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Directorate-General for External Policies of the Union

STUDY

Policy Department External Policies

THE COST OF NON-EUROPE IN THE AREA OF SECURITY AND DEFENCE

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EUROPEAN PARLIAMENT

**DIRECTORATE-GENERAL FOR EXTERNAL POLICIES
OF THE UNION**

DIRECTORATE B

- Policy Department -

STUDY

**The cost of non-Europe in the area of
security and defence**

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The cost of non-Europe in the area of security and defence

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submitted by Dr. Hartmut Kuechle

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Executive Summary

Despite manifold efforts both on the demand and on the supply side, there is still no integrated European defence market. Even though hardly any European state is still able to afford to finance and sustain a full spectrum of defence-technological and -industrial capabilities, there are strict national rules hindering or even prohibiting foreign ownership of defence companies or cross-border alliances. Even though a strong, globally competitive, industrial base is essential to provide the necessary choices and options for Europe in its decisions as regards its presence and influence on the world stage, defence equipment is procured nationally. Therefore, the advantages of internationalisation, that is the choice of the best location and the best provider, are of no use on the nationally fragmented defence markets in Europe.

The disadvantages of not having a common defence equipment market are:

- The potential for rationalisation can not be fully used
- Inefficiency as a result of limited competition
- Overcapacities in defence industries
- Overly high prices and a waste of taxpayers' money.

Defence spending

In comparison to the United States, the combined European defence capacities are insufficient. Europe's defence expenditures differ widely between the Member States and – as a percentage of GDP as well as per capita – are much lower than in the US. However, any comparison of defence spending between Europe and the United States is prone to misinterpretation. The amount of resources allocated for defence purposes is the direct result of political objectives and priorities. Political objectives are the major driving force for military strategy which itself defines the tasks of the armed forces and the need for higher budgets. Therefore, it is no surprise that the United States as the only superpower is by far the biggest defence spender in nominal and real terms. The world trend in military expenditure is mainly dominated by the USA, which made up about 47 per cent of the world total in 2004. The US has increased its defence expenditure dramatically since the turn of the century, not the least in response to the terrorist attack on America on 11 September 2001. The US defines itself as a nation at war.

European armed forces do not prepare for the same missions with the same geographic focus and the same strategic, operational and tactical concepts as the US armed forces. EU Member States have stated, for instance in the European Security Strategy of December 2003, that they prefer to solve global problems diplomatically rather than militarily.

The problem is not that the 25 EU-members are spending only half as much for defence as the United States. The problem is that the European defence capacities are estimated at only 10, or at its best 15 per cent of the American capacities, thus showing the European inefficiency and the cost of non-Europe. This means different national regulations, licensing procedures, penalties for export violations, export control lists, lack of information sharing. The total yearly cost of intra-community transfer is estimated of €3.16 billion for 2003 including structural and procedural costs for industry and administration.

Investment expenditure of the Member States comes to €26 billion which, however, is mainly spent on their own national programmes. This results in much duplication in development and production with different standards. For instance, in the EU there are four different main battle tanks. There are currently 23 national programmes for armoured fighting vehicles (AFV). Combat aircraft, despite heavy competition from the USA, have seen three parallel developments. Duplications in development are particularly frequent in the case of IT- and Command and Control Systems. 89 European weapons programmes in comparison to only 27 US programmes have an enormous cost impact in terms of R&D, multiple production chains and poor scaling effects.

Collaboration

Collaboration ideally begins with a shared understanding of the capability need and priority, followed by collaborative development thinking of the most appropriate armaments solution. However, European collaborative programmes have too often been characterised by unacceptable cost and time overruns. In consequence, despite the obvious operational and economic incentives to collaborate more, the great bulk of the procurement budgets of the major European nations is still spent on national only programmes.

The fact that at present there are only a few collaborative projects in the EU is not only due to lacking political will but also due to the fact that the necessary compromises when agreeing to the same common specifications lead to significantly higher development costs. In the

development of armoured fighting vehicles for example, the views on the necessary level of protection for a country's own soldiers are different from country to country. Experience shows that such difficulties increase with the number of participants. This is why there are only European solutions for particularly complex and expensive programmes. In these cases, a project-company is only founded with those countries that are absolutely necessary in terms of technology. Then it has to be clarified what each participating country can contribute to the project and what is needed in the foreseeable missions. Then, a financing pool is created into which all participants pay their negotiated share. This solution would, theoretically, be ideal for small countries that otherwise would never be able to develop such a system on their own.

Due to the complex, time consuming collaborative developments that also lead to ballooning costs, only one solution can be drawn, namely to leave the development to the system companies as before but to have the European Defence Agency (EDA) co-ordinate and thus achieve cost advantages in the national procurement plans as follows:

- determine safe, high-capacity and high-quality products from the entire range of European tenderers and test them under the same circumstances,
- solicit bids for different quantities for the Member States and negotiate with the tenderers for reasonable unit prices,
- ask national states whether they want to participate in common procurement. Modules of special equipment needed for special missions can be determined by the individual state and ordered together with the others.
- guarantee common logistics by EDA. Especially here, co-operation shows its worth.

In doing so, the EDA could help avoid the splintering of European resources into too many defence programmes and, moreover, could support the European restructuring of the defence industry, because only the best companies would be selected.

There would certainly be a great savings potential if parallel developments were avoided and national procurement was co-ordinated by EDA. Platforms like tanks are relatively 'cheap' and have a life cycle of many decades whereas in contrast in the area of telecommunication systems for multinational operations and satellite-based systems this is entirely different. They are strategic technologies and can be used both for military and civilian purposes (to guard the borders, FIFA World Cup, terrorism, natural catastrophes, etc.) and find themselves in a

fast-paced, forward-looking development. On top of this, they are exorbitantly expensive and are only in the early stages of their development so that international co-operation is even more necessary. The same standards need to be defined for all of Europe, and a Europe-wide collaboration and financing must be organised.

Due to the new procurement procedure in international programmes, which is called the Commercial Approach, many European collaborations have met with severe criticism with regard to the financial contribution of the participating country in relation to its work share. Theoretically, the Commercial Approach is a decisive step forward and an advantage in comparison to the “juste retour” principle, because the best and cheapest bidder can be selected regardless of its national location. However, this commercial approach only works under two conditions: Firstly, there must be a sufficient number of programmes in order to get a fair balance at least over a longer period of time. But there are not enough programmes, which would be able to satisfy the “losers” of a current programme in the future. Secondly, all national governments must be ready to accept that their national locations might be endangered for the sake of an efficient division of labour. Unfortunately, this is not the case either. Therefore, the juste retour principle will most likely prevail, even though the national fight for locations, suppliers and producers of components increases the unit prices.

European Defence Equipment Market

Even with limited financial resources, Europe could spend its money more efficiently. In order to proceed towards the creation of a European Defence Equipment Market (EDEM), some preconditions are to be solved step by step. One is the identification of common strategic objectives. Due to traditionally different geostrategic roles, each country can cover a specific part of Western defence interest. This division of labour that also results in different industrial core competencies can be fruitful. The identification of common strategic interests can be facilitated by some of the recently established institutions such as the Letter of Intent (LoI) and the Framework Agreement, the Harmonisation of Military Requirements (HMR), the European Headline Goal, the European Security and Defence Policy (ESDP).

Another precondition is the harmonisation of military requirements and the equipment needed. Only on this basis can the problem of common procurement be tackled.

An even more decisive precondition is the creation of a level playing field. Domestic aid and government intervention, different offset and

export policies distort competition between European companies preventing long-term benefits to the public and have to be harmonised.

The necessary level playing field also affords the complete privatisation of state-owned defence companies. Private companies with limited financial means cannot compete on an equal footing with state-owned firms the deficits of which are balanced by the finance ministry. Therefore, the total privatisation of public enterprises is required and national governments have to give up their golden shares. Refusing privatisation therefore means refusing the European integration of the defence sector. Consequently, the competitiveness and political independence vis-à-vis the United States would be endangered.

Moreover, the problem of security of supply has to be solved in order to facilitate the intra-community trade. Member States must be sure that they will be supplied with certain components from European partners if needed. Otherwise, they will continue fostering their own national defence base.

Some steps towards an EDEM have been already taken by the European governments such as the foundation of OCCAR and the European Defence Agency (EDA), the Code of Conduct for exports of defence goods and the Green Paper of the EU-Commission.

Green Paper

Article 296 of the European Community Treaty excludes the defence sector from the liberalised Single Market and therefore represents a major obstacle for an integrated defence market in Europe. Article 296 is responsible for the protection of unprofitable businesses that are only kept artificially alive by state subsidies – at the expense of profitable businesses in other Member States. An internally liberalised European defence market with a supranational procurement agency could save a lot of taxpayers' money.

This is why it would be best to abolish Article 296 totally as today it is even obsolete in security policy terms. Especially under the umbrella of NATO, a Common Foreign and Security Policy and a European Security and Defence Policy Member States' major security interests can hardly be different. However, as there are some national governments that do not allow the abolishment of Article 296, efforts of the European Commission laid down in its Green Paper to limit Article 296 at least to the narrow area of indeed sensitive defence equipment, and to prevent its extensive abuse are welcome.

It is indeed difficult to prove the imputed abuse of Article 296 empirically. However, one entirely sufficient proof is the matter of fact given by the Commission that governments only open 10 per cent of military orders placed to public and pan-European tender compared to 25 per cent of civilian orders. This abuse of Article 296 is particularly critical in the case of those non-sensitive defence goods where the respective national industries only show a low competitiveness. Protectionism, therefore is the main reason for this abuse. Apart from this, national governments also fear structural displacements by the modification of closed supply relationships. In the last consequence, national governments would have to accept the loss of locations and employment. Moreover, some Foreign Ministries resist the limiting of Article 296 as they are not prepared to cede any more sovereignty to the European Union.

In principle, an interpretative communication is not really necessary, as the rules for awarding an offer are valid for all goods in principle, i.e. also for defence equipment. Article 296 merely represents an exception, which in each single case is to be justified in terms of security policy. Such a communication would only clarify how Article 296 is to be used, but it would not be able to specify which contracts it applies to, since it could neither clarify the concept of essential security interests nor elaborate on the list of 1958 (both of these actions fall under the Member States' prerogatives). The uncertainty about the scope of Article 296 would thus remain.

The decision on whether or not defence contracts concern essential security interests is a political rather than a legal one. A purely legalistic and rigid approach to a problem of political definition might create even greater confusion and increase the number of legal disputes on the borderline of Article 296.

An interpretative communication would not dispel Member States' reluctance to use the existing Directive for defence procurement. Its impact in terms of transparency and competition would therefore be limited mainly to non-war material. This might generate some cost savings at the margins of defence markets, but would miss the main target of the initiative (i.e. to enhance the cost effectiveness of defence markets and the competitiveness of the European defence-industrial and -technological base).

On the other hand, when providing this interpretative communication *ex cathedra*, the Commission could make clear that the procurement of non-sensitive and dual-use goods does not lie within the scope of Article 296. With this, it would put political pressure on the national governments to limit hitherto existing abuse. Additionally, it would also support the European Court of Justice to more consequently in-

investigate the constant abuse of countries invoking the exemption provisions of Article 296 to its proportionality.

Code of Conduct

The European Defence Agency's participating Member States have decided to establish a voluntary, non-binding intergovernmental regime aimed at encouraging application of competition in defence procurement. Member States who choose to subscribe to the Regime will undertake to open up to suppliers having a technological and/or industrial base in each others' territories, all defence procurement opportunities of €1 million or more where the conditions for application of Article 296 are met, except for procurement of research and technology; collaborative procurements; and procurements of nuclear weapons and nuclear propulsion systems, chemical, bacteriological and radiological goods and services, and cryptographic equipment.

Member States who insist in an exception from the Code of Conduct (CoC) in certain cases must provide an explanation to the EDA. This may constitute some moral coercion. Data will also be provided to the Agency on collaborative procurements. Therefore, this CoC will certainly lead to more mutual transparency and accountability. Another achievement will also be the necessary equality of information, since all relevant new defence procurement opportunities offered by SMS will be notified on one single portal, which will provide advance notification of Invitations To Tender to be issued under the regime, and links to national websites or other directions from where full documentation can be obtained

The CoC's most crucial shortcoming, however, is its non-binding character. No legal commitment is involved or implied. No sanction is envisaged for any non-observance of this Code. Obviously, the common principles of the Code could only be agreed on a voluntary, non-binding approach, which also means that some Member States are not ready to obey these principles in practice. Therefore, the CoC will hardly change the existing procurement practice just as the CoC for exports has not really changed the differing national export policies.

Recommendations

The inclusion of Article 296 in the Treaty for a European constitution would have fixed an anomaly in European procurement and government-industry relations. With an unchanged formulation of the national prerogative over defence procurement and the management of defence industries, changes would have become more difficult – if not impossible – in the foreseeable future. The crisis over the constitution, therefore, opens a new chance for the sake of a common equipment market that should be seized by the European Parliament. The European Parliament should be a driving force for new initiatives for the abolishment or at least the revision of Article 296.

Certainly, it is not immediately possible to open up the national defence markets inside the EU. This is rather a long-term goal. In the short run, it might be useful to focus on some important preconditions, which are in any case necessary for the final abolishment of Article 296 and the creation of a common equipment market. Issues linked to this goal are: security of supply, state support, subsidies, offsets, intra-community trade issues, export policies and military requirements. All these issues must be harmonised in a legally binding way and not only by voluntary Codes of Conducts, which are interpreted differently by national governments. Better transparency is a necessary but not sufficient precondition. The CoC alone does not create a level playing field, which is urgently needed for a European Defence Equipment Market (EDEM).

Nevertheless, the European Parliament should support the Commission's efforts with resolutions and initiatives and continuously check, if and in how far the voluntary Code of Conduct is being followed by each and every Member State and make public any misconduct. EDA could be asked to collect and publish more data in order to increase transparency and close any information gaps. EDA has already collected data from participating Member States on the invocation of Article 296. This survey might help clarify different national practices and typical national security reasons for invoking the Article 296 exemption. The results will not be published, but the defence committee of the EP should make sure that they are informed.

1. Trends in European Defence Spending amongst Member States

Military requirements of national armed forces for weapons and other equipment are satisfied in up to 25 national markets using 25 largely uncoordinated national procurement budgets. Member States' combined defence budgets are about EUR 169 billion.

National statistics on defence spending differ widely, because they are collected and compiled according to different standards. In France, for example, the Gendarmerie is included in national military expenditure, but comparable forces in other countries are not. In view of these differences between national statistics, we will exclusively use the figures published by NATO, which are based on a common NATO definition, facilitating comparison. NATO figures¹, which are presented in the attached tables 1-6, may, therefore, diverge more or less from the figures given by national authorities.

Even though only 19 of the 25 EU Member States are also members of NATO², we can, however, rely in our analysis primarily on NATO figures, as they cover the militarily most important countries and, respectively, those EU members with large defence industries, namely France, Great Britain, Germany, Italy and Spain. Only Sweden also belongs to this group and is no NATO member. For non-NATO member countries, we will use national and OECD statistics, if this is warranted.

Military expenditures are an indicator of the economic resources devoted to military purposes, but there is no direct relationship between the level of military expenditure and military capability, which depends on several factors other than its financing. NATO is urging its members to spend more on defence in order to implement NATO's Defence Capability Initiative that is to eliminate the listed capability shortfalls and provide for force projection capabilities half the size of the US. However, several EU-Member States have indicated that they will not be able to increase their total defence expenditures due to budgetary restraints.

A comparison of nominal and real defence expenditures (tables 1 and 2 in the annex) amongst the EU Member States shows that the nuclear

¹ NATO "figures represent payments actually made or to be made during the course of the fiscal year. For countries providing military assistance, this is included in the expenditures figures. For countries receiving assistance, figures do not include the value of items received. Expenditures for research and development are included in equipment expenditures and pensions paid to retirees in personnel expenditures" (NATO 2005).

