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**GOVERNMENT FINANCING  
OF RESEARCH AND DEVELOPMENT**

**1980-1986**

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# Analysis by objectives Detailed report 1980–86

Report from the Subcommittee 'Statistics'  
to the Committee on Scientific and Technical Research (Crest)  
This report was adopted by Crest at its session on 2 July 1987

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## 1. INTRODUCTION

### 1.1. General comments

This report forms part of a series of yearly reports providing regularly updated information on trends in the government financing of R&D in Member States of the Community.

The Community survey designed to gather data on government financing of research and development takes into account only the budget appropriations entered in the budgets of the Member States for R&D, and not the budget appropriations actually spent.

The corresponding amounts are subdivided into final appropriations, voted by the competent authorities, for the years prior to the survey year and provisional appropriations, subject to revision, for the current year.

In addition, the data on government financing of R&D are classified by socio-economic objectives according to the 1983 version of the NABS nomenclature (Nomenclature for the analysis and comparison of science programmes and budgets).

The most important information on the collection, processing and interpretation of basic data is given below (and in the annexes). Further details are given in a handbook drawn up by the Subcommittee.<sup>1</sup>

1.1.1. The field of the survey remains the same as in previous reports. It covers the financing of R&D by central government as defined in the European system of integrated economic accounts (ESA). This definition includes within central government the *Länder* of the Federal Republic of Germany, but excludes other regional expenditure and expenditure by public enterprises, for which only budget financing is taken into account in the R&D budget. An analysis of Community-financed R&D is also included.

1.1.2. Unlike the previous reports, this report takes 1980 as the reference year. This is the reference year most commonly used for Community statistics in general and national accounts in particular to calculate amounts in real terms. The analysis of time series will be confined to a period starting in 1981 because of the major breaks in the series between 1980 and 1981.

1.1.3. This report gives data available in 1986 on final budgets for 1985 and provisional budgets for 1986 together with various time series going back to 1980. The basic data are given in terms of current prices, and at current exchange rates,<sup>2</sup> but the most important tables are those which give an idea of the trends, in real terms, in R&D financing. In these tables (Table I, Section 2, and Table 3 in the statistical annex),<sup>3</sup> the overall totals have been deflated by a price index specific to R&D based on data taken from national accounts for years prior to 1986 and from estimates for 1986 projected from earlier data.

1.1.4. In the body of the report, an attempt has been made to distinguish clearly between the retrospective analysis of the trends from 1980 to 1985, based on actual R&D appropriations taken from final budgets, and the comparison of provisional figures for 1985 and 1986, based on data from provisional budgets, likely to be substantially revised during the year.

<sup>1</sup> See 'Methods and definitions used for the annual report on government financing of R&D' (Crest/1217/81). This document can be obtained from the Subcommittee's secretariat.

<sup>2</sup> For implementation of this principle, see Annex 2.

<sup>3</sup> Generally, the tables in the text are numbered in roman numerals and those in the statistical annex in arabic numerals.

1.1.5. At the end of the report there is also a specific analysis of government R&D funds for enterprises (Section 5) and for multilateral cooperation (Section 6). There is also a provisional quantitative evaluation of the budget appropriations for R&D in fields not explicitly mentioned in the 1983 NABS nomenclature, but which have been singled out for analysis because of their growing interest; these are biotechnology, information technology and developing countries (Section 8).

## 1.2. General characteristics of total and government financing of R & D

To obtain a better picture of the importance of government funds in total R&D expenditure, it is useful to make a comparison both between the Member States and between the Community of 12 and the OECD countries with a major research effort (United States, Japan). For this purpose the data used throughout paragraph 1.2 will be OECD data taken from biennial surveys on overall R&D spending by OECD member countries, converted into ECU.

Although they relate to the same definitions of R&D, OECD and Community data differ nevertheless on certain points:

- (i) The data obtained from ISY (International Statistics Year) surveys reflect actual expenditure within national territory established after the event and are compiled by the research establishments themselves.
- (ii) Community data, taken from national budgets, relate to the proposed government funding (i. e. are compiled in advance of spending) for research carried out within and outside national territory and are supplied by those putting up the research funds.

These differences are reflected in the concepts used by the two organizations, particularly the concept of government financing, but a structural analysis of the OECD data nevertheless provides interesting pointers for the Community countries. The most recent data available are for 1983 (or, failing that, are estimates based on earlier years).

