at the beginning of this chapter, the concerting of purchasing policies should concern not only public purchasers but also purchasers of intermediate status and, in certain cases, private purchasers, in particular those which supply a public service and account for a large proportion of the outlets, such as, for example, airline companies or producers of electricity. Marked imbalances in the participation of purchasers in the various countries in the concerting of purchasing policies would thus be avoided.

With regard to products, the concerting of purchasing policies might concern both existing goods and new goods (or goods manufactured hitherto solely in third countries) to be developed if appropriate in the Community.

To yield economic and industrial results, the concerting of policies should concentrate on sectors where there is a potential or an immediate demand sufficient to fulfil the requirement of rational production by groups of European proportions, in the best conditions as regards efficiency and competition.

II. Means of concerting policies

The first instance step should be to assess foreseeable orders in the sector concerned and to compare the technical data in all the Community countries. Where technical incompatibilities making the development of a real common market impossible come to light, action in regard to technical standards and a harmonisation of programmes would become necessary immediately.

In all sectors where both the economic conditions - i.e. a sufficient quantity of orders to justify concerted action - and the technical conditions are fulfilled, the concerting of policies should allow:

- purchasers and users to be informed accurately of the conditions (quality and price) of the potential supply in each member State;
- the producer firms to be better informed about the possibilities of meeting existing demand in other member States;
- public authorities to be encouraged to abandon the various influences they exert on users and purchasers at a variety of levels to guide them preferably towards national products;
- the feeling of Community solidarity to gradually take precedence over that of national solidarity.

In certain cases this concerting of purchasing policies could lead to a concerting of orders as regards formulating and placing them and selecting the contractor(s). The bodies responsible for concerting policy would specify the rules for calling for tenders and for placing contracts and accept the tender or tenders. Techniques and procedure might vary from one sector to another. The authorities in the Community countries would decide to place a certain number of orders and to conform, in respect of the choice of goods and of the contractor. to the decisions reached when their policies were being concerted. It would be for the users to place the order and to see that it was correctly fulfilled.

As regards the procedure for placing orders, the open call for tenders seems often to be a method ill-suited to the nature of the orders in question. Government departments, agencies or firms do not generally have recourse to them in such cases. The placing of orders by mutual agreement, often resorted to in the national framework on account of the small number of possible tenderers, does not always appear desirable at the Community level. The larger number of possible tenderers, the imperative need for efficient competition, the desire to achieve the restructuring and reorganisation of Community industry call, generally speaking, for a more open procedure. A limited call for tenders could be the answer to these various requirements. The concerting of policies could, if need be, lead to the harmonisation of administrative and technical costs.

The diversity of advanced technology goods and the multiplicity of government departments, agencies and firms placing orders necessitate flexible machinery. Different joint bodies composed of representatives of the appropriate agencies should be set up for each sector.

The definition of common guidelines for all the policy concerting bodies in each sector, the investigation at regular intervals of how the machinery is functioning and the evaluation of the results obtained would be matters for deliberation by the Council on the basis of periodic proposals and reports by the Commission.

III. The firms to benefit from the concerting of purchasing policies

The choice of firms to be consulted and to benefit from the placing of orders raises a certain number of problems concerning the firms themselves and also the balanced allocation of orders to the firms in all the member States.

As regards the firms themselves it does not seem possible to lay down any line of conduct in advance. There are indeed many possibilities according to the sector: firms with their own capital, Community decision centres developing products according to their own technology, firms working under external licence, subsidiaries of foreign companies established and producing in the Community, foreign companies wishing to export in the Community, etc.

It is only as each case presents itself that it will be possible, in the light of the possibilities of Community industry and of any co-operation agreements concluded with third countries, to decide which companies may be called upon. The need to restructure and strengthen Community industry and to back up research efforts will to a large extent have to determine this choice.

Orders should be placed with due regard to considerations of price, quality and industrial policy (development of European firms of competitive size, without destroying competition). They should not be allocated in the various sectors on the principle of "fair exchange", between the industries of member States. It would not, however, be realistic, at our present stage in the building of Europe, to ignore the need for the time being to preserve a certain geographical balance in overall distribution.

The following means might be used to achieve such a balance:

- purchasing policies should be concerted in a sufficient number of sectors for all the States or industries concerned to be able to expect orders;
- for industries unable to receive direct orders, sub-contracting would be likely to increase the number sharing the benefit;
- orders should be placed as far as possible, with multi-national European consortia rather than with uni-national firms; this would have the additional advantage of promoting the restructuring of industry.

Regular examinations of trends in trade in advanced technology goods might, moreover, be arranged, on the understanding that appropriate steps would be taken if it appeared that a member State was in very unfavourable position or if a marked imbalance came about to its detriment.