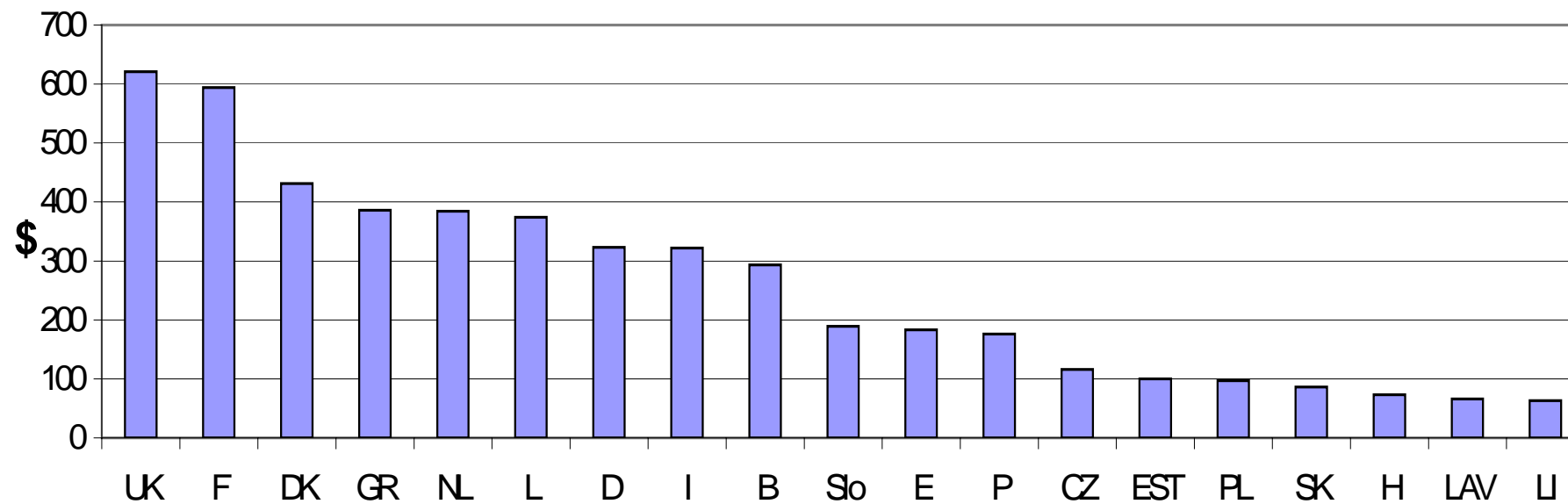
² EU Member States that are not members of NATO are: Austria, Sweden, Finland, Ireland, Malta and Cyprus.

powers United Kingdom and France are the biggest spenders in the EU followed by Germany, Italy, Spain and Sweden. This comparison, however, does not take into account the different sizes of population, economic efficiency etc. Therefore, certain ratios are much more important for describing defence efforts by EU Member States:

- Graph 1 (based on table 4) shows a more differentiated picture. Per capita, UK and France are still the biggest spenders, but surprisingly followed closely by a country among the poorer in the EU, namely Greece, that spent 386 € in 2005. For comparison, world military expenditure amounted to 162 US-\$ (ca. 130 €) per capita (Bonn International Center for Conversion 2005; Stockholm International Peace Research Institute 2005).
- Looking at the defence expenditure as a percentage of gross domestic product (GDP), which is a good measure of the effort of each country in sustaining defence capabilities, we receive an even more striking result: the biggest military powers are by no means the biggest defence spenders in relation to their economic capacity. With 3.1% of its GDP in 2005, Greece is spending more than France (2.5%), UK (2.3%) and more than twice as much as Germany (1.4%) as shown in table 3. This is a large economic burden for a country which is one of the largest net recipients of financial aid from the EU.

The reason for this imbalance may be seen in the backwardness of the country and the national prestige vis-à-vis equally militarised Turkey. But this high spending ratio is rather not an indicator of expensive procurement for a high-tech army. As table 6 shows for 2005, the Greek armed forces are employing 3.3% of the national labour force, whereas in other Member States military and civilian personnel count for only 0.7% of the labour force in Germany and 1.6% in France. The average in the EU is less than 1%.

Graph 1
Defence expenditures per capita in 2005
in US\$ (2000 prices and exchange rates)

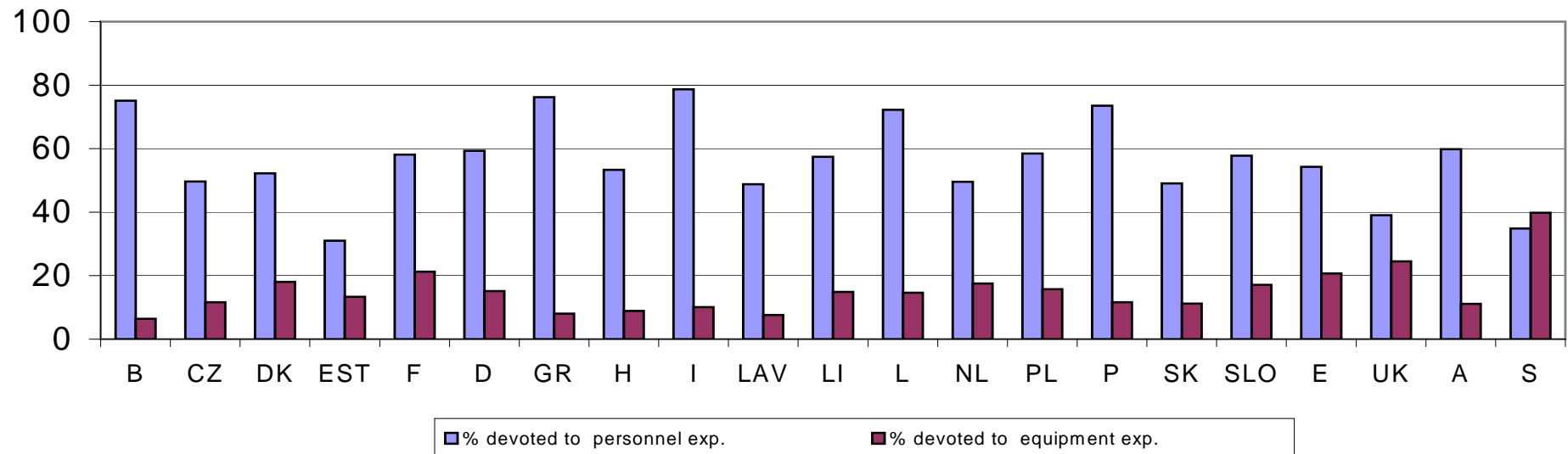


Source: NATO Press release 161, 9 Dec. 2005

- This finding is supported by table 5 that breaks down the total defence expenditure by different categories such as personnel, equipment, infrastructure and other expenditures for the year 2005. Greece devoted 76.2% of defence expenditure to personnel but only 8% to equipment. Belgium (75.1%/6.4%) and Italy (78.7%/10.7%) show similar ratios (graph 2). It can be concluded that Member States that have modernised their armed forces such as Britain, France, Germany, the Netherlands and Spain devote remarkably less to personnel and more to equipment. Their respective ratios for personnel and equipment were: Britain 39.1%/36.9%, France 58.1%/21.3%, Germany 59.3%/15.1%, Netherlands 49.6%/17.5% and Spain 54.3%/20.7%. These countries reduced their military personnel in recent years by outsourcing many tasks to private companies and/or by transforming their former conscription armies into professional ones. Since these transformed armies must be equipped differently according to the new tasks and missions, a higher percentage of the total defence expenditures has to be spent on new equipment (Defence Analysis Institute 2003).
- Government budget appropriations or outlays for R&D (GBAORD) provide another indicator for the relative importance of the defence sector (graph 3 based on table 7). After a decline in the early 1990s, the US government defence R&D budget has increased as a share of GDP and reached 0.63% in 2005. This is more than two and a half times the ratio for the United Kingdom and France. The US accounted for more than 80% of the overall OECD-area budget for defence R&D in 2005, and more than five times the EU15 total in 2004.

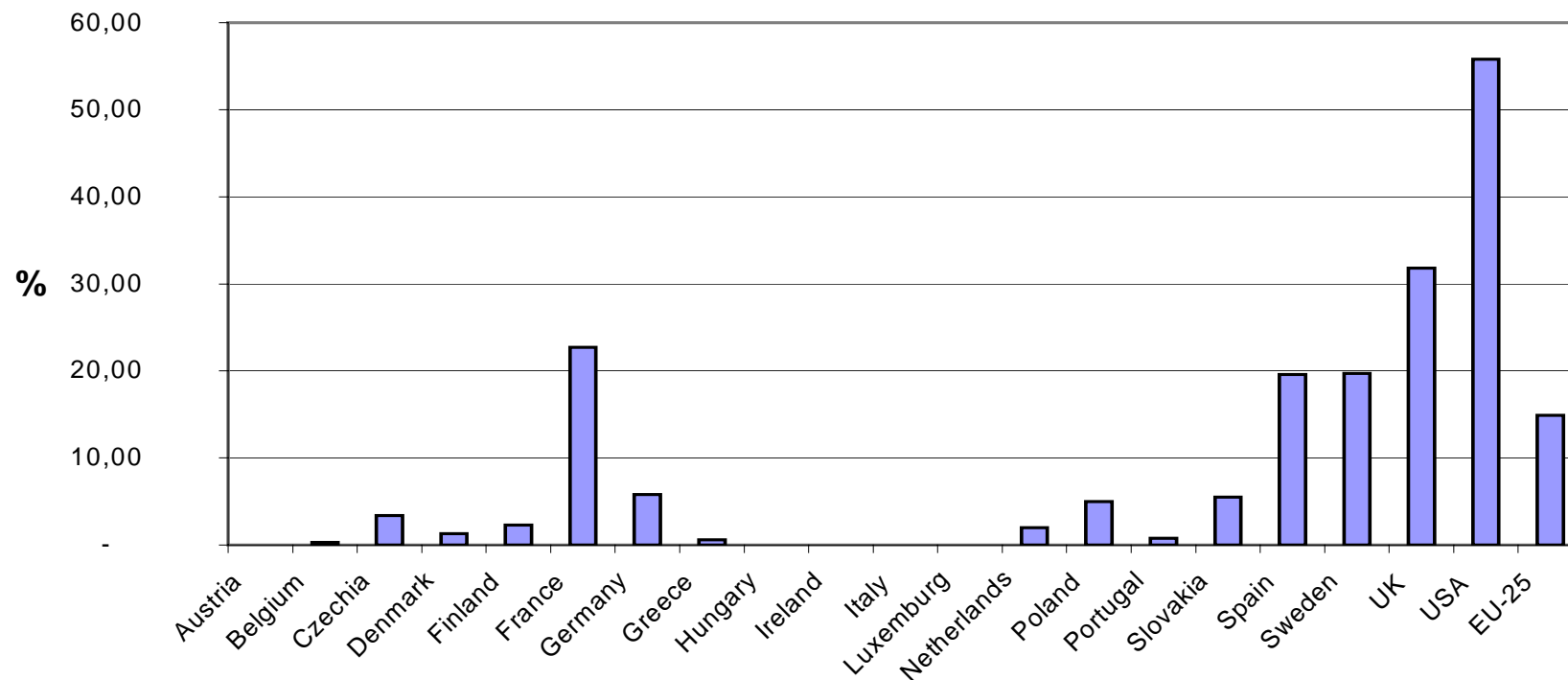
In the US, almost 57% of GBAORD was devoted to defence R&D in 2005. Great Britain had the second-highest share of defence R&D in all government R&D spending with almost one third. Spain, France and Sweden were the only other OECD countries for which the share of defence R&D exceeded one fifth of total public spending. GBAORD growth has been modest in the EU25, averaging 1.5% a year since 1995, compared to more than 7% in the United States (OECD 2005).

Graph 2
Distribution of total defence expenditures by category in % for 2005



Source: NATO Press Release 161, 9 Dec. 2005; for Austria and Sweden: data reported to SIPRI

Graph 3
Defence Budget R&D as a percentage of total GBAORD in 2004



GBAORD = government budget appropriations or outlays for R&D
 Source: OECD, Main Science and Technology Indicators. Paris, 2005/2

2. Comparison with the United States

2.1. Trends in defence spending

Any comparison of defence spending between Europe and the United States is prone to misinterpretation. The amount of resources allocated for defence purposes is the direct result of political objectives and priorities. Political objectives are the major driving force for military strategy which itself defines the tasks of the armed forces and the need for higher budgets (Defence Analysis Institute 2003). Therefore, it is no surprise that the United States as the only superpower is by far the biggest defence spender in nominal and real terms (table 1). The world trend in military expenditure is mainly dominated by the USA, which made up about 47 % of the world total in 2004. The US has increased its defence expenditure dramatically since the turn of the century (table 2), not the least in response to the terrorist attack on America on 11 September 2001. The US defines itself as a nation at war³. In addition to steeply rising defence expenditures for its regular activities, the increase in spending is the result of military campaigns with separate budgets. Operations in Afghanistan and Iraq have been funded through supplementary appropriations amounting to approximately 238 billion \$ for fiscal years 2003 – 2005 in addition to the regular budget (Stockholm International Peace Research Institute 2005 pp. 320). Since 2001, spending for US operations in Iraq has accounted for one-third of the real growth in US military spending, with an additional eleven per cent due to Afghanistan-related spending (Kosiak 2005). Thus, these two military operations have taken up 45 per cent of the growth in outlays since FY2001.

Therefore, any comparison between the EU and the US should take into account that Europe unlike the US is not a global superpower. European forces do not prepare for the same missions with the same geographic focus and the same strategic, operational and tactical concepts as the US armed forces. EU Member States have stated, for instance in the European Security Strategy of December 2003, that they prefer to solve global problems diplomatically rather than militarily. The status of the USA as a superpower has not only political and economic advantages but also is an enormous military and financial burden.

According to national data, United States Government outlays for national defence reached \$495 billion in FY (fiscal year running from October 1 to September 30) 2005, up 8.6 per cent over FY2004, or 5.6 per cent when adjusted for inflation (Office of Management and Budget (OMB) 2006, tables 3.2, 6.1). As a share of the economy,

³ US-Secretary of Defense Ronald Rumsfeld. Also George W. Bush: "I am a war president", <http://www.msnbc.msn.com/id/4179618>.

spending for the National Defense function in the US Government budget has reached four per cent of Gross Domestic Product (GDP), the first time the defence share has been that high since 1994 (OMB, 2006, table 6.1). If spending for the Department of Homeland Security and the Department of Veterans Affairs are included, total security spending reached \$612.5 billion, or 4.9 per cent of GDP (US Treasury, 2005) in FY 2005.

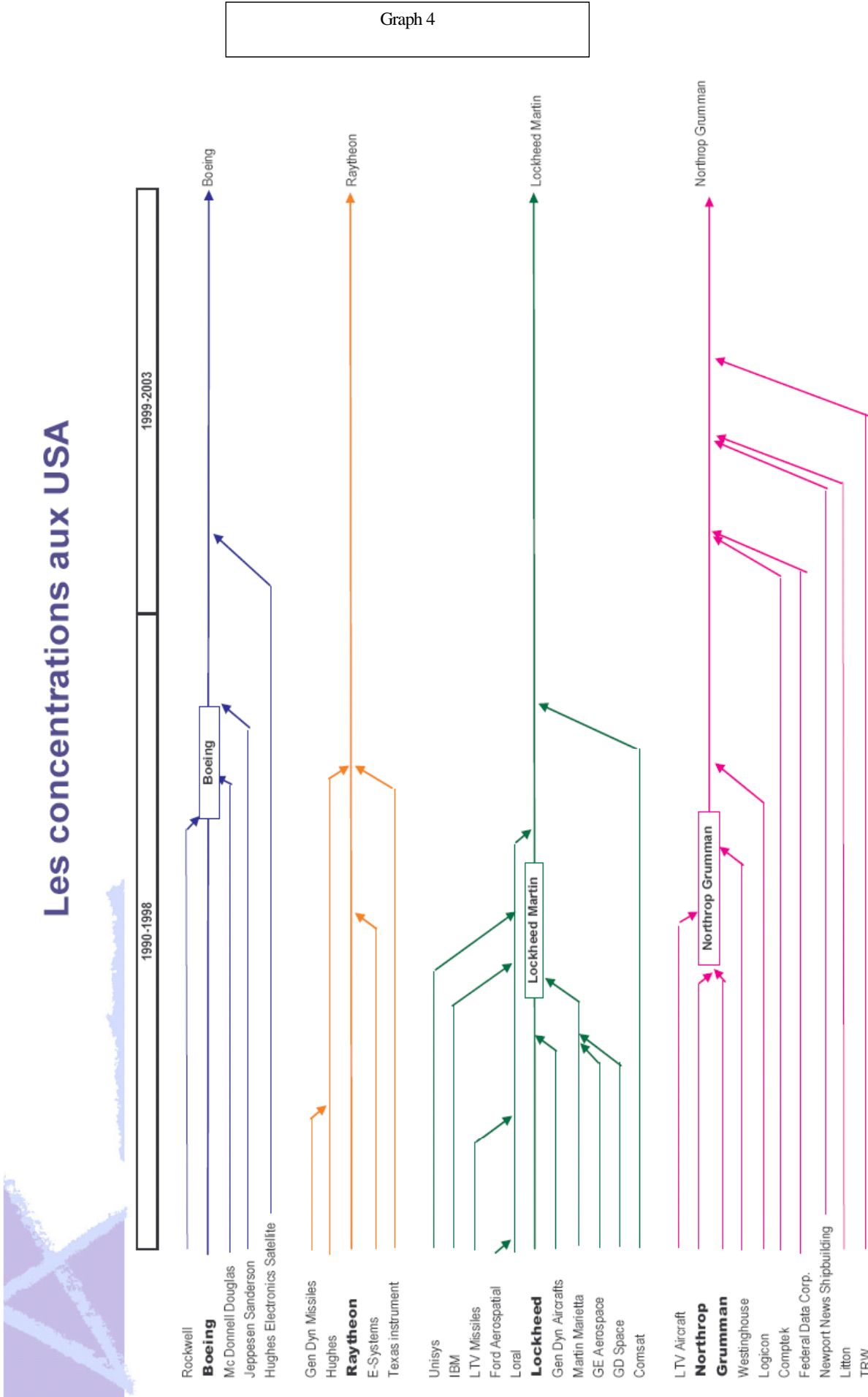
As presented above in graph 3 (and table 7), US defence R&D as a percentage of total government budget appropriations or outlays for R&D (GBAORD) by far exceeds the European level. Similarly, defence expenditures per capita and the ratio of total defence expenditures devoted to equipment expenditures (tables 4 and 5 in the annex) are extraordinarily high in comparison to the European average as well to the British and French figures, which are the highest in Europe.