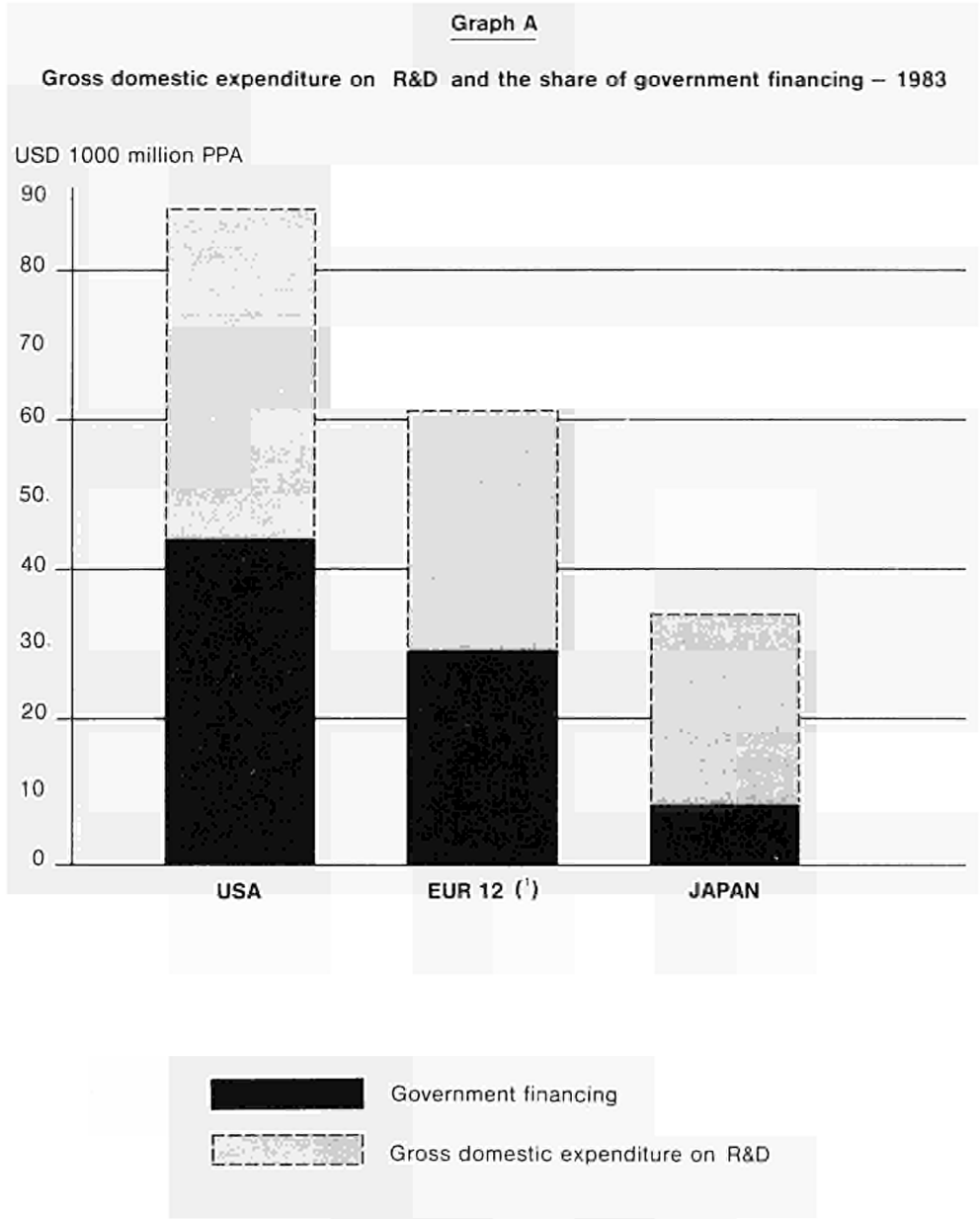
### 1.2.1. *Gross domestic expenditure on R&D*

Evaluated in terms of purchasing power parity in dollars so not to cut out distortions caused by exchange rate fluctuations, gross domestic expenditure on R&D in the United States and Japan was respectively 1.48 and 0.51 times the expenditure of all Community countries taken together.

However, defence research expenditure has a significant effect on these comparisons. Comparing gross domestic expenditure on civil R&D alone, the differences separating the United States from the Community and Japan are much smaller and similar levels of expenditure are found in the Community and the United States.

