

These ambitious targets, embedded in the Maastricht Treaty, are now within reach. Any delay or postponement could drive them further away, with the risk of losing them, as well as jeopardize the work of decades, with the resurgence of the danger of nationalistic attitudes and demands.

In our first Report, we emphasized that small and medium sized enterprises are central to the European economy. Here, we focus on those smaller enterprises that have the capacity to add value and employment through innovation and the application of technical advances. To support this, we argue for a European Technology Foresight programme. We also identify the lack of access to both suitable forms of finance and advice to investors regarding technology as significant constraints to the growth of this type of enterprise. Finally, we recommend that all efforts be made to ensure that the regulatory climate, especially in the areas of innovation and technological advance, supports rather than discourages the start up and growth of smaller enterprises. The establishment of a common European corporate statute to minimize the cost of doing business in different Member States, which we have advocated in our first Report, must embrace legal forms of company statutes most suitable for small enterprises.

Achieving sustained economic growth while preserving the environment is a basic objective of EU policy. While the two objectives may create pressures in the short run, in the long run they are not incompatible goals. Well-designed policies and regulations, coordinated at a global level, can make them mutually reinforcing. The desire to enhance the quality of the environment can indeed create opportunities for improved competitiveness, new products, employment and trade.

It is however essential that the regulatory system does not impose an excessive burden on the economy. The costs of achieving environmental targets should normally be made explicit. The means to achieve these targets should not, however, be prescribed. Enterprises must have an incentive to develop innovative and cost-effective ways of meeting environmental objectives. Market-based instruments should be used whenever possible, rather than quantitative regulations. We should strive to establish a single clear set of objectives applicable to enterprises throughout the Union.

In a constantly changing economic scenario, initial training will not generally be enough to allow individuals to cope with constant changes in job content or the need for mobility between occupations. In this Report, we focus on stages of education and training beyond initial vocational training. In a learning society, adaptation should not be limited to the unemployed or to the entry of young people, but should involve a much greater proportion of the adult population. The information society must not result only in a limited number of "islands of excellence" and in a new source of inequality between firms, regions and individuals.

We survey a number of practical experiences throughout Europe as pointers to what is already being done by companies, the social partners, educational institutions, in association with government.

There are strong links between the CAG's recommendations of SME innovation and competitiveness and its recommendations on human resources. Through effective communication of the insights of a European Technology Foresight programme combined with the work of Knowledge Resource Centres, SMEs would be better able to appreciate the alternative scenarios likely to affect their businesses and the human resource implications of them.

As stated in the presentation of the Priorities of the Spanish Presidency in the Council of the European Union, "in the next months, the basis of a Europe of the future will have been established".

After decades of developments and progress, the decision in favour of a United Europe is reaching a critical juncture. We are close to the point of no return with the attribution to European institutions of key functions in significant areas of government. Awareness of the importance of the events before us explains many of the tensions, the doubts, the uncertainties, the delaying tactics - even the revival of nationalistic attitudes - which we are now facing. We may be witnessing the onset of the birth pangs of a new Europe. It is important to keep in mind the permanent and fundamental reasons which gave rise after the World War II to the design of a United Europe. Clear and credible messages and commitments on the part of European leaders will greatly ease uncertainty and boost resolve.

It is in that spirit that the second Report of the C.A.G. has adopted a still more pragmatic methodology. Following on from the first Report's messages on the urgency of achieving the basic objective: reinforcing competitiveness in Europe, our analysis has led us to identify important issues and priorities:

- the reform of infrastructure services and the utilities sector,
- support of innovative SMEs,
- the company and environmental policy,
- redesigning and reinforcing education and training beyond basic formation.

All these topics are strongly related to the central concern of European people today, namely unemployment. Labour issues, already tackled in the first two reports above all in the context of training, will be at the core of the next Report.

II. THE ROLE OF THE STATE IN THE PROVISION AND REGULATION OF BASIC INFRASTRUCTURES

In line with the first Report presented at Cannes in June 1995, stressing the need to accelerate the implementation of the internal market, the CAG now focuses on "the role of the State in provision and regulation of basic infrastructures", with particular reference to important public sector reforms.