2.2. The US-defence equipment market

For a long time, the US has prepared itself for the challenges of a global market. Early on after the end of the Cold War, the US government did not only demand a concentration of the American weapons industry but was also determined in its support to lower the costs for weapons production. Thus, those companies that had already successfully acquired some contracts and that were able to save costs by merger were in part subsidised by the Pentagon. Additionally, government procurement was reformed and anti-trust laws adjusted to allow for a national consolidation of military technology (Dowdy 1997; James 1998).

By this merger wave – the US Department of Defense (DOD) speaks of more than 30 larger mergers and take-overs between 1992 and 1997 (Volkman, 1997) – the structure of the US arms industry changed considerably. The 14 prime contractors that used to lead the market until then were reduced to four by 2002 (Table 7). The industry has understood that it can only survive when it joins its forces. Thus, the largest US-American arms contractor Lockheed Martin was created in only three years by mergers and acquisitions.

The result of most mergers was not only the size but also the fact that many of those new giants, in a second step, parted with lines of business which did not offer any comparative advantages (Dowdy, 1997; Volkman, 1997). Higher R&D expenditures of the US government (Table 3), greater production runs and a more aggressive political marketing have further expanded its predominance world-wide.



Graph 4

After the wave of mergers in the early and mid-1990s, the Pentagon changed its strategy. The Pentagon feared that concentration of the industry had gone too far and that there was insufficient competition among remaining companies (Flamm 2005)). The strategy adopted in the late 1990s had three major elements: One was to discourage and even stop further concentration in the defence industry, the second was to encourage European producers to enter the US market and the third was to invite civilian companies to compete for defence contracts. Since the time of the adoption of the new strategy, there have been fewer mergers. In some cases, planned mergers were not authorised by the relevant authorities. Still, concentration in the US defence industry has continued to increase particularly among lower tier-companies. The encouragement for European companies to enter the US market has been counteracted by numerous restrictions on capital ownership of US companies as well as conditions on local content in weapons sold to the Pentagon. Thus the success of European companies in selling to the Pentagon has been disappointing. Similarly, the invitation to commercial companies to compete for defence contracts has had mixed effects. In some sectors, particularly services and electronics, companies that earlier had not been among major sellers to the Pentagon have risen to the status of major supplier. However, in traditional defence markets, such as for aircraft, ships and vehicles, the established prime contractors continue to dominate the market. Overall, competition in several sectors of the US defence industry is below the level thought to be optimal by economic theorists as well as the Pentagon.

2.3. Strategies of European and American companies

The reciprocity regarding access to the market, is one of the most difficult transatlantic problems. The one-way street of the US arms trade with Europe is undisputed. Leading German companies complain that their market share in the US is virtually inexistent⁴, due to the host of formal and informal barriers that even make a bid for a Pentagon tender almost impossible. Table 8, which does not include services, shows the enormous transatlantic imbalance. Independent US-researchers confirm that there is an imbalance and point to the protectionist character of many US rules and regulations, as well as laws⁵. They estimate that when also taking into account the military services, the imbalance may lie at 7:1 in favour of the US (Zakheim et al. 2000).

⁴ Interviews.

⁵ Francis M. Cevasco, Vice President, Hicks and Associates. Interview.

Table 8	
Transatlantic One-Way-Street	
US market ca. 196 billion €	European market ca. 37 billion €
US-share 99.7% (195.3 billion €)	US-share 26% (9.6 billion €)
Imports from Europe 0.3%	Imports from USA 26%
Source: BDI 2002.	

US-American companies and politicians fear that efforts to establish a European Security and Defence Policy (ESDP), a European procurement agency (with OCCAR as first step) and the preservation of a European defence-industrial base with decreasing procurement budgets will close the European armaments market to US-American suppliers. They are insecure about the time window within which they still have relatively free access to the European markets when the European consolidation process continues successfully. The US-American industry is therefore more and more aware of the fact that a presence in Europe is absolutely necessary to continue to have access to the European procurement market even if it is smaller than the US market (Cevasco 2001).

The predominant targets of American companies with reference to Europe are access to the markets and technology which can be achieved with alliances, acquisitions and mergers. The peculiar charm of an alliance for the US companies involved lies in the fact that they can take advantage of the benefit of a merger, that is synergies, and exclude its disadvantages, namely the monetary burden. In countries where foreign investment in companies producing military technology is allowed, US companies who seek a local base in Europe favour the establishment of a daughter company of 100 per cent. This allows them to compete as local company with other local companies of this country without having to conduct complicated negotiations for a joint venture. In some countries, however, the purchase of arms companies is difficult or even not allowed. In these cases, joint ventures are often the precondition for a necessary local presence. Many US companies, however, often see substantial disadvantages compared to more flexible forms, partly because not infrequently the US government drops multilateral programmes before they are completed, partly because participating governments make decisions that negatively impact the business result. Then, the contractual obligations of a joint venture

turn out to be rigid and obstructive. Joint ventures are particularly attractive when various governments develop and purchase a weapons system together. As operating volume and technology are shared on a fair basis and thus no side has got a clear leading role, they are generally the more attractive kind of co-operation in Europe.

Analyses of the US General Accounting Office (GAO) show that American companies prefer to take on alliances that are as flexible as possible. They prefer teams to other alliances as they make it possible to choose respective new partners in aspired markets and to gain access to the necessary technologies, without having to enter into permanent relations. Often, they try to limit the duration of a team to a concrete procurement order. Teams have the advantage of acquiring certain capabilities at short notice and temporarily that are decisive for a certain competitive situation. The European governments' stance towards this constellation, however, is rather sceptical as they fear that the European partners under the leadership of US combines would only play a subaltern role (US General Accounting Office, 2000).

For European businesses, the formation of strategic alliances with US companies is one of the rare chances to benefit from the US-American market and from tenders issued by the DOD. Most transatlantic co-operations, however, are geared to European programmes, with the majority of American programmes remaining closed for Europeans – except for British companies.

The American market is protected by numerous laws and administrative barriers (Table 9). Seen as the US congress' stance in particular is sceptical towards European solutions, it is extremely hard for European businesses to prove themselves as serious tenderers (Adams, 2000). However, this is not the only difficulty they hit upon. When attempting to establish a direct presence in the USA via direct investment, they encounter a great number of hurdles intended to protect against the risk of a dissemination of technological secrets as well as a feared loss of leadership in technology. The result is a complex system that scrutinises foreign direct investments. To this end, the US congress put the "Exon-Florio Amendment to the Defense Production Act" into force in 1988 that authorises the President of the United States to forbid foreign take-overs or mergers with American businesses if national security was possibly jeopardised by this. The "Committee on Foreign Investment in the United States" verifies this by order of the President. Even though there is no formal obligation to notify the committee of a merger or take over, it deters potential investors, the more so as there is no clear definition of "national security" and "foreign control" (Adams, 2000).

Table 9

**Statutes, Regulations and Other Legal Requirements
in the US Affecting Transatlantic Alliances**

Antitrust Laws

- Clayton Act
- Hart-Scott-Rodino Act
- Sherman Act

Domestic Source Laws

- Buy American Act
- Berry Amendment
- Other statutory restrictions

Import/Export Laws and Regulations

- Arms Export Control Act
- International Traffic in Arms Regulations
- Export Administration Act
- Export Administration Regulations

**National Security Legal Restrictions on Acquisitions and
Mergers**

- Executive Order 11858
- Exon-Florio Amendment
- National Industrial Security Program Operating Manual

Source: United States General Accounting Office (GAO), Defense Trade. Contractors Engage in Varied International Alliances. Washington DC, September 2000, p.6 f.

On top of this, American businesses that are entirely or partly 'Foreign Owned, Controlled or Influenced' (FOCI) have to conclude Security Control Agreements, Special Security Agreements (SSA), Voting Trusts or Proxy Agreements. The purpose of these FOCI agreements is to make sure that the foreign parent enterprise does not gain access to sensitive information of its American subsidiary. Additionally, FOCI businesses must be managed by US nationals. Despite all this, they are discriminated against in the competition with local firms by the system of National Interest Determination (NID). According to NID, a foreign-controlled American business can only be considered as a bidder for DOD procurement if it is in the national interest of the US and no local contractor can be found (Defense Science Board, 1999).

Moreover, American export controls increasingly prove to be an obstacle to armament co-operation with European allies. Whenever an American company wants to sell its products to a non-American cus-

tomers, but also when it wants to enter into negotiations with a foreign partner, American rules and regulations require a license. Discussions between American subsidiaries and their European parents as well as discussions about possible co-operation, joint ventures, mergers or take-overs are affected by this (Adams, 2000).

The Department of State is responsible for the export control regime that follows the Arms Export Control Act (AECA). Additionally, there is the International Traffic in Arms Regulations (ITAR) and the Munitions List, for which the Office of Defense Trade Controls is responsible. According to this, for instance, visits of foreign nationals to a US arms contractor have to be granted in advance, which for European branches in the US constitutes a great obstacle to the management.

The “Buy American Act” even excludes European providers in those areas where they are competitive in terms of quality and price with local tenderers. It is true that ‘case-by-case waivers’ are made with individual European states, these, however, can be revoked by Congress and are thus insecure⁶.

The foundation of subsidiaries in America or the take-over of smaller and medium-sized US companies is virtually the only chance for European businesses to gain access to the largest arms market in the world – if the US government decides that this serves national security interests (Küchle, 2004).

⁶ Interview EADS.

3. Duplication and the potential for savings

3.1. Too many programmes

Not only are the advantages of internationalisation, that is the choice of the best location and the best provider, of no use on the nationally fragmented arms markets in Europe. Results of different requirements of the national forces and the national state procurement of defence equipment are also smaller series and, correspondingly, high unit costs. The necessary European harmonisation of all phases of the procurement system is hampered, for instance, by the loss of sovereignty of national governments associated by this and by a feared drop in employment and loss of technology of national locations.

The problem is not that the 25 EU-members are spending only half as much for defence as the United States. The problem is that the European defence capacities are estimated by several experts at only 10% or at its best 15% of the American capacities (Unisys 2005, p. 116). This shows the European inefficiency and the cost of non-Europe. This means different national regulations, licensing procedures, penalties for export violations, export control lists, lack of information sharing. Unisys estimates the total yearly cost of intra-community transfer barriers of 3.16 billion € for 2003 including structural and procedural costs for industry and administration (Unisys 2005, p 130).

The report of the Group of Personalities in the field of Security Research drew the right consequences: „Europe needs to increase the coherence of its efforts. ... it needs to target in particular:

- Involvement of all Member States;
- Effective co-ordination between national and European efforts;
- Systematic analysis of security-related capability needs, from civil security to defence;
- Sufficient funding;
- Full exploitation of potential synergies between defence, security and civil research;
- Providing specific legal conditions and funding instruments for security-related research at the European level;
- Creating institutional arrangements that are both efficient and flexible enough to combine the efforts of Member States and the Community, and to involve other partners with mutual benefit (European Commission 2004).

Table 10		
Defence programmes in Europe and the US		
Land Systems		
– Main battle tanks	4	1
– Armoured Infantry Fighting Vehicles	16	3
– 155 mm howitzer	3	1
Air Systems		
– Fighter-strike	7	5
– Ground attack-trainer	6	1
– Attack helicopter	7	5
– Anti-ship missile	9	3
– Air-air missile	8	4
Sea Systems		
– Frigate	11	1
– Anti-submarine torpedo	9	2
– Diesel submarine	7	0
– Nuclear-powered submarine	2	1
Total	89	27
Source: (Unisys 2005, p. 104)		

Investment expenditure of the Member States comes to € 26 billion (Unisys 2005) which, however, is mainly spent on their own national programmes. This often results in many duplications in development and production with different standards. For instance, in the EU there are four different main battle tanks: Leclerc (France), Leopard 2A5 (Germany), Challenger (Great Britain), and Ariete (Italy). There are

currently 23 national programmes for armoured fighting vehicles (AFV). Combat aircraft, despite heavy competition from the USA, have seen three parallel developments, namely the Swedish Gripen, the French Rafale and the international Eurofighter. Duplications in development are particularly frequent in the case of IT- and Command and Control Systems.

89 European programmes in comparison to only 27 US programmes (table 10) have an enormous cost impact in terms of R&D, multiple production chains and poor scaling effects.

The total R&T investment for the three competing European combat aircraft systems Eurofighter, Gripen and Rafale is 55% higher than for the US Joint-Strike-Fighter, but the produced output is 66% lower (table 11).

Table 11		
Research Cost and Output for US- and EU-Combat Aircraft		
Aircraft	Research Cost Billion €	Expected Output
Eurofighter	19.48	620
Gripen	1.84	204
Rafale	8.61	294
JSF	19.34	3003
Source: (Unisys 2005, p. 105)		

As nationally autonomous developments are also a problem of military interoperability, NATO and WEAG have repeatedly tried in the past to achieve some kind of co-ordination. Despite the fact that a mutual consent would at least have a logistical advantage particularly for smaller countries with less units, these negotiations were not very successful.

3.2. Uncoordinated procurement of Armoured Fighting Vehicles

In the following, the problem of national, uncoordinated procurements will be exemplified with armoured fighting vehicles (AFV) in which the European Defence Agency (EDA) is now involved. Due to the obsolescence of existing stocks of AFV, the fact that they have to be able to be shipped by air but also due to the experiences made on the Balkans, in Afghanistan and Iraq there is the necessity for new developments. At the same time, one has to take into account the increased threat to one's own soldiers by land and anti-tank mines as well as rocket propelled grenades, which today are widely disseminated. This is why presently national procurement programmes for armoured wheeled vehicles (between 25 and 30 tons) and armoured tracked vehicles (30 tons and more) are spurred on; their development, however, has not been dovetailed amongst the Member States (Linnenkamp, EDA; Solana). Table 12 shows in detail the national procurement plans, which are not the only ones, as in Hungary and Turkey, there are also deliberations about purchasing 8x8 vehicles.

EDA was commissioned in autumn 2004 to co-ordinate national development and procurement programmes of these two types of tanks to achieve the best possible conformity of platforms and sub-systems. In the meantime, however, most national procurement programmes for these types have already been decided upon (ca. 70%) or are about to be decided. Therefore, EDA comes too late in this sector to achieve its goal to dovetail the systems that are being developed in advance and to thus create synergy effects.

Table 12 Current national procurement programmes for 6x6 (25-30 t) and 8x8 (over 30 t) Armoured Fighting Vehicles		
Country	Vehicle	Development
A	Pandur II (8x8)	Own national development
	Ulan (= Pizarro)	Co-deveopment with Spain
B	Piranha III (8x8)	Swiss
CZ	Pandur II	Austrian
Dk	Piranha III	Swiss
	CV 90	Swedish
D	Puma	Own national development
	GTK	Codevelopment (D, UK, NL)
SF	AMV	Own national development
	CV 90	Swedish
F	VBCI	Own national development
IRL	Piranha III	Swiss
I	VBC	Own national development
	Dardo	Own national development
NL	GTK ?	Codevelopment (D, UK, NL)
	CV 90	Swedish
N	ANV	Finish
	CV 90	Swedish
PL	ANV	Finish
P	Pandur II	Austrian
Slov	Pandur II	Austrian
E	Piranha / Pizarro ?	Swiss
CH	Piranha III	Swiss
	CV 90	Swedish
UK	Piranha III ?	Swiss
Source: Interviews		

However, in the field of armoured vehicles *under 10 tons*, some co-ordination of national plans by EDA is not only still possible but imperative, as in many European states there is growing demand for a significant improvement of the protection of this type of armoured vehicle for the coming years, but, unfortunately, EDA is not involved here. States that have decided on a joint procurement in this segment are the United Kingdom, Italy and Belgium. Together, they will be purchasing 2000 units of the protected – and mine protected – Light Modular Vehicle (LMV) of the company IVECO. France has already taken 933 of the 5 t, all-wheel-drive A4 AVL of the company Panhard/Auverland under contract. Germany would like to purchase an entire family of armoured Führungs- und Funktionsfahrzeuge (GFF), and this in three categories: up to 5 t, up to 7.5 t and up to 10 t. The vehicles are planned to be selected this year⁷. On top of this, Germany would soon like to purchase a family of armoured transport vehicles (GTF). In this case, the enhancement in the protection of already existing vehicles is the main focus.