1.2.2. *Gross domestic expenditure on R&D and government financing*

The breakdown of gross domestic expenditure on R & D between government and other sources is illustrated in the following graph:



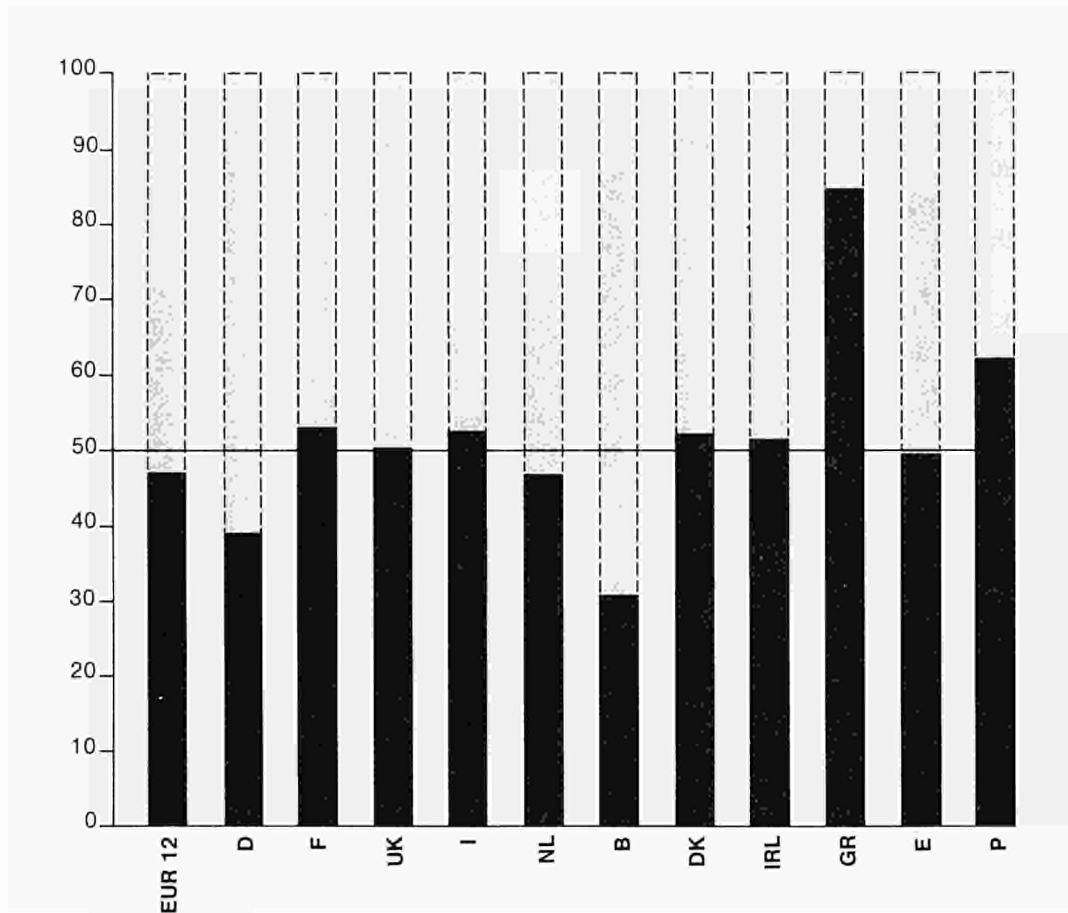
Source: OECD/Disti data bank – February 1987.

<sup>1</sup> 1983 or nearest year depending on country (see Graph C for details).

The actual share of government financing in the total R&D expenditure of the Member States is shown in the graph below:

**Graph B**

**Gross domestic expenditure on R&D and the share of government financing – 1983**



Government financing  
 Gross domestic expenditure on R&D

Source: OECD/Disti data bank – February 1987.

In two countries the share of government financing in gross domestic expenditure on R&D is well above the Community average of 47%: Greece (84%) and Portugal (62%).

