



EUROPEAN COMMISSION

Benchmarking the competitiveness of European industry



1996

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Benchmarking the competitiveness of European industry

Commission communication

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Part 1

Introduction

- The communication takes as its starting point the Commission's proposals for a confidence pact for employment.¹ That document begins by pointing out that the rate of structural unemployment is increasing regularly; at the end of each recession the level is higher. Ensuring a sufficient rate of net job creation to reverse this tendency and to ensure that all those willing and able to contribute to well-being in the Union through productive employment have the opportunity to do so constitutes the major challenge for Europe today. As pointed out in the White Paper on growth, competitiveness and employment² and the communication on an industrial competitiveness policy for the European Union,³ improved competitiveness of the European economy constitutes an important means to achieve that goal. These three documents, along with other Commission proposals, set out the agenda which must be met for competitiveness to improve. Many of these actions concern Member States.
- The purpose of this communication is to provide an updated analysis of the present situation of European industrial competitiveness. In order to assist prioritization, a limited number of key areas for improving competitiveness are identified in the light of the preceding analysis. The Commission calls attention to benchmarking not as a new policy initiative but as a tool to promote better implementation of measures in key areas for competitiveness by focusing on factors and conditions that determine superior performance and exchange of information on best practices.

In this communication, while the analysis of competitiveness mainly relates to industry, it also sheds light on some of the underlying factors explaining the outcome of the economy of the whole in terms of growth, productivity and employment. Indeed, no discussion of the competitiveness of European manufacturing industry would be complete without that of the competitiveness of a certain number of services.

¹ Action for employment in Europe. A confidence pact, SEC(96) 1093 of 6 May 1996.

² White Paper on growth, competitiveness and employment, (COM(93) 700, December 1993.

³ COM(94) 319 of 14 September 1994.

Competitiveness Advisory Group appointed by President Santer

The first report of the group took a broad view of competitiveness, stressing that competitiveness implies elements of productivity, efficiency and profitability, and that it is not an end in itself. It is a powerful means to achieve rising standards of living and increasing social welfare. For this reason, at the level of the economy, the most important indicators of competitiveness concern growth, productivity and employment along with the factors that can explain a given outcome. At the level of the major sectors of the economy or individual sectors of industry and services, many of the same indicators of competitiveness can be used. Market share and profitability also constitute important indicators which provide a link with the competitiveness of firms. The various indicators of competitiveness are connected, since ultimately it is enterprises that provide the growth which creates jobs and raises productivity. How competitiveness at different levels are interlinked to provide a given outcome is a significant issue, addressed below.

Structural factors affecting competitiveness are the focus of this communication. But, of course, the macroeconomic environment has a very important effect. However, the Commission does report regularly on these aspects in the annual economic report and monitors progress towards meeting macroeconomic objectives through its examination of economic convergence. The Maastricht criteria, by putting targets for economic and monetary union, represent a form of benchmarking in the policy area, which has proved its usefulness in promoting convergence and which can serve as a model for the application of benchmarking to other areas of importance for competitiveness.

EMU and competitiveness

The transition to the economic and monetary union (EMU) will have important beneficial effects on competitiveness both as regards internal and external aspects.

Internally, EMU will eliminate transaction costs of cross-border payments. In addition, it will foster competitiveness through increasing transparency. SMEs, whose costs in participating in international trade are at present relatively high, will particularly benefit as EMU will enable them to increase their efficiency by entering into all European markets.

Furthermore, EMU will contribute significantly to exploit the full advantages of the internal market. The past four years have witnessed that currency fluctuations have led to a sub-optimal allocation of production factors, jeopardizing the beneficial effects of economic integration and slowing down growth in Europe.

Externally, given the importance of the European Union in international trade, financial markets may grant to the euro a status of international currency, similar to that enjoyed by the dollar. European companies will progressively be able to sell in euro on third markets and will thus be safeguarded from the effects of currency changes on sales prices.

Finally, macroeconomic policies play a central role for competitiveness. In particular, public deficits which are too high absorb a considerable share of private savings (nearly 35% in 1993) to the detriment of productive investments and push interest rates higher. Policies oriented towards budgetary stability allow the macroeconomic framework to be improved. Indeed, general government net borrowing decreased from 6.3% in 1993 in the EU to 5.1% in 1995 and 4.4% in 1996 (forecasts). Real short-term interest rates have followed a similar path, falling from 6.7% in 1992 to 4.9% in 1993 and 3.9 in 1995. This development is reinforced by progress towards economic and monetary union.

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- The primary responsibility for ensuring that enterprises remain competitive lies with firms themselves. They maintain competitiveness through the efficiency and the flexibility with which they satisfy existing market needs and through their ability to adjust to structural change, to create new markets and to meet new needs. The quality of management determines to a large degree the extent to which enterprises are successful in these tasks. Public authorities sustain competitiveness by putting in place the appropriate framework conditions under which enterprises operate. This takes the form of providing necessary infrastructure, putting in place an appropriate regulatory environment and specific initiatives, particularly in the areas of innovation, quality, the business environment for small and medium-sized enterprises and economic cohesion (Commission Green Paper on innovation, working document on quality and multi-annual programme for SMEs).

This communication presents the diversity of, and inter-relations between, the factors influencing the competitiveness of enterprises, and, as a result, the necessity to develop a coherent approach concentrating on those factors in the business environment which are determining for enterprises. The urgency of this procedure derives from the globalization of markets and the risk that a lack of competitiveness on such markets holds for employment and living standards. In order to assist enterprises and public authorities in the adaptations required to meet greater international competition, the Commission proposes that benchmarking be promoted in partnership with industry and public administrations.

The present communication does not seek to examine all those framework conditions that affect competitiveness, but only a limited range. Some elements of taxation, social policy and the efficiency of public administration are examined in so far as they are identified as factors underlying competitiveness; so are the regulatory environment, the burden of administrative procedures and the adequacy of public infrastructure. The Commission will continue to examine how public policies can support competitiveness.