Nevertheless, an appraisal of the 23 AFV programmes by EDA would be helpful, as it would include a comparison of prices and an assessment of savings potentials in case of a common purchase. It is obvious that the savings potential is significant when duplication in development and production is avoided. Besides multiple burdens in research, it is also relevant for follow-up costs in the areas of logistics, training and maintenance.

Comparing prices between parallel systems is extremely difficult for outsiders because of technical details and sensitive information⁸. Prices for fighter aircraft and other complex systems are generally political or package prices. Included in these prices could be, for instance, the training of the operating staff, the build-up of the necessary infrastructure or an (unknown) political service in return. Often, the purchase of a system is linked with decade-long ties to the producer due to maintenance and spare parts. This is why prices, if they are known, can hardly be compared. The dominating component for awarding a contract is of an industrial, technological and regional policy kind. Jobs and location play an important role. The often decisive question for the national procurement offices is: how much of the total volume of the contract will go abroad, or will remain within the country⁹.

⁷ Interviews.

⁸ Interview IABG.

⁹ Interviews.

EDA is certainly the adequate and authorised institution that could shed more light on this dark spot. EDA has just evaluated its survey among European procurement offices and is trying to calculate the costs and the savings potential of the 23 programmes on the basis of the reported prices. But even EDA cannot – in spite of its commissioning – overcome the limits and difficulties of clearing the price and subsidy jungle. Firstly, two basic prices have to be differentiated: the equipment unit price and the equipment system price. The latter contains the first spare part requirements, new crane systems, instructors, etc. and can certainly be compared on an international scale. The system price generally lies about 12 to 15 per cent above the unit price.

Secondly, there are countries that first work with dumping prices and later counterbalance the deficit by charging inflated prices for after sales services, such as repair – and spare part prices.

Thirdly, some answers to EDA's questionnaire on prices and development costs with regard to the 23 European AFV programmes are incomplete or not exact. In some countries, there are said to be 'black programmes' the costs of which do not appear in the national budgets and are therefore not known¹⁰. In many cases, the contract values are not known or official prices are adulterated by package deals and off-sets.

EDA estimates that a reasonable price of a European AFV lies between €2 and €3.5 million. It is said to be quite impossible to warrant a sufficient level of protection with prices that are below €2 million; there is also something amiss with prices above €3.5 million. In any case, the difference between €2 and €3.5 million is enormous.

Another difficulty concerns the necessary information on development costs including public subsidies. In the case of the MRAV Boxer e.g., the three partner states Germany, Great Britain and the Netherlands transferred €180 million development costs each to OCCAR so that OCCAR pushes its programme for the construction of 12 prototypes. In sum, €540 million state subsidies have been paid. It is unknown, however, how much money the producing companies themselves have put into the development. The fact that the industrial group ARTEC is situated in between the procurement office and the prime contractor could cloud some things. ARTEC always claimed that the financial means put at their disposal were "basically not sufficient"¹¹.

¹⁰ Interview EDA.

¹¹ Interviews. Despite limited funds for development or strict price limits, the companies have got their ways and means of getting their money worth/making a profit, for instance by converting engineer's services or by charging on top for the provision of a testing area/range, etc.

Roughly estimated, about 20-30% could be saved with larger production series and common development and procurement in the case of the 23 AFV¹². On the other hand, estimations of the savings potentials often ignore the cost intensive consequences of a large-scale common production at one location for all over Europe. The economies of scale can only be achieved by high investments in new and huge production facilities. These investments make only sense if follow-up orders can be expected, which today seems to be an illusion with regard to the long life-cycle of about 40 years in the case of tanks (but also other platforms) and scarce defence budgets. Also workers and engineers would have to be hired in large numbers and qualified – and then fired.

Being aware of this problem, EDA is trying to focus on the components instead of the platforms. The standardisation of important components such as communication, propulsion or weapons systems would necessarily result in a reduction of platforms in future follow-up systems, since not all platforms are equally adequate for these then commonly used components. In the case of the 23 AFV, most likely only three adequate platforms would emerge, which can be seen as an enormous progress. In the long run, multi-national combined actions will also contribute to the development that the most adequate platforms or vehicles with the highest technological level will prevail.

Moreover, a reduced number of platforms with commonly used components would also result in a trend towards modular vehicles, as is the case of the Eurofighter, with the advantage that these vehicles can be built at different locations in different countries. A particular country with a 20% share of the entire programme could then specialise in a particular module, producing it for all partners.

Therefore, EDA sees the solution of the problem in the standardisation of the components and a thereby reduced number of platforms.

3.3. Multinational co-operation

Can a collaborative development programme be the solution to the cost problem? Collaboration ideally begins with a shared understanding of the capability need and priority, followed by collaborative development thinking of the most appropriate armaments solution. However, European collaborative programmes have too often been characterised by unacceptable cost and time overruns. In consequence, despite the obvious operational and economic incentives to collaborate

¹² Interview EDA.

more, the great bulk of the procurement budgets of the major European nations is still spent on national only programmes.

Examples for collaborative developments are:

- The armoured fighting vehicle Ulan/Pizarro, was co-developed by Austria and Spain. The Boxer Wheeled Multi-Role-Armoured Vehicle (MRAV) was initially planned as a joint project of the main European countries, Germany, Great Britain, France and the Netherlands. In the meantime, France and Great Britain have backed out.
- In aerospace, first and foremost the Eurofighter and the military transport aircraft A400M can be named, the development of which was shared amongst a number of states. Additionally, there is the weapons system Taurus, developed by Germany and Sweden.
- For the navy, one frigate was co-developed by France, Italy and Great Britain, and an aircraft carrier will be developed by France and Great Britain.

Table 13	
OCCAR Programmes	
Programme	Country
Roland Missile	Ger, Fr
Tiger Helicopter	Ger, Fr
Counter Battery Radar COBRA	Ger, Fr, UK
FSAF - surface-to-air anti-missile system family	Fr, It
BOXER - family of armoured utility vehicles	Ger, NL
A400M – tactical and strategic airlifter	Ger, Bel, Sp, Fr, Lux, UK, Port, Tur
Source: OCCAR	

Many of these collaborations, however, have met with severe criticism with regard to the financial contribution of the participating country in

relation to its work share¹³. Theoretically, the Commercial Approach is a decisive step forward and an advantage in comparison to the „juste retour“ principle, because the best and cheapest bidder can be selected. But the commercial approach works only under two conditions: Firstly, there must be a sufficient number of programmes, in order to get a fair balance at least over a longer period of time. Table 13 shows that there are not enough programmes, which would be able to satisfy the “losers” of a current programme in the future. Secondly, all national governments must be ready to accept that their national locations might be endangered for the sake of an efficient division of labour. Unfortunately, this is not the case either. Therefore, the juste retour principle will most likely prevail, even though the national fight for locations, suppliers and producers of components increases the unit prices.

The fact that at present there are only a few collaborative projects in the EU (table 13) is not only due to lacking political will but also due to the fact that the necessary compromises when agreeing to the same specifications lead to significantly higher development costs. For example, the views on the necessary level of protection for a country’s own soldiers are different from country to country, with the result that German tanks are more expensive and heavier than those of other competitors. Experience shows that such difficulties increase with the number of participants. This is why there are only European solutions for particularly complex and expensive programmes. In these cases, a project-company is only founded with those countries that are absolutely necessary in terms of technology. Then it has to be clarified which each participating country can contribute to the project and what is needed in the foreseeable missions. Then, a financing pool is created into which all participants pay their negotiated share. This solution would, theoretically, be ideal for small countries that otherwise would never be able to develop such a system on their own.

Concerning the co-operation on MRAP, which has failed in the meantime, the German government has been criticised of not having taken advantage of this – probably last – great tank programme to consolidate her two national system companies right from the start, Krauss-Maffei Wegmann (KMW) and Rheinmetall.

Germany, Great Britain and the Netherlands paid a total of €40 million for development costs of the MRAP. According to experts, a uniquely national development would only have cost about half. The fact that each country presented its own ideas about the protection,

¹³ In Germany for example, the division of labour in the development and production of the A400M – based on the commercial approach – is severely criticised, because the share in funding and the work package do not match, the production of the high-tech areas and the final assembly are concentrated in one country.

trial, etc., had a negative impact not only on the direct development costs but also on the development period. If Germany alone had developed the MRV its development would have taken 5 years less, according to experts. Each delayed year makes the purchasing costs go up according to the escalation clause of the index for industrial producer prices that results in an additional price increase at the time of purchase of 10 to 15 per cent. Additionally, there is always the danger with a long development period that some partners back out, as happened indeed with the MRV, which in the end result in smaller lot sizes and higher unit costs.

According to experts, it would have been cheaper for Germany to develop a slimmed-down MRV version – for which at present there is substantial demand in many European countries, and also in Turkey – and to have brought it quickly onto the market. Germany did this with the Leopard 2 and the armoured howitzer 2000 which, both, were scaled-down versions of a former international collaborative project and which were highly successful this way. Like this Germany missed the opportunity to market the MRV-Boxer on quite a receptive market due to the time consuming multinational development phase and the delaying tactics of some co-operation partners, so that competing models such as Pandur, Piranha and AMV are now supplying European demand. So the German industry is paying a high price for the politically correct position of its government who always was and still is in favour of an European solution¹⁴.

Based on this experience, experts are of the opinion ^{that} there are only three reasons why systems are developed on an international collaborative scale, namely when a country

- is not able to do it on its own, that is when it does not possess the expertise or when the costs are too high,
- wants to absorb knowledge from the partners or
- wants to delay the common project in favour of its own national project.

For instance, it does not make any sense for Germany as technological leader in this area, to join a collaborative development of armoured fighting vehicles whereas it does make sense to co-operate in the development of large, expensive and complex programmes such as fighter aircraft, satellites, telecommunication, etc. This is why the Eurofighter and the A400M were developed and why EADS was formed.

¹⁴ The same can be said with regard to the commercial approach.

Due to the complex, time consuming collaborative developments that also lead to ballooning costs, only one solution can be drawn, that is to leave the development up to the system companies as before but to have the EDA co-ordinate and thus achieve cost advantages in the national procurement plans as follows:

1. to determine safe, high-capacity and high-quality products from the entire range of European tenderers and to test them under the same circumstances,
2. to solicit bids for different quantities for the Member States and to negotiate with the tenderers for reasonable unit prices,
3. to ask national states whether they want to participate in Common procurement. Modules of special equipment needed for missions can be determined by the individual state and ordered together with the others.
4. To guarantee common logistics by EDA (spare parts, crane systems, training, etc.). Especially here, co-operation shows its worth. One problem that arises – however – is the intellectual property rights (IPR) which lie with the companies.

In doing so, the EDA could help avoid the splintering of European resources into too many defence programmes and, moreover, could support the European restructuring of the defence industry, because only the best companies would be selected.

One alternative to procurement co-ordinated by EDA could be a pooling of defence systems produced as before (Flournoy und Smith 2005; Wogau 2003). Examples for such pools are: European Capability Air Transport, SatCom, Galileo and the planned software Defined Radio (SDR). By so doing, even small countries can use such expensive systems without having to bear the high development costs.

To recapitulate, one can say that there is a great savings potential if parallel developments were avoided and national procurement was co-ordinated by EDA. This could hold true to an even higher degree for other areas as armoured fighting vehicles. Platforms like tanks are relatively ‘cheap’ and have a life-cycle of many decades whereas in contrast in the area of telecommunication systems for multinational operations and satellite-based systems this is entirely different. They are strategic technologies and can be used both for military and civilian purposes (to guard the borders, FIFA World Cup, terrorism, natural catastrophes, etc.) and find themselves in a fast-paced, forward-looking development. On top of this, they are extortionately expensive

and are only in the early stages of their development so that international co-operation is even more necessary. The same standards need to be defined for all of Europe, and a Europe-wide collaboration and financing must be organised. In comparison, as one can only assume here, the German-French co-operation (Helios-Horus) is not sufficient and not the most cost-efficient alternative. However, to go into this, more research would be necessary.

4. Efforts towards a European Defence Equipment Market

The creation of a European Defence Equipment Market (EDEM) means structural change in so far as national supply chains will have to be changed for the sake of common procurement. Moreover, certain locations might have to be closed because of their relative competitiveness and capabilities causing unemployment and other economic and social costs in the country/location concerned. Steps are to be taken on the national level in order to mitigate the social costs for the loosing companies and regions and their workers by a concise industrial policy including labour market measures supported by the European Union. The social and economic costs in some places have to be compared with the savings in case of common procurement. Obviously, the overall economic benefit for the taxpayers and the national budgets will be much higher than the costs of closing down a number of unproductive locations.

The identification of common strategic objectives is one of the pre-conditions for a common equipment market. Traditionally, national forces in Europe play different roles. The United Kingdom, for example, is a maritime power with world-wide and European interests and has a long tradition with expedition corps. France defines her military tasks from a relatively protected geostrategic position and sees herself as a great power protecting French interests – if necessary also with limited or even with unilateral interventions. Germany, however, fulfils based on its geostrategic position in Central Europe a different strategic role in the alliance. Surrounded by more neighbours than other countries, Germany is a continental power with maritime interests. Due to these different roles, each country can cover a specific part of Western defence interest. This division of labour, that also results in different industrial core competencies, can be fruitful. The identification of common strategic interests can be facilitated by some of the recently established institutions such as the Letter of Intent (LoI) and the Framework Agreement, the Harmonisation of Military Requirements (HMR), the European Headline Goal, the European Security and Defence Policy (ESDP).

4.1. Important government measures

Further steps towards an EDEM have been done by the European governments such as the at least partial privatisation of formerly state owned defence companies, the foundation of OCCAR and of the European Defence Agency (EDA), the Code of Conduct for exports of defence goods and the Green Paper of the EU-Commission:

- The Organisation for Joint Armament Co-operation (OCCAR)¹⁵ was established in 1996 by the four countries with a significant armaments industry, namely France, Germany, Italy and the UK with its seat in Bonn¹⁶. Its aim is to provide more effective and efficient arrangements for the management of certain existing and future collaborative armament programmes, to avoid the development of procedures at the beginning of each new project and to found a centre of competence, which applies internationally proven 'best practice' rules and regulations in procurement. In January 2001, OCCAR finally acquired its legal status and thus is an independent international agency for the co-ordination of military procurement allowed to employ its own staff and to place and manage contracts directly with the arms industry in the name of the Member States¹⁷. The harmonisation of arms procurement via multinational, OCCAR-managed, programmes¹⁸ is intended to support the restructuring of the European arms markets around some leading big enterprises and thus lead to those advantages in size which the fragmented markets in particular are not able to offer. Furthermore, the principle of 'juste retour' is no longer intended to be applied to each individual programme. Instead, an equalisation over a period of several years independent of single programmes is attempted. This commercial approach, however, encounters difficulties when it comes to the practical implementation, as there are an insufficient number of programmes for OCCAR.
- As a further development of OCCAR, in May 2004, defence ministers of all 25 EU countries established the European Defence Agency (EDA) which was finally adopted at the EU summit in June. Its task is to support the Member States in their effort to improve European defence capabilities and to foster a concerted procurement policy of the Member States (Europäischer Konvent, 2002). The agency is based on four pillars: the common arms procurement, the development of defence capabilities and military research and an industrial policy component. Unfortunately, different ideas prevail on EDA in the Member States. Great Britain understands EDA more as a registering body whereas France wishes EDA to be more active, for instance what concerns the co-ordination and financing of space programmes.

¹⁵ Organisation Conjointe de Coopération en Matière d'Armement.

¹⁶ This law was ratified in September 1998.

¹⁷ Membership in OCCAR is open to all European countries, which collaborate in one larger Common project. At present, the Netherlands, Spain and Belgium are considering membership.

¹⁸ Amongst others, the following programmes: Tiger, HOT/MILAN, Roland, FSAF, COBRA, GTK/MRAV, NH90 Helicopter and the tactical transport plane A400.