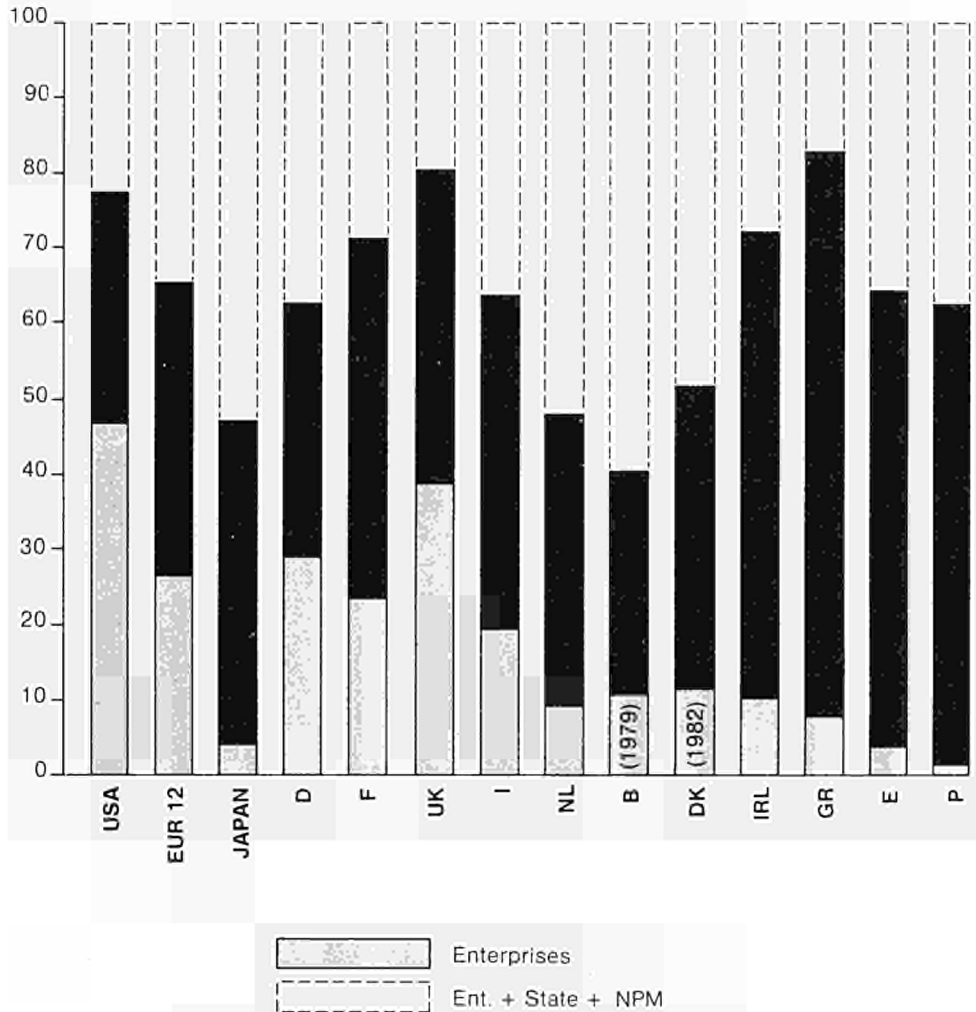
In contrast, two countries are well below this average: FR of Germany (39%) and Belgium (31%).

1.2.3. *Breakdown of government financing of gross domestic expenditure on R&D by performing sectors*

If we now consider how government funding is actually distributed among the three main sectors carrying out research – industry, the public sector/non-profit-making institutions, and higher education – we find the situation illustrated in the following graph:

**Graph C**

**Breakdown of the government share of gross domestic expenditure on R&D by performing sectors – 1983 or nearest year**



Source: OECD/Disti data bank – February 1987.

In the breakdown of government financing of gross domestic expenditure on R&D the Community occupies a position between the United States and Japan: The USA, EUR 12 and Japan assign respectively 47%, 26% and 5% of their public funding to enterprises and 23%, 32% and 52% to higher education.

One Member State, France, breaks down its government R&D funding on the lines of the Community average.

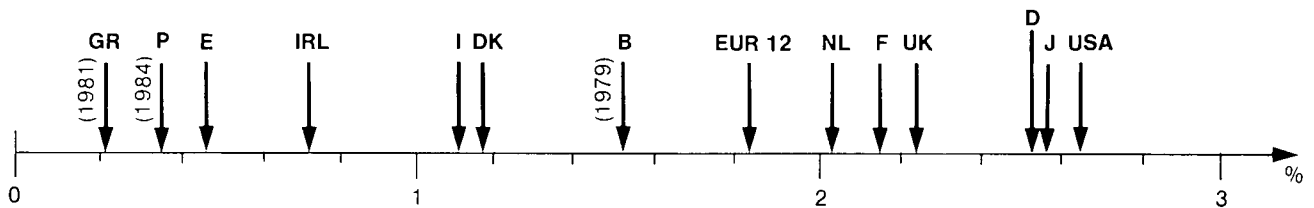
Among the other Member States, the United Kingdom is the country where the pattern is nearest to the American one, whereas the Netherlands, Belgium and Denmark have a breakdown more closely akin to that of Japan.

