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DEFENCE MARKETS AND
INDUSTRIES IN EUROPE:
TIME FOR
POLITICAL DECISIONS?

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PREFACE

The future of defence industries and markets is one of the most complex subjects on the agenda of European integration, as the on-going debate on the European Armaments Agency demonstrates.

In this *Chaillot Paper*, Pierre De Vestel, a researcher at the Institute of European Studies of the Free University of Brussels, analyses the situation in the European defence industrial and technological base, develops various scenarios and makes some concrete proposals for a future European defence industrial policy.

The first draft of this paper, which has turned out significantly longer than many of our *Chaillot Papers*, was discussed at the first seminar to be jointly organised by the Institute with the European Commission, in Brussels on 6-7 April this year. The Institute hopes that the study will make a useful contribution to the further debate on the subject.

Guido Lenzi
Paris, November 1995

INTRODUCTION

To those in favour of the integration and rationalisation of defence markets in Europe, the adoption of the Single European Act, the end of the Cold War and the renewal of the process of European integration seemed to offer new, promising prospects. The process of integration had re-echoed as a recurring theme since the failure of the European Defence Community and the more than disappointing results of numerous attempts at equipment harmonisation or the organisation of a European defence pillar. Yet despite these promises, little progress has been made and 'Europessimism' seems to have set in. However, at the same time, there is a significant reduction in the defence industry's activities and the consequences of this for employment are attracting much attention. Economic aspects of defence policies are poor and policies for defence industries are faring no better. At first sight this is hardly an encouraging diagnosis, but it merits a more systematic examination before arriving at a final conclusion.

The last five years have seen major transformations in the various components of the defence economy in Europe.⁽¹⁾ The end of the Cold War and the reduction in defence expenditure that followed it have shaken up defence companies. In addition to the reduction in the level of activity, the defence economy is undergoing a process of transformation that affects many of its constituent parts. The justification for the size of defence budgets, and the economic and industrial policies associated with them, are being challenged, starting with their cost and place in the economy, the state of defence production and technology is questioned principally in comparison with the state of their civilian equivalent; the pace of internationalisation of the defence sector is increasing and the traditional relationship between buyer and producer is changing. Parallel to this, defence policies must also be modified in a strategic context that is unclear.

A first evaluation of the situation can be made after these five years of change, especially as political events that have an importance for the organisation of security and defence in Europe are on the horizon. The Intergovernmental Conference to review the Treaty on European Union is due to begin in 1996 and can be expected to tackle the question of the future of European integration in the fields of security policy and no doubt defence policy. WEU was recognised in the Treaty on European Union as an integral part of the development of the European Union and is to form the European pillar of the Atlantic Alliance, which is itself undergoing considerable development. The aim of this paper is to draw up a series of scenarios setting out ways in which the design, production and purchase of military equipment in Europe could be integrated. The starting point for the study is one of the conclusions drawn in a paper on European defence markets written in 1993 by W. Walker and P. Gummert: 'What is unique to Europe is the question of integration -- the degree to which policies, industries and regulatory institutions could or should be fused across national boundaries.'⁽²⁾

There are various possible approaches to the question of establishing scenarios.⁽³⁾ The approach adopted here is exploratory and predictive, and includes recommendations on the outline of essential choices for possible industrial and technological policy at the European level.

The main body of the paper has four chapters. In the first, which is historical in nature, the reconstruction and transformation of national defence industries in Europe after 1945 is analysed.

The second chapter is an analysis of the current trends that contribute to the restructuring of defence industries in a way that the defence sector becomes similar to industry in general -- what in this paper is referred to as 'civilianisation'. The fact that the defence industry is gradually losing its specificity is due to four main developments: the growing internationalisation of companies and armaments programmes (2.1); the change in the relationship between manufacturers and buyers, mainly due to privatisation and the introduction of competition (2.2); the reduction in defence budgets and the resultant deep cuts in spending in the defence industries (2.3); the change in the relationship between civil and military technologies. This last development will be dealt with briefly except where the European Commission's competence in dual-use goods is concerned. This 'civilianisation' sets the economic limits within which an integration of defence industries and markets can take place.

The third chapter deals with the evaluation of the process of European security and defence integration, and its real and potential effects on the markets and industries. An appreciation of the objectives pursued by the principal actors, the means at their disposal and the obstacles in the way of a gradual integration of markets and industries should make it easier to discern the political and institutional field of action within which political initiatives could be taken.

Lastly, in the fourth chapter, having first examined and excluded various scenarios for integration, the medium-term scenario that is considered the most likely is described. By identifying what this scenario would entail, its disadvantages and the issues at stake, proposals aimed at controlling or even speeding up the process of integration are put forward.

1. THE RECONSTRUCTION OF NATIONAL DEFENCE INDUSTRIES

In 1945 the complex European (non-)security system, which was based on the autonomy of the nation-state, finally collapsed and was overlaid by the two superpowers.⁽⁴⁾ The East-West confrontation has contributed in large measure to reducing European governments' room for manuvre in security and defence issues. Some authors use the image of a Europe over which a blanket had been thrown. That 'overlay', which existed for more than forty years, has now almost completely disappeared. The first step, if one wishes to address the question of the future of European security, is to identify the characteristics that have managed to subsist, change and develop under this relatively comfortable blanket. The first of these characteristics of the European order carried forward from the period prior to 1945 is the primacy of the national framework and the privileged areas in which it found its expression: national foreign and defence policy, especially industrial and technological defence policies.

In 1945, the state of defence industries in Europe varied very widely. German industry, bombed or dismantled, no longer existed and Germany was deprived of the right to develop and produce armaments. Italy's position was not very different. In 1945 the French defence industry, which had in the pre-war period been similar to that of Britain, found itself completely excluded from the impressive technological progress made during the war. Only the British defence industry emerged in Europe in the face of American omnipotence, but it too had to manage its partial conversion in a difficult economic context.

At the end of the war it very quickly became apparent that the European countries, in particular France, Italy and the Benelux countries, were not able to take on both the rebuilding of their economies and the rearmament made necessary by the beginning of the Cold War. On 25 July 1949, the very day that NATO's founding treaty was ratified, President Truman put before the Congress of the United States a programme of military assistance to Europe. As from 1951, programmes of military and economic aid (the Marshall Plan) were brought together in a single programme and by the second half of 1952 military aid overtook economic assistance. This American military aid consisted of the donation of military equipment, the granting of licences and the loan of machine tools and equipment, the financing of certain items of defence expenditure and orders and payment for equipment produced by European industry.

The United States was, for example, to finance in 1953 an order for 225 *Mystère IV* fighter aircraft from the Dassault company on behalf of the French Ministry of Defence. Until 1955 it was France that received the greatest assistance, followed by the United Kingdom and Italy.

American aid made it possible for the European countries to develop their own civil and military production capability, in particular enabling the French and Italian defence industries partly to catch up in the fields of infrastructure and technology. This American aid also made it possible to reduce the burden of defence on European

economies and, in a sense, also constituted the second stage in the standardisation of equipment within NATO after the equipping of European armies, immediately after the war, with American and British equipment.

1.1. The plan for a European defence community

The year 1950 began inauspiciously for the Europeans. The Korean war had just begun, giving rise for the first time (but not the last) to the spectre of an American withdrawal from Europe. In addition, the Cold War climate had set in, making the creation of a defence capability on the Continent even more important. The question of the reinstatement of Germany into the European order, and its rearmament, became acute. On 24 October 1950 the French Government proposed the creation of a European Defence Community (EDC).

The draft treaty setting up the European Defence Community was signed in 1952 and submitted to countries for ratification. Opposition to it was greatest in France: the prospect of a close association with Germany under the gaze of the 'Anglo-Saxons', the loss of sovereignty implied, the unsuccessful course of the war being fought by the French Army in Indo-China and the rise in nationalism brought about the plan's downfall. On 30 August 1954, four months after the defeat at Dien Bien Phu, the French National Assembly decided against the proposed EDC. In its place, the Europeans relaunched the Western Union, which became the Western European Union on 23 October 1954.⁽⁵⁾

The EDC gave birth to a concept that has for a long time haunted the corridors of European integration in security and defence issues: the European Armaments Agency. A few months after the French National Assembly's refusal to ratify the treaty setting up the EDC, France proposed the establishment of a 'European Armaments Agency' within Western European Union. This agency, which contained the essential elements of the EDC regarding cooperation and the standardisation of equipment, was to be organised under a supranational authority composed of the representatives of the seven WEU member countries and deciding on the basis of a two-thirds majority, or possibly a collegial authority composed of commissioners who would be independent from their respective governments and responsible for harmonising requirements and sharing production between countries.⁽⁶⁾ The proposal was not supported and in its place WEU set up a Standing Armaments Committee, a consultative body responsible for promoting standardisation and cooperation.

The failure of the EDC coincided with the emergence of a consensus in France on the necessity to launch a major military nuclear programme,⁽⁷⁾ which was also to influence the decision to create a capability to design and produce conventional equipment. The EDC episode merely confirmed the British wish to maintain a national industrial and technological base that could develop all the weapons required by its armed forces. On the other hand, Germany, which had been reintroduced into the Western community conditionally and under surveillance, was resolutely to associate the rebuilding of its national defence industry with collaboration agreements within NATO, at the insistence of the United States and the United Kingdom.

1.2 De-standardisation

The early history of cooperation was thus characterised by the supply of American equipment, some of which dated from the war. The obsolescence of these armaments rapidly led to their abandonment by European countries. Each country then adopted a rate of replacement based on its needs and its financial and technological means, without coordination between countries. This was the beginning of the period of de-standardisation.⁽⁸⁾ Faced with a multiplication of national programmes for replacing equipment, in 1954 the North Atlantic Council created the Defence Production Committee. The creation of this committee was the first in a long series of initiatives (over 20 in all) that NATO, Western European Union and the Independent European Programme Group (IEPG) were to take throughout the Cold War in an attempt to limit the proliferation of national armaments projects. Each of these initiatives was to mark a stage in the race between, on the one hand, the operational considerations of the military, who wished to see a reduction in the number of different equipments in order to rationalise equipment procurement and maintenance costs and, on the other hand, national industrial and technological logic, which argued for a multiplication of separate national programmes and capabilities.

NATO gradually set up an infrastructure designed to stimulate co-production, either between Europeans or in a transatlantic partnership. In 1957, the United States proposed new financial assistance to the European countries so that they could produce American equipment under licence. American aid then took the form of the transfer of technology and financial assistance to enable a number of projects to be launched, the most important of which⁽⁹⁾ were the F-104 (produced jointly by Germany, the Netherlands, Belgium and Italy), *Hawk* missiles (five European countries), *Sidewinder* (eight) and *Bullpup* (four). Despite United States presence, assistance and pressure, NATO recorded little progress in the rationalisation of the European defence industry. The multiplicity of national equipments and norms made interoperability between the integrated forces difficult, and from this time the United States put pressure on the Europeans to make their defence effort, which was still very limited because of other priorities and very modest compared with the American effort, at least as productive as possible in terms of the quality and quantity of equipment produced.

In 1965 the American Secretary of Defence Robert McNamara made a further attempt to harmonise and rationalise overall the armaments market within NATO. This was a proposal, which was not followed up, to set up within NATO a Defence Common Market.⁽¹⁰⁾ Through competition and free exchange, countries were to specialise in areas of production where they had a comparative advantage. The idea was politely received in Europe. The proposal was inapplicable, not only because of the weakness of the European defence industry compared with that of the United States, but because by all accounts the European countries wished to control their industrial and technological defence policy nationally. The McNamara proposal was the last attempt to rationalise armaments production in Europe using heavy, uniform means. The time had arrived for procedures aimed at coordinating what could be coordinated in accordance with the various member states' interests.

1.3 The emergence of cooperation between European companies

If the 1950s and the beginning of the 1960s were marked by the production of American (and less frequently, British) equipment in European countries, the second half of the 1960s was to witness a wave of collaborative projects between European partners. The first project involving at least two European countries from the R&D stage was the maritime patrol aircraft Breguet *Atlantique* (developed jointly by Belgium, France, Germany and the Netherlands). Other projects were to follow, such as the AS-30 missile (France, Germany, United Kingdom) and the Franco-German HOT, *Milan* and *Roland* missiles. France and the United Kingdom were associated in other important projects (the *Jaguar* aircraft and a family of helicopters -- *Puma*, *Lynx* and *Gazelle*). The end of the decade saw the birth of the most important collaborative project ever initiated between Germany, Italy and the United Kingdom. The *Tornado* programme was not only the most important of both civil and military European industrial and technological projects in the 1970s (which included the Airbus A-300), but it was also an expression of the partners' ambition: to develop an aircraft that would stand up to comparison with the best American aircraft.

In point of fact the major European countries came together during the 1960s for different reasons. Germany was evidently the country that had the greatest need to cooperate with its allies, in order to rebuild its defence industry, to have this reconstruction accepted and to obtain the military support of the United States, France and the United Kingdom.⁽¹¹⁾

France engaged in European cooperation for two main reasons: firstly, the need to develop its defence industrial and technological base (DITB) in sectors where it was weak (aircraft engines with Rolls-Royce for instance) or in areas considered to be of lower priority compared with building up a strike force, which absorbed a very large part of France's financial and technological capacity (helicopters, non-nuclear missiles and transport aircraft); and secondly, to give substance to the image that the France of de Gaulle had of itself and its international relations. European collaborative projects were seen as a way of limiting the political, industrial and technological hegemony of the United States. This desire to assert itself as an alternative and a competitor to the United States was illustrated by the Franco-British *Concorde* programme, and by the wish to draw Germany away from the NATO orbit, expressed in the signature of the Elysée Treaty in 1963, one of whose successes has been the development of Franco-German cooperation on armaments projects.

During this period the United Kingdom was pursuing other goals. The defence industry was in a state of crisis that was in some respects comparable to that in British industry as a whole. Having been dominant in Europe after the war, companies were having difficulty managing the transition from the status inherited from the Second World War to something more in line with the real weight of the British economy. Having been successful in the European market between 1945 and 1955, British armaments had been superseded by American products. In 1964 the Labour government changed defence policy. The decisions it took were a clear reflection of the dilemma with which the other European defence companies were to be faced in the following decades. Grappling with the problem of a rise in the costs of armaments and a reduced defence budget, Defence Minister Denis Healey announced in 1964 that the United Kingdom was no longer going to compete globally and autonomously

at the level of military high technologies.⁽¹²⁾ The alternative to imports of American conventional armaments was international collaboration, in particular in the field of aerospace. Added to this financial necessity to cooperate was the wish to draw nearer to France and Germany for political reasons. Since France had opposed British membership of the Common Market at the beginning of the 1960s, cooperation with France on armaments projects had been undertaken as an indication of British attachment to the European Community.

Italy, which had a lower defence budget than the three other countries, made cooperation a matter of life and death for its defence companies. Where collaboration with the United States was not possible, the Defence Ministry sought participation in European projects, while at the same time developing its national DITB.

If the motives behind cooperation varied from one European country to another, there were two points in common. For Germany, Italy and to a lesser extent France, cooperation was part of a strategy of learning or acquiring expertise. For the United Kingdom, cooperation was undertaken in order to remain autonomous. In both cases this meant that these collaborative projects could be presented as attaining national objectives using international tools.

Cooperation made it possible to launch relatively ambitious projects by sharing the funding and future orders. Participation in joint programmes did, however, rest on the need to maintain (in the case of the United Kingdom) or develop (for the remainder) a national design and production capability. The German aerospace industry, which was revived in 1955 by means of the co-production of American equipment, was as from the beginning of the 1960s to attempt to develop broad, autonomous technological and industrial capabilities. Through the *Tornado* and EFA programmes and now the X-31 experimental aircraft with the United States, Germany attempted systematically and persistently to acquire competence in the fields of integration, design and propulsion technology.⁽¹³⁾

The 1970s were to see the convergence of the industries of the three main European countries. The French and German industries completed their reconstruction and could boast their new capability, whereas the British industry, which dominated the others, arrived at the end of its period of decline and restructuring. In 1952 the British aerospace industry had 206,000 employees, compared with 60,000 in France. In 1970 these figures had risen to 235,000 in the United Kingdom and 103,000 in France, and in 1990 stood at 186,000 and 121,000 respectively (and 95,000 in Germany).⁽¹⁴⁾ This trend towards a similar scale for national defence industrial and technological bases (DITB) of the three main European countries, who were thus more open to collaboration, was to continue until the end of the Cold War.

1.4 The transatlantic debate

At the end of the 1960s the debate on armaments cooperation began again within NATO. A number of new elements were to increase the pressures for greater cooperation between Europeans. On the one hand, armed forces staffs became increasingly irritated by the proliferation of different equipments, which affected the interoperability of NATO forces. On the other hand, the debate over the sharing of the economic burden of defence (burden-sharing) arose, for two reasons. Americans

involvement in Vietnam was increasing, which naturally put greater pressure on the Department of Defense's other areas of expenditure, in particular those devoted to the defence of Europe. The first voices calling for a reduction in the American presence in Europe were heard.

For these reasons, in 1968 the United Kingdom proposed that an informal body, the Eurogroup,⁽¹⁵⁾ should be created, including the European members of NATO less France, Iceland and Portugal. In practice the Eurogroup's only real success was the adoption of a five-year programme for improving European defence -- the European Defence Improvement Programme (EDIP) -- whose object was to demonstrate to the United States, particularly the Congress, that the Europeans were providing the means to increase, both quantitatively and qualitatively, their contribution to the defence of the Alliance. They seem to have succeeded in this, because the American government decided to maintain its military presence in Europe at the same level as it was during the 1960s. In reply to American criticism, the Europeans did indeed increase their defence expenditure, particularly on equipment procurement.

Graph 1 shows the growth in equipment purchases by the principal European NATO countries (less France). Between 1973 and 1983, for example, major equipment purchases by European members of NATO, with the exception of France, rose by 60% in real terms.⁽¹⁶⁾

Graph 1. Trends in the defence equipment expenditure of selected countries, 1973-94 (1973 = 100)

Sources: figures based on successive editions of 'Financial and economic data relating to NATO defence', Yearly Press Release, NATO press service. 1994 data estimated by NATO. NATO does not give figures for French equipment expenditure.

The Europeans also responded to the concept of burden-sharing by raising the question of transatlantic trade in armaments. They pointed out that the United States exported seven times as much equipment to Europe as it imported from Europe. This 'one-way street', they said, should be re-balanced and turned into a 'two-way street'. The United States responded by suggesting that part of this imbalance could be due to the superior quality of their armaments but also that it represented a contribution by the Europeans to the financial and military effort made by the Americans in NATO. That said, beginning in 1976 the Congress launched a series of initiatives designed to improve transatlantic cooperation.⁽¹⁷⁾ The emergence of a European dimension was to gain attention through two initiatives. The first was the creation in 1976 of the Independent European Programme Group (IEPG), designed to include France in the European family and to serve as the European end of the 'two-way street'.

In addition, on 14 June 1978 the European Parliament adopted a resolution calling on the European Commission to prepare 'an action programme for the development and production of conventional armaments in the framework of the common industrial policy.'⁽¹⁸⁾ This initiative had no success but at the time sufficed to emphasise the appearance of a European dimension in the defence economy.

The transatlantic confrontation became less intense when the United States signed a series of bilateral agreements with its partners designed to reduce the imbalance

between American purchases of European armaments and imports of American armaments and technology. The increase in European military expenditure firstly, linked to the end of *détente* and the beginning of the 'Euromissile' crisis managed to push divergences over industrial and technological aspects of defence into the background. The introduction of the idea of 'families' of weapons and the renewal of collaborative transatlantic projects contributed to the impression that it had been possible to change the course of events.

1.5 1980-90 -- The golden age of European armaments production

In reality, no substantive change occurred. In accordance with US wishes, the European countries increased their equipment purchases from 1970. Even more significantly, the R&D investments of the European countries rose by 64% between 1975 and 1990, increasing from ECU7.3 bn to ECU11.9 bn (1992 constant) as shown in Graph 2.⁽¹⁹⁾ The ambitious technological objectives of the new programmes indicated the wish of governments to establish powerful DITB capable of competing with that of the United States or more simply capable of producing the major part of the armaments required by the European countries. It should be remembered that this strategy was being followed in the context of an East-West confrontation that seemed to be a permanent strategic factor in the 1970s and the first part of the 1980s. In the eyes of European governments this justified the establishment of a sufficiently broad and powerful DITB.

Graph 2. The defence R&D budgets of the countries of the European Union, 1975-93 (ECU million, 1992 constant)

Sources: graph based on, for 1975 to 1990, successive editions of 'Government financing of research and development', Eurostat, Luxembourg; 1991 to 1993: different editions of 'Research and development: annual statistics', Eurostat, Luxembourg. EU = 9 members of European Community since 1973 plus Greece since 1977, Spain since 1985 and Portugal since 1991.

If the three major European countries shared the same objectives, they were to follow different paths towards them. France chose the path of autonomy, launching a long series of national projects and refusing to participate in European programmes like the EFA. Germany let it be clearly known that it wished to be treated as an equal with France and the United Kingdom on questions of high technology. During negotiations on the EFA programme in 1984, Defence Minister Manfred Wörner stated that 'Germany would not allow us, in the 1980s and 1990s, to be in a situation in which we were purely and simply producers of American equipment under licence'⁽²⁰⁾ and also warned the Europeans with whom he was negotiating the EFA programme that only a significant acquisition of technologies would justify German participation in a European fighter aircraft programme, stating, '. . . we must insist that our national aerospace industry remains viable . . . I do not wish to join either the French prototype or the British prototype . . . but that we should build a jointly designed aircraft or else build our own.'⁽²¹⁾ In retrospect, and on the basis of recent information, it appears that, since the 1960s, the German government and industrialists have pursued an industrial and technological policy aimed at giving Germany the capability to design its own combat aircraft.

The British insisted that the EFA should be a project that was independent of American technology,⁽²²⁾ for both commercial reasons (the inclusion of American technology in the EFA would have placed restrictions on exports) and strategic reasons. Europe in general and the United Kingdom in particular should maintain the ability to develop a combat aircraft of the latest generation.

The following table, drawn up at the beginning of the 1990s, a point in time that marked the end of the golden age of armaments production in Europe, is significant regarding the consequences of the multiplicity of national or multinational projects and the success of the strategies followed by European countries (France and Germany, but also Italy) in rebuilding powerful DITB. On 30 June 1993, the member countries of the EC and EFTA were developing 125 different types of armament, and the United States was developing 53 types.