- With the adoption of a common Code of Conduct (CoC) for arms exports in 1988, the Council took an important step towards the harmonisation of export control policies. According to the CoC, the governments bind themselves to observe certain basic principles when issuing export licenses to all countries, such as human rights, the adherence to UN sanctions, the domestic policy situation of the recipient country, the preservation of peace and security in the respective region, the risk of proliferation, and the economic and financial situation of the recipient country. An adaptation process of political principles governing arms exports is to be created by the process of co-ordination between Member States within the framework of the Code of Conduct, in particular what concerns the notification of when direct exports were rejected. In many cases, however, the wording of the Code of Conduct is unclear and open to interpretation. First and foremost, the CoC is not legally binding and therefore is practised differently in the states so that hardly anything has changed in the various export policies.
- In July 1998 the Ministers of Defence of Germany, France, the United Kingdom, Italy, Sweden and Spain signed a Letter of Intent on Measures to facilitate the Restructuring of the European Defence Industry (LOI). Its purpose was to find common solutions to some areas decisive for armament co-operation, and to determine basic principles, organisation and responsibilities. Besides the topics of the security of supply, security of information, research and technology, harmonisation of military requirements and legal framework it was also necessary to agree on a list of countries into which export of common projects is allowed¹⁹. In the end, the LOI process led to the ratification of a framework agreement in July 2000, which represents the first comprehensive attempt to rationalise the internal rules of the six most important European arms producers. Above all, it simplifies the rules and regulations and controls for the transfer of components between European countries, which is of particular importance for European businesses that have locations in more than one member country. The framework agreement²⁰ therefore simplifies the creation of strong, inte-

¹⁹ The provision in Article 13, para. 3 to agree on allowed export destination countries at an early stage of the project is a great progress. This agreement is to be achieved by consultations in which not only the criteria of the EU Code of Conduct but also the international obligations of the parties to the contract and their military interests are to be taken into consideration. The different political relations to certain countries in critical regions are therefore likely to play a role when determining the country list. The necessary compromise could depend upon whether – in the concrete case – the more restrictive country is absolutely necessary for such collaboration in a common project in terms of technology. Should this not be the case, this country is threatened to be excluded from the common project, which in turn makes it likely that its willingness for compromise is increased.

²⁰ The complete title is: Framework Agreement between The French Republic, The Federal Republic of Germany, The Italian Republic, The Kingdom of Spain, The

grated European arms producers both in financial and technical terms. The main key to the restructuring of the European arms market is the take-over of national responsibility – at least in part – by collective responsibility.

4.2. The Green Paper

In March 2003, the European Commission underlined the necessity for an efficient, competitive European arms industry for an independent European foreign and security policy. For the first time, the Commission put Article 296 up for discussion, which is responsible for the fragmentation of the European arms markets and denotes a common body of legislation for defence goods as the target. It calls for the standardisation of weapons systems and an improved co-operation of Member States in research and development (Commission of the European Communities, 2003). The Commission continued this initiative with the Green Paper, published in 2004.

If an integrated arms market in Europe is to be created, at least the trans-border transfer of defence equipment must be facilitated and fair competitive conditions in all member countries must be created. Article 296 European Community Treaty, however, excludes the defence sector from the liberalised Single Market and therefore represents a major obstacle in this respect. Article 296 is responsible for the still existing national fragmentation of the armaments markets with the result of smaller output series at costs that are too high. It is also responsible for the protection of unprofitable businesses that are only kept artificially alive by state subsidies – at the expense of profitable businesses and the European taxpayers. According to various studies, an internally liberalised European armaments market with a supranational procurement agency could save a lot of tax payers' money (Unisys 2005). Article 296 also prevents the completion of the European integration by its continuous exclusion of the armaments sector from the Single Market. Only then will the unity of Europe be fully completed when there is a common armaments market. The EU Common Foreign and Security Policy (CFSP) needs a European Security and Defence Policy (ESDP) but also a trans-border consolidation of the arms industrial and arms technological base.

This is why it would be best to abolish Article 296 totally as today it is even obsolete in security policy terms. Especially under the umbrella of NATO, a Common Foreign and Security Policy and a European Security and Defence Policy Member States' major security interests

Kingdom of Sweden and The United Kingdom of Great Britain and Northern Ireland Concerning Measures to Facilitate the Restructuring and Operation of the European Defence Industry.

can hardly be different. However, as there are some national governments that do not allow the abolishment of Article 296, efforts of the European Commission laid down in its Green Paper to limit Article 296 at least to the narrow area of indeed sensitive defence equipment, and to prevent its extensive abuse are welcome.

The commission complains that most Member States almost automatically make use of the possibility of exempting nearly all defence procurement contracts from Community rules, often without taking into account the conditions defined by the Treaty and the Court for the use of Article 296 (Bratanova 2004). As a consequence, most defence contracts are awarded on the basis of national procurement rules, which have widely differing selection criteria, advertising procedures, etc.

One can only prove the imputed abuse of Article 296 empirically with more roundabout tactics. One way would be to construct ancillary indicators that show the openness or closedness of national procurement markets. The more closed a market the more valid the assumption that there is protectionist behaviour and an abuse of Article 296. One indicator for the closedness of a national market would be if the majority of purchases consisted of purely national platforms, such as ships, tanks, aircraft, etc. rather than international (European or American) platforms, or if more defence equipment was exported than imported. These ancillary indicators however, are not convincing, as they do not take into account the military division of labour within NATO and the core competencies of national arms industries, for instance. Within NATO, the German navy, for example, concentrates its activities mainly to the protection of coastal waters. At the same time, the core competence of German shipyards lies in fast vessels. Why, then, should the German navy be equipped with foreign ships? The German air force, on the contrary, is equipped with the American Phantom and the international Eurofighter. The origin of this openness of the market, however, lies in the fact that the German industry does not possess the necessary system competence for the entire construction of fighter aircraft so that the German procurement office has to resort to imports. The German army, again, is purely equipped with German main battle tanks. This closedness of the market, however, lies in the superiority of the German tanks industry. Then, one rightly asks why Leopard 2 was not introduced into other countries' armies. The British General Staff, for instance, had the intention to introduce Leopard 2 into the army, the Ministry of Defence, however, insisted on the purchase of British tanks. Generally, one can say that those markets are the closest in countries which cover a relatively broad array of the arms industry, and which have the necessary industrial and technological competencies at their disposal, which they foster for

industrial policy reasons. Smaller countries, on the other hand, are more dependent on open markets.

One entirely sufficient proof for the abuse of Article 296 is the empirical matter of fact given by the Commission that governments only open 10 per cent of military orders placed to public and pan-European tender compared to 25 per cent of civilian orders (Data base TED). This abuse of Article 296 is particularly critical for those non-sensitive goods where the respective national industries only show a low competitiveness. The main reason for this abuse therefore is pure protectionism. Apart from this, national governments also fear structural displacements by the modification of closed supply relationships²¹. By limiting Article 296, pressure on national suppliers could be exerted which in turn could lead to mergers and thus less competition. Some Foreign Ministries resist this as they are not prepared to cede any more sovereignty to the European Union²².

In its Green Paper, the Commission suggested two possible Community initiatives:

- An interpretative communication, clarifying the existing law and, in particular, the principles governing the use of the derogation in Article 296.
- A directive providing new, more flexible, rules for the procurement of arms, munitions and war material not concerning essential security interests. These new rules should take into account all the specificities of such defence contracts.

Such an interpretative communication is not really necessary, as the rules for awarding an offer are valid for all goods in principle, i.e. also for defence equipment. Article 296 merely represents an exception which in each single case is to be justified in terms of security policy. Such a communication would only clarify how Article 296 is to be used, but it would not be able to specify which contracts it applies to, since it could neither clarify the concept of essential security interests nor elaborate on the list of 1958 (both of these actions fall under the Member States' prerogatives). The uncertainty about the scope of Article 296 would thus remain.

The decision on whether or not defence contracts concern essential security interests is a political rather than a legal one. A purely legalistic and rigid approach to a problem of political definition might create even greater confusion and increase the number of legal disputes on the borderline of Article 296.

An interpretative communication would not dispel Member States' reluctance to use the existing PP Directive for defence procurement.

²¹ Interviews EDA.

²² Interviews.

Its impact in terms of transparency and competition would therefore be limited mainly to non-war material. This might generate some cost savings at the margins of defence markets, but would miss the main target of the initiative (i.e. to enhance the cost effectiveness of defence markets and the competitiveness of the EDITB).

On the other hand, when providing this interpretative communication *ex cathedra*, the Commission could make clear that the procurement of civilian and dual-use goods does not lie within the scope of Article 296. With this, it would put political pressure on the national governments to limit hitherto existing abuse. Additionally, it would also support the European Court of Justice to more consequently investigate the constant abuse of countries invoking the exemption provisions of Article 296 to its proportionality.

Those advocating a new directive for non-sensitive defence equipment bring up the special character of defence equipment so that particular consideration needs to be taken where confidentiality and the security of supply are involved. Like this, national governments would find it easier to limit the exemptions according to Article 296 to really sensitive goods. This reasoning is not convincing:

- Today, in case of conflict, a European awarding of contracts guarantees a nearly as secure access to spare parts and components as a national one.
- The two characteristics mentioned above are also valid for other strategic sectors, such as energy and water supply or special high-technologies. They are not protected by a special article.

In principle, it is problematic to create special regulations for individual sectors and to thus fragment the right of public procurement without a real necessity. It would create three separate procurement processes with new boundaries between the various market segments. This is why contracts that are not subject to security policy requirements should be awarded according to the general rules for procurement. The integration of the entire armaments sector into the Single Market must be the long-term goal. This is why another special regulation for non-sensitive defence equipment in addition to the ongoing existence of Article 296 would rather lead in the wrong direction.

The Commission started a public consultation process with its Green Paper inviting all interested parties to comment on how to improve the EU Defence Procurement Regulation. The two solutions of the Green Paper (interpretative communication and/or a directive) were presented as not being mutually exclusive. At the end of the six-month consultation period, 40 contributions from 16 Member States, institutions, trade unions and industry associations were sent to the Commission. Most contributions welcomed the Green Paper and supported the

objective to increase intra-European competition. A majority considered useful an Interpretative Communication clarifying the existing law and in particular the principles governing the use of the derogation in Article 296. As a non-legislative measure, it could be prepared quickly and the Commission would have a clearer and stronger legal basis for applying procurement rules.

Most stakeholders also found that a directive, providing new and more flexible rules for the procurement of arms munitions and war material not concerning essential security interests, would also be useful:

- By co-ordinating national rules in certain parts of the defence markets, a directive would contribute to a more homogeneous regulatory framework in the EU;
- As it is legally binding, a directive would have the capacity to enhance transparency, non-discrimination and equal treatment in certain parts of the defence market.
- It could offer new, more flexible and more suitable rules for procurement of defence contracts, which are not covered by Article 296 and for which the existing directive may be too rigid and inappropriate.
- It could take into account the specific features of defence contracts, which are not addressed or not adequately dealt with by the current PP Directive.
- A directive would not remove the difficulty of defining the borderline of Article 296, but it could be flexible enough to become a credible alternative to national procedures. In this case, the directive could defuse the issue of choosing between Community rules and Article 296.

According to the Commission, preferences for an interpretative communication or a directive do not follow the traditional dividing lines between big and small, producing and non-producing Member States. The same is true for industry. The European Parliament expressed clear support for a comprehensive approach combining an interpretative communication and a new directive adapted to the specificities of defence combined with the development of an intergovernmental Code of Conduct (Commission of the European Communities 2005).

4.3. Code of Conduct

The European Defence Agency's participating Member States (pMS) have decided to establish a voluntary, non-binding intergovernmental regime aimed at encouraging application of competition in defence procurement. Member States who choose to subscribe to the Regime ("subscribing Member States", or sMS) will undertake to open up to

suppliers having a technological and/or industrial base in each others' territories, all defence procurement opportunities of €1 m or more where the conditions for application of Article 296 are met, except for procurement of research and technology; collaborative procurements; and procurements of nuclear weapons and nuclear propulsion systems, chemical, bacteriological and radiological goods and services, and cryptographic equipment (European Defence Agency 2005).

Member States who insist in an exception from the Code of Conduct (CoC) in certain cases must provide an explanation to the EDA. This may constitute some moral coercion. Data will also be provided to the Agency on collaborative procurements. Therefore, this CoC will certainly lead to more mutual transparency and accountability. The necessary equality of information will also be achieved, since all relevant new defence procurement opportunities offered by SMS will be notified on one single portal, which will provide advance notification of Invitations To Tender to be issued under the regime, and links to national websites or other directions to where full documentation can be obtained. The single portal will be administered by EDA, in its capacity as monitor of the CoC, in the following practical steps:

EDA will merely collect all tenders of the 25 national bulletins and publish them in the single portal in a common language, i.e. English. This first level is accessible for all interesting parties, also for private persons such as researchers. A special registration is not necessary, since there is no sensitive information at this stage.

Interested enterprises then send in their bids in their national language. After having produced their security clearance, they will receive all necessary technical details from EDA. EDA will familiarise suppliers with national defence procurement authorities and procedures. The notification will briefly describe the requirement, the procedures and time scales for the competition as well as the selection and award criteria. A standard-format announcement will also be posted on contract award.

Any further procedure is up to the national procurement authorities without any assistance of or interference by EDA. EDA only administers the electronic bulletin board and safeguards a minimum of transparency of national procurement rules, which have widely differing selection criteria, advertising procedures, etc. In order to make the paperwork comparable, which has to be sent in by the stakeholders, EDA will also develop common standards and templates²³.

²³ Interview EDA.

The CoC's most crucial shortcoming, however, is its non-binding character. No legal commitment is involved or implied. No sanction is envisaged for any non-observance of this Code. Obviously, the common principles of the Code could only be agreed on a voluntary, non-binding approach, which also means that some Member States are not ready to obey these principles in practice. Therefore, the CoC will hardly change the existing procurement practice just as the CoC for exports has not really changed the differing national export policies.

5. Recommendations

The inclusion of Article 296 in the treaty for a European constitution would have fixed an anomaly in European procurement and government-industry relations. With an unchanged formulation of the national prerogative over defence procurement and the management of defence industries, changes would have become more difficult in the foreseeable future. The crisis over the constitution, therefore, opens a new chance for a common equipment market – a chance that should be used by the European Parliament. The European Parliament should be a driving force for new initiatives for the abolishment or at least the revision of article 296.

Certainly, it is not immediately possible to open up the national defence markets inside the EU. Rather this will be a long term goal. In the short run, it might be useful to focus on certain preconditions, which are in any case necessary for the final abolishment of Article 296 and the creation of a common equipment market. Issues linked to this goal are: security of supply, state support, subsidies, offsets, intra-community trade issues, export policies and military requirements. Member States must be sure that they will be supplied with certain components from European partners if needed. Otherwise, they will continue to foster their own national defence base. Domestic aid and state intervention on the national level distort international competition preventing long-term benefits to the public. All these issues must be harmonised in a legally binding way and not only by voluntary Codes of Conducts which are interpreted differently by national governments..

Even though transparency is a necessary precondition, the CoC is not enough for fair competition. The Code alone does not create a level playing field, which is urgently needed for a European Defence Equipment Market (EDEM). Basically, there cannot be a level playing field between private and public companies. Private companies are at a disadvantage if they have to compete with state owned companies whose deficits are regularly balanced by the finance ministry. Therefore, the total privatisation of public enterprises is required and national governments have to give up their golden shares. To refuse privatisation therefore means to refuse the European integration of the defence sector. Consequently, the competitiveness and political independence vis-à-vis the United States is endangered.

In the meantime, the European Parliament should support the Commission's efforts with resolutions and initiatives. The Parliament should continuously ask for information and check, if the voluntary Code of Conduct is being followed by each and every Member State and make public any misconduct.

The European Parliament should maintain its firm position on the CoC and continue to call for the Code to become legally binding, to urge the Council not to further delay its decision on the legally binding nature of the Code, to reiterate its call for Member States to agree on a list of countries involved in armed conflicts to which arms exports should be banned in principle, to urge the Member States to apply equal criteria to the evaluation of third states when considering any restriction or embargo on arms exports, and to call for the quality of national reporting to be substantially improved in order to permit accurate assessment of Member States' application of the Code of Conduct and to increase transparency. Furthermore, Member States should agree on common specific standards to which all states must be required to adhere (European Parliament 2006).

Likewise, the European Parliament should support the Commission's recent initiative to facilitate cross-frontier operation by extending the intergovernmental co-operation as it has been existing among six Member States since 1998 to all Member States and by proposing a new Community instrument for lifting obstacles to trade within the EU. Such an instrument could help increase the needed security of supply between Member States and guarantee the protection of national security in view of re-exportation to third countries²⁴. The EP should support this important step towards a more open EDEM by a public hearing and by further resolutions.

Furthermore, the European Parliament should commission EDA to collect and publish more data on national procurement and on national policies concerning defence exports, offsets and subsidies in order to increase transparency and close any information gaps. EDA has already collected data from participating Member States on the invocation of Article 296. This survey might help clarify different national practices and typical national security reasons for invoking the article 296 exemption. Unfortunately, the results will not be published, but the defence committee of the EP should urge to obtain information and commission further surveys if necessary.