Part 2

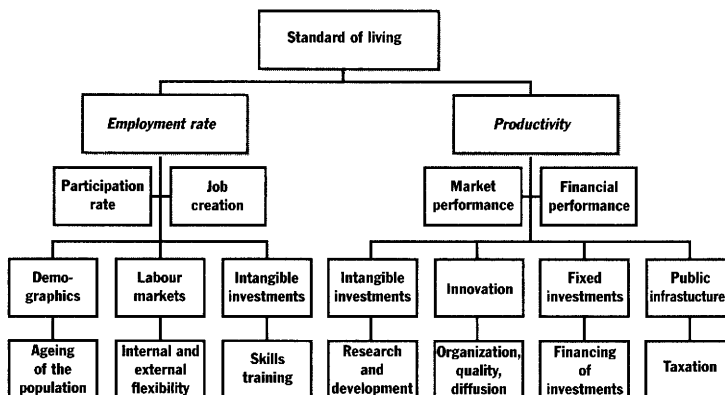
Competitive performance of European industry

1. The general context

- A strong economy is an economy that is capable of high productive efficiency, creating jobs in order to raise living standards. Living standards must be defined broadly to include elements that are difficult to quantify, such as a high degree of environmental protection or a low level of crime. They include aspirations to a reasonable level of security against illness and destitution that has come to be known as the European social model. Maintaining and improving the quality of life in Europe requires that expectations and possibilities are matched and that the productive base is capable of delivering the desired outcome.

Gross domestic product represents an imperfect measure of living standards. However, certain less quantifiable elements of living standards may be less incompatible with raising gross domestic product than may at first appear. For instance, a high level of environmental protection can, under certain conditions, support competitiveness.³ Improving the efficiency with which the economy transforms energy and materials into goods and services constitutes both a key element for reaching sustainable development and a significant means for improving competitiveness.

The competitiveness pyramid



³ Commission communication on industrial competitiveness and protection of the environment, SEC(92) 1986.

- High productivity provides the basis for raising living standards. Increases in the productivity of labour should not be achieved at the expense of job creation. The ability to achieve high rates of employment affects living standards directly by generating income from a larger proportion of the population. When both productivity and employment are rising together, strong growth can ensue. At the level of the economy, productivity and employment constitute the principal benchmarks of competitiveness. Unlike the Maastricht criteria, they cannot directly be translated into policy actions. The structural conditions that underlie superior performance are more susceptible to be translated into policy actions through individual framework conditions that affect competitiveness. The different relationships that determine strong economic performance can be illustrated by the competitiveness pyramid.

Europe continues to lag significantly behind the United States in terms of both labour productivity and the proportion of the working-age population that is employed (the employment rate). It also lags behind the Japanese employment rate. The result is a level of GDP per capita nearly one third below that of the United States and one sixth below that of Japan. Such a result is by no means inevitable and should not be considered as acceptable. Europe's human resources, capital base, infrastructure and the size and development of its home market provide the foundation for both high productivity and high employment rates. Within the existing technological frontier, considerable unexploited potential remains. Further gains are possible beyond the existing frontier by speeding up innovation.

Although difficult to interpret, the rapid increase in the capital stock in the European Union and Japan contributed significantly to the increase in labour productivity in these countries, but to an important extent this was at the expense of falling productivity of capital. In both the European Union and in Japan, the substitution of labour by capital has been significant at the same time as capital intensity increased substantially.

The record of employment creation remains disappointing. Since 1960, the European Union has managed to create 10 million net new jobs or half those of Japan and less than a fifth of those in the United States, essentially because of a very high rate of gross job losses. At the same time, the number of new entrants to the labour market was one and a half times greater in the United States than in Europe, but lower in Japan. The high rate of net job creation in the United States enabled it to increase its employment rate significantly between 1960 and 1995 when it approached the consistently high Japanese rate. In the European Union, the employment rate declined over the same period. The fact that certain countries in Europe reach or even surpass US and Japanese rates would seem to indicate that low European employment rates are not inevitable.

	Employment rate	
	1960	1995
European Union	67	60
United States	63	72
Japan	74	74

- The main reasons for Europe's disappointing performance can be identified. Of particular importance for productivity levels and growth can be mentioned intangible investments, innovation, and fixed investments in plant and equipment. On the side of employment, in addition to investments in human resources, the functioning of the labour markets and demographic developments, particularly the numbers of new entrants to the labour market and the dependency ratio of old and young people, are important factors. In turn, these issues give rise to specific areas of concern such as the ageing of the population, internal and external flexibility of labour, skills training, research and development, organizational issues, financing of investments and levels and structure of taxation.

Public investment supports competitiveness when it develops Europe's infrastructure, encourages intangible investment in skills and technology and assists the development of lagging regions. It appears that the European economy increasingly faces problems resulting from infrastructural bottlenecks, both in the area of physical capacities and in relation to the way facilities are operated. As a result, the infrastructural costs, for example, of transport operations, are considerably higher in Europe than in the United States, thus weakening the competitive position of enterprises located in Europe.

A social safety net is required to ensure that the benefits of growth are equitably distributed and to combat social exclusion. However, social protection needs to equip recipients with the necessary skills and to encourage mobility for them to occupy productive jobs in order to promote competitiveness of the economy. Consumption driven public deficits ultimately reduce productive potential by depressing investment.

Directly or indirectly, taxation, in particular of labour, represents a cost to enterprises. The share of taxation in GDP rose from 34 to 43% in the European Union between 1970 and 1995. In addition, the very high fiscal deficits, driven essentially by the growth in public transfers, mean that domestic savings are being used to finance deficits rather than provide investment. Trends in the structure of taxation show that, over the period

1980-94, the European average of the effective tax rate on employed labour increased steadily from 34 to 40%, whereas the effective tax rate on other factors of production decreased from 44 to 35%.

It should be stressed that the functioning of the economic system depends not only on the availability and quality of any single aspect related to competitiveness but much more on the interaction between different elements. The ways in which the different elements interact either sustain or hinder economic performance.

2. Growth of industry

- In spite of much improved economic fundamentals, European industry has not been performing as well as it might. In most manufacturing sectors, the United States continues to lead European productivity. High Japanese productivity is concentrated in a limited number of export-oriented sectors.