Table 1. Comparison of the number of different armaments being

developed and produced in Europe (the then twelve countries of the EU

plus the five EFTA countries) and in the United States (situation at 30 June 1993)¹

Source: P. De Vestel (ed.), 'L'industrie européenne de l'armement : recherche, développement, technologie, reconversion', Dossiers du GRIP, Brussels, 1994, pp. 26-7. CH (Switzerland), GK (Greece), NOR (Norway), SW (Sweden).

¹ Armaments considered are those being developed or produced as at 30 June 1993, or whose assembly lines can be reactivated if new orders are received (principally for export). In that case the criterion for inclusion is the offer of an equipment for export (at defence equipment exhibitions, etc.). Nuclear missiles and SSBN are not included; nor are equipments produced under licence and not necessarily including any R&D investment.

² Unlike the European countries, the United States manufactures strategic bombers (the B-1, production of which ended in 1989, and the B-2 currently being produced).

³ The United States produces the *Ticonderoga*-class SAM cruisers and *Arleigh Burke*-class SAM destroyers, and *Nimitz*-class nuclear-fuelled aircraft carriers. Of the European countries, only France is building a ship of the latter type (the *Charles de Gaulle*).

1.6 A national dimension that is still preponderant, although modified

Looking back on the fifty years that have followed the Second World War, a period that has seen in particular the reconstruction of national DITB in Europe, several conclusions can be drawn. The first is that the national framework continues to be the main reference for the construction and maintenance of a DITB.

Under the 'cover' imposed by the East-West confrontation and by US strategic hegemony, the defence industry has been one of the few areas in which European countries have been able to show, without outside interference, their existence and competence, at a time when the security and defence context imposed on them a

reduced margin of strategic autonomy. It is without doubt no exaggeration to suggest that the rebuilding of national DITB in Europe during this period has been the area par excellence in which national identity has been expressed.

Could it be otherwise? The governments of the United Kingdom and France, but also of Germany, Italy, Spain and Sweden have invested, sometimes as a matter of priority, in their defence industries to assert their freedom of action and contribute to the maintenance of a national identity and autonomous foreign and defence policies.

In addition, there have been defence industrial and technological policies which, like their civilian equivalents, have taken into account national considerations. The investment of public funds in an economic activity is necessarily made with a view to the national economy gaining the maximum advantage, especially as the benefits in terms of jobs and technological progress are and will remain a powerful means of justifying military expenditure in the eyes of the public.

That said, it should not be concluded that this national dimension is unchallenged. The first questions usually come from finance ministries, and more generally from the public, who refuse to finance any dreams of national grandeur. If the defence ministries and industrialists have been able to use the funds made available to them to rebuild DITB, they have had to accept the inadequacy of those funds, and they have therefore had to cooperate.

At the same time, the armed services have also had to make the most of often limited results and accept equipment that is inadequate in quality and quantity.

The question that advocates of the integration and rationalisation of the defence industry and markets must ask themselves is whether the process of security and defence integration that is currently under way in Europe can hope to succeed where the Soviet threat and American hegemony failed. In the early 1990s there has been a great temptation to propose radical reforms at the European level in order to break this logjam. Do these really have a chance of succeeding, or will a limited degree of standardisation of equipment, its interoperability and the gradual convergence of industrial and technological policies remain the principal feature of the process of the integration of markets and industries in Europe?

The national dimension is still preponderant. It is a reality, but a reality that has changed over time. Between the nationalism in questions of armaments production as seen prior to the Second World War, and which usually took the form of a quest for self-sufficiency,⁽²³⁾ and the national dimension as it is expressed today, there are important differences. Forced to cooperate in the face of the globalisation of the economy in general and the internationalisation of defence industries in particular, influenced by the wind of liberalisation that is being felt in the domain of government contracts, and finally grappling with the reduction of defence budgets, the national DITB as they have been variously developed have emerged from the period of the Cold War both strengthened and changed. The various modifications of the dominant national model are analysed in the following pages.

2. THE 'CIVILIANISATION' OF DEFENCE INDUSTRIES

By 'civilianisation' is meant the adoption by the defence industry of characteristics similar to those of industry in general.⁽²⁴⁾

The European defence industry is undergoing a far-reaching process of adaptation that goes beyond a mere reduction in its activities, because the economic and political context in which the industries are developing has changed. Four main developments can be distinguished. First, there is the process of internationalisation of defence industries, which has widened the traditional national framework in which companies developed. Defence markets (transactions between manufacturers and buyers) have in a number of countries been affected by the influence of freer markets and competition. Moreover, the sometimes very close relationships between the state and manufacturers have also adapted in varying degrees to the modern world. The technological context has also changed, as a result of the considerable development in civil technologies or those of civil origin. The fourth development is the reduction in defence budgets and the resultant crisis in the defence industry, which has happened in an environment that is much less stable than before.

As a result of all these factors, defence industries and markets are adopting characteristics of the civil economy, *mutatis mutandis*, adapting these characteristics in accordance with the specific nature of the defence domain and national circumstances.

The change in the technological context, in which military technologies, which were once at the forefront of progress, are increasingly challenged or even overtaken by civil technologies, will not be analysed in detail here.⁽²⁵⁾ The problem of so-called 'dual-use' (civil and military) products will only be touched on briefly to underline the actual and potential role of the European Community in this area.

2.1 Internationalisation: the tempo and the realities

In chronological order, the first dimension of civilianisation is internationalisation. Internationalisation is a trend which, by obliging the defence industries to move out of their strictly national dimensions because they are decreasingly sustainable, helps bring the defence industrial sector closer to current practice in civil industry. Instances of collaboration have multiplied and changed in form since the Second World War. The need to share rising R&D costs, short production runs and the consequent increase in unit costs and the need to overcome the very strong protection of national markets are the main economic determinants of international collaboration in armaments production. Alongside these economic determinants, more political considerations have in many cases initiated international cooperation.

There is increasing cooperation among the European countries. It is only recently that studies in greater depth have been carried out in order to try to measure the extent of this reality, the details of such cooperation and the amplitude of the trends to internationalisation. Among such research, mention should be made of the creation of

a database by R. Bitzinger, which brings together information available on the various forms of cooperation between defence companies in the world since 1961.⁽²⁶⁾

The following graph shows that the number of international projects in Europe not only registered a large increase in the 1980s and 1990s, but that its nature also changed. In the 1960s and 1970s there were a relatively constant number of classic cooperative programmes carried out by consortiums. The 1980s and the period 1991-94 showed a marked increase in the number of different forms of internationalisation within Europe. The number of consortiums remained stable between 1981 and 1990 (around 20) but doubled (38) between 1991 and 1994. The second half of the 1980s saw a large increase in the number of mergers and above all takeovers. The number of strategic alliances has also increased in the last eight years.

Graph 3. The evolution of the number and type of intra-European agreements 1961-94

Source: Defence Budget Project (DBP) Globalization Database.

Other pieces of evidence support this view. K. Hartley and S. Martin have produced a more qualitative evaluation of collaborative agreements.⁽²⁷⁾ In the most thorough analysis of European armaments cooperation, the authors conclude that states are having increasing recourse to international collaboration, and that the number of partners in these projects is rising. In the aerospace sector, the average number of partners rose from 2.4 in the 1960s to 2.9 in the 1980s; corresponding figures for aircraft engines were 2.1 and 3.5, and for missiles 2.5 and 3.4.

A growing tendency on the part of states to engage in R&D projects of an international type should also be noted. Eurostat, the European Union's statistics office, supplies interesting although incomplete statistics on the proportion of national defence R&D investment undertaken through international projects. Such expenditure has been growing since 1983: the proportion of international R&D projects in defence R&D budgets rose between 1983 and 1991 from 31% to 38% in Germany, from 10% to 23% in the United Kingdom and from 16% to 30% in the Netherlands.⁽²⁸⁾ In France, the non-nuclear part of R&D carried out through international cooperation rose from 5.5% in 1984 to 23% in 1992.⁽²⁹⁾ Among the main European countries, it is Germany that devotes the largest part of its investment to collaborative projects: 70% of equipment purchases were collaborative, of which 30% were bilateral and the remainder multilateral. In 60% of cases, the cooperating partners were European.⁽³⁰⁾

More recently, the seven principal European centres of aerospace research -- CIRA (Italy), ONERA (France), DRA (United Kingdom), DLR (Germany), FFA (Sweden), NLR (Netherlands) and INTA (Spain) announced that they were to work towards improving cooperation between themselves, aiming eventually to build a 'union of aerospace research bodies in Europe'.⁽³¹⁾

The figures and trends quoted reveal an important fact: the process of internationalisation is real, deep and doubtless of greater intensity than estimations have traditionally suggested. The member countries of the European Union devote at least a quarter of their defence R&D investments to international collaboration.⁽³²⁾

This is a significant proportion when compared with the corresponding figures in the civil sector.

Do European countries and companies collaborate enough? The answer to this question will depend on the observer's viewpoint -- the usual question of whether a glass is half empty or half full. It is more important to note that the trend does exist and is on the increase. There was indeed a period of uncertainty at the beginning of the 1990s, following the reduction in military expenditure, especially in Germany. The long debate on the future of the EFA in 1992 and 1993 gave the impression that collaborative agreements might be called into question. In fact, the continuation of the EFA programme (which became the NEFA) and the recent rise in the number of new collaborative projects such as the Future Large Aircraft (FLA), the NH-90 helicopter, the *Horizon* or Trilateral Frigate Cooperation (involving the Netherlands, Germany and Spain) or the Franco-German modular armoured vehicle (VBM), confirms the increase in intra-European collaboration.

2.1.1 The appearance of national champions

One development accompanying the process of internationalisation has been the appearance of national champions: companies that can claim to have a national monopoly in one or more specific areas. The gradual creation of these champions has taken place as the result of two types of pressure.

First, as domestic markets shrank, companies were encouraged to merge by governments. In other cases, failure followed by takeover contributed to a concentration of production. In the United Kingdom, nine independent companies shared the aerospace market in 1955; there were only three of them in 1965, and only one major company -- British Aerospace -- in 1986. In Germany, there were seven aerospace companies in 1955, and by 1989 the only two surviving -- Dornier and MBB -- were merged to form DASA (Daimler Benz Aerospace since 1 January 1995). In France two companies remain -- Aerospatiale, which produces civil aircraft and military transport aircraft, and Dassault, which makes combat aircraft.

The second reason that led countries to accept or even encourage these concentrations was the necessity to be represented by sufficiently large and sufficiently competent industrial and technological entities in international collaborative projects.⁽³³⁾

International cooperation assumed various forms, reflecting the variety of companies' situations and objectives. E. Sköns has proposed a typology of defence collaborative agreements, which in a number of ways overlap: from direct investment abroad to the various types of subcontracting; from production under licence to mergers and takeovers; from joint ventures to more specific *ad hoc* agreements and, in between these, 'strategic' alliances and provisional association to respond to invitations to tender (teaming arrangements).⁽³⁴⁾ The most interesting form is the joint venture. Since 1972, when Aerospatiale and MBB created Euromissile, the number and size of joint ventures has grown steadily, particularly during the last nine years. Only two joint-venture companies were created between 1970 and 1986 but nine were created between 1986 and 1990, and twenty between 1991 and 1994. The aim of forming these companies, which are concerned with a wide range of types of armament, is to share the costs of R&D and the national markets of the different partners. A further

aim is to make economies of scale and range so as to place companies in a better position in external markets.

To what extent do these joint ventures imply true integration and rationalisation of armaments production? The most reasonable hypothesis is that the integration of R&D, and therefore its rationalisation within joint ventures, is relatively modest, and in any event not optimal from an economic point of view. This situation stems from the fact that relations between parent companies and their respective governments are still very close, that technologies are tightly controlled as strategic company assets, and that their transfer is closely watched by governments. European collaborative industrial accords therefore still bear the stamp of predominantly intergovernmental relations rather than being integrationist. The management of this aspect of the move to internationalisation is shared between governments and industry. Countries have been obliged or have accepted to allow companies a margin of autonomy.⁽³⁵⁾ The relationship between these 'national champions' and the state are interdependent. Without the support of the state, its financing and access to its defence market, companies would disappear. It is in a way a pledge of the state's ability to exercise control over companies that the international environment attracts. In addition, the state is increasingly linked to its national champions for social, industrial and technological reasons and sometimes reasons of national identification. The link between national champion and state is apparently becoming increasingly strong, and is likely to last for the foreseeable future, at any event for as long as there is no supranational structure that has a budget and the ability to place contracts -- something that seems improbable, to say the least, in the medium term.

2.1.2 The dilemma of internationalisation:

transatlantic or European cooperation?⁽³⁶⁾

There has been much armaments collaboration in the area that constitutes Western Europe since the 1960s. That collaboration has taken two forms: transatlantic and European. These two types of internationalisation have on several occasions been perceived as contradictory from a political point of view but in this paper it is concluded that they have developed in parallel and to almost the same extent, as can be seen in Graph 4.

Graph 4. The development of European and transatlantic co-development agreements, 1961-94

Source: Defence Budget Project (DBP) Globalization Database.

The first period of transatlantic cooperation was from 1961 to 1975, when the number of transatlantic co-development programmes (on average two new agreements in each five-year period -- see Graph 4) was far lower than the number of intra-European agreements (on average eight). Co-development agreements were preferred because they involved cooperation between the partners as from the R&D phase, unlike co-production or production under licence, which were based on technological superiority on one side and the subordination of one of the partners.

There were several reasons for the strong growth in European cooperation between 1961 and 1975. The disparity in scale between the American market and the European markets, the disparity in size and technological competence between American and European companies, and American protectionism, contributed to limiting the opportunities for transatlantic cooperation. During this period, the technological and industrial relations between Europe and the United States most usually took the form of production under licence. On the other hand, Europe represented a natural area for internal collaboration because of the similarity in the size and technological level of companies, because the requirements of European armies were fairly similar and because periodically the Europeans expressed political interest in such collaboration.

The second phase in transatlantic relations extended from 1976 to 1990 and was characterised by very strong, parallel growth in intra-European and transatlantic co-development agreements.⁽³⁷⁾

The determination of the United States to re-balance transatlantic trade from 1975, and technological developments by the defence industries in France, Germany, Italy and the Netherlands resulted in a long series of transatlantic collaborative agreements. At the same time, European companies tried to develop their activities on the other side of the Atlantic. French companies made a frontal attack on the American market, endeavouring to take over American companies. The failure of the takeover bid for LTV by Thomson-CSF was to signal the end of their hopes. American protectionism and Thomson-CSF's nationalised status were to stand in the way of the takeover. Deeply disappointed, French industrialists fell back on the idea of 'European preference'.

The situation was different for British companies. The special strategic relationship between the United States and the United Kingdom had very important technological aspects. The sharing or joint development of nuclear, intelligence and stealth technologies has for decades affected official R&D organisations just as much as companies.⁽³⁸⁾ Moreover, BAe, GEC, Rolls-Royce and most other British companies conducted a non-negligible part of their business in the United States, either in the form of major contracts (such as the AV-8B vertical take-off aircraft and the T-45 trainer in the case of BAe, and naval jet engines and turbines in the case of Rolls-Royce) or through sub-contracting. Numerous British companies have subsidiaries in the United States, and Rolls-Royce has recently taken over Allison, a manufacturer of civil and military jet engines. German companies like Daimler-Benz Aerospace (formerly DASA) with the X-31 experimental aircraft and Siemens in the field of intelligence and telecommunications, are also investing in transatlantic relations, above all for reasons of technology. That does not of course prevent German companies from also trying to sell their products on the American market. DASA is trying to sell a trainer aircraft and the HDW shipyard is offering a licence for its conventional submarines to be built in the United States.⁽³⁹⁾

Graph 4 shows that the number of Euro-American co-development agreements fell during the period 1991-94. This trend can be explained by the reduction in the American defence budget, which has initially led to the cancellation of international programmes. It is also probable that transatlantic cooperation on equipments directly linked to the East-West confrontation have suffered from changes in the strategic context.

2.1.3 The three phases of European cooperation

The process of internationalisation of civil industry in the industrialised countries is usually presented as roughly occurring in three phases. The first is the golden age of international trade, extending over the 1950s and 1960s. The second was dominated by direct investments abroad. In the 1970s large, multinational companies invested directly in many countries. The third phase began in the 1980s and its main objective is technology as an essential factor in companies' competitiveness. Companies have created new types of relations between themselves, either through the creation of joint ventures or through agreements of very varied kinds but often centred on technology.

To what extent does the process of European cooperation of the defence industry follow this pattern? It can also be said to be divided roughly into three stages, with technology playing a determinant role much earlier than in the civil sector. From 1945, when European countries had to rebuild their defence industries, access to the technologies developed in the United Kingdom and the United States (but also in Germany, as seen in the race to find German scientists in the postwar period) became the major element in all forms of internationalisation. It also appears that direct investment abroad played only a marginal role in the defence industry. Additionally, arms exports were on the same scale throughout the three phases of internationalisation of the European defence industry.⁽⁴⁰⁾

- The first phase, from 1945 to 1960, was characterised by numerous cases of production under licence and technology transfers which enabled national industries to be rebuilt. This was the era of licences and American military assistance. International agreements were marked by unilateralism and the technological connection.
- The second phase, from 1960 to the mid-1980s, can be considered to have been the period that saw the birth of European cooperation. European countries designated technological areas in which they wished to develop international partnerships. International collaboration in which European companies dominated, more balanced and aimed at acquiring technological competence, symbolised the best of this period. This was the era of the all-powerful state both leading and organising collaborative agreements.
- The third phase of European cooperation, its period of maturity, began towards the middle of the 1980s and was characterised by the necessity for European countries to choose technologies that they wished to preserve nationally, those that they wished to develop in international partnership and the areas for which they would have to rely on the international market.⁽⁴¹⁾ This period was also marked by an extremely wide development in the number and type of agreements between companies. Their new autonomy, resulting from a generalised reduction in state control of economic activity (privatisation), allowed them to adopt modified civil forms of internationalisation.

This third phase, and this is doubtless the most important political lesson, depended both on the reaffirmation of the national dimension, renewed via the more flexible,

more eclectic links between the state and national champions, and a growing need, which is no contradiction, to cooperate with foreign partners.

2.1.4 A new industrial paradigm

The maintenance of a strong national dimension, together with the assertion of national champions, and the multiplication of collaborative agreements in the European framework, have considerably changed the industrial scene. Companies have undergone profound internal changes, which have increasingly led to their adopting the characteristics of modern, high-technology companies. The multiplication of agreements between companies, the necessity to adapt to fluctuating political environments and technologies, and shrinking markets, oblige companies to adopt complex, flexible internal strategies. Companies take the form of a strategic core made up of the essential technological competence, which gives privileged access to national markets and political decision-makers. Their periphery is composed of many activities shared with external partners. There is a constant search for partners in order to share the costs of R&D and markets. *Aérospatiale* is without doubt the best example of this new type of company organisation. 70% of this French company's turnover comes from international cooperation (with Daimler Benz and in the Airbus and ATR consortiums). The multiplication of joint ventures increasingly makes *Aérospatiale* resemble a holding company whose principle activity consists in ensuring the coherence and coordination of the activities of its joint-venture companies.⁽⁴²⁾

On the other hand, companies pursue their strategies at three different levels: national, European and global. Companies have organised their strategy and relationships with other companies in accordance with this structuring of their environment. The national level, which is dominant, is both the starting point for conquering other levels but also the zone where technological, financial and industrial *acquis* are in particular concentrated. The state, which is both protector and source of finance, indeed demands a return on its investment in the form of more developed technologies, equipment for its armed forces that has a better performance and possibly a lower financial burden thanks to profits earned abroad, whether direct (payment for equipment exported) or indirect (the sharing of R&D costs).

The European level is natural even though it is not institutionalised. It is at this level, where there is a convergence of economic and political interests, that national champions must necessarily be present and invest. It is also doubtless the most promising in terms of new armaments programmes and new legitimacy for defence business. Beyond Europe, the global level is mainly formed by American technology but also in recent years Japanese civil technology (see, for example, the Daimler-Benz-Mitsubishi strategic alliance) as well as certain opportunities in newly industrialised countries. Russia and Ukraine, but also to a lesser degree the other countries of Eastern Europe, also offer the potential for technological and commercial cooperation. Diagram 1 below is based on information

taken from three databases.⁽⁴³⁾ Only the most important companies in terms of turnover are shown. The size of the ovals is proportional to turnover in 1992.⁽⁴⁴⁾ The width of lines connecting companies is a function of the number of relationships identified (collaborative projects, strategic alliances, participation in capital, etc.).

Joint ventures, the national version of internationalisation, have been shown so as to indicate clearly this relatively new trend towards adapting companies to the market's new technological demands and policies.

The process of internationalisation, including European cooperation in the defence industry, is not only a reality but will continue in the medium term. Armaments development costs will continue to rise and defence budgets, which are falling or stagnating, will no longer permit support for numerous national projects. Increasingly, the major European countries will have to choose in which sector of technology they wish to dominate at the national level (combat aircraft and nuclear technology in the case of France and the United Kingdom, for example), the sectors they wish to develop in more or less institutionalised collaboration between countries or through agreements between companies, and lastly the sectors in which they will have to rely on imported technology.

2.2 Markets: mercantilist, contestable or competitive

The 1980s saw a challenge to the traditional organisation of relations between the state and defence companies, that is between the buyer of military equipment and the manufacturer. The origins of these changes lay in the reform of armaments procurement procedures and the privatisation of defence companies in the United Kingdom. The United Kingdom was therefore to have an influence on other European countries, especially as the Single European Act and its underlying logic was to influence directly, not the defence markets directly but certainly the general thinking on their organisation. The following sections analyse British reforms aimed at making national markets 'contestable'; attempts to reform the IEPG in accordance with the principle of the *juste retour*; the mercantilist nature of the French market and the questions of the introduction of competition and the abolition of Article 223 of the Treaty of Rome.

2.2.1 France and Colbert

Jean-Baptiste Colbert, Louis XIV's Prime Minister from 1670 to 1680, considered that France's prosperity depended on the promotion of exports by the state and its limitation of imports. He created state arsenals for naval shipbuilding and authorised the emergence of large, private companies producing explosives, artillery, muskets etc. These companies, which were protected from foreign competition, were granted monopolies by the crown.⁽⁴⁵⁾ The creation of a self-sufficient, protected defence industry was only one aspect of what can be termed 'Colbertism'. This aspect formed part of an overall strategy (mercantilism) that made domestic industrial capacity and a trade surplus sources of the state's power.