²⁴ http://europa.eu.int/comm/enterprise/regulation/inst_sp/defense_en.htm

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Tables

The source of the following tables 1-6 is: NATO, 2005.

Table 1 : Defence expenditures of NRC countries
Tableau 1 : Dépenses de défense des pays du COR
Таблица 1 : Расходы на оборону стран СРН

Country / Pays / Страна	Currency unit / Unité monétaire (million) Денежная единица (млн)	1985	1990	1995	2000	2001	2002	2003	2004	2005e
(0)	(-)	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Current prices / Prix courants / Текущие цены										
Belgium / Бельгия	Belgian francs - Euros / Бельгийский франк - евро	144183	155205	131156	139711	136867	3344	3434	3570	3696
Bulgaria / Болгария	Levas / Леа	//	//	//	//	//	//	//	921	1024
Canada / Канада	Canadian dollars / Канадский доллар	10332	13473	12457	12314	13191	13379	14143	14951	15522
Czech Republic / Чешская Республика	Czech koruny / Чешская крона	//	//	//	44314	45277	48449	53564	52378	53454
Denmark / Дания	Danish kroner / Датская крона	13344	16399	17468	19339	21017	21269	21110	21495	21307
Estonia / Эстония	Kroonis / Крона	//	//	//	//	//	//	//	2186	2671
France / Франция	French francs - Euros / Французский франк - евро	186716	231911	238432	240752	243931	38681	40684	42690	42502
Germany / Германия	Deutsche mark - Euro / Немецкая марка - евро	58650	68376	58986	59758	59943	31168	31060	30610	30435
Greece / Греция	Drachmas - Euros / Драхма - евро	321981	612344	1171377	2017593	2039651	4845	4264	4752	5488
Hungary / Венгрия	Forint / Форинт	//	//	//	226926	272426	279569	314380	310731	289116
Italy / Италия	1000 Italian lire - Euro / 1000 итальянских лир - евро	17767	28007	31561	47100	47616	25887	26795	27476	25107
Latvia / Латвия	Lats / Лат	//	//	//	//	//	//	//	95	114
Lithuania / Литва	Litai / Лит	//	//	//	//	//	//	//	863	852
Luxembourg / Люксембург	Lux. francs - Euros / Люксембург. франк - евро	2265	3233	4194	5613	7226	163	176	189	211
Netherlands / Нидерланды	Neth. Guilders - Euros / Нидерл. гульден - евро	12901	13513	12864	14284	15269	7149	7404	7782	7957
Norway / Норвегия	Norwegian kroner / Норвежская крона	15446	21251	22224	25722	26669	32461	31985	32945	31346
Poland / Польша	Zlotys / Злотый	//	//	//	13418	14455	14581	15431	16901	18018
Portugal / Португалия	Escudos - Euros / Эскудо - евро	111375	267299	403478	479663	520761	2082	2094	2293	2373
Romania / Румыния	Lei / Лей	//	//	//	//	//	//	//	49942286	56753178
Russian Federation / Российская Федерация	Rubles / Рубль	//	//	57093	201248	242838	322723	440613	482042	..
Slovak Republic / Республика Словакия	Slovak koruny / Словацкая крона	//	//	//	//	//	//	//	23575	25989
Slovenia / Словения	Tolars / Толар	//	//	//	//	//	//	//	94873	110288
Spain / Испания	Pesetas - Euros / Песета - евро	674883	922808	1078751	1264299	1326373	9560	9577	10197	10540
Turkey / Турция	1000 Turk. liras-New Turk. liras / 1000 тур. лир-Нов. тур. лиры	1235	13866	302864	6248274	8843915	12107716	13553387	13385686	15716
United Kingdom / Великобритания	Pounds sterling / Фунт стерлингов	18301	22287	21439	23532	24464	25173	26420	27065	27916
United States / Соединенные Штаты	US dollars / Доллары США	258165	306170	278856	301697	312743	356720	415223	464675	472236
2000 prices / Prix de 2000 / цены 2000 г.										
Belgique / Бельгия	Francs belges - Euros / Бельгийский франк - евро	192256	189496	141588	139711	133568	3210	3245	3305	3322
Bulgarie / Болгария	Levas / Леа	//	//	//	//	//	//	//	780	843
Canada / Канада	Dollars canadiens / Канадский доллар	14901	15998	13515	12314	13046	13099	13422	13740	13898
République tchèque / Чешская Республика	Couronnes tchèques / Чешская крона	//	//	//	44314	43156	44937	48779	46009	45773
Danemark / Дания	Couronnes danoises / Датская крона	20180	21000	19879	19339	20345	20088	19489	19436	18870
Estonie / Эстония	Kroonis / Крона	//	//	//	//	//	//	//	1927	2260
France / Франция	Francs français - Euros / Французский франк - евро	250160	263995	249434	240752	239655	37191	38520	39770	39106
Allemagne / Германия	Deutschemarks - Euros / Немецкая марка - евро	79055	81792	60798	59758	59163	30301	29863	29219	28943
Grèce / Греция	Drachmes - Euros / Драхма - Евро	1756030	1511657	1505441	2017593	1970699	4503	3828	4127	4598
Hongrie / Венгрия	Forint / Форинт	//	//	//	226926	250953	236441	247018	233236	207945
Italie / Италия	1000 lires italiennes - Euros / 1000 итальянских лир - евро	46229	48659	42917	47100	46444	23752	23205	22309	20125
Lettonie / Латвия	Lats / Лат	//	//	//	//	//	//	//	81	92
Lituanie / Литва	Litai / Лит	//	//	//	//	//	//	//	893	863
Luxembourg / Люксембург	Francs lux. - Euros / Люксембург. франк - евро	3095	4022	4517	5613	6976	156	164	173	188
Pays-Bas / Нидерланды	Florins - Euros / Нидерл. гульден - евро	16307	16903	14346	14284	14682	6626	6614	6782	6849
Norvège / Норвегия	Couronnes norvégiennes / Норвежская крона	24817	26755	24939	25722	25966	30926	29488	29660	27288
Pologne / Польша	Zlotys / Злотый	//	//	//	13418	13897	13837	14576	15510	16104
Portugal / Португалия	Escudos - Euros / Эскудо - евро	355121	462362	477473	479663	499436	1913	1872	2001	2023
Roumanie / Румыния	Lei / Лей	//	//	//	//	//	//	//	21281117	21697749
Fédération de la Russie / Российская Федерация	Roubles / Рубль	//	//	247953	201248	208463	239914	287218	266161	..
République slovaque / Республика Словакия	Couronnes slovaques / Словацкая крона	//	//	//	//	//	//	//	19880	21353
Slovénie / Словения	Tolars / Толар	//	//	//	//	//	//	//	74238	84270
Espagne / Испания	Pesetas - Euros / Песета - евро	1444124	1383124	1243411	1264299	1272991	8780	8456	8622	8602
Turquie / Турция	1000 livres turq.-Nouv. livres turq. / 1000 тур. лир-Нов. тур. лиры	3074184	4565927	5052539	6248274	5605387	5216263	5035733	4486689	4792
Royaume-Uni / Великобритания	Livres sterling / Фунт стерлингов	35132	31859	24387	23532	23926	23859	24266	24330	24611
Etats-Unis / Соединенные Штаты	Dollars EU / Доллар США	391796	397652	312398	301697	303339	336898	383291	416752	411465
Current prices and exchange rates (millions of US Dollars) / Prix et taux de change courants (millions de dollars EU) / Текущие цены и обменные курсы валют (в миллионах долларов США)										
Belgium / Бельгия		2428	4644	4449	3191	3036	3147	3875	4433	4769
Bulgaria / Болгария		//	//	//	//	//	//	//	585	640
Canada / Канада		7566	11547	9077	8292	8517	8526	10094	11492	12538
Czech Republic / Чешская Республика		//	//	//	1148	1190	1480	1899	2038	2314
Denmark / Дания		1259	2650	3118	2393	2525	2694	3204	3588	3694
Estonia / Эстония		//	//	//	//	//	//	//	174	210
France / Франция		20780	42589	47768	33815	33277	36404	45918	53007	54841
Germany / Германия		19922	42319	41160	28150	27426	29333	35055	38007	39271
Greece / Греция		2331	3863	5056	5522	5356	4560	4812	5901	7081
Hungary / Венгрия		//	//	//	804	951	1084	1402	1533	1508
Italy / Италия		9305	23376	19375	22411	22006	24363	30242	34116	32397
Latvia / Латвия		//	//	//	//	//	//	//	176	199
Lithuania / Литва		//	//	//	//	//	//	//	310	303
Luxembourg / Люксембург		38	97	142	128	160	154	198	235	273
Netherlands / Нидерланды		3884	7421	8012	5972	6200	6729	8356	9662	10268
Norway / Норвегия		1797	3395	3508	2922	2966	4066	4518	4887	4980
Poland / Польша		//	//	//	3087	3531	3574	3968	4621	5684
Portugal / Португалия		654	1875	2670	2204	2324	1960	2364	2848	3062
Romania / Румыния		//	//	//	//	//	//	//	1530	1957
Russian Federation / Российская Федерация		//	//	12523	7154	8325	10295	14356	16730	..
Slovak Republic / Республика Словакия		//	//	//	//	//	//	//	731	873
Slovenia / Словения		//	//	//	//	//	//	//	493	602
Spain / Испания		3969	9053	8651	7001	7133	8997	10808	12661	13600
Turkey / Турция		2365	5315	6606	9994	7216	8033	9030	9390	11650
United Kingdom / Великобритания		23485	39590	33836	35608	35221	37730	43143	49557	52772
United States / Соединенные Штаты		258165	306170	278856	301697	312743	356720	415223	464675	472236

Table 2 : Gross domestic product and defence expenditures annual variation (%)
(based on constant prices)
Tableau 2 : Evolution annuelle du produit intérieur brut et des dépenses de défense (%)
(basée sur les prix constants)
Таблица 2 : Годовое изменение валового внутреннего продукта и расходов на оборону (%)
(в постоянных ценах)

Country / Pays / Страна	Average / Moyenne / В среднем 1985 - 1989	Average / Moyenne / В среднем 1990 - 1994	Average / Moyenne / В среднем 1995 - 1999	Average / Moyenne / В среднем 2000 - 2004	2001	2002	2003	2004	2005e
(0)	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Gross domestic product / Produit intérieur brut / Валовой внутренний продукт									
Belgium / Бельгия	2.7	1.3	2.2	1.1	0.9	0.9	1.3	2.7	1.3
Bulgaria / Болгария	//	//	//	//	//	//	//	5.6	5.2
Canada / Канада	3.5	0.4	3.3	2.4	1.8	3.4	2.0	2.8	2.8
Czech Republic / Чешская Республика	//	//	//	2.7	2.6	1.5	3.7	4.0	4.1
Denmark / Дания	1.8	1.2	2.7	1.1	1.3	0.5	0.7	2.4	2.4
Estonia / Эстония	//	//	//	//	//	//	//	7.8	6.8
France / Франция	2.8	1.1	2.2	1.6	2.1	1.2	0.8	2.3	1.8
Germany / Германия	2.6	6.6	1.3	0.5	1.0	0.1	-0.1	1.0	1.2
Greece / Греция	0.8	1.3	3.1	4.2	4.3	3.8	4.7	4.2	2.8
Hungary / Венгрия	//	//	//	3.6	3.8	3.5	3.0	4.0	3.6
Iceland / Исландия	5.0	-0.4	5.1	1.8	2.6	-2.1	4.2	5.2	6.2
Italy / Италия	3.0	0.8	1.5	1.0	1.8	0.4	0.3	1.2	0.0
Latvia / Латвия	//	//	//	//	//	//	//	8.3	7.5
Lithuania / Литва	//	//	//	//	//	//	//	6.7	6.5
Luxembourg / Люксембург	7.8	5.1	6.0	2.4	1.5	2.5	2.9	4.5	3.3
Netherlands / Нидерланды	2.9	1.8	3.6	0.7	1.4	0.6	-0.9	1.4	0.5
Norway / Норвегия	2.1	3.5	4.4	1.8	2.7	1.1	0.4	2.9	3.1
Poland / Польша	//	//	//	2.1	1.0	1.4	3.8	5.3	4.2
Portugal / Португалия	5.7	1.7	3.9	0.7	1.7	0.4	-1.1	1.0	0.7
Romania / Румыния	//	//	//	//	//	//	//	8.3	5.7
Russian Federation / Российская Федерация	//	//	-1.7	5.7	5.1	4.7	7.3	7.1	6.0
Slovak Republic / Республика Словакия	//	//	//	//	//	//	//	5.5	5.1
Slovenia / Словения	//	//	//	//	//	//	//	4.2	3.9
Spain / Испания	4.5	1.3	3.5	2.6	2.8	2.2	2.5	2.7	3.0
Turkey / Турция	6.0	3.2	5.1	1.3	-7.5	7.9	5.8	8.9	5.0
United Kingdom / Великобритания	4.2	0.4	3.0	2.2	2.3	1.8	2.2	3.1	2.4
United States / Соединенные Штаты	3.6	1.9	4.1	1.9	0.8	1.9	3.0	4.4	3.6
Defence expenditures / Dépenses de défense / Расходы на оборону									
Belgique / Бельгия	1.4	-7.3	-0.8	-2.3	-4.4	-3.0	1.1	1.8	0.5
Bulgarie / Болгария	//	//	//	//	//	//	//	-12.1	8.1
Canada / Канада	2.0	-3.2	-4.4	3.2	5.9	0.4	2.5	2.4	1.1
République tchèque / Чешская Республика	//	//	//	1.3	-2.6	4.1	8.5	-5.7	-0.5
Danemark / Дания	1.0	-0.5	0.2	1.0	5.2	-1.3	-3.0	-0.3	-2.9
Estonie / Эстония	//	//	//	//	//	//	//	9.1	17.3
France / Франция	1.2	-0.3	-1.0	1.4	-0.5	1.8	3.6	3.2	-1.7
Allemagne / Германия	-0.4	-6.3	-1.1	-0.9	-1.0	0.2	-1.4	-2.2	-0.9
Grèce / Греция	-4.8	-1.1	6.4	-10.2	-2.3	-22.1	-15.0	7.8	11.4
Hongrie / Венгрия	//	//	//	2.6	10.6	-5.8	4.5	-5.6	-10.8
Italie / Италия	3.1	-0.5	0.7	-1.7	-1.4	-1.0	-2.3	-3.9	-9.8
Lettonie / Латвия	//	//	//	//	//	//	//	6.8	14.5
Lituanie / Литва	//	//	//	//	//	//	//	4.5	-3.3
Luxembourg / Люксембург	7.5	4.1	5.2	7.3	24.3	-10.1	5.2	6.0	8.2
Pays-Bas / Нидерланды	2.0	-2.9	0.6	1.2	2.8	-0.5	-0.2	2.5	1.0
Norvège / Норвегия	1.6	0.3	1.2	4.9	0.9	19.1	-4.7	0.6	-8.0
Pologne / Польша	//	//	//	3.0	3.6	-0.4	5.3	6.4	3.8
Portugal / Португалия	5.4	0.4	-1.5	-5.7	4.1	-23.2	-2.1	6.9	1.1
Roumanie / Румыния	//	//	//	//	//	//	//	3.8	2.0
Fédération de la Russie / Российская Федерация	//	//	-10.3	8.9	3.6	15.1	19.7	-7.3	..
République slovaque / Республика Словакия	//	//	//	//	//	//	//	-3.8	7.4
Slovénie / Словения	//	//	//	//	//	//	//	6.5	13.5
Espagne / Испания	0.5	-3.4	-1.0	3.9	0.7	14.8	-3.7	2.0	-0.2
Turquie / Турция	6.5	3.4	5.5	-8.1	-10.3	-6.9	-3.5	-10.9	6.8
Royaume-Uni / Великобритания	-3.1	-4.2	-1.6	0.9	1.7	-0.3	1.7	0.3	1.2
Etats-Unis / Соединенные Штаты	2.0	-5.3	-2.6	7.2	0.5	11.1	13.8	8.7	-1.3

Table 3: Defence expenditures as % of gross domestic product
Tableau 3: Dépenses de défense en % du produit intérieur brut
Таблица 3: Расходы на оборону в % от валового внутреннего продукта