The European Union share in OECD export markets (excluding intra-EU trade) has been declining since 1987. This loss in market share can be attributed essentially to an insufficient presence on markets with strong growth rather than to exchange rate or other price developments. A similar absence of specialization on growth markets can also be observed for European direct investment in third countries. The European Union's external trade and investment has been concentrated on mature markets, Eastern Europe and on the Mediterranean rather than the high growth markets of east Asia and certain parts of Latin America. Since 1993, there have been encouraging signs of improved European performance in growth markets for both exports and foreign investment. In order to maintain and develop their position on world markets, it is imperative that European enterprises have access to third country markets, both on equivalent terms to those of its main competitors and compared to those of domestic competitors.⁵

Net profit margins and return on investment for European enterprises began to improve in 1994. Nevertheless, compared with the cost of capital, returns remain inadequate (7%) since they are even lower than the rate of interest on long-term public debt (8%).

- Over the last 10 years, industrial value-added increased by 2.4% per annum in the European Union compared with 3% in the United States and 3.8% in Japan. The overall result is also reflected at the individual sectoral level. Of the manufacturing sectors, only food, drink, and tobacco and wood and furniture grew faster in the European Union than in the United States and Japan between 1985 and 1995.

⁵ Commission communication on market access of 14 February 1996, COM(96) 53.

All the sectors for which growth in value-added in Europe was equivalent to or above that in the United States or Japan realized productivity gains equivalent to or above those of its main competitors. In all those sectors which grew more slowly in Europe, productivity gains were lower. Equally, European sectors with average or good relative growth performance also maintained higher investment rates than their competitors.

3. Cost of key inputs

In order for enterprises to remain competitive, they must control unit costs either by increasing efficiency or by controlling costs of inputs to production or by a combination of both. Individual items of cost appear differently from the point of view of the enterprise in manufacturing than from that of the economy as a whole. For the individual industrial enterprise, purchases of goods and services make up 60% of costs, followed by labour with 30% of costs (and 70% of value-added) and finance the remainder.

Since purchases of goods and services make up such a large share of costs, access to efficient suppliers represents a key condition for competitiveness. Energy, water and producer services (communications, transport, financial and business services) account directly or indirectly for over one fifth of manufacturing costs. Prices for key service inputs in Europe have remained higher than those of major competitors, and with the progress of liberalization elsewhere the gap between Europe and major competitors has been widening. In telecommunications, after the introduction of competition the price of long distance calls declined between 18 and 35% over the period 1990-94. In the absence of competition, prices fell by between 12 and 16%. In energy, gas prices have fallen in parallel to oil prices, but, on average, remain 30% higher than US prices. For electricity, the difference is bigger.

Large firms have access to a deep pool of international savings and complex financial instruments along with sophisticated treasuries. They can finance investments on favourable terms. Most small firms remain unquoted, often locally-oriented and rely on very traditional sources of finance for investment. Overwhelmingly, they rely on retained earnings, which attract a high tax penalty, and bank loans. Since 1980, average nominal long-term interest rates in Europe have remained between one and two percentage points higher than those in the United States and about four percentage points higher than those in Japan. Cost of capital estimates also point to higher financing costs in Europe and especially amongst the smaller Member States. Amongst the factors which have contributed to high capital costs in Europe can be mentioned inflationary expectations, high public-sector deficits, lack of competition between financial institutions and limitations on cross-border investments.

The third element of industry's cost base is that of labour. Developments in the cost of labour are closely tied up with the overall macroeconomic situation. Over the past two decades, the EU economy has undergone a

difficult process of adjustment, not just in terms of structural change but in order to bring inflationary pressures and costs under control and in order to restore the profitability of capital investments. During the 1970s inflation exceeded 10%, coming down to 5% by the beginning of the 1990s and to 3% today. Inflationary expectations had a significant effect on the context in which wage-bargaining took place. Today, the Union enjoys favourable economic fundamentals. Inflation is historically low and still declining, exchange-rate tensions have progressively eased, world trade is expanding at a healthy pace, and investment profitability is improving. Nevertheless, it is clear that the European economy still retains certain cost and productivity problems.

From the point of view of competitiveness, it is necessary to take all of the charges an employer faces in employing labour and then adjust total labour cost for productivity to establish unit labour costs.⁶ Unit labour costs in practice are difficult to calculate and for this reason there are relatively few robust estimates of unit labour cost available. Over the past decades, the European Union has gradually brought its inflation problem under control and reduced the share of wages in GDP to a level comparable with the United States and Japan. It has also continued to improve its level of productivity relative to the United States. In consequence, EU real unit labour costs have been progressively reduced since 1980.

In the manufacturing sector, the situation is less clear and probably less favourable. Over the past years, for example, while real unit labour costs in the EU economy as a whole have fallen by 5% relative to the United States, indications suggest that real unit labour costs in manufacturing have risen by 1-2% in total.

A key difference in the structure of labour costs between the European Union and the United States concerns non-wage costs and taxes, reflecting the extent to which certain services — health, pensions, etc. — are funded through taxation or take-home pay. One particular issue of concern for the European Union expressed in the White Paper is the way that non-wage costs bear particularly heavily at the low end of the scale. Demand for unskilled labour has been declining relative to skilled labour and employment problems are particularly severe for the unskilled. Diminishing the level of non-wage costs relative to those up the scale could help to make employing unskilled labour more attractive.

Growth in wage costs is now relatively moderate. The reform of taxation and social security systems, already under way, should contribute to containing labour costs although the main scope for keeping unit costs low will lie, as in the past, in the active pursuit of productivity improvements in the context of a high income, high skill economy.

⁶ Total labour cost is composed of social security and taxation in addition to wages and salaries. It should not be confused with income. Unit labour costs combine productivity with total labour costs to yield the labour cost content per unit of output. High productivity can compensate for high labour costs.

4. Investment in industry

To a large extent, productivity improvements depend on investment, both tangible and intangible. Investment in plant and equipment not only increases productive capacity but also incorporates technical progress. The investment effort by Japan in plant and equipment has been particularly noteworthy rising at its peak at the beginning of the decade to three times the level of the early 1970s before falling back during the current recession. Up to 1990, investment in equipment in the United States and Europe followed a parallel path when US investment began to rise very fast.