The approach involved analysis of interesting cases around Europe drawn from the energy, telecommunications and transportation sectors in which the European Union has regulatory initiatives. Other sectors are also affected by the process of reform to varying degrees, including for example aviation. A selection of regulators and operators were approached in Germany, Italy, Spain, Sweden and the UK. We also look at experiences from outside the EU, taking Poland as an example.

We look in this Report at the various experiences of restructuring and the introduction of competitive pressures into the public utilities. While no single model of deregulation and privatisation applies throughout Europe, we nonetheless rely on a range of examples of successes and failures to draw some useful general lessons.

It is significant that global surveys of decision makers investing in the manufacturing and high technology sectors confirm that infrastructure quality is the single most important factor influencing multinational investment. Ignoring the needs of these sectors will in time impact across the entire economy and reduce competitiveness.

The degree of state ownership in key sectors is significantly greater in Europe than in Japan and the USA. With rapidly growing demand for efficient and cost effective transportation, power and telecommunications infrastructure, but markedly insufficient public funds to provide the massive investment required to keep abreast of technological advances, Europe's ability to maintain high-quality infrastructure is in question.

	% of Sector that is State-Owned, by Region/Country				
	Telecoms	Electricity	Gas	Rail	Air
EU-12	85	75	50	90	75
Japan	33	0	0	25	0
US	0	25	0	25	0

source: OECD, 1989 (no more recent data is currently available).

Without being able at this stage to compare differences in public sector reform between Europe and elsewhere, there are however some clear trends emerging in U.S. telecommunications and Japanese energy deregulation. The U.S. Congress is considering sweeping changes in the way communications are regulated. The bill, when approved, would eliminate all legal and regulatory barriers to market entry that prevent local phone companies (Baby Bells), long-distance carriers, cable TV operators and other producers of information products and services from competing in one another's business. In the electric power industry in Japan, the "Deregulation Action Programme", to be implemented in 1996, provides easy entry for new licences for wholesale power operators by setting up a bidding system for electricity procurement and allows third party access to transmission lines.

As most of the public infrastructure sectors around Europe are undergoing important reforms, driven by a combination of political, financial, regulatory and competitive pressures, there are opportunities for the Member States to re-define their role as regulators and co-ordinators in the new "operator environment".

II.1 Challenges and issues in some European public sector reforms

Rail

Rail reform has been driven by continuing severe competition from air and road transport, traditionally large debt loads, public demands for the state to continue to provide basic service even if unprofitable, socially determined manning levels and, in contrast, a growing recognition of rail's environmental advantages and technological advances in equipment and systems.

Over the past few years, three main trends have emerged in Europe:

- the target is to improve economic performance in state-owned railway companies.

- separation or "unbundling" of infrastructure from commercial operations, with a view to making profitability target setting easier and to introducing greater competition.
- public/private partnerships to finance high-speed railway programmes.

In Germany, the integration of the Deutsche Bundesbahn and the former DDR Deutsche Reichsbahn will lead to a new structure called DB AG Holding. This will control four separate companies: short-distance passenger transportation; long-distance passenger transportation; freight operations; infrastructure.

Sweden began the unbundling of the Swedish state railway in 1993. By the end of 1995, the government plans to introduce a project to deregulate Swedish freight transport (to be approved by Parliament).

Spain introduced in 1995 a law in Parliament which would terminate the monopoly of the state railway RENFE. This would retain management of the infrastructure, but open commercial operations to competition.

Italy has given a 50 year concession to TAV, a public/private company 40% owned by the state railways and 60% by banks, to design, build and operate a high-speed Italian network on a turnkey basis.

Poland's State Railway is to be transformed by December 1996 into a state-owned public company controlling several independent profit centres (freight transport will be fully open to competition).

Energy

As with rail, there is no uniform model of energy reform around Europe. But several moves to liberalise the sector in certain countries may be summarised as follows:

- opening up provision of new capacity to private independent power producers (IPPs)
- creation of independent energy sector regulatory bodies.