Colbert's successor, Louvois, noted that the policy followed by his predecessor was resulting in higher prices for armaments and lower quality. He reorientated his predecessor's policy towards greater efficiency and less autarky.⁽⁴⁶⁾

Three centuries later, the reconstruction of the French industrial and technological base after the Second World War followed in the footsteps of Colbert. The same determination to be self-sufficient gave birth to the French armaments system; the

same determination to limit or even eliminate imports prevailed and finally, from the 1970s, arms exports became one of the state's prime objectives.

The 1980s almost constituted the high point of Colbertism's second lease of life. Defence companies, 80% under state control and having a national monopoly, exported over 40% of their production, and the launching of new programmes such as the *Rafale* aircraft, the *Leclerc* main battle tank, aircraft carriers, frigates, missiles and helicopters demonstrated France's determination to reach a degree of technological and industrial self-sufficiency unequalled in Europe at that time. However, the end of the Cold War, stagnation and then the reduction in defence budgets wiped out any hope of achieving broad self-sufficiency.

This system, in which imports are limited and exports promoted, was not without its consequences for France's armed forces and foreign policy. Whereas in the United Kingdom the needs of the armed forces were the first priority, in France the armed forces usually appeared to be at the service of industrial and commercial policy. This was particularly so in the case of conventional weapons. Indeed, the priority given to nuclear weapons has guaranteed the armed forces nuclear weapons that were sufficient in number, variety and quality. On the other hand, the conventional forces often had to make do with armaments that had limited technological capability because of the policy of autarky and were insufficient in number and often designed with a view to exports and imposed on the armed forces in order to facilitate future exports. This was in particular the case for the *Mirage* F-1 and the *Mirage* 2000-5, which were imposed on the Air Force so that they could be exported. Recently, the naval version of the *Rafale* was imposed on the Navy, despite opposition by the naval staff, for reasons of industrial benefit and prestige.

Since the beginning of the 1990s the French Ministry of Defence has found itself in an inextricable situation. On the one hand, weaknesses in the conventional armed forces were highlighted during the Gulf war,⁽⁴⁷⁾ the only occasion when the Army had been put to the test since the war in Algeria. On the other hand, the excessively large number of projects begun in the 1980s can no longer be financed from a budget that is shrinking. At present, the mechanism of the French model seems to be jammed, as if in a state of spasm caused by the magnitude of the task, and the political and social consequences of a challenge to the system.⁽⁴⁸⁾

Meanwhile, what should be only a French internal problem is becoming a problem on a European scale. Indeed, the necessity to collaborate and give the defence economy a European dimension requires a minimum of convergence of national systems, in particular French and British, which between them account for 66% of defence production and 80% of defence R&D. Yet in all respects the two main European industrial and technological powers are in opposition. France believes that different strategic and economic blocs will necessarily be in a state of confrontation, favours the needs of industry, and public companies that are motivated by a curious mixture of the search for competitiveness and job protection, and hopes that the integration of defence markets can be achieved by political decision. The United Kingdom is in favour of openness towards the rest of Europe and the United States, the needs of the armed forces, industries that are privatised and motivated by the logic of the market and pragmatism on political issues. Lastly, monopolies can be challenged in the United Kingdom and are absolute in France. Since these two countries wish to

transpose their national models to the European level, the coming years should see much confrontation but also manuvres towards convergence. These aspects will be analysed in the last part of this paper.

2.2.2 The United Kingdom and the 'Iron Lady'

To give credit where it is due, the most complete reform of armaments procurement procedures and the challenge to the relationship between the state and the defence industry was due to the government of Margaret Thatcher. Beginning in 1980, defence companies hitherto nationalised were gradually privatised. Only the research establishments remained under Ministry of Defence (MOD) responsibility, with changes to their titles and new management procedures that were more similar to those found in the business sector.

This move to privatisation occurred in an economic and financial context that was favourable for the new buyers, MOD equipment purchases rising by 18.5% in real terms between 1980 and 1985.⁽⁴⁹⁾ At the same time, the MOD began a reform of programme costs management procedures and the way in which defence contracts were awarded. The declared aims of this reform were to offset the effects of, on the one hand, the increase in the cost of equipments and, on the other, the reduction in budgets, in order to obtain greater room for manuvre in equipment procurement.⁽⁵⁰⁾ The reform was based on the introduction of competition whenever possible at all stages in the procurement procedure: from the feasibility study through project definition and development to production.⁽⁵¹⁾

The MOD has subsequently given preference to 'fixed price' or 'incentive contract'⁽⁵²⁾ procedures rather than 'cost-plus' contracts.

Contestable markets

Competition is not always possible, especially if the market consists of British companies only. In fact there exist many domestic monopolies in the aerospace sector (Bae, Rolls-Royce and Westland), main battle tanks (Vickers), nuclear submarines (VSEL) and so on. In such cases, the MOD has threatened to open the British market to foreign competition, a threat sometimes carried out, for example when the MOD cancelled GEC's *Nimrod* airborne radar programme in favour of the American Boeing AWACS. This threat of actual or potential foreign competition is a characteristic feature of the British procurement system. As such it is near to the theory of 'contestable markets'⁽⁵³⁾ developed at the beginning of the 1980s, according to which manufacturers in a monopoly situation but under threat of competition from other, foreign manufacturers could be subjected to practically the same pressure to improve their competitiveness as if they were operating in a market that was really competitive.

In parallel with this, another reform which was probably just as important but has often been unnoticed was introduced. Traditionally, the MOD, like all defence ministries, defined its equipment requirements by establishing a very detailed list of technical criteria that had to be met by the new equipment. The consequence of following this procedure has had and often still has the effect of designating a particular producer. In introducing the principle of 'Cardinal Points Specification --

CPS', the Ministry has in a number of cases abandoned that practice, which was considered to be the cause of cost overruns and to result in armaments that were too sophisticated -- 'gold plated'. The statement of requirements in sufficiently broad terms allows companies freedom of manuvre to include technologies that are already available in their projects. It also makes it possible for several, sometimes different projects to compete. The use of CPS, and the opening of markets to both domestic and foreign competition can be seen in the invitation to tender for the CASOM missile contract.⁽⁵⁴⁾

The main conclusion that can be drawn from the changes that have occurred in the United Kingdom lies elsewhere, and is more political. The MOD's role of defining the armed forces' requirements and satisfying them on the best terms has been confirmed.

The MOD has managed to ride the wave of neo-liberalism and reaffirm the primacy of operational considerations over industrial and social ones. It is in actual fact not so much a question of primacy as of a re-balancing of the relative weights of the MOD and industry. Indeed, industrial and technological considerations continue to count in most decisions related to weapons procurement.⁽⁵⁵⁾ At the end of the political decision-making process, it is for the government to reconcile the sometimes conflicting demands of the MOD and industry.

From the evidence it appears that a veritable defence industrial and technological policy exists in the United Kingdom, a policy which may not be referred to as such for ideological reasons and which it would be difficult to detail or set down in regulations. Each case has to be dealt with individually, following a few main guidelines: value for money, competition where possible, a contestable British preference and the pragmatic identification of national technological capabilities that are to be maintained.

This system, the 'British model' seems to function in a manner that is satisfactory for the various actors (prime minister, MOD and industry) and capable of continuing in the medium term. The wait-and-see policy of the British Government towards the process of European integration, in contrast to French activism, can partly be taken as the reflection of a certain quiet confidence in the future of the British model.

2.2.3 The Europe of the IEPG

Already, the reforms introduced in the United Kingdom have had a considerable influence on the other European countries, to the point that they directly inspired the adoption of an Independent European Programme Group plan of action in 1988. In 1984 the IEPG was revitalized as a result of pressure from the United Kingdom. Its aim was defined as the promotion of cooperation between European countries so as to permit more effective use of R&D investment, an increase in standardisation and interoperability and the promotion of the 'two-way street' with the Americans.

A study was commissioned from a group of specialists⁽⁵⁶⁾ and published in 1986. The report proposed the creation of an open, competitive European market, the maintenance of an industrial and technological *juste retour*, a considerable effort by the Europeans in the field of research and the close association of countries whose defence industries were in the process of development (Developing Defence Industry

Nations). The report not only bore the marks of the British reforms but was also impregnated with the economic and political thinking of that time, particularly the fact that Europe felt threatened by the technological dominance of the United States and Japan. More generally, all the arguments made for the Single European Act emerged implicitly in the report. On the basis of this report, in November 1988 the defence ministers adopted an action plan⁽⁵⁷⁾ on the following principles:

- the gradual and reciprocal opening of defence markets through the abolition of the various barriers, the dissemination of information on invitations to tender with, in time, the possibility of foreign companies bidding;
- the introduction of certain forms of competition while developing the principle of the *juste retour*⁽⁵⁸⁾ for practical reasons: countries, in particular the small ones, would not agree to losing this form of industrial and technological compensation;
- special conditions were envisaged for countries having limited defence industrial capacity;
- lastly, the establishment of broad, systematic collaboration in research, which was to be one of the privileged paths towards the creation of a future armaments market. This proposal was to lead to the creation of the European Cooperative Long-term Initiative for Defence (EUCLID).

The action plan has been a relative failure.⁽⁵⁹⁾ On the one hand, the plan itself had weaknesses and advantages. Designed to be a flexible, non-constraining framework and as such showing pragmatism given the size of the task, the 'action plan' suffered in not obtaining precise undertakings for its signatories.

The Germans were discreet during the negotiations. As competition did not enter into the relationship between their defence ministry and companies, what was essential was a broad identity of interests. In 1989 the chairman of DASA summed up the attitude of industrialists quite well when he said that 'problems such as the question of reconciling the principle of a *juste retour* with that of competition cannot be resolved by governmental decisions any more than they can by plans produced by a computer. The solution will take the more pragmatic form of international collaboration between companies that in terms of size and competence are capable of acting as main contractors and are guided by principles of economy and efficiency.'⁽⁶⁰⁾ Mr Schrempp was thus against government initiatives in questions of competition and only in favour of collaboration between companies of comparable size, yet did not reject the principle of *juste retour*.

For Spain, the plan gave direct support to the technological policy initiated after the death of Franco, a policy that depended largely on military R&D expenditure feeding the Spanish economy. Other countries were reassured by the inclusion of the principle of *juste retour* and, accustomed in certain cases (Belgium, Greece, the Netherlands and Norway) to resorting to international competition for their main equipment purchases, were bound to look favourably on this plan, although without enthusiasm.

The French, on the other hand, to whom the idea of competition was foreign, hoped to dominate a European market protected from the United States, and saw in it the possibility of developing European research programmes.

2.2.4 The Europe of competition

In the context of a growing 'civilianisation' of defence markets, the idea emerged of introducing competition directly, something hitherto inconceivable outside the civil sector. In parallel with the IEPG's endeavours, the European Commission proposed a more fundamental reform of the defence market. In 1990 the European Commission called for the abolition of Article 223 of the Treaty of Rome,⁽⁶¹⁾ which excludes armaments production from the European Union's area of competence, with a view to rationalising the defence industry at the European level and introducing rules for competition.

The solutions put forward consisted in linking the introduction of competition into defence equipment contracts to accompanying measures in R&D, regional assistance and professional training. There has not been any agreement to this proposal but at least it has had the effect of reinstating the debate on the future of the defence industry's markets. Studies carried out by or for the Commission on the effects of the single European market concluded that substantial economies could be made in the short term by national administrations if competition were introduced. This should stimulate competitiveness and make it possible to achieve economies of scale, restructure industry and reduce duplication. In appearance such a programme would be ideal for the defence sector⁽⁶²⁾ but would run up against numerous political, technical and strategic obstacles, as suggested below. In examining, as a working hypothesis, the possibility that Article 223 is abolished, it will be demonstrated that the contradictions are so great that, at least in the medium term, such a possibility is unrealistic.

The unlikely abrogation of Article 223

What would be the consequences and what problems would be encountered if the rules governing the placing of government contracts within the single market were applied to the defence sector? These fall into two main areas. On the one hand, there are transactions between buyer and manufacturer. For there to be competition, clear, precise rules applying to the choice of armaments must be established so that the choice arrived at by defence ministries is made on the basis of common criteria and cannot penalise one producer *vis-à-vis* another. In addition, defence ministries must be made to observe these rules. On the other hand, the maintenance of a competitive structure (there must be several competitors) on the supply side is essential for the implementation of a competition policy.

A first obstacle appears in the defining of precise criteria for awarding military contracts. In the civil markets, in which there are typically many buyers, many manufacturers and relatively similar products, the buyer's choice is based essentially on cost. In the defence sector, on the other hand, the situation is different, since in most cases several equipments, sometimes very different, are tendered. To take a recent example, the Netherlands has had to choose between three attack helicopters: the Eurocopter *Tiger*, which is not yet operational, the American *Apache*, which has

been in service for ten years, and the Italian *Mangusta*, which has been in service for two years. The armed forces choose equipments on the basis of a complex combination of criteria that includes operational performance, the total estimated cost of the programme (spread over 20 to 30 years), the potential for mid-life updating, interoperability with equipments currently in service and so on. How, therefore, can it be guaranteed that the purchaser makes an objective choice on the basis of such subjective criteria? How can 'nationalist' or political choices be avoided, and on what grounds could they be challenged by some supranational authority? This would appear to be impossible in any event for major weapons systems, although the situation could be different in certain specific sectors.

As far as the supply side is concerned, the introduction of competition between manufacturers would inevitably lead to a rapid process of concentration in the form of mergers, cartels, consortiums, etc. Those responsible for managing this single armaments market would rapidly find themselves faced with a dilemma:

- either to maintain competition by preventing concentration among companies, and in that case be obliged to subsidize that competition along American lines,⁽⁶³⁾ or
- allow the forming of European companies with a monopoly ('European champions' by analogy with national champions). Such a decision could be justified on the grounds of global competition, which admits the setting up of European monopolies when the market conditions are such that only European monopolies are likely to oppose foreign competition. In this case, regional blocs (North America, Europe or even Russia and Ukraine) would compete in third markets via their regional industrial champions.

In such a case, should the 'European champions' be protected from foreign competition or not? If so, Europe would assume the characteristics of the French model analysed above, something that would doubtless be viewed favourably by the French government and often by the European Commission. Indeed, it is interesting to note that an opening of European defence markets to competition, leading to the emergence of national champions, associated with the protection of European companies (for example through the introduction of duty on imported armaments as proposed by the European Commission in 1988, or a strict European preference) would use a combination of liberalism internally and mercantilism *vis-à-vis* the rest of the world to build a European state and a European identity.⁽⁶⁴⁾ In addition to opposition from the British, who could well be joined by the Dutch, the Danish and probably the Italians and the Germans, two consequences can be expected. The first is external to Europe and concerns the impact of such a measure on strategic relations with the United States. The second concerns Europe alone: the 'European champions' would have guaranteed sales, with the usual consequences of monopoly situations: inefficiency, lack of competitiveness, the dependence of the buyer or buyers on one manufacturer and little independence for governments in economic considerations -- precisely the situation that it was considered competition would avoid.

In cases where the single European armaments market was open to companies from outside Europe in order to avoid such situations of monopoly, there would be serious risks for European companies, which are often less competitive than their American counterparts. In short, by rescinding Article 223, the Europeans would find

themselves in the paradoxical and uncomfortable position of having to choose, in the name of competition, between the lesser of two evils: either a situation in which European champions have a monopoly and the Americans retaliate, or the death or in any event the rapid destabilisation of the European champions in the face of American competition.

A third solution is theoretically possible. It would consist in introducing the 'contestability' of European monopolies, resorting to a virtual competition of American and East European products. Putting a policy of contestability into practice is a very complex exercise⁽⁶⁵⁾, requiring political power that is strong, relatively independent from the defence companies and motivated by a real determination to challenge monopolies. All these requirements need a defence industrial and technological policy to be defined that is shared by all the European states and the forming of the equivalent of a European defence ministry to carry it out. All the evidence suggests that these conditions do not obtain now, nor will they in the short term.

On the other hand, in, for instance, the next ten years, there is a strong probability that monopolies will in any event be organised at the European level in the form of the Airbus type of consortium, bringing together national champions in the various categories of armaments or integrated European companies (see section 4.5.2). In this case, institutional tools, doctrine and a shared European political determination to follow a policy of contestability at the European level could gradually be built up in parallel with the process of integrating industries and markets.

Leaving aside this medium-term hypothesis, everything indicates that the rapid transposition of the single market to the armaments market would be hard to imagine for reasons that are technical (a competition policy would need managing), strategic (would it be open to American companies?) and political (difficult questions of national sovereignty and the control of a single armaments market would arise).

Nevertheless, the example of the United Kingdom, the indirect influence of the single market and the liberalisation of public areas such as telecommunications and transport are putting strong pressure on the defence sector in Europe, which is obliged to adopt more competitive attitudes and procedures.

Another of the European Union's aims is to improve the competitiveness of European companies. Apart from measures linked to the creation of a single market, where competition between companies should improve their competitiveness in external markets, programmes supporting research in the domain of high technology have been launched. The aim here is to reduce the gap between Europe and the United States and Japan in this area. Programmes such as Brite-Euram (new materials), Esprit (information technology) and Race (telecommunications) are partly related to areas of technology that potentially have dual use. According to some estimates,⁽⁶⁶⁾ some 50% of research projects funded by the European Commission's Programme framework are dual-use. The Commission has recently undertaken to make a better evaluation of the various aspects of this possible integration of some defence activities in the civil industrial and technological base.

Another initiative on the European level is the research programmes promoted by EUCLID, which have allowed an improvement in the technological base of participating defence industries.

2.3 Lower budgets: a crisis?

At the beginning of the 1980s the prospects for the European defence industry seemed good. The considerable growth in R&D investment and the launching of many ambitious projects were reassuring signs for the future. The aim of industry and certain countries -- to be able to compete with the United States -- seemed within reach. The reduction in defence budgets that began in 1990 and the demonstration of the capabilities of American weapons during the Gulf war shook this optimism.

In 1990 the defence expenditure of the European members of NATO began for the first time to show a significant decline, ending a period of

Table 2. The crisis in the European defence industry

Sources:

(1) In ECUm constant, 1985 prices and exchange rates. Figures based on 'NATO economic and financial data', yearly press release, NATO Press Service. 1994 data are NATO estimates. French equipment expenditure is taken from '*Budget de la Défense "Equipements"*', Parliamentary Report 1560, 5 October 1994, Assemblée Nationale, Paris, pp 23-27.

(2) In ECUm, 1992 prices and exchange rates. GBAORD = government budget appropriations or outlays for research and development. 1989 data from 'Government financing of research and development', Eurostat, Luxembourg. For 1993: 'Research and development: annual statistics', 1994, Eurostat, except for the United States: 'Principal indicators for science and technology', 1994, vol. 1, OECD, Paris.

(3) In ECUm, 1990 constant. SIPRI Yearbook 1993 (pp. 272 and 309) and SIPRI Yearbook 1994 (pp. 484 and 511) (Oxford: Oxford University Press for SIPRI). A comparison of the average over two three-year periods is given in order to avoid large fluctuations from one year to another.

(4) In ECUm, 1990 constant. Figures taken from the '*Mémento défense-désarmement 1993*', GRIP, Brussels, 1993, pp. 337-90.

(5) For defence and equipment expenditure, EU corresponds to European countries that are members of NATO. For other aggregates, EU corresponds to the twelve members of the European Community. Sums are calculated in ECU using the GDP deflator and the average ECU rate of exchange in the reference year given by Eurostat.

continuous increases that had begun in 1970. After five years of reductions in defence budgets it is possible to take a more detached view of the crisis affecting the defence sector and draw some initial conclusions.

Table 2 shows the main changes that have occurred since 1989. The first fall in the defence expenditure of the European NATO countries appeared in 1990. Between 1989 and 1994 there was a reduction of 12%, an average of 2.6% per year. Purchases of military equipment fell by 23% during the same period. More detailed examination shows that the reduction was greatest in Germany. It should be added that in 1994 the purchase of equipment by European members of NATO stabilised following a slight rise in 1993.

R&D investments by the members of the European Union followed a fairly similar pattern. Following a growth of 68% in real terms between 1975 and 1990, R&D expenditure fell by 16% between 1989 and 1993. Graph 2 in the first part of this paper shows trends in this expenditure for each country. Lastly, arms exports by the members of the European Union, having fallen by 58% in real terms between 1984 and 1991, have stabilised since 1992.⁽⁶⁷⁾

The turnover of the defence industries of European Union member countries began to decline in 1985; it fell from ECU60 bn in 1984 to ECU49 bn in 1992. The number of job losses followed a similar trajectory, although accentuated by the effects of the increase in productivity. As a reminder, between 1984 and 1992 some 410,000 people out of a total of 1,001,000 directly employed in the defence industry lost their jobs, an average of 51,000 per year. According to estimates of the reduction in defence business made in 1993, average annual job losses in the industry between 1993 and 1996 should be between 37,000 and 56,000.⁽⁶⁸⁾ It now seems that the number will be nearer the lower limit. Indeed, the stabilisation in exports and equipment expenditure during the last two years and the budget forecasts of the main European countries seems to indicate a slowing in the reduction, or even a stabilisation, of capital expenditure at the European level.

The consequences for employment of the reduction in defence business and the increase in companies' productivity have often attracted so much attention that they have become one of the essential arguments justifying military capital expenditure. Although the situation may be difficult, it has to be said that no European defence company of significant size has foundered after five years of crisis.⁽⁶⁹⁾ An analysis of the situation of companies in European countries does not show any serious risk of collapse in the short term.⁽⁷⁰⁾ The crisis in the defence markets is neither as serious as some suggest,⁽⁷¹⁾ nor is it having the paralysing effect that the combination of figures for job losses, drop in business and rise in unit costs might suggest. The great majority of companies are managing to cope with the drop in military business (in some cases compensating for it by engaging in other activities) and consequent restructuring.

It is interesting here to note that the German Defence Ministry considers⁽⁷²⁾ that there is no threat to the German defence industrial and technological base following a 50% drop in production and a 25% drop in R&D expenditure between 1990 and 1994! Nor does the British Government show any greater concern than the Germans despite a significant reduction in activity between 1985 and 1994 (see Graphs 1 and 2). Paradoxically, it is in France, where reductions have so far been the smallest in Europe, that the most pessimistic rhetoric has been heard, rhetoric designed to avert a foreseeable reduction in the budget, and which also reveals the fact that it is this model of the organisation of production itself that is under threat.

Of course the situation varies from country to country and sometimes between companies. British companies that have been privatised and saw a drop in business from 1986 do not react in the same way as French or Italian nationalised companies. In the latter two countries, only very limited steps to restructure have been taken, and what is in a state of crisis is the type of relationship between companies and the state more than the defence industry itself. On the other hand, companies like Daimler-Benz Aerospace, a subsidiary of the largest European industrial group, or BAe and GEC which have been privatised and exposed to competition, to cite only the largest, have been able to manage the much stronger reduction in equipment orders from their respective defence ministries.