In the field of intangible investments, more specifically relating to the importance of quality management for the competitiveness of industry, the *World competitiveness report* presents information related to the different elements of the competitive situation of countries all around the world. Trends over recent years show that changes in the level of quality are mirrored by implementation of quality management strategies. The United States is even in the process of overtaking Japan in terms of degree of quality, for the first time since the mid-1970s. These trends are confirmed in the areas of the degree of customer satisfaction as well as of workforce motivation and the quality of industrial relations.

Research and development represents another significant form of intangible investment for which European performance is insufficient.

	Total R&D spending as % of GDP	R&D spending by industry as % of GDP
European Union	1.9	1.0
United States	2.5	1.6
Japan	3.0	2.2

Part 3

Determinants of competitive performance

Two main causes for the poor competitive performance of European industry can be identified: the functioning of markets and innovation. The essential complementarity between efficient markets and high rates of innovation and intangible investment need to be stressed. Removing barriers to access in key product markets and ensuring that capital and labour markets are able to meet the needs of new forms of investment and organization of work is critical to innovation. Without a sufficient degree of market liberalization, the benefits from intangible investment, which must constitute the basis of Europe's competitive advantage, will not materialize. Equally, efficient markets are not sufficient to ensure the high level of intangible investment required to make further gains in living standards possible and to ensure that growth is driven in a skills and knowledge-intensive way.

1. Functioning of markets

Restrictions on access to markets lead to inefficiency, stifle innovation and growth. Recognition of the high cost of market access restrictions has led to a clear trend amongst developed countries towards liberalization of markets. In the European Union, the single market programme, in conjunction with competition and trade policies, has led to a significant opening of access to markets particularly for manufactured products.

Product markets

The single market has led to the removal of barriers to trade and facilitated market access. However, in certain key markets, effects have been more limited. Areas in which least progress has been made in removing barriers to access, whether in the enhancement of bilateral economic relations or through international trade negotiations under the Uruguay Round, under the single market programme or under national programmes, include those that supply government markets (public procurement), public utilities and many services. It should be stressed that many restrictions on market access, particularly in services, are the result of the actions of national governments. Areas under which national restrictions continue to apply include business services, construction and distribution. Altogether, sectors for which more or less serious access restrictions remain make up around half of gross domestic product.

The Commission communication on services of general interest⁷ in Europe sets out a certain number of principles which guide policy in this area. As regards services of general economic interest, they refer to market services which the Member States subject to specific obligations by virtue of a general interest criterion, covering such things as transport networks, energy and communications. For this reason, the introduction of competition in these sectors is accompanied by public service obligations including the provision of universal service which is to ensure access for all citizens to quality service at prices that everyone can afford.

For its part, the second report of the Competitiveness Advisory Group has highlighted the fact that infrastructure quality is the single most important factor influencing multinational investment. According to the group, introducing competitive forces in the sector of public utilities has proved to be a win-win situation for the State (positive impact on the public borrowing requirement), for industry (utilities which are more responsive to needs) and for the consumer (competitive pricing and service and greater choice). In their conclusions, the group states that the Commission should stimulate the exchange of best practice by monitoring and publicizing on an annual basis a benchmark report on the best public-sector reform practices and competitiveness improvements achieved in the European Union as compared with the USA and Japan.

■ Evidence from those countries that have liberalized key services shows that considerable scope for growth and employment in addition to the beneficial effects of lower price and better service can be obtained:

- Telecommunications are a case in point since many innovative services depend on open cost-efficient telecommunications networks for their development. For example, in the United States, the price of long distance and international calls and of leased lines is substantially lower than in Europe, giving enterprises relying heavily on communications a competitive advantage. Furthermore, unlimited local calls are usually included in the fixed telephone line rental fee; this has provided a powerful stimulus for services on the Internet. In Europe, Internet connections are paid for at local rates and according to duration. Closed networks have also stifled the development of information technology services by limiting the range of services that can be provided. Uncompetitive telecommunications services constitute a factor that is slowing down the development of the information society in Europe. Where markets have been opened, significant employment creation in the telecommunications cluster (including equipment) has ensued. For instance, in Finland, employment in telecommunications increased 20% faster than employment in general after liberalization.
- Liberalization of the conditions for access to transport markets is improving the competitiveness of the road haulage, aviation and maritime sectors, generating significant cost savings. Further improvements can be expected

⁷ Commission communication on services of general interest in Europe of 11 September 1996, COM(96) 443.

as market structures are adapted to the more liberal regulatory environment. For air transport, which constitutes a major means of communications for business users, a history of bilateral cooperative arrangements between national flag carriers in the past appears to have undermined some of the benefits that could have been expected to flow from liberalization. Effective liberalization of access to rail services is less advanced than other forms of transport despite its high strategic importance for easing road congestion.

- Energy is another area where liberalization will bring benefits to industry once the single market is achieved in practice. Some progress is being made in the electricity context.
- Notwithstanding single market legislation, financial services remain fragmented with little cross-border competition. To the extent that competition has increased in banking, it can be attributed essentially to technological developments such as tele-banking, which enables banks to offer services at much lower cost.
- Least progress in removing limitations to market access has been made in the field of business services. Marketing remains an area for which a multitude of national restrictions inhibit industry's ability to develop coordinated marketing programmes across borders. The recent Commission Green Paper on commercial communications in the single market describes the situation in more detail.⁸ Professional services remain a fortress into which competition has yet to enter. Putting into place the requisite legislation for liberalization and, once it is in place, ensuring coherence between different policies to ensure that benefits can be reaped remain areas in which the European Union must improve its performance if industry is not to suffer from a serious competitive handicap.