The UK 1989 Electricity Act pioneered electricity privatisation in Europe. As a result of the reform, the two main players, National Power and Powergen, have seen their combined share of the power generation market fall from 78% to 55%. Electricity tariffs have dropped sharply. The utilities have improved their financial performance (stock market capitalisation has more than doubled). Investment in more efficient, less polluting, generating capacity is strong, with new entrants in the sector.

Italy approved a law in 1995 establishing the electricity regulatory authority. Government intention and Parliamentary resolution indicate that State-owned ENEL would accomplish a separation of the three functions (generation, transmission, distribution) in the future. Electricity production will be open to new entrants with a system of competitive bidding whose rules are still to be determined. ENEL should be partly privatised, possibly in 1996.

Sweden presented to Parliament a law in 1995 to deregulate the energy sector. The aim is to make electricity production more efficient and, through this, to increase the competitiveness of Swedish industry as a whole.

Spain approved a law in 1994 which allows both the award of provision of new generating capacity by competitive bidding and third-party access to the grid.

Telecommunications

This is a strategic area of considerable Union interest, as the 1994/1995 Green Papers testify. Timetables for sector reform are being agreed and progress continues, though the pace differs markedly between the Member States. In the Union, only the UK, Sweden and Finland have highly liberalised telecommunications sectors.

The following trends have been noted:

- technology and deregulation are profoundly changing the Telecom industry.
- privatisation in the mobile phone sector is well under way.
- Europe-wide liberalisation of voice telephony is scheduled for 1st January 1998.

Germany plans partially to privatise Deutsche Telekom, the world's third-largest operator, by an increase of capital to be placed in the stock market next year. In addition, four major commercial partnerships, plus smaller regional operators, are likely to enter the sector in the run-up to privatisation.

The UK introduced a new competitor (Mercury) to British Telecom in 1982 and embarked on a duopoly policy in which, however, BT has remained the dominant player. In 1990-1991 the policy was revised to allow new competition and greater diversity of supply. Cable TV operators are already allowed to provide telecommunications services, an indication of the likely fusion of telecoms and television.

Spain introduced a second operator, AIRTEL, in the mobile phone sector in 1995. After some initial resistance, deregulation has now gathered pace. The elimination of the Telefonica monopoly of basic telephone services by 1998 is well ahead of the European Commission's extended deadline for Spain of 2003.

More than other key sectors, such as power and transport, the telecommunications industry is already driven by rapid technological, customer and regulatory changes that have forced competition onto state-owned enterprises. Member States and the European Commission are confronted with defining a new role for the State as regulator, while the positive effects of deregulation, such as increased demand in new telecommunications services and reduced pricing, are becoming ever more significant.

The rail, energy and telecoms sectors are being reformed throughout Europe, albeit at various speeds, and under strong EU deregulatory pressures. The countries and sectors surveyed work with a broad range of reform models, from state monopoly restructuring and controlled deregulation, at the national level, to pan-European deregulation and full privatisation. The importance of an emerging internal market in all sectors, though especially in telecoms, is already evident.

The major challenges of such public sector reforms can best be summarised as follows:

BEFORE	AFTER
monopoly	competition
state-owned	different types of share ownership
cost plus	price determined
engineering-led	market-led
centrally planned	unbundling-decentralised
closed to new entrants	open to new entrants
national provision	international orientation

One common feature of public sector reforms in most European countries and in all sectors examined so far is the attempt to introduce greater competition whenever possible. This is being achieved by unbundling infrastructures (where typically little competition is possible) from commercial operations (where competitive forces are more pervasive), and by opening the markets to new operators. What matters most is not so much that the ownership - and management - of public utilities moves from the state to the private sector, as that competition is introduced and extended wherever possible. Where government budget constraints limit investment in much-needed infrastructural investment, privatisation can provide sizeable benefits. However, the decision whether to privatise or not should be the sole discretion of the Member State concerned and always depends on local provisions and environment. It must take account, as in all cases of deregulation, of the social impact in terms of unemployment, availability of basic services and the structure of prices.

In this context, the role of the State is that of a regulator as more competition is introduced into the sector.