The Commission hopes that at a later stage the precautions suggested will become superfluous. At present, however, concerted purchasing policies would contribute decisively to achieving a common market in advanced technology goods and would foster the progressive development of competition between the industries of the various member States, which in this field has been very limited hitherto.

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The various problems raised and the suggestions put forward in this chapter merit closer study.

While it seemed desirable in the first place to take an overall view of the problems raised in the Community by the market and orders for advanced technology goods, the measures for concerting purchasing policies will need to be gone into sector by sector. They may differ fairly considerably from one sector to another and will have to be decided on step by step as sectoral problems and the possibility of co-operation in research and development in each sector at Community level are examined.

To be effective and practicable these policy-concerting measures will need to cover a sufficient number of sectors and a sufficiently large volume of orders. Unless taken on a fairly large scale the action envisaged would have little technological or economic impact and might lead to the difficulties encountered by the Community where co-operation extended to one sector only.

In formulating these suggestions the Commission is following the guidelines laid down by the Council of Ministers of the Community in its second medium-term economic policy programme:

"In various industrial sectors public or quasi-public orders have "an appreciable significance for all member countries. A concerted "ordering policy for goods incorporating a large proportion of R and "D might be envisaged for some, at least, of these fields of activity "(here we come back, for another angle, to transport, computers, "telecommunications, aeronautics, etc.). With the prospect of the "constitution of highly competitive European undertakings in each of "these sectors, common criteria and rules for the acceptance of "tenders need to be worked out (the formation of European companies "could facilitate such an undertaking but is not a prerequisite for "it)."

CHAPTER IV

Common policy in respect of third countries

The need for co-operation with third countries makes itself felt not only in the field of research but also in that of the development of the major new technologies. Member States have already entered into such co-operation in the three main sectors. However for the reasons set out in Chapter I, this co-operation has not led to any really satisfactory industrial or commercial results.

Although much the same can be said of co-operation in the research area, we shall confine ourselves here to discussing the different types of co-operation in the field of technological and industrial development i.e. co-operation whose aim is the manufacture of new goods for mass-marketing.

There are a number of programmes or projects for co-operation with third countries in which not only the Community does not participate as such, but on which there is no Community policy.

They include the following:

- The Anglo-French Concorde project, in the field of civil aviation;
- the MRCA 75 "multirange" device, in the field of military aviation;
- in the nuclear field, the projected agreement between Germany, the Netherlands and Great Britain for producing enriched uranium by ultracentrifugation;
- in the space field, the ELDO and ESRO programmes which the 6 and the 12 Western European countries and the world organisation Intelsat participate;
- in the field of electronics, the Franco-Soviet agreement on colour television.

Whatever judgment these projects or programmes may call for individually, it can hardly be disputed that their negotiation and implementation in the absence of any concerted Community policy has a double disadvantage.

On the one hand, the chances of arriving at a common industrial development policy on a Community scale are considerably weakened; on the other hand, member States negotiating separately cannot protect their interest as efficiently as if they were backed by Community solidarity; in certain cases, they may even appear to be competing with each other in relation to third countries.

The possibility of working out a clear policy appears already to have been compromised thanks to separate negotiations of this kind in sectors as basic to the future of Community industry as the production of enriched uranium, putting satellites into orbit and colour television.

The consequences to Community industry are those already mentioned in Chapter II of Part II above in regard to take-overs by major firms of outside the Community and, above all, to the absence of a concerted Community attitude in this field.

The setting up of the PREST Group has enabled the Six to reach agreement in certain fields where wide-ranging industrial co-operation with third countries in Europe (plan for a vast data-processing system) is envisaged. As a method it marks undeniable progress. However, the mere concerting of policies at Community level is not enough if it is not an integral part of the overall policy whose main lines have been defined in the two foregoing chapters and without which co-operation with third countries would have little chance of achieving satisfactory results.

The Commission accordingly regards the definition of a common technological and industrial co-operation policy as a matter of increasing urgency. The Council having already recognised the existence of a European solidarity overstepping the limits of the Six by proposing co-operation with several European countries, in particular those which are applicants for membership, it is appropriate to look in the first place at the problems of technological and industrial co-operation inside Western Europe.

It may be asked whether it would not have been preferable for the Six to have agreed on the main lines of an efficient technological and industrial development policy before engaging in talks with other countries. At all events, it is becoming extremely pressing to debate the matter among the Six first of all, and then with the third countries concerned.

The Commission believes it is important for the problems discussed in this and the three foregoing chapters, to be minutely studied, both as a whole and sector by sector, as soon as possible.