Competitive intensity on markets can also be undermined by continued subsidization of enterprises. In the face of market failures, certain subsidies can have a positive impact on competitiveness (for example subsidies to R&D or small and medium-sized enterprises or for the creation of enterprises) or may be required to meet certain Community objectives such as economic and social cohesion (regional aid and aid for training). Nevertheless, State aid remains a significant problem in Europe, with State aid to manufacturing industry alone totalling ECU 34 billion in 1992, equivalent to ECU 1 200 for every employee in the industrial sector. Although State aid is concentrated in manufacturing, it also poses a problem in certain specific services undergoing liberalization. For instance, in the field of air transport, high levels of subsidization can undermine efforts to introduce more competition by liberalization of markets. This situation has led the Commission to introduce a specific aid regime in the domain of air transport.

⁸ COM(96) 192 final of 8 May 1996.

Capital market

Liberalization of movements of capital has been a major achievement of the single market programme. However, a number of imperfections and restrictions remain on capital markets which limit the possibilities of European firms to raise equity for investment. In the field of mortgage credit, there is unequal access to capital markets for the purpose of refinancing. There are problems too in some bond markets. Differences in taxation of investment income continue to perpetuate distortions in capital movements between Member States. Insurance companies are often restricted as to the type of investment and country in which they hold their reserves. In many Member States, the pan-European activities of pension funds are seriously hampered. The relatively large share of foreign assets for funds based in the United Kingdom and the Netherlands stems from the fact that these are the only two countries, together with Ireland, where pension fund investment is unrestricted.

Labour market

A better functioning labour market is generally acknowledged to be a vital factor for the competitiveness of European industry, just as the competitiveness of industry is, in itself, a determining factor for the level of employment.

More fundamentally, there is a need for a radical rethink of all relevant labour market systems — employment protection, working time, social protection and health and safety — to adapt them to a world of work which will be organized differently, in particular one where the boundaries between work and leisure, work and learning, employee and self-employed are, or may become, less well-defined. The concept of security for workers has to be reformulated, focusing more on security based on employability and the labour market rather than security based on the individual work place. It should be focused on security in change, not security against change.

Over the last decade, substantial changes have been made by Member States to introduce greater flexibility into the labour market through changes to the regulatory framework governing employment. Virtually all Member States have seen a significant reduction in working time regulations and rules relating to taking on and laying off workers have been reviewed and restrictions eased in a third of Member States. It has become easier for employers to take on part-time as well as temporary workers and the possibilities for self-employment have increased considerably. Member States have focused changes on measures which have actually inhibited employment prospects of the weaker groups, such as the unskilled young and/or other workers with little experience.

Lack of flexibility on the labour market arises for a number of reasons, which are not necessarily linked to the rules and conditions governing employment. For instance, company pension schemes can impose a substantial penalty for those that change jobs because entitlement to benefits can rise very steeply in the final years before retirement. Housing markets in Europe also discourage geographic mobility in several European countries. Not only major differences in house prices between high and low unemployment regions, but also

the lack of rented accommodation as a result of restrictive tenancy provisions, may make it very difficult to change regions.

- Deficiencies in the functioning of labour markets in Member States are partly due to inappropriate, or outdated, systems or labour market regulations, which can restrict internal and external flexibility and the capacity of firms to create jobs. Levels of labour market regulation vary considerably within the European Union. Evidence suggests that, while employment performance is primarily determined by the performance of the economy as a whole, labour market regulations may affect the level of employment creation or, at least, the speed with which firms adjust their labour force in response to change. Restrictions on the capacity of enterprises to adjust their labour forces in the form of regulations or in terms of the cost of taking on and laying off workers are likely, when excessive or outdated, to affect economic performance of companies, although, in practice, enterprises often find ways to circumvent some of these effects through an increased use of temporary and other atypical working arrangements.
- It should be emphasised that increased flexibility needs to be combined with a sufficient level of stability and employment security in order for the full benefits to be reaped. Effective use of human resources remains a key element for gains in productivity and also for internal flexibility. An increasing volatility of employment bears the risk that the investment in human capital, notably through training, required for long-term growth and competitiveness will not take place. Training and continuous upgrading of skills is (and in future will become even more so) intangible investment with real and increasing benefit for industry and employees alike. A high skill, high quality, high productivity industrial strategy will enhance industry's competitiveness and employees' employability as explained below.
- Sector-wide wage-bargaining has been the prevailing mode of bargaining in Europe, while plant-level bargaining is usual in the United States and Japan. The level of wage-bargaining is usually set by the social partners and they need to agree on any changes to existing arrangements. Different forms of wage-bargaining each have their advantages and disadvantages and it is not possible to conclude at the present time that any particular form is inherently superior to another. On the one hand, for instance, centralized or sector-wide bargaining has been used to introduce successfully wage moderation in certain countries, with significant impact on inflation as well as costs. It also contributes to transparency of wages and to social and regional cohesion. On the other hand, however, sector bargaining also leads to comparable rates of pay between enterprises irrespective of levels of productivity and across regions in the same country irrespective of differences in availability of labour.
- Working hours are governed by collective agreements or by legislation. Restrictions on working hours set by Member States unrelated to the minimum standards set by European legislation, which allow considerable flexibility for implementation at national level, affect the time when work

is carried out. In this way, the ability to run plant in the optimal fashion to make best use of existing or future investments may be impeded. The level of capital utilization is thereby reduced. Certain services, such as the possibility for shops to stay open to meet the requirements of those at work during normal hours, are also prevented from developing as they might. Innovative uses of flexible working time arrangements can also lead to the significant creation of new jobs.

Well-functioning labour markets are responsive to global competition and technological developments which, by truncating time, are increasing the speed with which structural change is taking place.

Europe (and the world) is evolving towards a more knowledge-based economy where information and technology play a crucial role, reshaping company structures and organizational competence. Industry's success in meeting the challenge of such changes will depend on how well skills can be upgraded. Each year, at least 10% of all jobs disappear and are replaced by new ones, different jobs, in new processes, in new enterprises, requiring higher or broader skills. But these changes have not been accompanied by adequate measures to develop and improve the skills of the labour force, and have led to a skills gap and mismatch.