2.3.1 Competitiveness: an ambiguous concept

In the last few years a new rhetoric has appeared, principally among French industrialists but echoed with varying degrees of enthusiasm by their European counterparts. It is held that the competitiveness of the European defence industry is seriously threatened. From a political point of view, using this argument is effective. It reflects the rhetoric that is dominant in the business sector and should be received sympathetically in national and European political circles.

However, is the argument that competitiveness is being lost economically relevant? Originally the idea of competitiveness indicated the ability of companies successfully to confront competition (through profits or the successful defence of sections of the market and their ability to ensure their future and maintain their R&D investments).

What is the state of competitiveness of the European defence industry? Two objective parameters can be used: the development of the European industry's share of the market and of investment in R&D.

European companies operate in two types of market: national markets and export markets. Regarding the latter, the value of arms exports from European countries fell between 1984 and 1992, for a number of reasons. The first reason was the very large reduction in arms imported firstly by Third World countries but also by industrialised countries. During this period, in certain European countries, France for instance, there was a drop in exports. On the other hand, exports from the United Kingdom rose between 1987 and 1991, and from Germany beginning in 1990.

If, however, the value of European arms exports fell, the market share held by the four large European countries (France, the United Kingdom, Germany and Italy) in total armaments exports rose between 1987 and 1993 from an average of 18% of the world total between 1986 and 1988 to 29% between 1991 and 1993. Graph 5 also shows that the Soviet Union's (later Russia's) exports market share fell sharply, as did that of European former members of the Warsaw Pact (shown as 'others' in the graph). Exports by American companies increased considerably but not to the detriment of the Europeans' share of the market. In terms of market share, the competitiveness of European companies in export markets is increasing.

Graph 5. The four largest European countries'

share of total armaments exports

Source: original graph based on tables 9A and 9B of the yearly publication 'Conventional Arms Transfers to the Third World 1986-1993', R.F. Grimmett, Congressional Research Service, Library of the Congress, Washington D.C., 1994, pp. 87-8.

Four largest European countries = Germany, France, Italy and United Kingdom.

Others = others arms-exporting countries.

In their national markets, European companies have also demonstrated their undoubted competitiveness: their share of the market has risen continually for thirty years. For example, only 5% of French or British defence equipment is imported. Germany reduced its imports from 56% in 1990 to 20% in 1980 and 13% in 1989. In the other European countries, national industries, rebuilt after the war, have also designed and produced an increasing amount of equipment.⁽⁷³⁾

In the aerospace sector, which is the most sensitive technologically, European companies have gradually increased their share of the market since the early 1970s. On the European markets, the aircraft and helicopter share of the market rose from 59% in 1980 to 64% in 1992, whereas equipment of American origin fell from 39% to 32% during the same period. For helicopters alone, the proportion of European origin rose from 35% in 1960 to 60% in 1992. On a global level, the European equipment market share rose from 18.8% in 1980 to 21.4% in 1992.

Table 3. The European defence aerospace sector's competitiveness

Source: table based on data given in 'The European Aerospace Industry, Trading Position and Figures 1994', The European Commission, DGIII, Brussels.

This information suggests in any event that the rhetoric of European defence companies on their loss of competitiveness should be viewed with caution. A simple comparison of the turnover of the big American and European groups is not enough to demonstrate some loss of European competitiveness or even a threat to the integrity of companies, who for the most part operate in captive national markets. If governments take companies' arguments at face value and without evaluating them,⁽⁷⁴⁾ this could be in contradiction with their wish better to control, and in some cases limit, arms exports. The growth in European arms exports in the early part of the 1980s was largely directed towards Iraq and Iran, who were at war at the time. The fall in European exports is due more to the end of that war and the general reduction in purchases by Third World countries than to aggressive American exporting.

The main trends described above -- the maintenance of the national framework's dominance in the continuation and adaptation of DITB, growing internationalisation at the European and transatlantic levels, a transformation of the relationship between civil and military technologies, the reduction of defence budgets and exports, the introduction of greater competition or contestability in defence markets and the

privatisation of companies -- therefore define the economic field in which the integration of defence industries and markets can take place.

3. MOTIVATION AND ATTITUDES TOWARDS THE INTEGRATION OF EUROPEAN DEFENCE INDUSTRIES

The wish to integrate the European defence industries and markets in some way or other has been voiced regularly since the early 1950s. The project to create a European Defence Community, if it had been successful, would among other things have led to a joint programme of arms procurement. Following the failure of the EDC, various initiatives were taken within WEU, NATO and the IEPG. The European Parliament and Commission have also made proposals. In 1991, during the negotiations on the Treaty on European Union, the French and German governments reopened the debate on a European Armaments Agency.

Today, the determination exists among certain national actors, WEU and European institutions to form a defence economic pillar. The economic aspects of defence should, following an arrangement that has become classical in the field of European integration, form the third pillar of the future temple of European defence alongside the 'common defence policy' and 'military instruments'. The construction of this third pillar has hardly begun, nor indeed has that of the other two. Foundations already exist: they are composed of the numerous instances of intra-European collaboration in armaments production and the EUCLID research programme. But apart from this accumulation of the first bricks, things are hazy and the builders await the architects' plans.

3.1 Why integrate?

If the political will to integrate markets and industries exists, it remains to be analysed. After thirty-five years of aborted attempts and traditional rhetoric, it is doubtless not entirely inappropriate to ask the question 'why integrate?' before asking 'how?'. In point of fact two aims seem to lie behind attempts at integration of the defence markets and industries. The first is political and is aimed at pursuing the construction of a political union of European states. It rests on the wish to make political capital out of the various forms of informal integration that already exist and put them at the service of European integration.⁽⁷⁵⁾ The second aim is more functional: the improved economic management of the production, acquisition and export of military equipment.

This idea of making political capital out of the many examples of integration that exist at the European level may appear obscure. To understand it, it is necessary to go back to the nature of European integration itself. W. Wallace has noted that the dynamics of European integration depend both on the informal pressures exerted by free economic and social forces and the formal canalising of those forces in specific directions.⁽⁷⁶⁾ The Single European Act is the most significant example of this formal canalization of the numerous pressures exerted by multinational companies and some governments to keep national markets open to competition in Europe. It has not only made it possible to deal with economic problems, like the improvement of competitiveness of companies, but also to complete the institutional and political construction of the European Union, in particular through the supranational

management of the single market by a single institution that has wider powers, the European Commission. It is very tempting to apply this arrangement to the defence economy, which has already seen many instances of informal integration (the numerous intra-European collaboration agreements) and should lend itself to this political and institutional capitalisation.

On the other hand, the wish to manage better economic problems, whose scale puts them out of reach of individual countries, is the second aim of integration. Four distinct trends obliged governments and defence companies to cooperate before the end of the Cold War, and those same trends will force them to do so increasingly in future. The first trend is the reduction in defence budgets. Between 1989 and 1994, the equipment expenditure of NATO's European member countries fell by 20%, a reduction of ECU800 million per year. During the same period, R&D expenditure was reduced by 16%.⁽⁷⁷⁾ In all probability, in Europe the fall in defence budgets will continue between now and the end of the century, although at a slower pace.

The second trend is linked to the necessary rationalisation of the effort devoted to R&D mentioned in section 1.5. Bilateral and multilateral collaboration in research appears to be the best way of rationalising defence research.

Thirdly, limited production runs are becoming less and less acceptable financially. The European countries develop 2.4 times as many types of armament as the United States. In addition, they have to produce them in far smaller numbers than in the United States because their equipment expenditure is on average only 38% that of the latter. In 1992 total expenditure (new equipment, R&D and updating) among the countries of the EC was ECU42 billion and that of the United States ECU110 billion. By pooling their requirements, the Europeans can make substantial economies in the production phase.⁽⁷⁸⁾

The fourth trend is the continuous rise in programme costs. In 1982 N. Augustine, former US Under Secretary of the Army, announced his famous law on the escalation of equipment costs. In the 1950s the United States was able to buy 2,000 aircraft each year, 600 in the 1960s and 300 in the 1970s.⁽⁷⁹⁾ N. Augustine calculated that, if the trend continued, the United States would only be able to afford to buy one aircraft (albeit a very sophisticated one) in the year 2054. The situation in Europe is comparable. Between 1965 and 1986, the R&D costs of a combat aircraft rose by 191% in real terms.⁽⁸⁰⁾ At the same time, the unit cost of combat aircraft produced in the United Kingdom doubled every seven years.⁽⁸¹⁾ On that basis, the member countries of the European Union, who were buying on average 160 aircraft per year in 1983 and 80 in 1990, would only be able to buy a single aircraft in 2032, assuming that defence budgets do not decrease. This argument is something of a caricature but it does nevertheless illustrate a tendency that is of concern to the armed forces, industry and taxpayers. All the necessary conditions thus exist for a veritable explosion in the number and extent of instances of collaboration in defence equipment production in Europe.⁽⁸²⁾ It can be expected that where new major programmes are concerned, international collaboration will be the rule and national solutions the exception.

These two distinct motivations -- capitalising and managing -- in reality correspond to two opposing concepts that the Europeans may have of Europe. The first motivation is

more political and determined. It will tend to insist on the notion of capitalisation, and the aim is often that of a 'European power' that has a common defence policy and integrated industries and markets, the classic attributes of power. The second concept is functional and is characterised by 'subsidiarity'. In the European dimension it sees in particular the means to manage better certain specific aspects of industries and markets that can no longer be managed at the national level.

These two concepts naturally determine the positions of the various actors. Institutions like the Commission and the European Parliament will favour the idea of political integration. On the other hand, the British Government, together with other countries and the military in general, faced with the reduction of defence budgets and a rise in the cost of armaments, will tend to emphasise the functional aspects of the process.

The first stage in addressing the possible form and detailed arrangements in the funding and management of European cooperation is an analysis of the process of European political integration as it concerns security and defence issues up to the present and as it should proceed in the medium term. That will define the institutional and political framework in which the integration of the defence economy should take place.

3.2 In what framework should integration take place?

Debate over the Treaty on European Union, and more generally the development of the European Union, have shown that the process of European integration has not taken the form hoped for and imagined by the European Community's founding fathers, nor even that which the functionalist theorists believed they had detected in the 1950s.⁽⁸³⁾ The latter saw European integration as a gradual process of transfer of national sovereignty to supranational institutions, a process marked by an almost mechanical progression towards increasingly close forms of integration in a single institutional framework. It now appears that the integration process is more like a complex network of areas of cooperation and variable integration,⁽⁸⁴⁾ linking countries that have different participation in European institutions and collaborative arrangements. Flexibility, variable geometry and subdivision are the main characteristics of the process of European integration.

The process of European integration appears more as a continuum⁽⁸⁵⁾ (see Diagram 2) ranging from the 'co-existence' of sovereign states which cooperate and compete in a limited way to more numerous forms of decentralised cooperation (bilateral *ad hoc* agreements are the classical illustration of this) which precede closer cooperation between states that are systematised within regimes (prescriptive frameworks which oblige sovereign states to cooperate in precise areas following common rules and decisions taken unanimously, as in the framework of the CFSP⁽⁸⁶⁾ or NATO). The integration of decision-making processes within supranational institutions (decision-making by majority vote in the framework of federal structures, for example) can be seen as the last stage in this continuum.

Depending on the area or problem, the European countries have the choice between these different forms of cooperation and integration. The processes of integration of

foreign, security and defence policies in Europe follow the three first stages of this continuum.

Not surprisingly, there is no instance of integration in defence issues in Europe in the sense of a transfer of national sovereignty to an institution or supranational decision-making procedures.⁽⁸⁷⁾ The strictly national dimension and decentralised cooperation still dominate the other stages of a process of integration. This situation is bound to change. As a result of the growing internationalisation of security and defence issues, the European countries will progressively have to resort to more systematic or institutionalised forms of cooperation, and perhaps one day closely integrate their defence policies.⁽⁸⁸⁾

Having given this presentation of the present process of integration, it should be possible to answer the following question: what form(s) might the process of defence integration take in the future? It seems that new, mainly intergovernmental areas of cooperation may be created in the coming years and the adoption of regimes limited to specific areas would represent a considerable step forward.⁽⁸⁹⁾

The main problem for defence markets and industries in coming years will therefore be how to go beyond decentralised cooperation as it exists today to the definition and adoption of a regime that can support, better manage and if possible increase the number of instances of collaboration.

3.3 The ambitions and means of the main actors

Before looking at the practical aspects of the definition of such a regime, it is useful to summarise the expectations and aims of the various actors involved in the integration process. For reasons of space and effectiveness, only the position and ambitions of the main actors are analysed in detail. The other European actors are dealt with more briefly. A synthesis of the position of the United States, Russia and Ukraine is presented.

3.3.1 France

At first sight,⁽⁹⁰⁾ France's attitudes and ambitions *vis-à-vis* European defence cooperation are the clearest. Through the promotion of the 'European preference', exports and the struggle against American competition, can be seen the desire to transpose the Colbertism that still reigns in France to the European level. However, major internal and external structural modifications are helping to confuse the issue.

During the Cold War, France's position consisted in both seeking maximum autonomy and supporting and influencing the building of a Europe capable of controlling Germany and resisting US hegemony. To paraphrase Lord Ismay, NATO's first Secretary-General, the French authorities' objectives regarding the European Community and WEU appeared to be to keep the United States out, Germany down and France at the summit.

The end of the Cold War and the unification of Germany changed the balance within Europe, in particular shaking French positions *vis-à-vis* European integration. Torn between the desire for independence and the wish to capitalise as quickly as possible, at the European level, on the large investment in defence made in the last ten years, France hesitates. Dominated in non-military affairs by Germany, the French

authorities have a tendency to regard their advantage in the military sector -- an advantage that should be capitalised in a European defence dimension -- as compensation.⁽⁹¹⁾ The nuclear weapons in which France has invested so much are not yet an issue in the process of European integration; at present, only the area of conventional arms offers the prospect of cooperation with other European countries. However, the European countries, Germany in particular, are not ready to accept French ambitions without an industrial and political *quid pro quo*.

The situation of French companies is unique in Europe. Nowhere else do companies have such great influence. The state controls 80% of the production of military equipment. There is a quasi-symbiotic relationship between the state and defence companies. Moreover, the defence sector occupies a privileged position, doubtless the most important, in the French system of innovation.⁽⁹²⁾ But this French specificity complicates the integration of defence markets and industries in Europe. Indeed, the public ownership of companies and the way in which they are managed, which regularly results in their being 'recapitalised' in the absence of competition, can prove obstacles to *rapprochement* with foreign partners.

The golden age in the French armaments sector occurred between 1980 and 1989. Military expenditure was rising and exports reached new heights in this period. France was the third exporter of armaments in the world after the United States and the Soviet Union at the time and only in the automobile sector were exports greater. The French nuclear industry reflected the nuclear panoply of the two superpowers on a smaller scale. The conventional armaments industry attained a degree of autonomy never reached since the Second World War. In 1987 for the first time French military expenditure on R&D exceeded that of the United Kingdom (see Graph 2). At the end of the 1980s, however, the structure began to crack. Exports fell -- dramatically in the 1990s -- and nuclear weapons lost their significance. French Arab policy, which was based on arms sales, melted into the sands of Iraq and Kuwait, and the inadequacies of French conventional weapons were evident during the war to liberate Kuwait. On top of all this, Germany was unified and French, or French-inspired, civil technological programmes (like Airbus, Ariane and the TGV), unlike armaments, met with growing success. France's defence industry, defence policy and armed forces suddenly found themselves out of step with strategic and economic realities.

The most logical reaction would have been a rapid realigning and reduction of the defence effort (with force restructuring, a new estimation of requirements and the reduction or abandoning of certain programmes), but nothing of the sort happened.⁽⁹³⁾ On the contrary, reactions combined irritation on the part of all those involved in making armaments policy in France⁽⁹⁴⁾ and the search for new reasons to justify keeping the system as it was. Irritation was evident in the absence of significant measures to cancel programmes, with the exception of a reduction in the nuclear budget, and restructuring of the industry such as had occurred in the United Kingdom and Germany.

A single ratio serves to illustrate the deadlock in which the system found itself. The accumulation of national armaments programmes resulted in 1994 in a situation that was unique in Europe: R&D expenditure of FF27 billion was equivalent to 67% of manufacturing costs of new equipment (FF42 billion). By way of comparison, R&D expenditure was equivalent to only 37% of manufacturing costs in 1992 (2 million

and 5.5 million, respectively).⁽⁹⁵⁾ This situation is good for research establishments but poses a problem for the armed forces, who cannot procure new equipments in sufficient numbers. Failure to control programme costs (the total cost of the *Rafale* programme, which at the time it started was put at FF100 billion, has practically doubled) certainly calls Colbertism, as J.-P. Hébert terms this type of administered regulation, into question.⁽⁹⁶⁾

On the other hand, new measures that provide a rationale for 'the French exception' have been adopted: France has been very active in peacekeeping operations, and France's standing in the world and its role and place in Europe are emphasised. In 1994 the Defence Minister, François Léotard justified the military equipment programme by saying, 'One of France's roles must be to give a lead to 350 million Europeans. France must pull Europe upwards, towards high technology.'⁽⁹⁷⁾

At the same time, anti-American rhetoric has reappeared in the new context of economic warfare,⁽⁹⁸⁾ which the United States and its defence companies are seen as waging against Europe. Naturally, the position of France and its defence companies must not be judged simply on the public statements of its leaders, who are very pragmatic when it comes to pursuing their declared aims, as seen in the negotiations with Germany to establish a joint armaments agency. The strength of France's position also lies in its consistency. Political, military and industrial circles have until now shared the same objectives and in practice France gives considerable impetus to the Europeanisation of security and defence, with the limited support of Germany. France and its defence companies, unlike Germany and the United Kingdom, are indeed in a situation where the European dimension is practically exclusive. All the indications are that France will keep to its intention to build this European dimension of security and defence as long as it is done on an intergovernmental basis. But there as elsewhere, and going beyond the first initiatives, much will depend on Germany and its political, industrial and financial power. Moreover, the participation of the United Kingdom is just as essential to the constitution of European effectiveness in defence issues.

Yet in the end France's ability to lead the integration process will depend on the reform of Colbertism. The situation is, to say the least, astonishing: Colbertism, which is criticised and incapable of surviving within France itself, is nevertheless promoted outside France as a model for Europe. Everything suggests, and it seems that the French Government is beginning to realise this, that the other European countries do not share France's wish to transpose its own model to the European level. The repeated failures of French armaments on European markets and the lack of success encountered by the 'European preference' demonstrate this lack of consensus. The ideal solution would doubtless be for France to reform its weapons procurement system (through privatisation and an opening of the industry to external competition) in harmony with the system that should be set up at the European level.

3.3.2 The United Kingdom

France and the United Kingdom are very different when it comes to policies on defence and attitudes to European integration. Contrary to the pro-European activism found in France, in the United Kingdom there has until now been a consistently

reticent attitude to the concept of Europeanisation, or at least to its institutionalisation in one form or another. This attitude is based on three things:

- The traditional pragmatism in British thinking,⁽⁹⁹⁾ an attitude that is the opposite of the political determination of those who favour faster European integration.
- The strong national dimension in British security and defence policy. This was confirmed by the last two military interventions that the United Kingdom has had to carry out in the last thirteen years, against Argentina and Iraq. Those two conflicts showed the government and the public that the army and its equipment, either used alone or in cooperation with the United States, were highly effective.
- The wish to deal with European defence issues within NATO. This wish is strengthened by the perception of a special strategic relationship with the United States which has not been called into question in the field of military technologies. Economic and technological relations with the United States have the effect of placing the United Kingdom between Europe and the United States. One of the aims of British diplomacy is to avoid being put in a situation of having to choose between the two.

This being the case, when necessary the British authorities show that they can back European partners, notably in cooperation on armaments. British participation in the *Tornado* or EFA programmes was in part based on a wish for autonomy *vis-à-vis* the United States. If collaboration prevails regarding nuclear weapons and intelligence, in the aerospace sector competition between the major American and British manufacturers is evident.

The possible creation of a European dimension in the defence industry and markets, as a political objective, is viewed with scepticism by the British Government. The French and Germans see a European defence market both as a contribution to the process of European integration and as a way to protect their businesses from American and intra-European competition. The MOD does not wish to duplicate, at the European level, the close relationship between producers and buyers that exists in France and Germany, a relationship that it has taken the MOD ten years to change in the United Kingdom. The privatised British national champions, who operate in a regime of competition and strict price control, do not have the benefit of the same financial and political support as their French and German counterparts.

There is considerable opposition in the United Kingdom to any process of security and defence integration that is carried out on a Community basis, a coordination rather than an integration of national policies being preferred.⁽¹⁰⁰⁾ This desire to remain strictly intergovernmental has its limits in cases where sovereign states decide to apply reforms or common rules collectively. Mere political agreements between sovereign states, unlike treaties or other, more formal undertakings, are easily ignored or modified by states. The failure of the 'action plan' agreed by the thirteen member states of the IEPG is a perfect example of this (see section 2.2.3).

However, with a few minor differences, France and the United Kingdom share a desire to give the process of Europeanisation an intergovernmental character which in terms of integration evidently should not go beyond the stage of limited regime.

It seems that the attitude of suspicion towards European defence initiatives is disappearing to a certain extent. For example, the British Government has decided to join the *Future Large Aircraft* project, after ordering American Lockheed C-130J aircraft to cover its most urgent requirements. A complete change in attitude should not, however, be expected, but rather a continuing attitude of pragmatism and resistance to any speeding up of the process of integration on other than economic grounds. The recent decision to order American *Apache* attack helicopters rather than the Franco-German Eurocopter consortium's *Tiger* serves as a reminder of the specificity of British policy and the relative weight of operational considerations (the forces preferred the *Apache*), national industrial (Westland, the only British helicopter builder, is to produce the American helicopter) and doubtless strategic (the choice of an American equipment), even if the latter aspect is harder to evaluate.

The British position during negotiations on the future European Armaments Agency (for details of the various propositions on the Agency, see section 4.5) will centre essentially on the British principle of 'value for money'. The question is whether the British authorities will show enough flexibility to avoid being marginalised if the process of defence political and industrial integration gathers pace on the Continent.⁽¹⁰¹⁾ Another point is the extent to which the British model, which is not without its faults and limitations, can be applied to other European countries.