Country / Pays / Страна	Average / Moyenne / В среднем 1985 - 1989	Average / Moyenne / В среднем 1990 - 1994	Average / Moyenne / В среднем 1995 - 1999	Average / Moyenne / В среднем 2000 - 2004	2001	2002	2003	2004	2005e
(0)	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Based on current prices / Sur la base des prix courants / В текущих ценах									
Belgium / Бельгия	2.8	2.0	1.5	1.3	1.3	1.3	1.3	1.3	1.3
Bulgaria / Болгария	//	//	//	//	//	//	//	2.4	2.5
Canada / Канада	2.1	1.8	1.3	1.2	1.2	1.2	1.2	1.2	1.1
Czech Republic / Чешская Республика	//	//	//	2.0	2.0	2.0	2.1	1.9	1.8
Denmark / Дания	2.0	1.9	1.7	1.5	1.6	1.6	1.5	1.5	1.4
Estonia / Эстония	//	//	//	//	//	//	//	1.5	1.7
France / Франция	3.7	3.3	2.9	2.5	2.5	2.5	2.6	2.6	2.5
Germany / Германия	3.0	2.1	1.6	1.5	1.5	1.5	1.5	1.4	1.4
Greece / Греция	5.1	4.4	4.6	3.6	4.6	| 3.4	2.8	2.9	3.1
Hungary / Венгрия	//	//	//	1.7	1.8	| 1.7	1.7	1.5	1.3
Italy / Италия	2.3	2.1	1.9	2.0	2.0	2.1	2.1	2.0	1.8
Latvia / Латвия	//	//	//	//	//	//	//	1.3	1.4
Lithuania / Литва	//	//	//	//	//	//	//	1.4	1.3
Luxembourg / Люксембург	1.0	0.9	0.8	0.7	0.8	0.7	0.7	0.7	0.8
Netherlands / Нидерланды	2.8	2.3	1.8	1.6	1.6	1.6	1.6	1.7	1.7
Norway / Норвегия	2.9	2.8	2.2	1.9	1.7	2.1	2.0	2.0	1.7
Poland / Польша	//	//	//	1.9	1.9	1.9	1.9	1.9	1.9
Portugal / Португалия	2.6	2.6	2.2	1.8	2.1	| 1.6	1.6	1.7	1.7
Romania / Румыния	//	//	//	//	//	//	//	2.1	2.0
Russian Federation / Российская Федерация	//	//	3.1	2.9	2.7	3.0	3.3	2.9	..
Slovak Republic / Республика Словакия	//	//	//	//	//	//	//	1.8	1.8
Slovenia / Словения	//	//	//	//	//	//	//	1.5	1.7
Spain / Испания	2.1	1.6	1.4	1.3	1.2	1.4	1.3	1.3	1.2
Turkey / Турция	3.3	3.8	4.4	4.2	5.0	| 4.4	3.8	3.1	3.2
United Kingdom / Великобритания	4.5	3.7	2.7	2.4	| 2.5	2.4	2.4	2.3	2.3
United States / Соединенные Штаты	6.0	4.6	3.3	3.4	3.1	3.4	3.8	4.0	3.8
Based on constant prices / Sur la base des prix constants / В постоянных ценах									
Belgique / Бельгия	2.7	2.0	1.5	1.3	1.3	1.3	1.3	1.3	1.3
Bulgarie / Болгария	//	//	//	//	//	//	//	2.4	2.5
Canada / Канада	2.1	1.8	1.3	1.2	1.2	1.2	1.2	1.2	1.1
République tchèque / Чешская Республика	//	//	//	2.0	2.0	2.0	2.1	1.9	1.8
Danemark / Дания	2.1	2.0	1.7	1.5	1.6	1.5	1.5	1.4	1.4
Estonie / Эстония	//	//	//	//	//	//	//	1.6	1.7
France / Франция	3.7	3.3	2.9	2.5	2.5	2.5	2.6	2.6	2.5
Allemagne / Германия	3.0	2.1	1.6	1.5	1.5	1.5	1.5	1.4	1.4
Grèce / Греция	5.1	4.4	4.6	3.6	4.6	| 3.4	2.8	2.9	3.1
Hongrie / Венгрия	//	//	//	1.7	1.8	| 1.7	1.7	1.5	1.3
Italie / Италия	2.8	2.5	2.1	2.0	2.0	2.0	1.9	1.8	1.7
Lettonie / Латвия	//	//	//	//	//	//	//	1.3	1.4
Lituanie / Литва	//	//	//	//	//	//	//	1.5	1.3
Luxembourg / Люксембург	0.9	0.8	0.7	0.7	0.8	0.7	0.7	0.7	0.8
Pays-Bas / Нидерланды	2.8	2.3	1.8	1.6	1.6	1.6	1.6	1.6	1.7
Norvège / Норвегия	2.6	2.5	1.9	1.9	1.7	2.0	1.9	1.9	1.7
Pologne / Польша	//	//	//	1.9	1.9	1.9	1.9	1.9	1.9
Portugal / Португалия	2.6	2.6	2.2	1.8	2.1	| 1.6	1.6	1.7	1.7
Roumanie / Румыния	//	//	//	//	//	//	//	2.1	2.0
Fédération de la Russie / Российская Федерация	//	//	3.1	2.9	2.7	3.0	3.3	2.9	..
République slovaque / Республика Словакия	//	//	//	//	//	//	//	1.8	1.8
Slovénie / Словения	//	//	//	//	//	//	//	1.5	1.7
Espagne / Испания	2.1	1.6	1.4	1.3	1.2	1.4	1.3	1.3	1.2
Turquie / Турция	4.6	5.2	5.0	4.1	4.9	| 4.2	3.8	3.1	3.2
Royaume-Uni / Великобритания	4.8	3.9	2.7	2.4	| 2.5	2.4	2.4	2.3	2.3
Etats-Unis / Соединенные Штаты	6.3	4.8	3.4	3.4	3.1	3.3	3.7	3.8	3.7

Table 4 : Gross domestic product and defence expenditures per capita in US \$
Tableau 4: Produit intérieur brut et dépenses de défense par habitant en \$ EU
Таблица 4: Валовой внутренний продукт и расходы на оборону в долл. США на душу населения

Country / Pays / Страна	1985	1990	1995	2000	2001	2002	2003	2004	2005e
(0)	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Gross domestic product (deflated by purchasing power parities) / Produit intérieur brut (déflaté par les parités de pouvoir d'achat) / Валовой внутр. продукт (пересчитанный с учетом покупательной способности)									
Belgium / Бельгия	13399	18074	21713	26230	27517	28621	29642	30818	31861
Bulgaria / Болгария	//	//	//	//	//	//	//	7884	8549
Canada / Канада	15571	19591	22745	28428	29330	30032	30920	31952	33282
Czech Republic / Чешская Республика	//	//	//	14573	15510	16584	17231	18473	19683
Denmark / Дания	14857	18433	22530	28487	29620	29835	30730	31657	33087
Estonia / Эстония	//	//	//	//	//	//	//	13532	14896
France / Франция	14125	18663	21606	26713	28074	28832	29147	30471	31476
Germany / Германия	15303	20483	21535	25174	25879	26685	27242	27958	28924
Greece / Греция	9309	11435	13251	16268	17247	18990	20361	21424	22471
Hungary / Венгрия	//	//	//	12018	13239	14365	15166	15876	16887
Iceland / Исландия	15511	20123	21980	28248	29253	28907	29360	32582	35007
Italy / Италия	13028	17499	21028	25245	25976	26586	26945	27977	28752
Latvia / Латвия	//	//	//	//	//	//	//	11401	12639
Lithuania / Литва	//	//	//	//	//	//	//	12605	13756
Luxembourg / Люксембург	15644	25111	32012	49115	49942	52406	53800	57077	59664
Netherlands / Нидерланды	13403	17941	21699	27308	29147	29930	30435	31063	31739
Norway / Норвегия	14388	18047	23933	36306	37114	36618	37118	38720	40623
Poland / Польша	//	//	//	10397	10760	11195	11596	12647	13501
Portugal / Португалия	6854	10750	13220	17378	18073	18808	18782	19411	19871
Romania / Румыния	//	//	//	//	//	//	//	8298	9013
Russian Federation / Российская Федерация	//	//	6302	6952	7508	8030	8848	9728	10599
Slovak Republic / Республика Словакия	//	//	//	//	//	//	//	14321	15448
Slovenia / Словения	//	//	//	//	//	//	//	20748	22060
Spain / Испания	9088	13118	15721	20436	21412	22758	23895	24359	25369
Turkey / Турция	3305	4546	5494	6820	6140	6520	6969	7688	8020
United Kingdom / Великобритания	12116	16475	19905	25542	26999	28855	29919	31363	32763
United States / Соединенные Штаты	17697	23215	28119	35650	35496	36391	37811	39927	41666
Gross domestic product (2000 prices and exchange rates) / Produit intérieur brut (prix et taux de change de 2000) / Валовой внутренний продукт (цены и обменный курс 2000 г.)									
Belgique / Бельгия	16061	18501	19693	22257	22373	22471	22670	23217	23447
Bulgarie / Болгария	//	//	//	//	//	//	//	1949	2065
Canada / Канада	18253	19628	20205	23621	23789	24332	24599	25052	25491
République tchèque / Чешская Республика	//	//	//	5423	5592	5688	5899	6131	6382
Danemark / Дания	23088	24454	26484	29633	29912	29978	30115	30755	31400
Estonie / Эстония	//	//	//	//	//	//	//	5367	5772
France / Франция	16791	19025	19909	22519	22845	22986	23035	23459	23734
Allemagne / Германия	19441	22213	20941	22752	22944	22921	22877	23088	23333
Grèce / Греция	8522	8924	9163	10377	10785	11158	11644	12093	12390
Hongrie / Венгрия	//	//	//	4572	4758	4939	5104	5321	5529
Islande / Исландия	22845	25301	24487	29899	30265	29369	30430	31647	33215
Italie / Италия	14103	16170	17233	18793	19072	19103	19150	19354	19323
Lettonie / Латвия	//	//	//	//	//	//	//	4457	4826
Lituanie / Литва	//	//	//	//	//	//	//	4398	4688
Luxembourg / Люксембург	21812	29879	33773	44708	44972	45938	46488	48033	49048
Pays-Bas / Нидерланды	16282	18613	19957	23273	23428	23411	23098	23272	23227
Norvège / Норвегия	25600	27304	32084	37165	37983	38200	38125	38998	39966
Pologne / Польша	//	//	//	4354	4399	4461	4637	4887	5096
Portugal / Португалия	6040	8069	8807	10407	10508	10476	10287	10331	10331
Roumanie / Румыния	//	//	//	//	//	//	//	2151	2282
Fédération de la Russie / Российская Федерация	//	//	1606	1772	1870	1967	2122	2285	2432
République slovaque / Республика Словакия	//	//	//	//	//	//	//	4515	4747
Slovénie / Словения	//	//	//	//	//	//	//	11001	11425
Espagne / Испания	9012	11104	11803	13970	14200	14308	14425	14574	14826
Turquie / Турция	2127	2497	2660	2956	2690	2858	2977	3194	3300
Royaume-Uni / Великобритания	17049	19783	21197	24426	24893	25244	25697	26408	26948
Etats-Unis / Соединенные Штаты	25386	28453	30529	35650	34664	34961	35671	36889	37603
Defence expenditures (2000 prices and exchange rates) / Dépenses de défense (prix et taux de change de 2000) / Расходы на оборону (цены и обменный курс 2000 г.)									
Belgium / Бельгия	445	434	319	311	297	286	288	293	293
Bulgaria	//	//	//	//	//	//	//	47	51
Canada / Канада	388	389	311	270	283	281	285	290	290
Czech Republic / Чешская Республика	//	//	//	112	109	114	124	117	116
Denmark / Дания	488	505	470	448	470	462	448	445	431
Estonia	//	//	//	//	//	//	//	85	100
France / Франция	636	654	606	573	567	574	591	608	594
Germany / Германия	610	609	351	343	339	339	333	326	323
Greece / Греция	484	410	394	505	492	382	323	348	386
Hungary / Венгрия	//	//	//	79	87	82	86	82	73
Italy / Италия	389	408	360	392	385	381	372	357	322
Latvia	//	//	//	//	//	//	//	57	66
Lithuania	//	//	//	//	//	//	//	65	63
Luxembourg / Люксембург	193	239	250	292	360	323	334	350	374
Netherlands / Нидерланды	470	473	388	375	383	378	376	383	384
Norway / Норвегия	679	717	650	651	654	774	734	734	671
Poland / Польша	//	//	//	81	84	83	88	93	97
Portugal / Португалия	160	212	219	215	223	170	165	175	176
Romania	//	//	//	//	//	//	//	45	46
Russian Federation / Российская Федерация	//	//	60	49	51	59	71	66	..
Slovak Republic	//	//	//	//	//	//	//	80	86
Slovenia	//	//	//	//	//	//	//	167	189
Spain / Испания	208	197	175	174	173	196	185	186	183
Turkey / Турция	98	130	131	148	131	120	114	100	105
United Kingdom / Великобритания	940	842	636	605	612	609	617	616	621
United States / Соединенные Штаты	1643	1591	1187	1096	1063	1169	1317	1418	1377

Table 5 : Distribution of total defence expenditures by category
Tableau 5 : Répartition des dépenses totales de défense par catégorie
Таблица 5 : Разбивка общих расходов по категориям