2. Innovation

■ Intangible factors play a predominant role in the ability of companies to innovate and their competitiveness. They enable knowledge-intensive economies to maintain their competitive position compared to resource or labour-intensive economies and to continue to raise living standards in an environmentally sustainable manner. Dematerialization of the economy involves investing to an ever higher extent in intangibles. Intangible investment and innovation are inseparable. A high level of skills promotes adaptability and ensures that ever more technologically advanced processes can be implemented. Intellectual property constitutes the basis on which enterprises exploit their technological superiority for commercial success. The Green Paper on innovation constitutes an opportunity to review all of the different obstacles to innovation and to develop a common approach to their removal.⁹

Skills

In spite of the lack of comparable data, an examination of educational and training systems yields some important information about current requirements for human resources. The much faster rate of change and the necessity for an individual to change jobs several times in the course of a working life requires a soundly-based general education on which to build subsequent skill development. Education and initial training systems, therefore, provide an essential foundation for participation in further training. Systems provid-

⁹ COM(95) 688 final of 20 December 1995.

ing access to qualifications — particularly acquired through apprenticeships enabling someone to qualify in a trade or craft — later in working life, taking account of their previous work experience are not well developed. This limits the scope for changing jobs and careers throughout working life. It also limits job prospects and undermines the efficiency of the labour market.

The skills required for the effective functioning of enterprises today go well beyond technical skills associated with a particular task or function. In particular, the ability to operate in teams, to adjust rapidly to changing circumstances and to take responsibility are as important as more formal grounding in specific aspects of the production process. The implementation of quality management strategies designed to manage constant change in modern industry, has influenced fundamentally the importance and contents of vocational training and professional education, as everyone in such cases is an integral part of the quality.

The active involvement of industry is essential to the effectiveness of the vocational education and training systems. However, when the investment can be lost for the enterprise in question, it may fail to invest in training. The area in which skills development appears to be least well assured is that of initial vocational training for transferable skills of a technical character. A market failure in the provision of training for transferable skills can be observed and requires correction.

■ A key weakness of training systems remains the lack of transparency and recognition of qualifications between Member States. An approach inspired by product standards may be required if mutual recognition is to become effective as a means of improving the levels and acceptability of qualifications. Systems to ensure that training systems and provision are of a high standard need to be developed. An approach similar to that of quality and/or environmental standards, backed by certification, may be an appropriate route to achieve quality control of training. In this context, the work already carried out by bodies such as the European Organization for Quality (EOQ), which has developed a harmonized scheme, at European level, for qualification of quality professionals (quality engineers, managers and auditors), could be of exemplary value. The development of such assessment techniques lay the foundation for successful benchmarking of skills.

Technology

Europe has not been using its advanced base in science in technology to the best advantage and indeed the European research base does appear to be less market-oriented than that of its major competitors. In addition, fewer human resources are devoted to R&D. Scientific research personnel represent only 0.47% of the labour force, compared to 0.74% in the United States and 0.80% in Japan. The Community Innovation Survey indicates that firms engaging in technical cooperation agreements usually have a substantially larger proportion of new or improved products in their total sales. The value, therefore, of linking public support of R&D to cooperation, as is the case for European Union programmes for R&D, should be stressed.

Between 1984 and 1993, the European Union lost share in patents, the principal indicator of innovating capacity, for all sectors except aerospace and transport equipment. The most significant loss took place in electronics, a sector for which R&D is highly intensive and which exerts considerable influence on innovation in the rest of industry through technology embedded in investment goods.

Adaptive organizations have become a prerequisite for innovation. Such organizations use multi-skilled employees, decentralization of responsibility and teamwork to achieve the integration of different functions within the firm from research, engineering, and production to marketing and distribution, based on a project approach. Faster new product development depends on the successful integration of functions. Increasingly, suppliers are brought into the development process. Changes in management practices are also central to the introduction of lean production processes including total quality management, continuous incremental improvement (*kaizen*) and just-in-time production systems.

Quality

A number of surveys carried out by Eurobarometer at the request of the Commission, on the effect of quality systems on the commercial results of companies, indicate that the implementation of quality management strategies generate significant improvements in the companies' performance. If Europe has increasingly been assimilating best organizational practice developed elsewhere, there are few signs that significant improvements to best practice have been made in Europe.

In order to be effective, efforts to promote quality will need to be integrated into a framework for the continued reinforcement of the technical quality infrastructures for industrial and economic initiatives. By giving a European tone, framework and sense of direction to the various initiatives in the Community, the Commission can help to bring awareness to industry and public authorities alike. The Commission can also help, through the implementation of the quality promotion policy, to deploy the quality message in its various policies by ensuring coherence and integration of the different measures at its disposal (e.g. environment, social policy, regional policy, etc.).

European quality promotion policy has the primary ambition of constituting above all an awareness policy, to give political visibility and support to a European-wide range of quality instruments and actions. No public authorities, either national or European, can oblige the market place to adopt quality strategies, but they can, by their public commitment and by wide dissemination of information and messages, influence the environment in which management establish their strategies. A clear political signal can heavily influence industrial investment.

Diffusion

Everywhere, affiliated or partner companies, clients and suppliers are important mechanisms for the diffusion of innovation. Differences appear however in the linkages and interchange between industry and the research system.

The German infrastructure, in particular the Fraunhofer centres, is often considered exemplary in respect of fostering innovation diffusion.

Innovation systems remain essentially national. Diversity should be seen as a source of enrichment in the innovation process. However, fragmentation of effort should be seen as a disadvantage. The successful development of the information society depends on a much faster rate of adoption of new technologies. Even though at the present time, diffusion of innovation remains primarily a national responsibility, cross-border cooperation can contribute to mutually beneficial interaction and exchange. Technical cooperation agreements both between firms operating in Europe and between these firms and those in third countries remain the most effective instrument for developing cross-border diffusion.

Financing of innovation

In addition to diffusion, financing of innovatory and high-technology firms remains a major problem in Europe, particularly for small and medium-sized firms. Innovatory projects require considerable funding even before the start of commercial activities, at the research phase, the prototype phase, and, in particular, for the start of production. Financing is thus required at a stage when potential returns are remote and technological uncertainty high. Venture capital in Europe has always neglected the seed capital area, investing only 7% of total funding in this area. This weakness weighs particularly on the creation of innovative and technological firms, which are required to ensure a renewal of the productive base and European presence on markets of the future.