3.3.3 Germany

The third major actor has different features. Germany is the European country that has benefited most from recent strategic upheavals. Germany wishes to merge its power into greater integration at the European level. The word 'federal' does not provoke the same reactions in Germany as it does in France and Britain. However, the German position is not without ambiguities and it is difficult to comprehend the real nature of the European ambitions of Germany and its defence industry.

The German defence industry went through a very difficult period between 1991 and 1994. The reduction by some 40% in the defence ministry's procurement (for production and R&D see Table 4) was in part offset by a significant rise in exports. Nevertheless, companies like DASA were badly affected by the reduction in business. If some feared the withdrawal of German companies from the defence sector, they can be reassured.⁽¹⁰²⁾ The companies are still there and are ready to participate in new national or international armaments projects. The defence budget is unlikely to fall below its 1995 level, and should stabilise in the coming years as far as equipment is concerned.

The German defence industry's turnover is on average only 60% of that in France or the United Kingdom. Although in third place in strictly military activities (particularly the integration of large weapons systems), the industry can on the other hand count on the strength of German industry as a whole. This strength is seen in the field of components, certain subsystems and naval shipbuilding, and is illustrated by the choice of an engine made by the German company MTU for the orders for the French *Leclerc* tank from the United Arab Emirates.

It should be noted that Germany has chosen to devote special attention to the areas of technology that are based on the strong points of German industry in general. Germany devotes a third of its defence R&D expenditure to intelligence and telecommunications technology.⁽¹⁰³⁾ The defence White Paper underlines this point, and it is obvious that two companies like Daimler-Benz Aerospace and Siemens want to be able to develop their activities in the high-technology sector, where not only are they already competitive but where many links already exist between military and civil technologies.⁽¹⁰⁴⁾

This integration of civil and military technologies is perhaps behind the German authorities' perceived desire to open European defence markets to competition. German companies should be particularly competitive in dual-use sectors.

Germany has in addition embarked on a process of redefining its defence industrial and technological policy. In Germany as elsewhere in Europe, the debate also touches on ways of modifying equipment procurement procedures so that programme costs can be controlled, especially since the EFA mishaps. At present, and despite a brief reference to this problem in the White Paper, there is nothing to indicate that the government is engaged in a thorough re-evaluation of its very close relationship with industry. Even if the German and French methods are different, it seems that both countries could have a common interest in the building of a European dimension of the defence economy on bases that allow programme costs to be controlled.

Germany and its industries need Europe for their activities but that need is not exclusive: Germany continues to set its security and defence in the NATO framework.⁽¹⁰⁵⁾ Although relations with the United States have been reassessed since the reduction of defence budgets on both sides of the Atlantic, they are still important for companies and the Ministry of Defence. In addition, and even if Franco-German relations are emphasised, German companies also collaborate to a significant extent with British companies in the aerospace sector.

Germany does not count on the military sector as much as its main European partners do. It will be interesting to see how far the German authorities will make concessions in the military domain, particularly *vis-à-vis* French ambitions, in exchange for concessions in the area of political integration.

3.3.4 The others

The three principal European countries account for 80% of defence production and 90% of defence R&D expenditure in Europe. There are nevertheless the other European countries, with all their individual characteristics (which it would not be possible to summarise here).⁽¹⁰⁶⁾ To a certain extent Italy is similar to the three major European countries. However, the smaller size of its defence industry and the restructuring of Finmeccanica, the holding company that accounts for between 75% and 80% of defence production, and above all the present political crisis in Italy, do not allow it to play a leading role. That said, Italy seems to be playing an active role in the current debate on the future European Armaments Agency (see section 4.5).

Sweden has a number of characteristics inherited from its policy of neutrality. Sweden's small defence industry (its turnover was 4% of that of the twelve European

Community countries in 1992) has with limited financial resources managed to build a significant capacity to design military equipment. The Swedish system is based on a combination of the integration of imported technology and national contributions of technology. The *Gripen* fighter aircraft, half of which is based on imported technology (the engine, armament and part of the avionics) is the latest illustration of this policy.

There are many differences between the small European countries but they have in common two main claims and one trump card. The two points in common are:

- the determination not to be kept outside any defence markets integration process, for both political and economic reasons;
- emphasis on the principle of *juste retour* or industrial and technological compensation. Whatever the sometimes negative views expressed by large companies or countries, this principle will not be abandoned, even if consensus emerges on the necessity to limit its disadvantages. For defence companies in the small countries this question of a *juste retour* is existential. As an example, in 1994 the Belgian Parliament discussed the appositeness of maintaining the system of economic compensation linked to armaments contracts. The parliamentary committee of enquiry concluded that the system of compensation should be continued for social and industrial reasons, with improved political and economic controls.⁽¹⁰⁷⁾ All the armaments programmes involving international collaboration in the next ten years will include this notion of an industrial and technological *juste retour* on Belgium's financial contribution.

The small and medium-sized European defence companies are of no industrial or technological interest to the French, British, German or Italian industries. On the contrary, they usually seem redundant. The small companies have only one trump card: their internal markets, although small, attract the attentions of the bigger companies. What might the attitude of these small countries be *vis-à-vis* a 'European preference'? An imposed European preference as France pictures it has no chance of being accepted by them. On the other hand, a system of European preference gradually built up through collaborative programmes would be joined by the various countries to the extent that their defence companies and armed forces were associated with the programmes. Adherence to the principle of the *juste retour*, whose mode of operation could change, will for the foreseeable future be one of the conditions on which countries participate in European programmes. That being the case, the *juste retour* will become an instrument of integration, even if it is not the most rational solution from an economic point of view.

3.3.5 The role of external actors

The United States and the countries of the former Warsaw Pact also have an influence on Europeanisation. At a time when the military aspects of the transatlantic partnership are becoming less important because the threat has diminished, industrial and technological relations with the United States could acquire a new significance. If French companies are less active in the American market and would be content with a protected European market, the British, German, Italian or others do not share this view. In addition, the small European countries wish to maintain their relationship

with the United States, or at least be able to introduce American competition to avoid the three major European countries having a monopoly; it therefore seems that the idea of a closed European market from which American companies are rigorously excluded is illusory.

The American defence industry is being restructured. The regrouping of companies and rationalisation of production and research infrastructure are dictated in the first place by internal considerations. The Pentagon wishes to reduce its budget significantly and is putting pressure on producers to reduce their costs. Companies are reacting in two ways, concentrating to create bigger, more competitive companies and reinvesting in export markets that were abandoned in the 1980s.

American companies faced with fierce competition on the domestic market are tending to look for technological partners abroad in order to improve their position on the American market. Moreover, these same companies may be tempted to make more profitable use of part of their technological assets by transferring them abroad. Currently, such cooperation is being developed in particular with Japan and the United Kingdom.⁽¹⁰⁸⁾

It may be supposed that in future this type of technological supply and demand from the United States will increase. In these conditions transatlantic relations will attain a new balance and change in nature, being centred more on technology than on equipment. The Joint Advanced Strike Technology (JAST) programme, which is designed to develop technologies used in future combat aircraft, is open to European participation, and negotiations on this are taking place.⁽¹⁰⁹⁾ The British are already involved in this programme, as the advanced vertical/short take-off and landing (AVSTOL) aircraft has been merged with the JAST. The Medium Extended Air Defence System (MEADS), which has an anti-ballistic missile capability and is due to be deployed by NATO, involved, at the R&D phase, the United States (50%), with France, Italy and Germany accounting for the other 50%.

In this big reorganisation of transatlantic military technology relationships, the challenge for the Europeans is the following: either they manage to exist as technological and financial actors of sufficient weight *vis-à-vis* the United States, or they present the image of a diverse collection of countries and companies in a relatively weak position with respect to their American partner. This second alternative means maintaining the present position. The first, on the other hand, requires centralisation in certain areas of technology or for certain weapons programmes, and political intervention so that a common front is presented in any negotiation with an American partner.

However, the future of transatlantic relations depends in the first instance on the attitude of the Americans. In the 1970s the United States showed that it was capable of driving through a policy of armaments cooperation on a large scale under pressure from Congress. In future there will be two options. The first will be to fall back on American requirements, with relatively little interest in cooperation with Europeans. The second will require the Pentagon and the Administration to pursue a strategy of cooperation with Europe for financial and strategic reasons. The big unknown factor is the attitude of the United States Congress, which plays a fundamental role in questions of international cooperation.

The United States is not the only possible partner. The countries of the former Warsaw Pact, and more particularly the former Soviet Union, also have to exploit their technological and industrial expertise. In fact, the transition that their economies (both civil and military) are undergoing could make it necessary for Western, in particular European countries to collaborate with them in the field of armaments, one of the few sectors in which Russia and Ukraine can be competitive. It must be recognised that at that level the European countries are displaying little willingness. The *Future Large Aircraft* (FLA) project, a direct rival and very similar to the Antonov-70 developed in Ukraine and Russia, may illustrate the contradiction between short-term industrial interests and a more strategic view of defence economic relations. It also brings out the limits of the decision-making process currently used to define European armaments projects. Decisions that have politically sensitive implications might be taken in the course of feasibility studies carried out by companies without explicitly taking into account the necessity to establish lasting industrial and technological relationships with Russia and Ukraine.⁽¹¹⁰⁾ There are very good reasons for not cooperating with Antonov, but there are at least as many for cooperation. In the absence of any debate on this issue, the impression remains that Cold War reflexes and individual interests dominate.

As far as the other East European countries are concerned, it must be said that their technological capacity and internal markets are very limited.⁽¹¹¹⁾ Their defence industries can hardly hope for more than limited agreements with Western companies on equipment modernisation programmes.

4. POSSIBLE SCENARIOS

Having summarised the main trends affecting the markets, industry and the process of integration, which provide a framework of reference, in this chapter four scenarios will first be examined and excluded as unlikely. In the first, an attempt is made to depict the progress (or lack of it) that might result from a continuation of the *status quo*. The second, a federal Europe, on the contrary implies an assertion of political will. The third and fourth scenarios, in which Europe follows either the French or British models, are based on the natural tendency of dominant countries to extend their own national model to Europe as a whole. These possibilities having been excluded, a fifth scenario, considered the most probable, is examined in detail.

4.1 Non-Europe

In this *status quo* scenario, the path followed for three decades will continue, a path punctuated by collaborative projects on specific armaments and varying in form (ranging from bilateral accords to wider agreements). The path of informal integration of the markets will be followed without any notable government intervention other than continued rhetoric and a few initiatives that are more spectacular than productive, in a relatively loose European framework. The processes of Europeanisation and internationalisation will in any event continue, but some of the economic problems identified earlier will remain unsolved or be resolved only partially, and rarely optimally. At the political level, returning to the metaphor of the temple of European defence, the economic pillar would look more like a pile of stones than the beginnings of a column.

4.2 A federal Europe

Contrary to the political *laissez-faire* scenario, the federalist or 'national European' scenario is certainly that which has been expressed the most clearly and the one that would imply the greatest degree of political intervention -- a sort of 'big bang'.⁽¹¹²⁾ The aim in this scenario is to integrate the defence markets at the European level and create supranational mechanisms for managing these markets, and to create a veritable European defence industry capable of bringing together European interests.

In this case, as was noted by I. Gambles in reference to security and defence in general, 'Security integration promises not only to strip the states of one of the most important means of asserting separate, sovereign identities on the international stage, but also to bestow on the emergent European entity the advantages of powerful identity-forming devices such as martial symbols, military *esprit de corps* and shared exposure to casualty and risk.'⁽¹¹³⁾ The proposal by the European Parliament and the Commission to create a single armaments market, which would have led to the creation of institutions or supranational management processes and ultimately to the integration of defence budgets and policies and the setting up of truly European businesses, is a variation on this scenario. The analysis of the consequences of rescinding Article 223 of the Treaty of Rome made in section 2.2.4 above illustrated the technical and strategic problems that would result.

If there is little likelihood that the federalist scenario will become a reality in the medium term, given the political and economic opposition to it, there seems no reason why it should not be the final outcome of a very long process of integration of the security and defence policies of all or some of the European countries.

4.3 The French model

In the third scenario, French Colbertism is extended to Europe. European preference, or rather European exclusiveness, dreams of self-sufficiency at the European level and of confronting the world armaments market will not, however, come about in Europe, for want of adherents. Indeed, there are few states that share the French approach, which consists in reproducing on a European scale the disadvantages of this model: European champions with a monopoly, armed forces that are in part subject to the interests of industry, little government autonomy *vis-à-vis* companies and, lastly, the difficulty of putting the industrial and technological aspects of defence at the service of a European security and defence policy. Moreover, the idea of European self-sufficiency in armaments is undoubtedly a concept made obsolete by strategic, financial and technological constraints. As a major strategic and technological player, the United States is and will remain a necessary partner of the Europeans.

4.4 The British model

The fourth scenario, that in which Europe follows the British model, is more attractive than the last but is not without its disadvantages. The British have developed a system that allows them to reconcile the advantages of competition and the necessity to maintain considerable national capacity in the fields of design and production, usually in a monopoly situation. Indeed, despite the introduction of procurement procedures that are designed to control equipment costs, it seems that the results are not as positive as official statements suggest: the rise in costs and delays in the EFA and *Phoenix* unmanned aerial vehicle programmes are a reminder of that. Moreover, the adoption of a policy of 'contestability' at the European level could be complex. Finally, the future of the British system depends in part on a privileged relationship with the United States and the goodwill of the American authorities, in particular a Congress that is unpredictable when it comes to international cooperation.

Nevertheless, the European dimension of the defence economy will not be British even if, as it develops, it borrows some of the characteristics of the policy of 'value for money'.

4.5 A Europe that is functional, subsidiary and a strategic actor

Having ruled out these four scenarios because they are insufficient or because there is little hope of their gaining the necessary consensus among European governments, a fifth scenario is put forward below, one which seems more probable and on which proposals for the integration of defence industries and markets will be based. The essential features of this scenario, in which there is a progressive, functional approach, are subsidiarity, 'intergovernmentalism' and the complementarity of the various institutions responsible for defence economic questions.

This scenario is progressive for structural reasons. On the one hand, the process of convergence of the different national ways of organising defence markets and industries will take years and, on the other, the integration of markets and industries will only be possible in respect of new armaments programmes, which will have a lead time of anything up to twenty years and will be subject to severe budgetary constraints. P. Gummett and W. Walker have suggested that it will take 20 to 30 years to change armaments procurement systems in Europe.⁽¹¹⁴⁾

The functional aspect of the scenario relates to the political and, even more so, economic advantages that states hope integration will bring, in particular a reduction in the cost of armaments.

There is no doubt about the intergovernmental aspect of this scenario, given the attitude of France and the United Kingdom and the absence of any convincing supranational solution. Even so, the possibility of limited resort to supranational solutions is not ruled out, in particular concerning the introduction of rules for competition in certain sectors of the defence market.

The concept of subsidiarity is already applied by European countries in their defence economic policies, as the analysis of the present structure of defence markets will show. In the foreseeable future, the European dimension of the defence economy will remain complementary to the national and transatlantic dimensions.

In this chapter, the economic and political goals pursued by European countries are first examined. Without a clear understanding of these objectives, the building of an institutional industrial edifice will have little coherence or credibility; only if they have an agreed strategy will the Europeans be capable of adopting the most appropriate tactic at each stage. Second, these objectives are compared with the instruments at the disposal of the Europeans for accelerating and managing the process of integration of markets and industries. Thirdly, the structure of the defence markets to which these objectives and instruments apply are examined, and finally the framework of institutions that are in one way or another concerned with defence issues in Europe are discussed.

The objectives

From the foregoing analysis it is possible to formulate the main questions that arise concerning national or European defence industrial and technological policy. These questions, and possible answers to them, are presented in the form of six sets of alternatives. The choice of alternatives that is made will determine the objectives of a European industrial and technological policy.

Monopoly or competition?

The way in which markets are organised varies from one country to another, with a marked contrast between France, where almost total monopolies operate, and the United Kingdom (as well as many small countries like the Netherlands or Belgium), whose governments attempt to introduce competition where it is viable.

The appropriate choice here is competition, in sectors where it is viable, using fixed price contracts or incentives elsewhere and resorting to 'contestability' if there is a European monopoly.

Self-sufficiency or openness?

Here again there is an opposition between views in France and those taken in the United Kingdom (along with other countries of the European Union). The question is whether there should in the future be European self-sufficiency or a sharing of the high-technology sectors, for financial and strategic reasons, with the United States and possibly other countries.

The choice in this case is between a 'fortress Europe' policy, and openness towards other countries in three particular instances: the joint development of technologies or weapons systems that are too complex or costly for the Europeans, the resort to 'contestability' and the establishing of defence industrial and technological relationships, for strategic reasons, with the United States and perhaps also Russia and Ukraine.

Separation or integration?

These alternatives do not apply to individual European countries. The question is whether their political and military authorities will have the will to bring together their activities more or resist this trend. The reduction of defence costs and the application of rules for competition for dual-use goods and services supplied to defence ministries, in particular, depend on the answer to that question.

It is in the Europeans' interest to promote the integration of the defence and civil industrial and technological base both for financial reasons and because it must be assumed that the DITB will go through a relatively long period in which military threats are considerably lower (than during the Cold War?). Part of the defence industry could gain by turning to the civil market and keeping its military activities 'in hibernation' but ready to reactivate if so required by the strategic context.

Mercantilism or firm security policies?

Arms exports form an important economic and strategic part of armaments production. Should exports be seen as an end in themselves in order to enrich individual countries or Europe and offset defence costs or, on the contrary, should governments give themselves a margin of autonomy (by themselves imposing restrictions on exports?) so as to be able to build a CFSP based on the determination to limit proliferation, underdevelopment and regional stability, and on the promotion of human rights?

Governments should opt for a greater degree of freedom in their security policies by modifying their arms export policies so that they are not a hindrance to the CFSP.

The needs of industry or those of the armed forces?

The question here is whether maintaining the role and place of the defence industry should be an end in itself, with industry capable of imposing its products on the armed forces in the name of national self-sufficiency so that it can also export them, or whether, on the contrary, it should first and foremost be for industry to meet the armed forces' requirements?

The needs of the armed forces must take priority over the economic and social aspects of defence production.

Informal or formal integration?

This last pair of alternatives has to do with the way in which a European dimension of the defence economy is achieved. Is it possible simply to make use of *ad hoc* arrangements between governments or declarations of intent like the IEPG's 'action plan', or should institutions be created that are given precise tasks and the means with which to execute them?

Given the failure of the informal approach, and in order to direct and hasten the process of integration, it would be appropriate where possible to make a formal approach to existing institutions and treaties and to promote a new institution -- the European Armaments Agency -- as suggested in the Declaration by member states of WEU at Maastricht on 10 December 1991.

4.5.2 The instruments

It is not unrealistic to suppose that the process of integration could take about twenty years, given the constraints mentioned above, but the process could be speeded up using a series of instruments that are available in order to influence the demand side, the supply side, transactions and the institutional environment. The use of these instruments can have effects which, though not spectacular, are significant.

Influencing the demand side

The demand side is originally national but by force of circumstances increasingly international. A greater harmonisation of requirements (and consequently of standardisation) could be achieved through various initiatives:

- the promotion of the closest dialogue between chiefs of defence staff concerning their future requirements, with a view to joint programmes;
- an increase in the number and size of integrated military units;
- the creation of an institution with the means and power to propose collaborative programmes;
- the introduction of a collaborative regime where, following political decisions, specific sectors would be designated in which the next generation of armaments would necessarily be the subject of European collaboration.

Influencing the supply side

It is in theory possible to imagine a situation in which defence companies would be dominant: with the merger of national champions, the European champions would be capable of lowering their costs and becoming more competitive in the external markets. However, such a possibility fails to take into account the very constraining political realities and the priority role played by the demand side.

None the less, the idea of economic and industrial rationality cannot be discarded on the grounds that it is in opposition to national positions, which have traditionally dominated defence markets in Europe. The European Commission has a specific role to play as guardian of the competitiveness of companies and the economic rationality of the single market. It can play that role by the publication of papers such as 'The cost of non-Europe'⁽¹¹⁵⁾, in which it is pointed out that restructuring the markets would lead to considerable savings. The Commission could also intervene in the sectors where civil and military activities are closely meshed.

Two-thirds of the turnover of the defence industry in Europe is accounted for by private companies.⁽¹¹⁶⁾ Only in France, Italy, Spain and Greece are there large companies that are to a greater or lesser degree state-controlled. The privatisation of companies is necessary for at least three reasons. It is essential for the introduction of rules of competition and fixed-price or incentive contracts. Next, the fact that a company is state-controlled complicates the closeness of its relationship with any private company, especially in the creation of joint ventures. Lastly, if companies are privatised this sometimes allows governments to keep their distance from companies and enjoy a certain autonomy in following their procurement and export policies.

The major European countries are obliged to choose which technologies and products they wish to maintain nationally or in European or international partnership, and the areas in which they will have to import armaments. This selection of technological areas can theoretically be either systematic or pragmatic. The idea of a defence industrial and technological 'Yalta',⁽¹¹⁷⁾ resulting in a sharing out of armaments production by the European countries, does not seem realistic. On the other hand, a pragmatic division of labour in accordance with the opportunities for international collaboration appears the most likely solution.

In this context, the notion of 'structuring cooperation' is particularly useful.⁽¹¹⁸⁾ It suggests the launching of joint armaments programmes that are sufficiently ambitious and long-term. Such projects can lead to the creation of joint ventures or, even better, European consortiums. Ideally, these would remain in existence on completion of the programme for which they were formed and gradually arrive at a division of labour along the lines of the Airbus consortium. The most promising sectors for this are transport and fighter aircraft, armoured vehicles and missiles.

The creation of consortiums designed to develop several generations of equipments depends on the ability of staffs to define joint programmes and include them in a long-term strategy. An aircraft developed jointly should be replaced by another aircraft that has been developed jointly. Through political accords and the definition

of a common defence policy, governments should endeavour to guarantee the long-term viability of consortiums and the European division of labour that would result.

Influencing transactions

The possible reform of transactions (through the introduction of fixed-price contracts, incentives, competition and so on) was dealt with at length in section 2.2. On the other hand, it is useful to look at the relationship between 'contestability' and the monopolies that will sooner or later be created in Europe.⁽¹¹⁹⁾ The implementation of such a policy demands specific political and institutional conditions. Governments have to share the same determination to keep 'European champions' that are capable of assuring autonomy of political decision-making while remaining competitive. That determination can be expressed through a 'European preference' depending on the actual ability of European companies to produce good equipment at affordable prices. If they do not have that ability, governments must be prepared to turn to competition outside Europe. The development of a policy of 'contestability' at the European level is a long-term objective but one that could from now on affect government attitudes.