II.2 Lessons from Public Sector Reforms

The public sector in Europe is facing a double challenge - budget cuts from cash-strapped governments, and increasing competition in the enlarged European and global marketplace. Public sector reforms vary greatly from country to country in Europe as a reflection of diverse political, financial, economic and social requirements. No single deregulation or privatisation model applies throughout Europe. Financial, legal and technical issues often shape or delay political decision-making. In particular, the strength and health of national financial markets can be crucial both for the success of privatisation and for capital increases. Concern over security of supply aspects to justify continued national ownership remains in several countries, especially some smaller ones, though not in all.

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 its needs) and for the consumer (competitive pricing and service, greater choice). In some cases, problems have arisen, such as public shares being sold at too low a price, widening of earning distribution within the company, pricing differentials between large and small (industry versus private) customers, assuring universal service provision and underestimating the direct impact on employment. The CAG believes that these concerns, important though they may be in the short term, must not overshadow the medium to long-term structural advantages stemming from increased efficiency, stimulation to investment, the boost to technological innovation, job gains in ancillary activities and greater responsiveness to customer needs.

The utilities sector has a social dimension, but concern in this area should centre on the provision of universal service - irrespective of geographical location or of a customer's attractiveness to the operator. Despite initial negative reactions, where there has been full consultation and involvement of social partners, some positive public sector reforms have been achieved. There have been substantial layoffs in most sectors, but new jobs are being created for some operational and ancillary activities arising from deregulation, such as new servicing activities in the rail and telecommunications sectors.

The reforms have also led to substantial improvements in environmental performance. This is especially true of the energy sector, with the influx of new investment in cleaner and more cost efficient power plants. Rejuvenation of the rail industry may also have significant environmental benefits. Furthermore, competitively priced telecom services reduces the need for commuting and business travel and raises the quality of life of the disadvantaged and those living in decentralised locations.

II.3 The continuing process of change

The role of the State in the public sector that is now emerging looks radically different from what we have been used to. Member States should now optimise their role as regulator and co-ordinator to increase competition and the supply of cost-effective and high-quality public services becoming in a very real sense a "regulator of deregulation", bringing an orderly process to the dynamic of the market. In their improved role as regulator, the Member States can also act as important facilitators to create new markets and services. These, in turn, will require both re-trained and new labour skills.

Deregulation and privatisation - adapted to the specific needs of public sectors - must be matched by a simpler, more transparent regulatory framework. Indeed, recent surveys confirm that the volume, complexity and cost of regulation (especially at the national level) still represents a major obstacle to competitiveness in key public sectors.

The degree of regulatory involvement and enforcement at national and pan-European level must be carefully defined. Excessive proliferation of national regulatory agencies should be avoided. With the Commission clearly setting minimum levels of deregulation, there should be no major differences in regulatory enforcement at the national level which could prevent establishing a level playing field in Europe. This embraces the whole area from technical standards to public procurement, from environmental regulation to the unbundling of infrastructure and operational activities, from the injection of competition and customer choice to the achievement of the internal market.

Deregulation at a national level may not be sufficient for the creation of a truly pan-European market. Operators in one Member State must be put in the condition to operate in another Member State. Without interoperability, European markets will remain segmented and the functioning of the internal market will be hampered. It is essential therefore that the regulatory framework and the choice of standards in the telecommunications, energy and transport sectors be designed to promote effective integration of national markets across Europe.

In order to stimulate this process of change, the CAG recommends the following policy actions:

1. While Member States have played an important role in their choices of public sector reform and privatisation, the Commission should further enforce a common policy to introduce competitive pressures in public utilities services, taking into account effects on minimal universal service, prices and employment.
2. There is also a need to harmonise and, where appropriate, reduce regulatory barriers which prevent the completion of the internal market
3. The Commission should stimulate the exchange of best practice by monitoring and publicising on an annual basis a benchmark report on the best public sector reform practices and competitiveness improvements achieved in the European Union as compared to the USA and Japan.
4. As stated in the White Book on *Growth, Competitiveness and Employment*, the enforcement of pan-European competition as the only way to global competitiveness is the joint responsibility of the Commission and Member States, who must act in close cooperation.