European venture capital industry

Some of the weaknesses in the European venture capital industry result from the underdeveloped nature of pension funds, which are major investors in the United States. Another significant weakness lies in the fragmented nature of the market. Investors will take positions in high risk projects provided that there are sufficient of them to diversify risk. Equally, suitable exit routes for investors must exist. The lack in Europe of an efficient low cost financial market for growth stocks similar to the Nasdaq over-the-counter stock exchange in the United States means that innovative firms in Europe with strong growth potential are denied access to suitable finance, since national markets are incapable of providing sufficient depth of projects to diversify risk. A number of recent initiatives attempt to address this shortcoming. The Easdaq market has already begun trading, and the Paris and Frankfurt new markets and London AIM market all cater in varying ways to the needs of companies which are not covered by existing stock markets.

Part 4

Benchmarking

The previous sections have set out key areas in which European industry is not performing satisfactorily and some of the reasons for this situation. As stated in the Introduction, the Commission believes that it has already identified and proposed the key actions which are required to address the current competitive situation both at European Union and Member State level. However, progress has been slow in implementing those measures and the results have yet to be reaped in the form of faster growth, more employment and higher productivity. A tool to monitor progress on an ongoing basis and assess the situation against continuously improving best practice worldwide, could provide the European Union with a powerful instrument to strengthen competitiveness. Benchmarking can constitute a tool for promoting convergence towards best practice, providing that it is clearly related to the essential factors of competitiveness.

Benchmarking for competitiveness

Competitive analysis identifies gaps in performance on key dimensions such as productivity, growth, costs, investment and innovation. However, competitive analysis does little to explain why these differences of performance have occurred and, in some cases, remain for many years in spite of widespread access to new technologies, capital and skilled human resources amongst developed countries. Benchmarking goes beyond competitive analysis by providing an understanding of the processes that create superior performance. It first identifies the key areas that need to be benchmarked and the appropriate criteria on which to evaluate that area. It then sets out to identify best practice worldwide and to measure how those results have been achieved.

The potential range of benchmarking is very wide. In this communication, a number of different possible applications of benchmarking are presented. In each case, the type of benchmarking undertaken will depend on the use to which the results of the exercise are to be put. Benchmarking for competitiveness has for object to help enterprises, industries and public authorities improve their performance on critical dimensions that affect competitiveness.

1. Enterprise benchmarking

Benchmarking at enterprise level can offer a key instrument for improving competitiveness. It remains the primary responsibility of industry to implement such benchmarking and it is not the intention of the European Commission to become involved in the benchmarking of individual enterprises. However, a number of schemes, both public and private, seek to promote benchmarking of enterprises to a wider audience, particularly to small and medium-sized enterprises that do not have the resources or the experience to undertake benchmarking on their own.

National programmes for benchmarking enterprises

The Department of Trade and Industry in the United Kingdom has established a national benchmarking scheme to enable sharing of statistical data and identification of national best practice. Member States and private organizations have also started programmes to facilitate the diffusion of environmental best practices (e.g. the UK environmental technology best practice programme).

The disparate nature and the diverse techniques and processes employed in benchmarking for enterprises do not contribute to the proper promotion of the usefulness and effectiveness of such quality techniques. Industrial cooperation and networking, which are inherent to benchmarking, can be strong instruments for the development of a European way of doing things, for the real development of a European quality culture which can strengthen European industry internally and help it face up to its external competitors.

The Commission therefore suggests that Community institutions should recognize the value of benchmarking of enterprises in the furtherance of an integrated and competitive market and invite all concerned to bring their experiences together into a truly European system with clearly visible European processes. This will entail, through cooperation, developing European processes out of the various existing ones, comparing practices, setting common rules and a common calibration system. It will also entail developing common indicators/criteria and a European information network and management system for data.

2. Benchmarking of sectors

Benchmarking can also be applied to sectors, for which a significant amount of expertise is beginning to emerge. This constitutes a natural extension of enterprise benchmarking in that many of the same principles can be applied to that set of enterprises that make up an industry and for which similar types of best practice are fundamental for competitiveness. The Commission has already underlined the significance of benchmarking for sectors in its recent communications on the automobile and chemical industries. Benchmarking of sectors enables the Commission to monitor on a continuing basis the abil-

ity of European industries to respond to international competition. When applied to the key locational factors it provides a lead in to the necessary benchmarking of framework conditions.

Benchmarking of sectors by the Commission

The pilot programme for component suppliers to the consumer electronics run in conjunction with MITI and industry aims to improve the quality of European-based suppliers of components through a process of benchmarking against Japanese best practice.

In its communication on the European Union chemical industry (COM(96) 187 final), the Commission states that it 'will implement, in cooperation with representatives from the European chemical industry, a structural follow-up programme and will closely monitor the evolution of the international competitiveness of this sector and the adoption of the various measures proposed in the communication'.

The Commission has begun to benchmark the competitiveness of European manufacturing locations for the automotive industry. Information technology is another area in which the Commission intends to develop benchmarking.

3. Benchmarking framework conditions

Thirdly, benchmarks can be developed to appraise the performance of key elements of framework conditions for industry. These enable an evaluation to be made of the attractiveness of Europe as a place to do business. The Dutch Ministry of Economic Affairs has published a report 'Benchmarking the Netherlands: test of Dutch competitiveness' which demonstrates some of the ways in which benchmarking for framework conditions can be undertaken.