Country / Pays / Страна	Average / Moyenne / В среднем 1985 - 1989	Average / Moyenne / В среднем 1990 - 1994	Average / Moyenne / В среднем 1995 - 1999	Average / Moyenne / В среднем 2000 - 2004	2001	2002	2003	2004	2005e
(0)	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
% devoted to personnel expenditures / % affecté aux dépenses en personnel / % на оплату личного состава									
Belgium / Бельгия	63.4	68.3	69.3	70.6	68.7	71.5	72.8	74.6	75.1
Bulgaria / Болгария	//	//	//	//	//	//	//	//	54.7
Canada / Канада	46.2	49.7	44.2	44.5	42.9	45.1	44.9	45.9	45.8
Czech Republic / Чешская Республика	//	//	//	44.8	46.0	45.5	41.8	48.2	49.7
Denmark / Дания	56.6	57.5	59.8	52.3	52.3	52.0	51.4	51.4	52.2
Estonia / Эстония	//	//	//	//	//	//	//	34.5	31.0
France / Франция	..	..	58.2	59.6	60.5	60.7	58.9	57.4	58.1
Germany / Германия	48.9	57.4	61.5	60.0	60.3	59.4	60.1	59.3	59.3
Greece / Греция	60.5	63.0	61.7	68.9	64.0	67.6	74.5	77.4	76.2
Hungary / Венгрия	//	//	//	48.8	47.9	49.3	48.8	49.4	53.3
Italy / Италия	57.8	63.6	71.8	73.1	72.3	74.0	72.7	75.3	78.7
Latvia / Латвия	//	//	//	//	//	//	//	43.8	48.8
Lithuania / Литва	//	//	//	//	//	//	//	51.1	57.4
Luxembourg / Люксембург	76.9	76.2	79.1	76.0	68.4	79.5	78.8	77.7	72.2
Netherlands / Нидерланды	52.8	56.9	54.6	50.5	48.0	51.2	52.6	49.6	49.6
Norway / Норвегия	43.9	40.6	38.0	39.8	39.1	37.9	40.3	41.3	41.7
Poland / Польша	//	//	//	63.3	64.3	64.9	64.6	60.6	58.5
Portugal / Португалия	67.7	77.3	80.8	79.8	80.8	84.1	78.6	74.2	73.5
Romania / Румыния	//	//	//	//	//	//	//	50.6	54.6
Russian Federation / Российская Федерация	//	//	44.5	44.4	41.9	45.8	47.2	44.9	..
Slovak Republic / Республика Словакия	//	//	//	//	//	//	//	49.7	49.1
Slovenia / Словения	//	//	//	//	//	//	//	61.6	57.8
Spain / Испания	..	64.9	66.5	58.2	63.4	54.9	55.7	53.9	54.3
Turkey / Турция	37.1	50.1	48.2	46.1	44.7	45.8	45.6	49.7	47.8
United Kingdom / Великобритания	38.6	42.2	39.4	39.4	39.8	39.6	39.6	39.8	39.1
United States / Соединенные Штаты	37.0	39.3	39.0	36.1	36.2	36.1	36.1	34.4	33.2
% devoted to equipment expenditures / % affecté aux dépenses d'équipement / % на оборудование									
Belgique / Бельгия	12.1	7.8	5.8	6.0	7.1	..	5.3	5.2	6.4
Bulgarie / Болгария	//	//	//	//	//	//	//	8.9	13.4
Canada / Канада	19.7	18.1	12.7	12.9	11.1	13.9	13.6	13.7	14.2
République tchèque / Чешская Республика	//	//	//	19.4	20.3	17.5	19.6	17.7	11.6
Danemark / Дания	14.0	15.8	12.8	15.9	16.8	13.5	16.1	19.1	18.0
Estonie / Эстония	//	//	//	//	//	//	//	13.3	13.3
France / Франция	..	..	21.3	19.7	19.4	19.1	20.5	20.9	21.3
Allemagne / Германия	19.6	13.5	11.8	14.0	14.0	14.1	13.8	14.8	15.1
Grèce / Греция	18.2	22.8	20.1	12.4	15.2	13.1	10.7	7.6	8.0
Hongrie / Венгрия	//	//	//	11.2	10.5	11.1	10.3	11.9	8.9
Italie / Италия	19.7	16.3	12.9	12.3	10.3	12.4	12.9	11.7	10.7
Lettonie / Латвия	//	//	//	//	//	//	//	7.4	7.6
Lituanie / Литва	//	//	//	//	//	//	//	12.3	14.9
Luxembourg / Люксембург	3.5	3.4	4.1	7.4	12.1	6.8	7.4	8.2	14.6
Pays-Bas / Нидерланды	19.8	15.6	16.4	15.2	16.7	15.9	14.9	16.4	17.5
Norvège / Норвегия	21.7	24.9	24.5	21.8	21.2	23.7	22.9	22.9	22.5
Pologne / Польша	7.6	5.7	5.5	6.0	8.8	11.1	12.4	14.6	15.7
Portugal / Португалия	//	//	//	5.3	4.1	7.4	7.4	7.6	11.4
Roumanie / Румыния	//	//	//	//	//	//	//	25.6	21.3
Fédération de la Russie / Российская Федерация	//	//	10.9	13.2	10.7	12.4	14.0	16.7	..
République slovaque / Республика Словакия	//	//	//	//	//	//	//	11.6	11.2
Slovénie / Словения	//	//	//	//	//	//	//	18.5	17.1
Espagne / Испания	..	12.4	12.8	18.1	12.7	23.3	22.2	22.8	20.7
Turquie / Турция	18.2	23.7	26.5	32.6	33.0	31.5	32.9	32.9	36.9
Royaume-Uni / Великобритания	24.8	21.0	24.8	23.8	24.1	23.7	22.6	22.8	24.5
Etats-Unis / Соединенные Штаты	25.6	25.1	26.2	24.8	25.7	27.4	24.5	24.6	25.7
% devoted to infrastructure expenditures / % affecté aux dépenses d'infrastructure / % на инфраструктуру									
Belgium / Бельгия	4.0	3.4	3.9	2.7	3.7	2.7	2.5	3.0	2.5
Bulgaria / Болгария	//	//	//	//	//	//	//	0.4	0.1
Canada / Канада	2.8	3.2	3.9	4.2	4.0	3.7	4.0	3.9	3.8
Czech Republic / Чешская Республика	//	//	//	4.2	4.6	6.1	3.8	3.9	9.8
Denmark / Дания	3.4	3.2	2.2	2.3	2.6	3.6	2.5	2.1	2.4
Estonia / Эстония	//	//	//	//	//	//	//	13.7	15.3
France / Франция	..	..	3.9	4.6	4.5	4.2	4.8	5.1	4.7
Germany / Германия	5.9	4.9	4.8	4.3	4.4	4.4	4.1	3.8	4.0
Greece / Греция	2.2	1.7	1.9	1.4	1.4	1.3	1.4	1.2	1.3
Hungary / Венгрия	//	//	//	5.5	5.7	6.4	6.6	7.0	2.9
Italy / Италия	2.6	2.4	0.8	0.9	0.9	0.8	1.1	0.6	0.8
Latvia / Латвия	//	//	//	//	//	//	//	14.8	11.5
Lithuania / Литва	//	//	//	//	//	//	//	3.8	3.7
Luxembourg / Люксембург	7.3	10.4	4.2	3.1	7.9	2.1	1.5	2.3	1.5
Netherlands / Нидерланды	5.2	5.2	3.8	3.6	4.2	3.7	2.9	3.0	3.4
Norway / Норвегия	8.2	9.2	6.3	5.6	5.1	5.9	7.1	5.4	5.3
Poland / Польша	//	//	//	2.2	1.7	2.1	2.1	3.8	4.1
Poland / Польша	3.7	2.3	1.0	0.9	0.7	0.8	0.9	0.9	1.4
Portugal / Португалия	//	//	//	//	//	//	//	1.1	1.9
Romania / Румыния	//	//	7.0	6.5	7.2	6.0	6.5	6.4	7.3
Russian Federation / Российская Федерация	//	//	//	//	//	//	//	7.3	5.2
Slovak Republic / Республика Словакия	//	//	//	//	//	//	//	2.6	2.6
Slovenia / Словения	//	//	//	//	//	//	//	2.1	2.3
Spain / Испания	..	1.2	0.8	2.1	2.2	2.1	2.1	3.1	2.2
Turkey / Турция	5.4	3.0	4.4	4.8	6.2	6.4	3.0	3.1	2.2
United Kingdom / Великобритания	3.9	5.2	5.2	1.4	0.8	0.9	0.9	1.8	2.6
United States / Соединенные Штаты	1.8	1.5	2.3	1.5	1.6	1.4	1.4	1.3	1.3
% devoted to other expenditures / % affecté aux autres dépenses / % на прочие расходы									
Belgique / Бельгия	20.4	20.4	21.0	20.2	20.4	18.8	19.3	17.2	16.0
Bulgarie / Болгария	//	//	//	//	//	//	//	30.8	31.8
Canada / Канада	31.2	29.0	38.1	38.3	42.0	37.2	37.5	36.5	36.3
République tchèque / Чешская Республика	//	//	//	31.2	29.1	30.9	34.8	30.2	28.9
Danemark / Дания	25.8	23.3	25.2	29.1	28.2	30.8	30.0	27.5	27.4
Estonie / Эстония	//	//	//	//	//	//	//	38.5	40.4
France / Франция	..	..	16.4	16.0	15.6	16.0	15.8	16.6	15.9
Allemagne / Германия	25.5	23.9	21.9	21.7	21.3	22.1	22.0	22.1	21.6
Grèce / Греция	18.4	12.2	16.2	16.3	19.4	18.1	13.4	13.8	14.4
Hongrie / Венгрия	//	//	//	34.2	35.9	33.2	34.3	31.7	35.0
Italie / Италия	19.8	17.7	14.3	13.5	16.4	12.8	13.3	12.4	9.8
Lettonie / Латвия	//	//	//	//	//	//	//	34.0	32.2
Lituanie / Литва	//	//	//	//	//	//	//	32.8	24.0
Luxembourg / Люксембург	11.9	9.4	12.0	12.3	11.6	11.6	12.3	11.8	11.7
Pays-Bas / Нидерланды	22.0	22.1	29.7	29.7	31.1	29.2	29.5	30.9	29.5
Norvège / Норвегия	26.0	24.8	31.1	32.6	34.6	32.5	30.9	30.5	30.5
Pologne / Польша	//	//	//	23.1	24.6	22.3	20.9	21.1	21.7
Portugal / Португалия	19.8	13.8	12.3	13.2	12.7	11.0	13.1	17.2	13.6
Roumanie / Румыния	//	//	//	//	//	//	//	22.8	22.2
Fédération de la Russie / Российская Федерация	//	//	25.4	35.5	40.1	35.6	32.3	31.9	..
République slovaque / Республика Словакия	//	//	//	//	//	//	//	31.4	34.5
Slovénie / Словения	//	//	//	//	//	//	//	17.2	22.6
Espagne / Испания	..	21.2	19.7	20.8	21.7	19.7	20.1	21.0	21.3
Turquie / Турция	38.4	22.5	20.0	15.7	16.2	16.2	13.1	14.4	13.0
Royaume-Uni / Великобритания	32.5	30.5	30.5	35.1	35.7	35.6	36.9	35.6	33.9
Etats-Unis / Соединенные Штаты	35.5	33.6	32.5	37.6	36.5	35.1	38.1	39.6	39.8

Table 6 : Armed forces - Annual strength
Tableau 6 : Forces armées - Effectif annuel
Таблица № 6: Вооруженные силы – численный состав (за год)

Country / Pays / Страна	1985	1990	1995	2000	2001	2002	2003	2004	2005e
(0)	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Military (thousand) / Militaires (millier) / Военнослужащие (тыс)									
Belgium / Бельгия	107	106	47	42	41	42	41	41	38
Bulgaria / Болгария	//	//	//	//	//	//	//	42	42
Canada / Канада	83	87	70	59	59	61	62	62	62
Czech Republic / Чешская Республика	//	//	//	52	49	40	26	25	26
Denmark / Дания	29	31	27	24	22	22	20	20	20
Estonia / Эстония	//	//	//	//	//	//	//	3	3
France / Франция	560	548	502	394	366	355	356	357	357
Germany / Германия	495	545	352	319	306	295	271	255	254
Greece / Греция	201	201	213	205	202	208	| 139	133	135
Hungary / Венгрия	//	//	//	50	49	44	| 36	30	24
Italy / Италия	504	493	435	381	374	362	325	315	317
Latvia / Латвия	//	//	//	//	//	//	//	7	6
Lithuania / Литва	//	//	//	//	//	//	//	12	12
Luxembourg / Люксембург	1.2	1.3	1.3	1.4	1.4	1.4	1.6	1.6	1.6
Netherlands / Нидерланды	103	104	67	52	51	53	53	51	50
Norway / Норвегия	36	51	38	32	31	22	21	23	23
Poland / Польша	//	//	//	191	178	159	150	150	150
Portugal / Португалия	102	87	78	68	68	69	| 42	45	47
Romania / Румыния	//	//	//	//	//	//	//	91	79
Russian Federation / Российская Федерация	//	//	..	..	..	..	..	..	..
Slovak Republic / Республика Словакия	//	//	//	//	//	//	//	18	19
Slovenia / Словения	//	//	//	//	//	//	//	6	7
Spain / Испания	314	263	210	144	151	135	130	124	124
Turkey / Турция	814	769	805	793	803	816	| 534	502	499
United Kingdom / Великобритания	334	308	233	218	215	214	206	202	..
United States / Соединенные Штаты	2244	2181	1620	1483	1487	1506	1422	1378	1371
Military and civilian personnel as % of labour force									
Personnels civil et militaire en % de la population active									
Военнослужащие и вольнонаемные в % активного населения									
Belgique / Бельгия	2.8	2.7	1.2	1.0	1.0	1.0	1.0	0.9	0.9
Bulgarie / Болгария	//	//	//	//	//	//	//	1.6	1.6
Canada / Канада	0.9	0.9	0.7	0.5	0.5	0.5	0.5	0.5	0.5
République tchèque / Чешская Республика	//	//	//	1.4	1.4	1.2	0.8	0.8	0.8
Danemark / Дания	1.4	1.4	1.3	1.2	1.0	1.0	1.0	0.9	1.0
Estonie / Эстония	//	//	//	//	//	//	//	0.6	0.6
France / Франция	2.7	2.6	2.3	1.8	1.7	1.6	1.6	1.6	1.6
Allemagne / Германия	2.3	2.5	1.3	1.0	1.0	1.0	0.8	0.7	0.7
Grèce / Греция	6.1	5.7	5.7	5.1	5.0	5.2	| 3.5	3.3	3.3
Hongrie / Венгрия	//	//	//	1.5	1.4	1.3	| 1.1	0.9	0.7
Italie / Италия	2.5	2.4	2.2	1.8	1.8	1.7	1.5	1.5	1.5
Lettonie / Латвия	//	//	//	//	//	//	//	0.6	0.6
Lituanie / Литва	//	//	//	//	//	//	//	0.9	0.9
Luxembourg / Люксембург	0.9	0.9	0.9	0.8	0.8	0.8	0.9	0.9	0.9
Pays-Bas / Нидерланды	2.0	1.8	1.2	0.9	0.8	0.8	0.8	0.8	0.8
Norvège / Норвегия	2.3	2.9	2.3	1.8	1.8	1.4	1.2	1.2	1.2
Pologne / Польша	//	//	//	1.5	1.4	1.3	1.2	1.2	1.2
Portugal / Португалия	2.6	2.1	1.8	1.5	1.5	1.5	| 1.0	1.1	1.1
Roumanie / Румыния	//	//	//	//	//	//	//	1.1	1.0
Fédération de la Russie / Российская Федерация	//	//	..	..	..	..	..	..	..
République slovaque / Республика Словакия	//	//	//	//	//	//	//	1.0	1.0
Slovénie / Словения	//	//	//	//	//	//	//	0.8	0.9
Espagne / Испания	2.7	2.1	1.7	1.1	1.1	1.0	0.9	0.8	0.8
Turquie / Турция	4.7	4.0	3.8	3.6	3.6	3.6	| 2.5	2.3	2.3
Royaume-Uni / Великобритания	1.9	1.7	1.3	1.1	1.1	1.1	1.1	1.0	..
Etats-Unis / Соединенные Штаты	2.9	2.6	1.9	1.5	1.5	1.5	1.5	1.4	1.4

60. Defence Budget R&D as a percentage of Total GBAORD

		1995	2000	2001	2002	2003	2004	2005	
Australia	7.1 ^{a,h}	5.9 ^h	5.8 ^h	5.9 ^h	5.7 ^h	5.6 ^{h,p}	6.7 ^{h,p}	Australie	
Austria	0.0 ^h	0.0 ^h	0.0 ^h	0.0 ^h	0.0 ^h	0.0 ^{h,p}	0.0 ^{h,p}	Autriche	
Belgium	0.4	0.3	0.2	0.3	0.3	0.3 ^p	..	Belgique	
Canada	4.7 ^{a,h}	4.8 ^h	4.2 ^h	3.7 ^h	3.6 ^{c,h}	3.5 ^{c,h}	..	Canada	
Czech Republic	..	..	..	3.3	3.3	3.4 ^p	..	République tchèque
Denmark	0.6 ^c	0.5 ^c	0.5 ^{a,c}	0.5 ^c	1.2	1.3	0.7 ^c	Danemark	
Finland	2.1 ^a	1.3	1.6	1.6	2.9	2.3	3.3 ^p	Finlande	
France	30.0	21.4	22.8 ^a	23.0	24.2	22.7 ^p	..	France	
Germany	9.1	7.8	7.4 ^s	5.5 ^s	6.5 ^s	5.8 ^s	5.8 ^{p,s}	Allemagne	
Greece	1.3	0.4	0.8	0.7	0.6	0.6 ^p	..	Grèce	
Hungary	..	..	..	..	..	..	..	Hongrie
Iceland	0.0	0.0	0.0	0.0	0.0	0.0	0.0 ^p	Islande	
Ireland	0.0	0.0	0.0	0.0	0.0	0.0 ^p	0.0 ^p	Irlande	
Italy	4.7	0.8	4.0 ^p	..	..	..	..	Italie
Japan	6.2 ^{g,h,m}	4.1 ^{g,h,m}	4.3 ^{h,m}	4.0 ^{h,m}	4.5 ^{h,m}	5.1 ^{h,m}	..	Japon	
Korea	..	20.5	15.8	15.3	14.2	13.4	..	Corée	
Luxembourg	..	..	..	..	..	..	..	Luxembourg
Mexico	0.0 ^h	0.0	0.0	..	..	..	..	Mexique
Netherlands	3.0	1.8	1.9	1.8	1.9	2.0 ^p	2.0 ^p	Pays-Bas	
New Zealand	1.2	..	..	..	..	..	..	Nouvelle-Zélande
Norway	5.7	5.0	7.5	7.1	6.9	6.7	6.5 ^p	Norvège	
Poland	..	..	..	..	..	5.0	..	Pologne
Portugal	2.6	1.2	2.1	1.9	2.0	0.8 ^p	0.7 ^p	Portugal	
Slovak Republic	..	..ⁿ	.. ⁿ	9.2 ^{a,o}	7.2 ^o	5.5 ^o	5.9 ^o	République slovaque
Spain	10.4	26.2 ^c	37.3 ^c	27.6	25.2	19.6 ^p	..	Espagne	
Sweden	20.9 ^c	7.1	14.6	18.1	21.8	19.7	19.9	Suede	
Switzerland	..	0.7 ^h	..	0.5 ^h	..	0.5 ^{h,p}	..	Suisse	
Turkey	..	..	..	..	..	..	..	Turquie
United Kingdom	36.5	36.2	30.5 ^a	33.9	31.8	31.8 ^p	..	Royaume-Uni	
United States	54.1 ^{h,i,j}	51.6 ^{a,h,i,j}	50.5 ^{h,i}	52.1 ^{h,i}	54.0 ^{h,i}	55.8 ^{c,h,i}	56.6 ^{h,i,p}	Etats-Unis	
EU-25	16.1	13.2	14.3	15.8 ^a	16.3	14.9 ^p	..	UE-25	
Total OECD	31.2 ^a	28.1 ^a	28.1	30.8	35.5	33.4 ^p	..	Total OCDE	

Source : OECD, Main Science and Technology Indicators, November 2005.

Source : OCDE, Principaux indicateurs de la science et de la technologie, novembre 2005.