III. SMALL AND MEDIUM SIZED ENTERPRISES, INNOVATION AND RESEARCH & DEVELOPMENT

The June meeting of the European Council in Cannes emphasised that "small and medium sized enterprises play a decisive role in job creation and act as a factor of social stability and economic drive". This importance is confirmed by the available data. Two thirds of all European employment is provided by companies with less than 250 employees. The proportion has grown by more than 10% over the last decade as employment in larger firms has declined.

Recent growth, however, does not imply that all is well. Many new small firms are the product of outsourcing of activity by larger enterprises rather than of innovation. Since the health and vitality of small enterprises are central to the European economy, policies to support their development should be at the heart of proposals to enhance European employment and competitiveness.

Smaller enterprises do not comprise a homogeneous group. Generalised policies will therefore be inappropriate. Our focus has been on those enterprises which have the capacity to add value and employment through innovation and the application of technical advances in response to current or developing market requirements and social needs. By innovation, we mean any improvement or invention - in products or processes - which is successfully introduced to the market. In our concept, whenever we discuss innovative SMEs, we envisage companies active in any sector of the economy, including distribution, tourism and the services. No less than industrial companies, through the introduction of technological innovation, these can make a strong contribution both to competitiveness and to employment.

Innovation, whether introduced by large or small companies, springs from research. The 1994 European Report on Science and Technology Indicators states "The EU appears to benefit from a highly productive and internationally well performing scientific base, with roughly comparable efficiency levels to those of the U.S.." Per capita public and private expenditure on research and development is generally lower in European countries than in its main competitors. The CAG cannot here discuss the critical role of research in the economic system. In Europe today, the main challenge is the ability to ensure that the results of successful research are translated into marketable innovation. Tracking the number of patents issued against R&D expenditure, the same report argues that Europe's "technological output propensity, though only marginally below that of the U.S. and Japan in 1981, appears to have decreased steadily over the '80s and '90s and is now only half the U.S. and Japanese level."

The CAG does not believe that government can create entrepreneurs. We do, however, believe that at both the national and the European level public policy can be designed in ways which favour the commercial application of research and which support the creation and development of new and existing small enterprises. We thus identify three areas - research infrastructure, finance, regulation - in which developments in policy at the European level could be of material benefit. All three will have a positive impact across the whole productive system, but in particular on small enterprises.

III.1 Research Infrastructure

The primary task is to establish and maintain the necessary networks linking research, entrepreneurs and the financial community.

A number of larger enterprises have demonstrated the ability to widen their own access to academic work and to the innovative activities of smaller companies by creating advisory boards comprising external specialists. Efforts to achieve greater linkage have taken place in every Member State, and at Union level. Throughout Europe, investment is being made to increase flows of information between the research community and entrepreneurs, including the network of information centres (EICs) which have been established to disseminate information to SMEs on EU legislation, programmes and opportunities and to assist businesses on participation in EU and cross-border activities. Though there is not a single universally applicable model, the importance of the linkage merits thorough analysis by the European Commission to benchmark past experience in Europe and elsewhere in order to identify best practice.

The appropriate role for the state in this process is that of facilitator. Prime examples are the Technology Foresight programmes - developed initially in Japan, but recently introduced in Germany and the U.K.. Technology Foresight programmes have been used successfully to identify research priorities reflecting the opportunities provided by technological progress and the needs of industry (and of society as a whole). They have also successfully demonstrated the considerable potential which exists for interdisciplinary research.

We recommend that this approach also be adopted at the Union level with the establishment of a European Technology Foresight programme which we believe would help to improve co-ordination between work at both national and Union levels - combining efforts and reducing the risk of duplication. A European Technology Foresight programme would build on the work already done by the Institute for Prospective Technological Studies.

III.2 Finance

Access to finance remains an obstacle to many actual and potential entrepreneurs who wish to establish or develop a business through innovation. In the first CAG Report we endorsed proposals to create a European equivalent of the American NASDAQ stock market, which provides capital to new and expanding small businesses.