The present communication has identified a number of key priority areas for performance, which may be suitable for benchmarking:

- Concerning costs, unit labour costs, costs of finance, levels and structure of public expenditure, taxation and deficits constitute key elements.
- Benchmarking can be applied to key inputs for industrial competitiveness as requested by the Competitiveness Advisory Group. The Australian Bureau of Industry Economics has undertaken pioneering work on benchmarking infrastructure services. It has demonstrated the feasibility of benchmarking such inputs and also of identifying key reasons for less than adequate performance, some of which depend on the regulatory and business framework. Key areas to be benchmarked include price, quality and accessibility of service and number of innovatory services provided. Productivity of both capital and labour need to be measured in order to

establish the underlying causes of unsatisfactory performance. As identified above, telecommunications, energy, transport and business and financial services are the principal services for which benchmarking is required. Closely linked to benchmarking the quality of services is that of infrastructure. This is particularly important for transport where much of the efficiency of the service is determined by the quality of the infrastructure, whether that be ports, roads, airports and traffic control or the rail network. Investment in plant and equipment and intangible investment both in education and training and in research will be also be required.

- One area for benchmarking concerns skills. In the context of its ongoing evaluation of competitiveness, the United Kingdom has recently published a skills audit which represents an approach to benchmarking in this area. The audit is based on qualifications rather than skills although coverage is also devoted to the acquisition of basic skills. In order to benchmark skills adequately, it is necessary to benchmark the skills actually acquired rather than qualifications delivered. It is also necessary to benchmark the capacity of education and training systems to deliver a prescribed set of skills.
- Innovation also represents an area for which benchmarking would be useful. In the context of its policy on innovation, the Commission intends to establish a permanent monitoring of innovation in Europe and in the world. Benchmarking research, in particular research financed by industry itself is an area for which the Union has already developed suitable indicators. Research represents an input to innovation rather than an output and can provide only a partial view of the extent to which European innovation systems are sufficiently competitive. Intellectual property can be benchmarked to a certain extent through patent applications and trade marks. Organizational and product innovation as well as the capacity of national systems to diffuse innovation are more difficult to benchmark. Technology licensing, adoption rates of generic technologies, speed to market, and the degree of application of total quality concepts represent examples of indicators that might be used to benchmark innovation.
- Benchmarking of environmental efficiency will be required to ensure that efforts to improve competitiveness are not made at the expense of sustainability. Key criteria relate to the capacity of the economy to efficiently transform flows of materials into goods and services. Suitable indicators in the field of energy efficiency already exist. However, benchmarks for other material flows, such as the use of water, which is becoming an increasingly rare resource, will need to be developed. Criteria such as recycling rates of water can help to measure the efficiency with which the European economy in general and European industry in particular is using resources.
- Many policy areas affecting competitiveness are either the exclusive or principal responsibility of the Member States. A number of product markets, including distribution, and labour and capital markets fall under this category. Benchmarking in these areas will need to be developed in close cooperation with Member States. The Commission is already actively working with Member States on the use of critical indicators in employ-

ment policy. Of particular importance in this context will be indicators for monitoring progress in promoting positive flexibility both internally within firms and externally;

- Fostering an administrative environment favourable to enterprise is a prerequisite for business competitiveness. Some Member States have developed bold strategies of administrative simplification. Under the integrated programme for SMEs and the craft sector,¹⁰ the Commission and the Member States will develop concerted actions where benchmarking will play a valuable role in promoting best practice in the area of administrative simplification.

There are a number of reasons why the European Union should become involved in benchmarking. First, there are a number of policies developed at Union level that influence competitiveness and it is important that their impact should have as positive an effect as possible. Regular monitoring and evaluation against world best practice and not merely against that in Member States is required to ensure that these policies are indeed providing the necessary benefits. Secondly, many policies are the responsibilities of Member States and their ability to benchmark both against each other and with regard to best practice worldwide should be encouraged. Collection of data is both an expensive and time consuming process. By pooling their efforts, the Commission and Member States can make substantial savings in the benchmarking process.

The Commission's efforts will be devoted initially to bringing together all the different actors to identify which actions are already being undertaken and which need to be treated on a priority basis. Based on partnership between industry, Member States and the Commission, a work programme will need to be drawn up in the course of 1997. This work programme should include a certain number of pilot projects to test the validity and feasibility of the application of benchmarking at European Union level. It should further specify how to manage benchmarking on an ongoing basis and how to ensure the best exploitation of results.

¹⁰ COM(96) 329 final of 10 July 1996.

Part 5

Conclusions

The analysis developed in this communication reveals the urgency of action to promote industrial competitiveness and the necessity of a global approach concerning all those factors in the business environment which are determining for enterprises.

1. The Commission invites the Council and the European Parliament to endorse the Commission's analysis of competitiveness, the main points of which are:

- while the situation of the European economy presents a number of areas of strength, the European Union is not exploiting its full potential or meeting the performance of its major competitors in terms of living standards, productivity and employment creation, leading to idle resources and high rates of unemployment;
- inadequate performance is also reflected by weak growth in industrial value-added, low profitability and falling share of exports from developed countries;
- high costs and low investment, especially intangible investment, combine to depress industrial performance;
- public deficits remain too high and expenditure too concentrated on transfers and consumption with insufficient levels of public investment in both infrastructure and intangible investment. The level of public deficits exerts pressure on interest rates and siphons off available savings;
- continue to control State aid with the objective of reducing overall levels of State aid and reliance by firms on public support;
- in spite of some very well functioning education and training systems in Europe, lifelong learning and permanent upgrading of human resources still has some way to go in order to reach the highest levels in most Member States;
- Europe's research base is insufficiently market-oriented and close integration with industry is needed at the same time as spending on research is insufficient and the take up of new technologies is slow;

- the adoption of new technologies remains too slow, particularly in areas relating to the information society;
- financing of innovation remains a specific problem in Europe;
- quality in all its aspects represents an essential element for improving competitiveness and adaptive organizations are required in order to introduce quality management and speed up the process of innovation.

2. The Commission proposes that the Council and the European Parliament support:

- the value of benchmarking as a tool for identifying the underlying reasons behind poor competitive performance and to assist in addressing these weaknesses and the Commission's intention over the coming year to bring forward a programme of benchmarking on the basis of close consultation with industry and Member States in order to track progress in improving competitiveness in key areas;
- a European quality promotion policy which will contribute to reinforcing the competitiveness of European enterprises by drawing up a multiannual European quality promotion programme of actions, centring in particular on the promotion of self-assessment, benchmarking, networking of information and the development of European quality training programmes and techniques for measuring progress.

European Commission

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