This study, by the PREST Group, should cover the mode of implementation of the projects and the coherence of the action envisaged. The Committee for Medium-Term Economic Policy, which has already begun a study of the question of orders for advanced technology goods, should see to it that all the conditions are present for efficient technological co-operation in an enlarged European framework.

That procedure should enable the Council to examine simultaneously and at an early date the proposals contained in the two foregoing chapters, which retain their value independently of co-operation with third countries, and the conditions for efficient industrial co-operation with those countries.

Having regard to the progress of the work of the PREST Group, priority should be given to the data-processing sector (development contracts, industrial structures, public orders). However, the Commission is of the opinion that the study should extend to other sectors of advanced technology in which co-operation is, or might be, envisaged. In respect of each of such sectors, the conditions should be examined on which third States could participate in the financing

of development contracts and, where appropriate, the concerting of orders. Similarly, the place which certain firms in third countries inside Europe might occupy in the necessary industrial restructuring should be investigated. The representatives of industry should of course be consulted on these different questions (1).

Such a study of the whole could also have the aim of improving the efficiency of actions undertaken in another institutional framework (ELDO - ESRO - Intelsat) and to register them in one clear strategy.

The practical possibilities for arriving at satisfactory agreements largely depend on the negotiating methods used. When the Six recognise the need for using a single spokesman for entry negotiations, it would be very regrettable if they do not adopt the same method in the technological and industrial field.

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Full co-operation with other European countries, in particular with countries applying for membership, should logically lead to developing sufficient solidarity with the latter to enable a common policy to be worked out with respect to the other major non-European partners.

Relations with the major partners outside Europe pose different problems, either because the latter possess a far greater potential (United States, USSR in certain fields) or because their economic

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(1) The Confederation of British Industries recently expressed an opinion close to that reflected in the proposals made here: " ... Studies and subsequent action are urgently required on government support for technology through R & D contracts, through coordinated government purchasing, the removal of obstacles to collaboration and the encouragement of cross-frontier mergers ..." (Memorandum by the CBI Group on European Technology - 7 November 1969).

system is very different from that of the Community (USSR, China), or again because of their isolation (Japan, China). With each one of them, nevertheless, it would be in the interest of the Community and of Western Europe to organise their solidarity and even, where it seems possible, enter into co-operation at Community or multilateral level.

The main problems concern relations with the United States, owing to that country's ties with Western Europe and its enormous technological potential. Now, it is with the United States that it is at the same time easiest and most urgent to substitute collective co-operation for individual relations; easiest because the United States is well-disposed in that direction; most urgent because separate negotiating by Western European countries with the United States accentuates the disparity of strength and rules out all relations on an equal footing. One fails to see why what has been successfully achieved in respect of tariff negotiations should not be achieved in respect of technological and industrial negotiations (cf. Part II, Chapter V).

Whether it be a question of enriched uranium, supersonic or large-capacity aircraft, satellites or data-processing, the United States always emerges as the most formidable competitor and the most valuable partner. It is essential, from the point of view of unity and in the interests of the Community and of Europe, that in those fields the part to be played by competition and by co-operation respectively should at least be discussed collectively among Europeans and that then, if possible, collective negotiations and relations should be organised.

The Commission is not unaware of the difficulties in the way of achieving this end and feels it advisable to propose any measures until an exchange of views has taken place in the Council on the subject. It wishes, however, to call the attention of member States to the special urgency of harmonising European view-points with a view to possible negotiations between Europe and the United States on the vital question of supplies of enriched uranium.

Similar reasons militate in favour of closer relations with the other major partners - the USSR and Japan today, tomorrow China, India, Brazil, etc. The reluctance shown by the USSR to recognise the existence of the Community leads the Commission to recommend a preliminary concerting of policies in regard to relations with that country, on the lines of the temporary provisions adopted in the commercial field. On the other hand, it would be well if a Community agreement could serve as a framework for industrial and technological co-operation with Japan.

CONCLUSION

In presenting these new guidelines for industrial policy in the major sectors of advanced technology, the Commission is aware that it is presenting the government of member States with choices which are sometimes new and in all cases difficult.

They are, however, inescapable, for on the solutions found to the problems of access to markets and the grouping of technological development efforts depend not only the future of a whole section of the Community's industry, but also the ability of the Community and of member States to remain among the nations which enjoy the economic, social and more generally human advantages of the most advanced industrial progress. In the absence of action in this direction, the European Community is likely tomorrow to find itself no more than a community of declining activities. True, technological successes could still be achieved in certain member States. But the fields and action in which the Community had placed most hope and which alone were capable of providing a lasting solution would be found to have been removed from the Community sphere.

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