Influencing the institutional environment

In parallel with the organisation of defence markets and industries, the development of an institutional framework will also make it possible to influence their integration. At present, that process is at a very early stage. The creation of a European Armaments Agency is certainly the main issue for the coming years, and the idea of creating of a parallel structure that brings together Chiefs of Defence Staff to define requirements should also be pursued. The application of CFSP procedures to arms exports, and resort to the European Council or a reformed WEU Council for the most important political decisions are all institutional channels that could be used.

4.5.3 A three-level market

Having identified the objectives and tools for attaining them, it remains to put them in context, in other words (to examine) the structure of defence markets. The IEPG and the European Commission have tried without success to accelerate Europeanisation and make it systematic by influencing defence markets. Paradoxically, at the time when these institutions propose that they should construct a European market by attempting to apply uniformly the regulations governing competition and openness in markets, the armaments markets are structuring themselves almost naturally at three levels, one of which is the European level. These three levels -- national, European and transatlantic -- are defined by the type of requirement and the number and nationality of the partners involved in the procedures for procurement and production of the various different military equipments. Table 4 shows this three-level structure diagrammatically.

First is the national level, corresponding to national requirements, which are most often met from national sources. The defence ministries manage these transactions alone and in 1985 they represented a figure ranging from 75% of total procurement of military equipment in France and the United Kingdom, to about 20% for the small countries.⁽¹²⁰⁾ The rules governing the awarding of contracts vary, depending on the country, from monopoly to competition between companies or consortiums.

Following the direction of the arrows on the left of the diagram, the second level is the European level. It is useful to distinguish between those projects involving all or nearly all the countries and those that bring together only some of the potential partners. The latter type of agreement is more usual at present (see the section on internationalisation). Such

Table 4. The structure of defence markets in Europe

- (1) European or transatlantic programmes with only a limited number of participants.
- (2) European or transatlantic CRCA (Common Requirements, Collective Access) involve all potential users of an equipment in a common project.
- (3) The rules for contracts may vary on both sides of the Atlantic. The United States and United Kingdom introduce competition between firms, and other European governments arbitrarily designate national champions.
- (4) Types of management shown in brackets are proposals.

programmes are managed either using the classical methods of NATO 'projects' or 'agencies', or *ad hoc* structures.

In future, a series of projects involving a greater number of European partners should be developed as well as these examples of limited and sometimes competitive European cooperation. The idea of Common Requirements (common, that is, to the Europeans) and Collective Access -- CRCA -- seems the most appropriate. CRCA are defined both by the nature of the requirement and the way of meeting it. The requirement leads to a programme that is common to all or nearly all of the European member states, while the manner of satisfying it lies in the possibility of only gaining access to certain operational capabilities through the pooling of financial and technological resources. At present, two programmes truly deserve the description European. There are firstly, and to a limited extent, the contracts associated with the setting up of a WEU satellite centre at Torrejon, and, secondly and more significantly, the Future Large Aircraft (FLA), which involves practically all the European defence ministries that are interested in this type of aircraft. The project is the result of coordination of national requirements within the IEPG. These two programmes are likely to be joined by other European CRCA projects in domains where the pooling of European financial and technological resources is necessary, such as intelligence, space and transport.

The definition of these European CRCA projects is a delicate affair. Pressure groups, headed by industrialists, will be quick to propose new European programmes because that is their role, but the usefulness of these will sometimes be debatable. They will increasingly do this knowing that this European dimension will enable them to aim at productions and technologies hitherto inaccessible, either because there was not sufficient collaboration between Europeans or because the United States supplied such equipment within the NATO framework. Programmes decided upon without any real operational justification and whose costs are not controlled will inevitably be questioned, to the detriment of the European defence identity. On the other hand, it

would be hard today to imagine a debate on a symbolic programme such as the FLA similar to that which took place over the future of the EFA two years ago.

As for the detailed organisation of CRCA contracts, there are two possibilities: either a consortium is formed by all the industrial partners and benefits from a monopoly, as is the case for the military division of Airbus Industrie, formed to produce the FLA. In this case the risks associated with being a monopoly are partly offset by resort to management procedures similar to those found in the civil sector. The FLA is also an example of a contract that is contested without being competitive in the sense of the British model of contestable contract. More or less equivalent equipments, either American in the case of Lockheed's C-130J or from the CIS as in the case of the Antonov 70, have performance and cost specifications that cannot be ignored. These two aircraft programmes have exerted and will continue to exert significant pressure on the FLA programme. The other possibility is that direct competition could be organised between European manufacturers for certain CRCA projects. This has happened, for example, in the space sector, where several European companies (French, Italian, German, British or joint ventures) could submit tenders to a European agency responsible for managing military space programmes.

The third level at which European defence markets are structured comprises transatlantic projects. There, too, a distinction has to be made between limited transatlantic projects in which American companies or the Pentagon are associated with one or several European partners (as, for example, the AV-8B *Harrier* and the X-31), and transatlantic CRCA projects. As a general rule, all the European members of NATO are involved in the latter. The most well known examples of these are the NATO infrastructure and programmes like the AWACS airborne radar aircraft, the telecommunications infrastructure (in particular satellites) and in future possibly anti-ballistic missile missiles and airborne ground surveillance radars.

This structuring of the markets is dynamic. The composition and relative importance of the three levels are not permanently fixed. On the contrary, while continuing to be dominant in the major European countries, the national level will have to transfer many armaments programmes to other levels for financial and technological reasons and for reasons of political appropriateness, and this is indicated diagrammatically in Table 4.

Finally, the question of the establishment of effective rules for the management of European programmes arises. It is not simply a question of bringing together all the actors who might be concerned in a programme; the programme itself must be attractive to them. The selective use of rules for competition between consortiums, the principle of competitive tendering and fixed-price procedures or incentives, etc. should allow a balanced

Diagram 2. The armaments market in Europe, showing the three levels and three institutional actors

relationship between producers and buyers to be formed.⁽¹²¹⁾ If this European dimension of defence markets is one day to take over the lead from the national dimension, it must be on a healthy economic and political basis.

4.5.4 A framework of three institutions

Three international institutions are considered to have complementary functions in the management of defence economic issues: the European Union (the Council, the Commission and the European Parliament), WEU and NATO, which shows the complexity of the process of European integration. While awaiting political clarification, for the management of European security and defence it is this tripartite structure that is turned to on questions of the future integration of defence markets and industries in Europe.

This structure is shown in Diagram 2 in the form of three pillars (the European Union, WEU and NATO) that have their bases set in the defence markets as they were presented in Table 4, structured at three levels: national, European and transatlantic.

The European Union

Having made a first attempt at the end of the 1970s, the European Commission and Parliament tried to enter the debate on the future of defence markets at the time of the adoption of the Single European Act and through the re-launching of the process of political integration at the beginning of the 1990s. Those in favour of a 'communitarisation' or rapid integration of defence markets were able not only to see the wide gap that existed between their ambitions and reality. This initial foray resulted in a greater degree of prudence and certainly pessimism.

If the time no longer seems ripe for reform on a large scale, the institutions of the European Union, particularly the Commission, are still concerned by certain aspects of the defence economy and are likely to put forward new proposals.

The first of these concerns a part of military equipment contracts. If it is illusory to think that a single armaments market will be set up, certain aspects of defence contracts could nevertheless be subject to the rules governing the awarding of public contracts that are applied in the single market. Some 38% of purchases made by defence ministries are dual-use in nature.⁽¹²²⁾ In reality the greater part of these goods and services are civil. This proposal would consist in limiting the area of application of Article 223 of the Treaty of Rome, which exempts military markets from the rules of competition in public contracts. Some contracts would be open to intra-European competition, while goods and services of a strictly military character would continue to be covered by an Article 223 that had a smaller area of application. In addition to the economies achieved, put at ECU2.5 bn in 1990, the application of Community regulations to civil parts of defence contracts would allow a strengthening of the tendency in defence ministries to adopt more effective weapons procurement procedures. In the longer term, a gradual liberalisation of other parts of public contracts for military equipment could be considered to the extent that competition was viable. This idea appears in one of the scenarios given in the study carried out for the European Commission on 'The Cost of non-Europe in Defence Procurement'. This so-called 'dual track' scenario includes the introduction of competition at the level of small and medium-sized contracts for military equipment, whereas big projects would usually be the subject of international collaboration.⁽¹²³⁾

The second concern is over technological relationships. If it is mainly up to the national systems dealing with innovation to manage this relationship, it appears that technology policy at the European level is and will increasingly be questioned by the world of defence, whether in the European Commission's framework programme, Eureka or the European Space Agency.

The social and regional consequences of the reduction in military expenditure are already being studied by the Community as part of the KONVER programme in particular, and regional policies in general.

The Europeans have a medium-term aim of building a Common Foreign and Security Policy. A European harmonisation of arms export policies is thus on the agenda. The relationship between this and the organisation of arms production at the European level could now be examined so as to establish whether coordinated action between these two areas is possible.

Lastly, it is up to the European Parliament and Commission to ensure the general coherence of European integration. Their role of proposing and questioning is essential. These institutions should be able to be associated officially with the building of a European dimension of the defence economy as is the case with the Common Foreign and Security Policy.

NATO

NATO is the institution that at present has the greatest competence in European defence; it would not be possible to list here its numerous activities in the defence economy.⁽¹²⁴⁾

The Treaty on European Union did not fully clarify the relationship between the European Union, WEU and NATO. The infrastructure that the Alliance puts at the disposal of its member countries to manage collaborative projects is for example used for European collaborative projects.⁽¹²⁵⁾ The rivalry that was seen to be developing between NATO and WEU in 1992 seems to have given way to a limited form of cooperation. For the Europeans the difficulty lies in the fact that they have to forge a common defence identity while having to manage the development of transatlantic relations. The United States is both a partner and a competitor, depending on the circumstances. This ambivalence in the relationship means that for the Europeans it is very difficult to manage the transatlantic relationship calmly and above all in common.

The expression `separate but duplicated'⁽¹²⁶⁾ could be used to sum up the difficulty posed by the existence, and above all the development of WEU in relation to NATO, a problem that is particularly sensitive in the domain of armaments and infrastructure programmes.⁽¹²⁷⁾ Two attitudes to this are possible. The first is to consider the maxim of no duplication as absolute for reasons of budgetary orthodoxy. If the Europeans decide to undertake common infrastructure programmes, in particular space telecommunications, there is the risk of duplication of existing NATO programmes. If this approach were adopted, it could be difficult to develop strictly European infrastructure programmes, since NATO already has a major infrastructure.

The other approach is to accept a certain amount of duplication and extra costs resulting from the development of autonomous European capabilities. This is for example the case of France's declared intention to develop a European space-based intelligence-gathering system whereas its main partners have different attitudes. The United Kingdom wishes to continue to keep its strategy of intelligence acquisition and transmission within the framework of NATO or privileged agreements with the United States. Germany seems to want to take a middle path, associating NATO and the development of European capabilities. The future will no doubt see the emergence of a pragmatic solution with on the one hand reconciliation of the European identity and the transatlantic partnership, and on the other complementarity between European and transatlantic programmes.⁽¹²⁸⁾

During the slow process of clarification of transatlantic relations, WEU and in particular the future European Armaments Agency could be the place in which the Europeans negotiate common positions on transatlantic armaments programmes (transatlantic CRCA projects). In this way they could present a common front that could counterbalance American political and technological power. At present, the National Armaments Directors (NADs) meet their North American counterparts in the NATO Committee of National Armaments Directors (CNAD). A certain coordination exists between the European NADs on a bilateral or multilateral basis, but obviously negotiations within NATO still take place on a national and not a European basis. That is the case, for example, for the current negotiations on an airborne battlefield surveillance radar and an anti-missile air defence system.

WEU

When the Treaty on European Union was signed, Western European Union was designated as both an integral part of the European Union, although it had no military resources, and the European pillar of the Atlantic Alliance, although it was not ready to play a collective political role. This being the case, and in parallel with the growth of its muscles and nervous system, it is now up to WEU, having come to the end of a long institutional and political process, to address questions of armaments production. In 1991, the French and German governments reopened the debate on the creation of a European Armaments Agency during the negotiations preceding the Treaty on European Union by proposing that a WEU Agency dealing with armaments cooperation should be created.⁽¹²⁹⁾ In December 1992 the IEPG, which was the only European body competent to deal with armaments issues, was incorporated within WEU and renamed the Western European Armaments Group (WEAG). A European Armaments Agency should be created on the basis of the WEAG, with tasks that, according to a report by the Parliamentary Assembly of WEU, could include:

- management of cooperative programmes;
- management of the EUCLID programme;
- management of joint research and testing facilities;
- technological and operational studies;
- the establishment of information and data services.⁽¹³⁰⁾

In November 1994, at the Noordwijk ministerial meeting, the members of WEU agreed the principles of operation of a European Armaments Agency.⁽¹³¹⁾ At the same meeting, the defence ministers of the thirteen member countries of the WEAG agreed to create a research cell to support the EUCLID programme in spring 1995.⁽¹³²⁾ The EUCLID programme has not met with the success hoped for. Currently, France and the United Kingdom devote only about 1% of their research budgets to EUCLID, Germany 2% and the other countries between 5% and 50%. The reasons put forward to explain this relative failure are the time it takes to set up programmes, the lack of new projects and competition from the bilateral and multilateral programmes established outside the EUCLID programme.

In parallel with the work of the thirteen member countries of WEAG, France and Germany are studying the setting up of a Franco-German armaments agency. It appears that the two countries would like to obtain for this agency the status of a subsidiary body of WEU. In addition to the legal problems that that would pose, it seems that the partners of France and Germany, in particular the United Kingdom and Italy, do not like this move, which would amount to France and Germany anticipating events and occupying part of the place reserved for the European Armaments Agency. In March 1995 the United Kingdom and Italy proposed to France and Germany that they should together create an agency with wider membership. At the time of writing, no formal decision has been taken, but what seems most plausible, and will be assumed in this paper, is that an agency including all members of the WEAG will be created in 1996 or 1997.

What form might such an agency take and what would be its tasks? The agency will most probably develop progressively and as a function of three variables that are difficult to evaluate:

- the rate at which countries are prepared to transfer armaments programmes to the European level, and in particular the rate at which they define CRCA;
- the development and definition of a common European defence policy and the re-definition of transatlantic relations;
- the development of the strategic context in Europe, in particular the existence or not of external pressures which could accelerate the *rapprochement* between Europeans.

The agency's prime function would be to constitute a permanent venue for dialogue between defence ministries. At present, defence ministers meet only twice a year to discuss defence questions at WEU ministerials and once a year in the WEAG. A complementary body would have to be created with responsibility for working out common requirements. It would bring together the representatives of Chiefs of Defence Staff of member countries of the agency and would be the counterpart, on the demand side, of the agency responsible for the design and production of armaments. The agency could also gradually acquire its own identity and formulate proposals, facilitate negotiations and in certain cases exert real influence on the issues with which it deals. As for its actual composition, comparison with the European Space Agency could give some indications.

How does the European Armaments Agency fit in?

The European space programme provides a useful historical comparison because of its contact with the armed forces on questions relating to industry, technology, state involvement and captive markets (except for the sale of commercial satellites). The only important difference in comparison with the defence economy lies in the history of these two sectors. The space sector, which was virtually non-existent in Europe in the 1960s, had to be created in conditions that, from the beginning, required cooperation at the European level. This requirement that the nine countries cooperate in order to build something explains in large measure the success of the European space programme. Cooperation did not mean any sacrifice on the part of the countries involved in terms of industrial and technological capacity, and it was possible to set up a division of labour among the member countries. At the very moment when the space sector had to integrate and rationalise in order to be able to develop, the military sector was resorting to international cooperation to develop redundant national design and production capabilities.

Today, in 1995, things have changed and the birth of European cooperation on space issues at the end of the 1960s can be used as an example. The European countries that have a major capability in the production of armaments are engaged in a lengthy process of pooling their financial and industrial capacities. It is therefore tempting to use the analogy between the functioning and structure of the ESA and that of the future European Armaments Agency. Within the ESA, member states decide on mandatory programmes (research programmes, for example) that are funded from a budget made up of contributions from member countries and managed by a central administration. In parallel with this, participation in additional programmes like the *Ariane* rocket is optional. The ESA has also developed a system of industrial *juste retour* that, without being very different from traditional industrial compensation linked to collaboration in armaments, seems to be proving effective.⁽¹³³⁾

The composition of the future agency could be decided according to two principles. Countries participating in mandatory programmes (doubtless the thirteen members of the WEAG) would be full members. The complementary programmes would allow non-member European countries to participate in the agency on an *ad hoc* basis. In a sense this would be a version of variable geometry based on the one hand on the political will of member countries and on the other on the specific requirements of non-member countries.

To complete the analogy of the ESA and the future European armaments agency,⁽¹³⁴⁾ it should be noted that while participating in the ESA, countries are still able to participate in national or multinational space programmes with the United States, Japan or Russia as well. This

Diagram 3. The European Armaments Agency (EAA): four possible forms

capability corresponds to a claim by the large European countries in the field of defence industrial and technological policy.

Diagram 2 showed the place of the future European Armaments Agency and its context. Neither exclusive nor marginal, it is situated at a nerve centre but this position is contested by the requirements of national programmes, and bilateral and transatlantic collaboration. It is a strategic point at which future European programmes could converge.

Theoretically, it seems that the future Agency could take four forms (see Diagram 3), but only three are practicable.

The first of these would be a 'letterbox', a secretariat that would itself have very few human and financial resources, and few significant programmes. The absence of European CRCA projects could be explained by the lack of a common position among the Europeans on operational requirements, or again by the monopolising of CRCA projects at the transatlantic level.

The second possibility, an agency that took the form of a 'bureau', would happen if the Europeans managed to transfer significant research (through the development of EUCLID) and armaments programmes to an agency. The essential part of the work of this agency could be made up of mandatory programmes. The periphery of the agency would be composed of complementary programmes, open to all members but not obligatory, and limited European collaborative projects limited to certain countries. Both of these could be managed within a legal framework that WEU could make available to the various partners concerned, as already happens in NATO agencies or programmes. It is here, for example, that the European Armaments Agency could establish links with the Franco-German agency mentioned earlier.

The creation of a real agency along the lines of the ESA, with its own personality, a budget, a significant capacity for analysis and empowered to lay down a European doctrine on industrial and technological policy, would be a significant step forward. There are, however, major obstacles to this.

The creation of a single European agency for arms procurement to replace national agencies is of course unrealistic in the medium term. Nevertheless, the possibility of this happening as the final stage of the close integration of national defence policies should not be excluded in the longer term.

It is too early for a real agency or even a 'bureau' to appear. The creation of a 'secretariat' type of agency is the most plausible solution in the short term. It would therefore be appropriate for this first stage to form part of the logical progression of the 'secretariat' agency towards the 'bureau' stage and then the real agency. It would presumably be useful, when the agency is created, to plan on a procedure for re-evaluating the way it operates, its tasks and the means available to it. This re-evaluation could take place after it had been in existence for four or five years. Such a formal undertaking by the European countries would help maintain the impetus of the integration of defence markets and industries.

CONCLUSIONS

Fifty years after the end of the Second World War, years which have in particular seen the reconstruction of national defence industrial and technological bases in Europe, several conclusions can be drawn. First, it can be confirmed that the national framework persists as the main point of reference for the constitution and maintenance of a defence industrial and technological base. The national dimension is preponderant but it has had to adapt. Obligated to cooperate, faced with the globalisation of the economy in general and the internationalisation of defence industries in particular, influenced by the dominant economic ideology and, lastly, grappling with a reduction in defence budgets, national schemes for developing DITB have emerged from the Cold War confirmed but also modified.

Analysis of the process of internationalisation, and in particular Europeanisation of defence reveals a marked, growing tendency of countries and companies to cooperate internationally and at the European level. The big European countries and companies are engaged in the third phase of Europeanisation (see section 2.1.3), a phase characterised both by reaffirmation of the renewed national dimension, through more flexible, eclectic links between the state and its national champions, and by a growing and non-contradictory requirement to cooperate with foreign partners. Those same countries are obliged to choose the technologies and production they wish to master nationally, those they wish to develop in international or European partnerships and the areas in which they will have to rely on imports.

All the signs, beginning with the stagnation or reduction of equipment expenditure and the concurrent increase in development costs, indicate that this obligation on European countries to cooperate with each other or with other partners will grow considerably. The conditions are ripe for an explosion in the number and scope of instances of collaboration on armaments in the coming years. It should be expected that, as far as new major programmes are concerned, international cooperation will be the rule and national solutions the exception.

Countries and companies are adapting to their new financial, technological and political context in much the same way that the civil aerospace sector has already adapted. European countries and their 'national champions' are gradually giving the defence economy a European dimension that lies between a national dimension that is still preponderant for the major European countries and a global dimension that includes in particular relations with the United States. The armaments market is now structured at three levels: national, European and transatlantic.

The European level is the least institutionalised of the three and the main question facing the Europeans in the coming years will be how to make a reality of the political rhetoric and set in place from an economic point of view the many manifestations of the Europeanisation of the defence economy. The ambitious yet realistic objective that the Europeans should set themselves might be to move from the present situation, in which there are many decentralised collaborative projects, to the definition and adoption of a regime that is able to coordinate and if possible increase the number of such projects.

Hitherto, the ascendancy of the inertia that characterises national armaments markets and the differences between European countries have commanded attention, to the extent that thinking on the future of the integration of armaments markets has centred more on differences and issues on which countries are opposed than on questions that bring them together and make them increasingly interdependent. This way of looking at the situation is doubtless the explanation for the manner in which those in favour of a Europeanisation of defence have perceived not only their role but also their actions. Faced with such a fragmented picture, the aim of higher intervention (in the sense of a logic that transcends national logic) can only be attained through a harmonisation of national differences in a European matrix.

Initiatives taken using the above approach have been characterised by the inadequacy of economic arguments for change and the impossibility of forming a sufficiently powerful coalition of interests to overcome opposition. At present there is certainly not any policy of starting completely afresh. The issue at present is not so much the denunciation of nationalism in armaments procurement, which would be sterile, as the gradual construction of a European level in defence markets, between the national and transatlantic levels. The European dimension has to be attractive and guarantee a reduction in costs, an improvement in the quality of equipment and contribute to the establishing of a European security and defence identity.

Achieving this European dimension will be a gradual process for at least four reasons. First, the crisis in the defence industry is not as dramatic as the end of East-West confrontation might have indicated. Pressure for greater rationalisation of the defence industry, while considerable, is less than was imagined at the beginning of the 1990s.