An independent study shows that 4,000 companies listed on the NASDAQ market, which represent only a tiny fraction of the 10 million American companies, had created almost 16 per cent, or 500,000, of the new jobs generated in the American economy between January 1990 and June 1994. Over the same period America's largest firms - as listed in the Fortune 500 - eliminated some 850,000 jobs.

But replication of the NASDAQ experience in Europe will not be enough. Many small enterprises require access to finance, including venture and seed capital, during the earliest phases of an innovative development. Experience particularly from the United States suggests that one important factor in creating a climate conducive to investment and innovation is the availability of a reliable assessment process which can reduce the perceived risk of novel ideas and products to individual and corporate investors.

An initiative by Dutch and Flemish institutions has led to the creation of the Technology Rating Project Group. The idea is simple, namely to provide full assessment of an innovation project and report the findings to all parties involved (market, management, banks). The approach is being tested on 25 pilot projects. Initial experience with the scheme shows that it can overcome reluctance on the part of financial institutions to fund a project, particularly when such institutions are unable to evaluate on their own the technological and economic soundness of the project.

The Union has a key role to play in facilitating the efficient operation of the capital market by fostering the emergence of independent and objective sources of advice to help investors screen new projects which can also, through mentoring, strengthen the links between existing entrepreneurs and potential sources of finance.

There is also scope for better deployment of public funds to support innovative commercialisation of European successes in research. The use of a larger proportion of the Union's structural funds to promote innovative small businesses, particularly in the less developed areas of Europe, would be beneficial. We believe that involvement of industry - including representatives of existing, successful small businesses and of labour - should be the norm for all research funding with potential commercial application. A greater element of competition in the funding process would strengthen links between the business and research communities.

III.3 Regulation

In addition to issues of infrastructure and finance, government at all levels has a responsibility to ensure that the regulatory climate supports innovation and the establishment and development of smaller companies. Inappropriate regulation - particularly regulation involving complex and time consuming administrative and legal procedures and especially at the national level - has been cited as a discouragement to the application of innovation. Equally, patchy enforcement of regulation across Europe can become an obstacle. Smaller enterprises in particular can be faced with high fixed costs, undue complexity - particularly given the lack of co-ordination of regulatory requirements imposed by local, national and European authorities - and by delays which, in highly competitive sectors, can make the crucial difference between success and failure.

A recent study of the administrative cost burden facing enterprises of different sizes in The Netherlands has demonstrated the extent to which smaller enterprises are disadvantaged.

The average costs of the administrative burden in The Netherlands 1993 (in ECU)		
Number of employees	Costs per enterprise	Costs per employee
1-9	12,100	1,500
10-19	20,500	1,500
20-49	47,100	1,400
50-99	62,000	900
100 or more	171,000	600

Source: EIM 1994

A clear regulatory framework setting straightforward and enduring goals is an essential precondition for the development of an innovative and competitive European economy as well as for the achievement of high standards. Regulations which vary from one country to another impose costs and discourage intra-Union trade and investment.

In all cases, regulations should only be enacted once it is clear that the benefits - including the social and environmental benefits - exceed the costs on the basis of clearly understood and widely accepted definitions of the impacts being measured.

The Union and Member States have a responsibility to ensure that all procedures - particularly those which affect innovation - operate with the maximum possible efficiency while respecting the need for a soundly based assessment of social and environmental impact. The need for simplicity and clarity extends to company law. In our first Report, we stressed the value of establishing a common European corporate statute. This approach should embrace legal forms of company statutes most suitable for small enterprises. Commission initiatives, such as the statute for European association and the statute for a European co-operative society, go in this direction.

Appropriate and well designed regulation can be a highly positive force, stimulating innovation and helping small enterprises to thrive and grow, opening sectors of the market closed by monopolies and by national barriers. Regulation can also assist small businesses by fulfilling past commitments to ensure that public procurement is fully open. Procurement at government level accounts for at least 15 per cent of Gross European Product but, according to a recent study, no more than 2 per cent of public sector contracts are awarded internationally. A concerted approach to the removal of all barriers to cross border trade and investment within the Union should be central to the Commission's policy in support of smaller enterprises and their internationalisation.