The second reason concerns the divergences between the defence sectors in European countries. The influence of the defence industry on the economy and society varies from one country to another. In France and the United Kingdom, defence R&D is greater than all other public R&D investment and military equipment purchases represents a very significant proportion of government capital expenditure. In other countries such expenditure is marginal or intermediate, as in Germany. Moreover, the way in which the relationship between the state as the customer, and sometimes also the owner, and the producer is organised still varies considerably. The convergence of the different national models will take time and cannot be regulated by 'criteria of convergence' similar to those used in the Economic and Monetary Union.

The third reason is to do with the fact that the armaments programmes are the main driving force behind the organisation of markets and industries. It will apparently take a minimum of twenty to thirty years for the European countries to replace all their equipment and therefore have the occasion to initiate European or wider collaboration on the basis of new armaments programmes.⁽¹³⁵⁾

Lastly, the integration of defence markets at the European level is happening in a restricted political framework. Whereas the end of the Cold War and the Treaty on European Union will doubtless appear as events that started a true process of integration of European security and defence, it must be said that at present only a few very small steps have been taken, and that the forming of a European security and defence identity will take time. This strategic dimension of Europe will develop gradually, stage by stage, and will be interrelated with international events. Moreover,

the development of the process of European integration up till now, and in the light of the key position of actors like France and the United Kingdom, leaves no doubt that defence integration will remain essentially an intergovernmental affair in the coming years.

In this paper, several scenarios have been analysed and then discarded as improbable before proposing a way ahead for Europe.

The *status quo* or non-Europe scenario was discarded from the start because the absence of a policy constitutes a financial, industrial and strategic risk that the Europeans would find difficult to accept in the present circumstances.

The federal Europe or single armaments market scenario was discarded for technical and strategic reasons, but also because there is no significant support for it. Applying the French or British models to Europe does not seem convincing, because national peculiarities of these models are too pronounced and because of their limitations.

The features of the scenario considered here to be the most probable are progressiveness, its primarily intergovernmental character, resort to the idea of subsidiarity, and the aims pursued: the use of competition and contestability, openness towards the rest of the world, the integration of military and civil activities, a coherent arms export policy, the primacy of the armed forces' requirements and institutionalisation of reform at the European level.

In this scenario, the aim is to build a DITB that is capable of giving the developing European strategic actor autonomy *vis-à-vis* the rest of the world but also *vis-à-vis* internal economic interests. This European strategic existence would be based on armed forces that were well equipped at minimal cost, a true arms export policy and the implementation of a policy of industrial and technological collaboration with the United States or new partners in Central and Eastern Europe.

This scenario rests on both the complementarity of existing institutions -- WEU, the EU and NATO -- and the present structure of defence markets and the forces driving them. It makes use of the various instruments at the disposal of the different actors in order to influence the demand (by encouraging the harmonisation of requirements), transactions between manufacturers and buyers, the relevant institutions and, to a lesser degree, the supply side, in particular by promoting privatisation and an economic rationality that is compatible with very restrictive political demands. In this, the principle of the *juste retour* is seen as a tool for political integration even though it is not the most rational economic solution.

The European Armaments Agency that should be set up in 1996 will play a central role in creating this European dimension. Comparison with the European Space Agency gives a rough idea of the form an armaments agency might take that was capable of managing common research and infrastructure programmes while allowing the persistence of the strictly national dimension and a transatlantic level that will cover programmes that are too complex and expensive.⁽¹³⁶⁾ The agency will also have to be sufficiently flexible so as to allow countries that wish to participate closely in the process of defence integration to be associated as well as those that wish to participate in a more detached or *ad hoc* manner. The European Armaments Agency

will thus provide an illustration of the famous 'hard core' (the Agency's member countries) and variable geometry concerning participation in complementary programmes.

The forms this Agency could take are presented as four stages of development. Beginning with a modest secretariat, during the next ten to fifteen years the Agency could acquire the status of 'bureau' and then become a true agency, with its own personality, that would have seen develop within it a European policy on armaments production, and finally in the long term a European agency with a monopoly for arms procurement.

RECOMMENDATIONS

In parallel with a choice on the aims of integration, the following proposals are made as ways to coordinate, direct and indeed accelerate the integration process:

1. The creation of a European Armaments Agency should be considered seriously by defence ministries from the start and its functioning and resources should be evaluated periodically -- say every five years -- in order to help it become a true agency.
2. A parallel structure to the Agency should be created. It would bring together the Chiefs of Defence Staff of member countries and its objective would be to increase standardisation of equipment and launch collaborative programmes. These joint armaments programmes would subsequently make it possible to rationalise armaments manufacture, especially if they involve a large number of partners and if there is a clear possibility that they will be renewed in time, to permit a division of labour between European partners.
3. The field of application of Article 223 of the Treaty of Rome could as a first step be strictly limited to military goods and services. Defence ministries' procurement of dual-use goods and services would be opened to competition within Europe or beyond if necessary. In the long run, defence contracts for which competition is viable (those that involve numerous competitors and transactions) could also be opened to competition.
4. The Europeans should speed up their thinking on the difficult question of dual-use technological capabilities, with two objectives: the reduction in the cost of military equipment and the integration of a part of the DITB in the much wider industrial and technological base.
5. There should be an acceleration of the long process of convergence of the ways in which countries manage their DITB, methods which are still very different or even diametrically opposed (in France and the United Kingdom), in particular through the privatisation of publicly-owned companies and the introduction, at the national level, of more competitive procurement procedures like those followed in the United Kingdom.
6. Study of a common defence policy should more actively include the economic aspects of defence, particularly by multiplying exchanges of information and developing a strategy of information acquisition at the European level. The lack of information on the European dimension of the defence economy is very evident, yet collaboration will be difficult without knowledge.
7. As part of the control of the costs of armaments programmes, the selective use of competition and fixed price contracts or incentives should be encouraged by the future European Armaments Agency. In parallel with this, defence ministries could relax their technical specifications so that industry can more easily integrate existing technologies.

8. 'European preference' will not be decreed but rather constructed by associating the various partners in European projects. This European preference is doubtless inevitable in certain sectors,⁽¹³⁷⁾ whereas in others there will be development in a transatlantic partnership. Faced with the European monopolies that are emerging (in the form of consortiums, for example), governments could usefully take the attitude that these may be 'contestable' by companies outside Europe, as has happened with the Future Large Aircraft project, so giving rise to a 'contestable European preference'.

9. In the medium term, the Europeans are for political reasons condemned to live with the principle of the *juste retour*. The economic disadvantages of this may none the less gradually be limited, as happens within the European Space Agency.

10. The Europeans have declared their intention to become strategic actors on the international stage. Companies faced with declining national markets are increasingly dependent on exports. In many European countries a large part of the defence industry's activities therefore depend on exports to the Third World. If a European strategic pole is gradually to be formed, this will thus require an unambiguous policy on arms exports, especially as some of the main challenges to international security (proliferation of both conventional weapons and weapons of mass destruction and excessive arms stockpiles in certain countries or regions) are linked to the export of military equipment and technology.

For the moment the European countries give an impression of division and political weakness. Economic and social arguments outweigh other considerations. An idea that might therefore be considered at this stage is that the gradual integration of the defence markets in Europe and possibly their protection could be proposed to companies in exchange for restrictions of certain exports.

In effect the problem of arms exports has figured on the European agenda for over two years but little progress has been made. Arms exports are also one of the first manifestations of the complementarity and interdependence of the Common Foreign and Security Policy and the future common defence policy.⁽¹³⁸⁾

11. Finally, it will be up to heads of state and government meeting in the European Council to decide whether questions connected with the CFSP have implications for defence and must thus be the subject of WEU intervention. If, as planned, the European Armaments Agency were to be set up, heads of state and government could decide on a case-by-case basis the armaments programmes that they wished to produce jointly. These armaments, which would become Common Requirement Collective Access (CRCA) projects, having been decided on at the highest level, it would be up to WEU, the Agency and national administrations to implement this collaboration. These programmes decided upon at the highest level would then be freed from the national obstacles that are regularly put in the path of collaborative projects.⁽¹³⁹⁾

The question of the view that the Europeans have of their future strategic existence is being posed, in particular through the gradual construction of this European dimension of the defence economy. The flexible, progressive nature of European integration has its advantages but also its limits. In the absence of an overall plan, or

at least clear objectives, the actors involved run the risk of either building a pile of institutions and armaments programmes without any great degree of coherence, or seeing the overall management taken over by private interests. Twenty-five years ago, J.K. Galbraith noted, in connection with the American military-industrial complex denounced by President Eisenhower, that 'the problem of military power is not unique: rather, it is a formidable example of the tendency of organisations, once established, to develop a life, a justification and a truth of their own. This tendency occurs in all large bureaucracies, whether public or private.'⁽¹⁴⁰⁾

There is for example a risk that the economic dimension of defence (in the shape of the protection of jobs and companies) outweighs the strategic and operational objectives of a security and defence policy in Europe. The balance between the needs of the armed forces and the demands of companies is difficult to establish. There are few points in common between the situation in France and that in the United Kingdom. And the question of the competitiveness of the defence industry in Europe should be posed and evaluated in the proper perspective by governments. Other questions arise, like the type of industrial and technological relations to be established with the United States or other countries, and the role, cost and place of the European defence industry in the economy. The answers to these questions will form the basis of a defence industrial and technological policy in Europe that is inevitable.

In this area as in others, the Europeans are faced with the difficulty of reconciling the internationalisation of a public sphere of activity and its democratic control. For the moment, national governments and parliaments decide and control defence policies. With the gradual creation of a European identity the question will arise how international bodies like the European Parliament and Commission are to be associated with the management and control of a European policy; that is a complex debate that will not be developed here but it will be impossible to evade it if the legitimacy of this European dimension of the defence economy is not to be challenged.

In the conclusion of their book, H. Kahn and J. Wiener⁽¹⁴¹⁾ stated that exercises in speculation should have two aims: to improve prospects and broaden the imagination. If this present exercise contributes to a better appreciation of the prospects that lie before the defence economy in Europe, it will have attained its objective. As for imagination, it only remains to hope that it will have contributed to the thinking of those in power during and after the Intergovernmental Conference of 1996.

1. The defence economy is taken to mean all of the economic dimensions of defence: industrial, technological, budgetary and employment aspects, and transactions between buyers and producers. The distinction between these different components will be made where necessary. The subject of this paper is broader: the political economy of defence in Europe. J. Aben defines the political economy of defence both as a function of its content and of a methodological approach. The content is obvious: in parallel with the classical economic dimensions (industrial, technological and social), it is a question of public economy in the sense that states (and to a lesser extent international institutions) play a dominant role in the definition of armaments requirements and the organisation of production. The methodological approach consists of making use of the tools of the political sciences: institutional analysis, theories of international relations and so on. See J. Aben, *Economie politique de la défense* (Paris: Editions Cujas, 1992), p. 15.

2. William Walker and Philip Gummett, 'Nationalism, internationalism and the European defence market', *Chaillot Paper* 9 (Paris: WEU Institute for Security Studies, September 1993), p. 63.

3. See the reference work by H. Kahn and A. Wiener, *The Year 2000. A Framework for Speculation on the Next Thirty-three Years* (New York and London: MacMillan, 1967), pp. 1-65. The methodology proposed by the authors is remarkable, but the authors were less successful in certain exercises in forecasting, in particular concerning the outcome of the Cold War. It is therefore appropriate to remember that this type of exercise is speculative and risky.

4. The concept of 'overlay' is borrowed from B. Buzan in B. Buzan et al., *The Security Order Recast* (London and New York: Pinter Publishers, 1990), p. 16.

5. The Western Union, which was created by the Brussels Treaty of 17 March 1948, was renamed the Western European Union following the failure of the EDC. It included Belgium, France, Luxembourg, the Netherlands and the United Kingdom and, since 1954, Germany and Italy. Until the mid-1980s, its role was to be essentially to control the rearmament of Germany. It was WEU that was responsible for the selective reconstruction of the German defence industry. For a detailed account of the activities of WEU in the field of armaments, see D. Delhauteur, *Les activités du Conseil de l'UEO en matière de coopération dans le domaine des armements*, Dossier Notes et Documents no. 160 (Brussels: GRIP, August 1991).

6. See W. Struys, 'Aspects économiques de la production de systèmes d'armes dans l'Europe des Neuf', unpublished doctoral thesis, Free University of Brussels, 1976-77, p. 223.

7. From 1954 a consensus appeared in France on the idea of developing an independent nuclear force. This consensus became stronger in 1956 following the Suez expedition. For a historical treatment of arms production in France see F. Chesnais, *L'armement en France: genèse, ampleur et coûts d'une industrie* (Paris: Nathan, 1992).

8. W. Struys, op. cit. in note 6, pp. 281-2.

9. The NATO Production and Logistics Organisations (NPLO), which had a fairly large degree of autonomy, were set up to coordinate the production and logistics aspects of these programmes. Today, through their successor organisations, the NASPA, they represent the most successful and most important forms of cooperation/rationalisation in Europe. These organisations have a steering committee made up of representatives of NPLO member countries and an executive body that may be variously termed an Agency or Office.

10. R. Matthews, *European armaments collaboration* (Chur, Switzerland: Harwood Academic Publishers, 1992), p. 29.

11. These collaborative agreements also permitted Germany industry to export equipment without having to go through the very restrictive arms export procedure. It was the partner(s) (France and/or the United Kingdom) that took responsibility for exporting equipment developed jointly.

12. Quoted in D. Greenwood, 'Defence and National Priorities since 1945', in John Baylis (ed.), *British Defence Policy in a changing World* (London: Croom Helm, 1977), p. 200.

13. See the two very detailed chapters devoted to an analysis of the *Tornado* and EFA programmes: A. Latham, 'Conflict and competition over the NATO Defence Industrial Base: the Case of the European Fighter Aircraft', pp. 46-85, and A. Edgar, 'The MRCA/Tornado: The Politics and Economics of Collaborative Procurement', pp. 86-118, in D. Haglund (ed.), *The Defence Industrial Base and the West* (London and New York: Routledge, 1989).

14. The figures for 1952 are taken from C. Carlier, *L'aéronautique française 1945-1975* (Paris: Lavauzelle, 1983), p. 150, and for 1970 and 1990 from 'The European Aerospace Industry, Trading Position and Figures', *Yearbook* (Brussels: European Commission, DG III, 1994), p. 233.

15. The Eurogroup included several working groups responsible for questions related to equipment, logistics and so on. In 1971, the national armaments directors of member countries met in the EURONAD, whose aim was to try to identify areas in which armaments cooperation was possible.

16. From \$9.7 bn to \$15.5 bn (1980 constant). Value and percentage calculated on the basis of NATO communiqués 'Financial and Economic Data Relating to NATO Defence', Yearly Press Release, NATO, Brussels.

17. In 1976 the Congress authorised the Department of Defense not to apply the 'Buy America Act' in the field of armaments. Programmes were established designed to stimulate cooperation (the Culver-Nunn programme in particular) and test European armaments in the United States.

18. This resolution was based on the 'Klepsch report', named after its author. The details of this first attempt by the Parliament and the Commission to address the questions of armaments production can be found in the report prepared for the

European Commission by D. Greenwood, 'A Policy for Promoting Defence and Technological Cooperation Among West European Countries,' Aberdeen, 1980.

19. The various figures and tables in this paper were prepared with the assistance of L. Mampaey and T. Dufrasne, respectively researcher and research assistant at the GRIP.

20. Quoted in W. Flume and E. Heckman, 'Neue Programme aber Doch Sorgen', *Wehrtechnik*, 5/1984, p. 19.

21. Dr M. Wörner, interview in *Armed Forces Journal International*, August 1985, p. 68. Quoted in B. Huebner, 'The Importance of Arms Exports and Armament Cooperation for the West German Defence Industrial Base', in D. Haglund, op. cit. in note 13, p. 146.

22. This aspect of the EFA project and its industrial implications are brought out in A. Latham, op. cit.

23. For an historical analysis of the concept of self-sufficiency in arms production, see A. Moravcsik, 'Arms and Autarky in Modern European History', in *Daedalus*, vol.26, no. 4, Fall 1991, pp. 21-45.

24. The concept of 'civilianisation' was defined in the 1960s by M. Janowitz to describe the changes being experienced in Western armed forces under the influence of civil society (different values, a greater respect for the individual, democratisation of the military institution and so on). See for example M. Janowitz (ed.), *The New Military: changing Patterns of Organisation* (New York: John Wiley and Sons, 1964). It is this concept that will be used here to define the adoption of civil characteristics by the defence industry. Other writers use the term 'secularisation' of the industry, for example P. Gummatt and W. Walker in 'Britain and the European Armament Market', *International Affairs*, 3/1989, p. 442.

25. Among works dealing with this development of the relationship between civil and military innovation, see J. Alic et al., 'Beyond spin-off' (Boston, MA: Harvard Business School Press, 1992) and P. Gummatt and J. Reppy (eds.), 'The relations between defence and civil technologies' (Utrecht: Kluwer Academic Publishers, 1988).

26. I wish to thank R. Bitzinger for allowing me access to his database; this has enabled me to present briefly the main conclusions on the evolution of the phenomenon of internationalisation, in particular the Europeanisation of defence. A more thorough explanation of the database can be found in R. Bitzinger, 'The Globalization of Arms Production: Defence Markets in Transition', *Defense Budget Project*, Washington D.C., December 1993. A summary was published by R. Bitzinger, 'The Globalization of the Arms Industry: the Next Proliferation challenge', in *International Security*, Fall 1994, vol. 19, no. 2, pp. 170-98.

27. K. Hartley and S. Martin, 'The Political Economy of International Collaboration', in R. Coopey, M. Uttley and G. Spinardi (eds.), *Defence Science and Technology*,

Adjusting to change (Chur, Switzerland: Harwood Academic Publishers, 1993), pp. 171-206.

28. This information is not available for the other European countries. Statistics on the defence industry, particularly R&D, do not permit more detailed conclusions to be drawn on this type of programme -- the number of partners, the organisation and the share of work and so on. See 'The public funding of research and development', yearbooks for various years, Eurostat, Luxembourg.

29. General Commission of the plan *L'avenir des industries liés à la défense* (Paris: La Documentation française, November 1993), p. 48.

30. 'The German-American Two-Way Street', in *NATO's Sixteen Nations*, vol. 32, no. 6, October 1987, p. 42.

31. 'Joint Position on the Future Role of the Aeronautical Research Establishments in Europe', published by the German Aerospace Establishment, Cologne, 1994.

32. In 1991 this amounted to ECU3 bn out of a total of ECU12 bn (these figures are arrived at by adding the national figures quoted earlier).

33. T. Taylor, 'West European Defence Industrial Issues for the 90's', in *Defence Economics*, vol. 4, 1993, p. 116.

34. E. Sköns, 'Western Europe: Internationalisation of the Arms Industry', in H. Wulf (ed.), *Arms Industry Limited* (Oxford: Oxford University Press for SIPRI, 1993), pp. 160-90.

35. For a detailed study of collaborative agreements between missile producers, in particular the question of the state's role in internationalisation, see C. Wilem and M. Sandström, 'A changing European Defence Industry', *FOA Report*, Swedish Defence Research Establishment, Stockholm, December 1993.

36. The term 'Europeanisation' is used to describe that part of the phenomenon of internationalisation which involves only European partners. Internationalisation here refers mainly to transatlantic collaborative agreements. With the end of the Cold War, the phenomenon of globalisation of the defence industry is gradually extending to more numerous partners, but this aspect is not further developed in this paper.

37. For further analysis of this period in transatlantic relations see William Walker and Philip Gummett, op. cit. in note 2, pp. 56-61.

38. See, in this regard, the article by N. Cook 'Revealed: the stealth connection', *Jane's Defence Weekly*, 3 September 1994, pp. 43-4. If the revelations concerning the long-established relations between the two countries over research in stealth technology were confirmed, they could illustrate a new situation: a European company, British Aerospace, would, thanks to collaboration with American companies, have acquired a capability unique in Europe, a capability that could give it a competitive advantage over its European partners (or competitors, depending on the circumstances).

39. Egypt has obtained financial aid from the United States for the purchase of two conventional submarines. As the United States does not produce these, the two submarines will be built under German licence in an American shipyard. See 'Egypt evaluates submarine bids', *International Defense Review*, 1/1995, pp. 12-13.

40. For an historical treatment of world arms exports see K. Krausse, *Arms and the State: patterns of military production and trade* (Cambridge: Cambridge University Press, 1992), pp. 54-98.

41. France was the last country to become aware, in 1994, of the necessity 'to determine which products, capabilities and technologies of its own it must maintain and which it must seek to develop in cooperation or acquire in the world market'. *Le Livre Blanc sur la Défense* (Paris: La Documentation française, 1994), p. 153.

42. 'Aérospatiale réduit ses pertes et son endettement', *Le Monde*, 14 January 1995, p. 18.

43. The databases used are those of R. Bitzinger, op. cit., J. Reppy of Cornell University, New York and that of the Stockholm International Peace Research Institute (SIPRI) on arms transfers and the internationalisation of the defence industry. I am grateful to R. Bitzinger, J. Reppy and E. Sköns (SIPRI) for kindly allowing me access to these databases.

44. Figures for turnover in 1992 have been taken from the list of 100 most important European defence companies established by SIPRI, *SIPRI Yearbook 1994* (Oxford: Oxford University Press, 1994), pp. 504-9. It is difficult to evaluate the relative strength of the various relationships between companies; it is their number rather than their financial and industrial weight that has been taken into account. Thus, an agreement like the EFA, the most important European industrial and technological project (among both civil and military categories) is represented in the same way as a collaborative agreement concerning a smaller equipment.

45. A. Moravcsik gives an interesting description of 'Colbertism' and more generally the mercantilist policies that have been followed in the defence sector, in 'Arms and Autarky in modern European History', *Daedalus*, vol. 20, no. 4, Fall 1991.

46. A. Moravcsik, op. cit., p. 27.

47. See the critical observation by the chairman of the National Assembly's Defence Committee in J.M. Boucheron, *Paix et défense* (Paris: Dunod, 1992), pp. 104-12.

48. For a detailed analysis of the crisis in the French system see J.-P. Hébert, 'Production d'armement -- Mutation du système français', La Documentation française, Paris, 1995, in particular pp. 123-94.

49. Figures based on Table 1.2, *UK Defence Statistics*, 1994 Edition, Government Statistical Service, 1994, p. 3.

50. Sir P. Levene, 'European Defence Research and Procurement after 1992', in *NATO's Sixteen Nations*, vol. 34, no. 7, December 1989, pp. 7-77.

51. For a detailed analysis of the organisation of public and private R&D in the United Kingdom see D. Buck and K. Hartley, 'The Political Economy of Defence R&D: Burden or Benefit', R. Coopey, M. Uttley and G. Spinardi (eds.), *Defence Science & Technology Adjusting to change* (Switzerland: Harwood Academic Publishers, 1993), pp. 13-14.

52. At the end of this type of procedure, an ideal programme cost is adopted. If the prime contractor exceeds this ideal sum, he has to fund 30% of the cost overrun, but if on the other hand he manages to reduce the total cost, he is awarded 30% of the reduction. This procedure was adopted notably in the case of the 1.9 bn contract for the EH-101 helicopter built by the Westland/Agusta consortium. For a detailed analysis of this programme see S. Twigge, 'The EH-101 Helicopter: A Fully Integrated International Collaborative Program', in *Defense Analysis*, vol. 8, no. 2, 1992, pp. 133-46.

53. This use of the theory of contestable markets to explain the British system was suggested by S. Webb in *NATO and 1992, Defense Acquisition and Free Markets* (Santa Monica: RAND, July 1989), p. 60. For a detailed analysis of the theory of contestable markets see W. Baumol, J. Panzar and R. Willig, *Contestable Markets and the Theory of Industry Structure* (Revised edition) (San Diego, CA: Harcourt Brace Javanovitch, 1988). For a summary of this theory see 'La théorie des marchés contestables', *Problèmes économiques* no. 2243, 2 octobre 1991, pp. 19-27.

54. This stand-off missile is the subject of international tendering. The very broad specifications in terms of range and speed required by the MOD have allowed six companies or consortiums to submit tenders. See, for example, 'Six candidats pour le programme CASOM' in *Air et Cosmos/Aviation International*, no. 1485, 16 September 1994, pp. 24-5.

55. An example is the recent decision by the British Government to buy 24 EH-101 cargo helicopters, as well as the Boeing *Chinook*, in order to help Westland, the British helicopter manufacturer. It is interesting to note that the Government took this 'nationalist' decision although it was aware of the additional 300 million cost that it would involve.

56. 'Towards a Stronger Europe', a report by an independent team formed by the IEGP (1986) under the chairmanship of H. Vredeling. Volume I presents the proposals. Volume II is a detailed analysis of the competitiveness of the European defence industry.

57. 'Action Plan on a Stepwise Development of a European Armament Market', IEPG, 9 November 1988.

58. The principle of the *juste retour* (fair return) conceived by the IEPG is (partly) different from that of industrial and technological compensation associated with arms imports and the sharing of business between partners in international collaborative agreements in exact proportion to financial participation. The idea of a *juste retour*

draws its inspiration from the European Space Agency on matters of industrial and technological return concerning national financing of the ESA's activities. Implicit reference is made to the ESA procedure in the 'action plan' and explicit reference in 'Towards a Stronger Europe', op. cit., pp. 125-32.

59. It was a failure concerning the promotion of competition across frontiers but a partial failure concerning the EUCLID project and a partial success regarding the procedures for harmonising requirements suggested by Panel I of the IEPG, in charge of 'Operational requirements and equipment programmes'. The task of this panel was to identify potential collaborative projects by comparing the foreseeable requirements of armed forces. Successes included the FLA project. See, for example, E. Strom-Pedersen, 'IEPG Military Harmonization Towards Common Procurement?', in *NATO's Sixteen Nations*, vol. 35, no. 6, October 1990, pp. 43-8.

60. J. Schrempp, 'Partnership in Defense Industry. A German View', in *NATO's Sixteen Nations*, vol. 34, no. 7, December 1989, p. 74.

61. In 1990 the European Commission noted: 'It is also in the common interest to bring defence equipment production and trade fully under the discipline of the common market, which would involve *inter alia* the removal of Article 223, in 'Commission opinion of 21 October 1990 on the proposal for amendment of the Treaty establishing the European Economic Community with a view to Political Union', Commission of the European Communities, COM(90) 600 final, Brussels, 23 October 1990, p. 5.

62. The Commission ordered a study on 'The cost of non-Europe regarding defence equipments' in 1992 (the summary of which was only made public in 1994), which listed the various potential advantages that would result from the introduction of competition into defence markets. The results of that study are given in the last part of this paper.

63. The American Department of Defense's policy is to maintain at least two manufacturers in each category of armaments so as to be able to benefit from competition between them and mitigate against one of them defecting. In practice, the DoD is obliged, in a certain number of areas, to keep companies in existence artificially, in particular for major weapons systems like submarines or fighter aircraft, by financing all of the R&D phases of several different prototypes for each tender. In this way, the company that loses the competition will at least have enhanced its technological capability during the prototype R&D phase and maintained its research teams, and should be capable of surviving until the next invitation to tender. Can a similar system be imagined in Europe? It would probably be impossible for financial reasons.

64. M. Wolf stresses the role of mercantilism in states' constitutions and develops the idea that European integration has until now operated by combining liberalism within a precise space and mercantilism *vis-à-vis* the rest of the world. It has been possible to build a European identity both within an economic and political area protected by customs or other barriers (such as quotas), and *vis-à-vis* the rest of the world through an aggressive policy of exporting and defence of European trading interests. Within this framework, a European identity has been formed and a supranational institution

has been responsible for defending collective interests *vis-à-vis* the rest of the world. See M. Wolf, 'The EU in a liberal global economy', *International Affairs*, 71/2 (1995), pp. 325-8.

65. See also sections 4.5.1 and 4.5.2.

66. 'Dual-Use Industry in Europe', *Eurostratégie*, European Commission, DG III, April 1991, Executive Summary, p. 43.

67. *SIPRI Yearbook 1994* (Oxford: Oxford University Press for SIPRI, 1994), pp. 511-12.

68. These figures are taken from *L'industrie européenne de l'armement: recherche, développement technologique et reconversion*, op. cit., see source, Table 2.

69. The only notable exception is the Italian group EFIM, which has been absorbed by Finmeccanica.

70. It is obvious that there are exceptions to the European norm at national or company level. For an analysis of the situation in individual countries, see H. Wulf (ed.), *Arms Industry Limited* (Oxford: Oxford University Press, 1993).

71. See for example 'Une industrie militaire en faillite', *Le Monde*, 10-11 October 1993.

72. For a summary of the study carried out by the German Defence Ministry, see 'Germany: surviving cuts', *Jane's Defence Weekly*, 25 March 1995, p. 38.

73. H. Maneval, 'Defence Spending in West Germany', in *Defence and Peace Economics*, vol. 5, p. 230.

74. The risks associated with inadequate evaluation and incorrect use of the concept of competitiveness are analysed in an article by P. Krugman. His conclusions, which are based on realities in the civil sector, are also pertinent in the military sector. P. Krugman, 'Competitiveness, a Dangerous Obsession', *Foreign Affairs*, March/April 1994, pp. 28-44.

75. By 'forms of informal integration' is meant the many relations that European states, companies and social actors establish between themselves and which contribute to creating non-formalised solidarity and interdependence in institutions and/or treaties. Among works devoted to the detailed analysis of the various different dimensions of the process of European integration there is the outstanding book by W. Wallace (ed.), *The Dynamic of European Integration* (London: Pinter Publishers for the Royal Institute of International Affairs, 1990). The tools used to analyse reactive and proactive, informal and formal integration suggested by W. Wallace in this work have been adopted in this paper in an attempt to apprehend the form and details of the defence markets integration process.

76. W. Wallace, op. cit., p. 20.

77. These figures are taken from Table 2, 'The crisis in the defence industry'. All other statistics given here are taken from P. De Vestel (ed.), *L'industrie européenne de l'armement, recherche, développement technologique et reconversion*, Dossiers du GRIP nos. 186-7, Brussels, 10-11/1993, pp. 111-112.

78. An increase in the total production of combat aircraft from 250 to 1,000 would result in a saving of 20% of manufacturing costs per aircraft. See K. Hartley and A. Cox, 'The Cost of non-Europe in Defence Procurement', Study for the European Commission, DG III, Executive Summary, Brussels, 1992 (released in December 1994), pp. 28-9.

79. The phenomenon has been termed 'structural disarmament'. Its real significance has been challenged, however, because whereas it was true that the armed forces could no longer procure equipments in the same quantities as in previous decades, the technical progress made in new generations of equipment was able, to a certain extent, to compensate for their reduced numbers.

80. R. Matthews, *European Armaments Collaboration* (Switzerland: Harwood Academic Publishers), p. 62. For further details see K. Hartley, *The Economics of Defence Policy* (London: Brassey's, 1991), p. 15.

81. K. Ainscow, 'La recherche de technologies à faible coût pour le futur aéronef de combat', in *Défense et technologie internationale*, no. 14, June 1993. For the situation in France see J.P. Hébert, *Stratégie française et industrie d'armement* (Paris: Fondation des Etudes de Défense Nationale, 1991), pp. 113-42.

82. Current views on international armaments collaboration are generally negative. Estimates and dates that are not met and extravagant technical requirements seem to be the main characteristics of such collaboration, according to an abundant literature. K. Hartley and S. Martin, on the other hand, give an authoritative and particularly well balanced view of the advantages and disadvantages of collaborative agreements. See K. Hartley and S. Martin, 'The Political Economy of International Collaboration', in R. Coopey, M. Uttley and G. Spinardi (eds.), *Defence Science and Technology, Adjusting to change* (Switzerland: Harwood Academic Publishers, 1993), pp. 171-206.

83. See, for example, H. Haas, *The Uniting of Europe* (Stanford, CA.: Stanford University Press, 1958).

84. A system that is so complex that the main issue in the forthcoming Intergovernmental Conference of 1996 will doubtless be to try to make European integration more consistent.

85. The idea of a continuum rather than a precise separation between intergovernmental cooperation among sovereign states and their subordination to a supranational political system was put forward by W. Wallace, op. cit., p. 19. The continuum presented here has been structured in a different way.

86. Fundamental decisions relating to the CFSP are taken unanimously, but use of the qualified majority voting mechanism is allowed in certain specific cases. For an

explanation of the voting mechanisms in the CFSP, see E. Remacle, 'Structure et fonctionnement de la CE', in *Memento défense-désarmement 1993*, GRIP, Brussels, pp. 179-82.

87. The sole exception was the placing of Germany's armed forces under NATO integrated command during the Cold War.

88. This concept of a progressive development of a Common Defence Policy has been expressed by others; for instance J. Roper: '. . . a Common Defence Policy will develop over time, with some elements being put in place before others.' J. Roper, 'Defining a common defence policy and common defence', in L. Martin and J. Roper (eds.), *Towards a common defence policy* (Paris: Institute for Security Studies of WEU, 1995), p. 7.

89. An interesting exercise in forecasting on security and defence integration will be found in N. Petersen, 'The European Union and Foreign and Security Policy' and T. Pedersen, 'The Common Foreign and Security Policy and the challenge of Enlargement' in O. Norgaard, T. Pedersen and N. Petersen (eds.), *The European Community in World Politics* (London and New York: Pinter Publishers, 1993), pp. 7-74.

90. For an analysis of the French position, see D. Vernet, 'The Dilemma of French Foreign Policy' in *International Affairs*, no. 68, 1993, pp. 655-64, P. Schmidt, 'French security policy ambitions' in *Aussenpolitik*, IV, 1993, pp. 335-43 and P. Schmidt, 'The special Franco-German security relationship in the 1990s', *Chaillot Paper* 8, June 1993 (Paris: Institute for Security Studies of WEU, 1993).

91. The French Delegate-General for Armaments, H. Conze, has said, 'In the same way that Frankfurt is incontestably one of the most powerful financial centres in Europe, Paris should be recognised as making an exceptional contribution in the field of European defence.' Quoted in 'French Set Out European Industry', *Defense News*, 3-9 October 1994, p. 1.

92. F. Chesnais gives an excellent analysis of the origins and influence of the defence sector in F. Chesnais, 'The French National System of Innovation' in R.R. Nelson (ed.), *National Innovation Systems* (Oxford: Oxford University Press, 1994), pp. 192-229.

93. See for example F. Heisbourg, 'Defence policy at the dawn of a new presidential mandate', *Politique étrangère*, 1/95, pp. 78-83.

94. It is still too early to evaluate the real impact of the reform of the structure and operation of the Delegation-General for Armaments. See 'La Délégation générale de l'Armement va être réorganisée', *Le Monde*, 24 December 1994, p. 12.

95. *Projet de loi de finance pour 1994: Ministère de la Défense* (Paris: Imprimerie Nationale, 1993), p. 50. For the United Kingdom, the latest figures available are taken from *UK Defence Statistics* (1994 Edition), p. 6.

96. J.-P. Hébert, 'Production d'armement: mutation du système français', op. cit., p. 7.

97. Quoted in 'L'exception française', *Libération*, 21 April 1994, p. 3.
98. This view of the international order, in which economic 'war' waged through military R&D budgets replaces conventional war waged with weapons is well explained and argued by Y. Boyer in 'Technologies, défense et relations transatlantiques', *Politique étrangère*, 4/94, pp. 1005-15.
99. See I. Gambles, 'European security integration in the 1990s', *Chaillot Paper 3* (Paris: Institute for Security Studies of WEU, November 1991), p. 15.
100. See the article by Douglas Hurd 'Developing the Common Foreign and Security Policy', *International Affairs*, vol. 70, no. 3, pp. 421-8.
101. See the conclusions in P. Gummatt and J. Stein, 'European Defence Technology in Transition: issues for the UK', *SPSG Review Paper no. 7* (London: SPSG, September 1994).
102. W. Walker and P. Gummatt, op. cit. in note 2, p. 66.
103. *Defence White Paper 1994*, (French edition), Federal Ministry of Defence, 5 April 1994, p. 106.
104. Op. cit., p. 107.
105. See M. Stürmer, 'An Open Relationship', *The Financial Times*, 27 January 1995, p. 12.
106. See, for example, the reactions of the Belgian, Dutch, Spanish and Swedish national armaments directors to the possible integration of the European markets, in 'European Defence Cooperation', *Military Technology*, 6/94, pp. 22-33.
107. 'Belgium attempts to unravel acquisition', *Jane's Defence Weekly*, 4 February 1995, pp. 37-8.
108. This includes stealth and advanced vertical/short take-off and landing (AVSTOL) technology with British Aerospace and Rolls-Royce, and electronics and manufacturing processes with the Japanese, as for instance the FS-X fighter aircraft, which the Japanese developed in collaboration with the United States.
109. See for example, 'JAST Takes Place in 24 Concept Awards', *Jane's Defence Contracts*, January 1995, p. 1.
110. In terms of specifications, the FLA project corresponds exactly to an aircraft developed by Antonov which made its maiden flight in 1995. The arguments put forward in a French parliamentary report against this collaboration (technical problems, political instability and European dependence on Ukraine and Russia) are not sufficient to dispel the impression that the protection of jobs in industry in European countries has been put first. For a comparison of the different programmes see A. Paecht, 'Rapport d'information sur le financement du programme européen

d'avion de transport militaire', French National Assembly Report no. 1005, February 1994, pp. 40-2.

111. The most thorough analysis of the defence industries of the Czech Republic, Slovakia, Russia, Ukraine, Hungary, Poland and Romania is given in Ian Anthony (ed.), *The Future of Defence Industries in Central and Eastern Europe*, SIPRI Research Report no. 7 (Oxford: Oxford University Press for SIPRI, 1994).

112. This idea of a national Europe refers to the notion that, in order to exist on the international scene, Europe should have the classical attributes of the nation-state (a common security and defence policy, a European army, and so on). J.M. Guéhenno excludes the possibility that a Common Foreign and Security Policy will emerge that is 'founded solely on the defence of European interests, which would reflect the nationalist assertion of a European identity, the ultimate basis of foreign policy', in 'Sécurité européenne : l'impossible statu-quo', *Politique étrangère*, 1/95, p. 29.

113. I. Gambles, op. cit., p. 14.

114. W. Walker and P. Gummatt, op. cit. in note 2, p. 28.

115. K. Hartley and A. Cox, op. cit.

116. Calculated from the EU member countries' official figures.

117. This expression is used in P. Gummatt and W. Walker, op. cit. in note 2, p. 65.

118. This concept of 'structuring cooperation' was put forward by E. Blanc, chairman of the WEAG in a speech at a seminar organised jointly by the European Commission and the Institute for Security Studies of WEU in Brussels on 6-7 April 1995 on 'Defence markets and industries in Europe: time for political decisions?'

119. The *Future Large Aircraft* programme that is to be produced carried out by a subsidiary of the Airbus consortium is a first illustration of a European-level monopoly;

120. In 1985 the proportion of armaments developed in collaboration or co-produced, as a percentage of the total value, was 80% in Belgium, 70% in Germany, 60% in the Netherlands, 50% in Italy, 25% in the United Kingdom and in France, and 5% in the United States. The balance was developed nationally. S. Webb, *NATO and 1992* (Santa Monica, CA.: RAND Corporation, July 1989), p. 21.

121. Germany appears to wish to introduce reforms like those carried out in the United Kingdom into its procurement procedures. See *Defence White Paper 1994*, (French edition), Federal Ministry of Defence, 5 April 1994, p. 103. The situation in France is also changing. Reforming the relationship between buyers and producers will be a long, difficult process. There is nothing to indicate that it will be successful in France, Germany or Italy. On the other hand, the framing of more effective procurement and management procedures at the European level should be easier, as everything, or nearly everything has to be created.

122. Of about ECU65 bn of purchases by the defence ministries of the European Community in 1990, ECU25 bn were considered to be expenditure not related to goods and services of a strictly military kind (infrastructure, clothing, etc.). Purchases of military equipment covered by the list of armaments given in Article 223 amounted to ECU40 bn. See K. Hartley and A. Cox, 'The Cost of non-Europe in Defence Procurement', op. cit., executive summary, p. 33.

123. The study, carried out in 1992 and published in December 1994, concludes that such reforms would make possible economies of between ECU6.5 bn and ECU9.3 bn. Even if these figures can be challenged (the authors stress the difficulty of producing estimates in this area), at least they give an idea of the financial consequences of reform of military markets. 'The Cost of non-Europe', op. cit., pp. 24-5.

124. There is much information on programmes and structures for the improvement of cooperation on armaments in R. Matthews, op. cit., pp. 43-8 and in Haglund, op. cit., pp. 22-45. As regards the scientific and technological activities of NATO, which involve over 1,000 people in the Scientific Committee, Defence Research Group, AGARD and so on, see K. Gardner, 'Research and Technological Development in NATO', *NATO Review*, February 1993, pp. 23-7.

125. Notably in the case of the NH-90 helicopter, which involves France, Germany, Italy and the Netherlands in a project managed by the NATO Helicopter Management Agency, NAHEMA, a NATO civil agency. See 'L'Europe de l'hélicoptère, le NH-90', Parliamentary Report no. 1120, French National Assembly, Paris, 13 April 1994, pp. 24-34.

126. This expression is similar to that used to describe the Combined Joint Task Forces: 'separable but not separate'.

127. The future of WEU, in particular as a function of transatlantic relations, has been analysed by E. Remacle in 'L'UEO : européenne ou atlantique ?', Dossier du GRIP no. 183, Brussels, 1993.

128. In a recent paper on possible future developments, J.M. Guéhenno favours a scenario in which there is 'a qualitative improvement in European integration accompanied by a strengthening of the transatlantic link'. Op. cit. in note 110, p. 30. The relationship between European and transatlantic armaments programmes in the future will be an excellent indication of the strength of the European identity and the renewed transatlantic partnership.

129. 'Union politique: initiative franco-allemande sur la politique étrangère, de sécurité et de défense', 16 October 1991. This proposal was taken up by WEU in its 'Declaration of the Member States of Western European Union which are also members of the European Union on the role of WEU and its relations with the European Union and with the Atlantic Alliance', Maastricht, 10 December 1991, paragraph 5. This issue was again addressed in the WEU Council's Petersberg Declaration of 19 June 1992.

130. Report by Mr Borderas on 'the European armaments agency -- reply to the thirty-ninth annual report of the Council', WEU Assembly Document 1419, 19 May 1994, p. 154.

131. Noordwijk Declaration, WEU Council of Ministers, Noordwijk, 14 November 1994, part VIII.

132. 'The European armaments agency', op. cit. in note 128, p. 155. The member countries are the European members of NATO, less Iceland: Belgium, Denmark, France, Germany, Greece, Italy, Luxembourg, the Netherlands, Norway, Portugal, Spain, Turkey and the United Kingdom.

133. See, regarding the *juste retour* procedure in the space sector, P. Imbert and G. Grilli, 'La politique industrielle de l'ESA -- le concept évolutif du juste retour', *ESA Bulletin*, no. 78, May 1994, pp. 16-19. For a description of the ESA and the significance of the Agency for the armaments market, see 'Towards a Stronger Europe', vol. II, op. cit., pp. 125-32. It should be noted that the *juste retour* practised by the ESA is criticised for its uneconomical effects.

134. France's wish, relayed by the WEU Assembly, to create a European military space programme is, in these conditions, more understandable. As regards the future European space programme, see 'The development of a European space-based observation system -- Part III', WEU Assembly Report no. 1436, November 1994.

135. For example, if the EFA and *Rafale* are to be replaced by a new aircraft, negotiations on their successor would not begin before 2010, and production in 2020 at the earliest.

136. This analogy should only be seen as giving a general picture of how the European Armaments Agency would appear. It is merely one possibility in outline; it certainly makes no pretence of being a picture of the finished product.

137. It seems that France, very clearly, and the United Kingdom, very discreetly, share a determination to maintain an independent European capability in certain sectors, and that in future major armaments projects, in particular fighter or transport aircraft, main battle tanks or even assets for intelligence gathering, should be built by the Europeans.

138. It seems to be implied in the Treaty on European Union that the CFSP should be developed before a common defence policy. This sequence is not very realistic, given the interdependence between the two policies, and this implication has been rejected in L. Martin and J. Roper (eds.), op. cit. in note 88, p. 2.

139. See for example recent statement by the French Chief of Air Staff, General J.P. Douin, that the purchase of the FLA by France could be compromised because the *Rafale* programme was absorbing most of the budget. 'Entente armée-industrie sur l'après-Rafale en 2025' in *Air et Cosmos/Aviation internationale*, no. 1503, 27 January 1995, pp. 35-6.

140. J.K. Galbraith, *How to Control the Military* (New York: New American Library, 1969), p. 19.

141. H. Kahn and A. Wiener, *op. cit.* in note 3, p. 398.