#### 1.2.4. Ratio of gross domestic expenditure on R&D to gross domestic product

If gross domestic expenditure on R&D is related to gross domestic product to obtain some idea of the impact of research expenditure on the economy, the relative position of the various countries can be represented as follows:

**Graph D**

**Ratio of gross domestic expenditure on R&D to gross domestic product – 1983 or nearest year**



Source: OECD/Disti data bank – February 1987.

Among the Member States there was only one country in 1983 that had a ratio of gross domestic expenditure on R&D to gross domestic product well above the Community average of 1.82% and close to that of Japan (2.56%) and the United States (2.65%): this was Germany (2.54%).

Three other countries have a ratio above the Community average: United Kingdom (2.27%), France (2.15%) and the Netherlands (2.02%).

The other countries have a ratio well below the Community average.

## **2. Trends in budget appropriations for R&D**

Before examining the trends in budget appropriations for R&D in the Community countries, we shall briefly survey the comparative trends, as regards total R&D expenditure and the share of government financing, between the Community and those non-Community countries of most interest for comparison purposes, the United States and Japan.

### **2.1. Comparative trends in the Community, the United States and Japan**

Although we have comparable figures for all three on total gross domestic R&D expenditure, the same is not true of government spending.

The only figures currently available for R&D budget appropriations in Japan are partial estimates that do not go beyond 1984 for two essential reasons. Firstly, it is extremely difficult to single out the real share of research in the Japanese budget. Secondly, the estimates available apply to domestic research and disregard Japanese Government financing for research carried out abroad.

It therefore seemed preferable in the case of government R&D appropriations to make use of the much more reliable figures on government funding taken from the OECD surveys, the latest of which for Japan covers 1984.

Finally, trends in gross domestic expenditure and government financing of R&D will be related to the gross domestic product so as to obtain a better understanding of the links between R&D and the general economy.

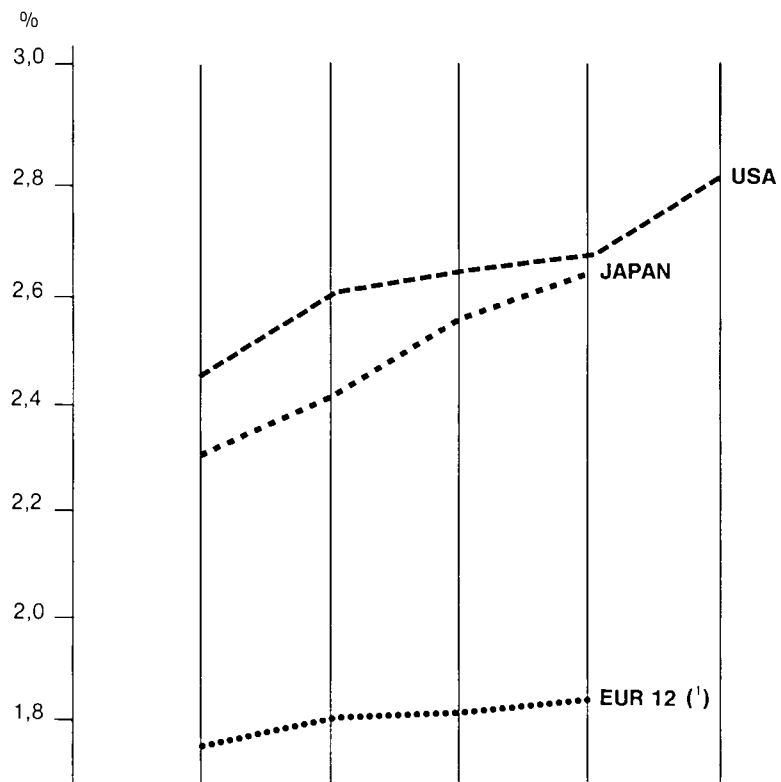
#### *2.1.1. Comparative trends in the ratio of gross domestic R&D expenditure to GDP*

If we consider only the period 1980-84 for which data have been estimated for EUR 12, we find a steady increase in the ratio of gross domestic R&D expenditure to GDP which demonstrates the relationship between R&D and the economy (see Graph H). However, the growth rate differs for the three regions under consideration over the period 1981-84: the ratio increases by an average of 1.5% a year for the Community as a whole compared with 3% for the United States and 4.5% for Japan.

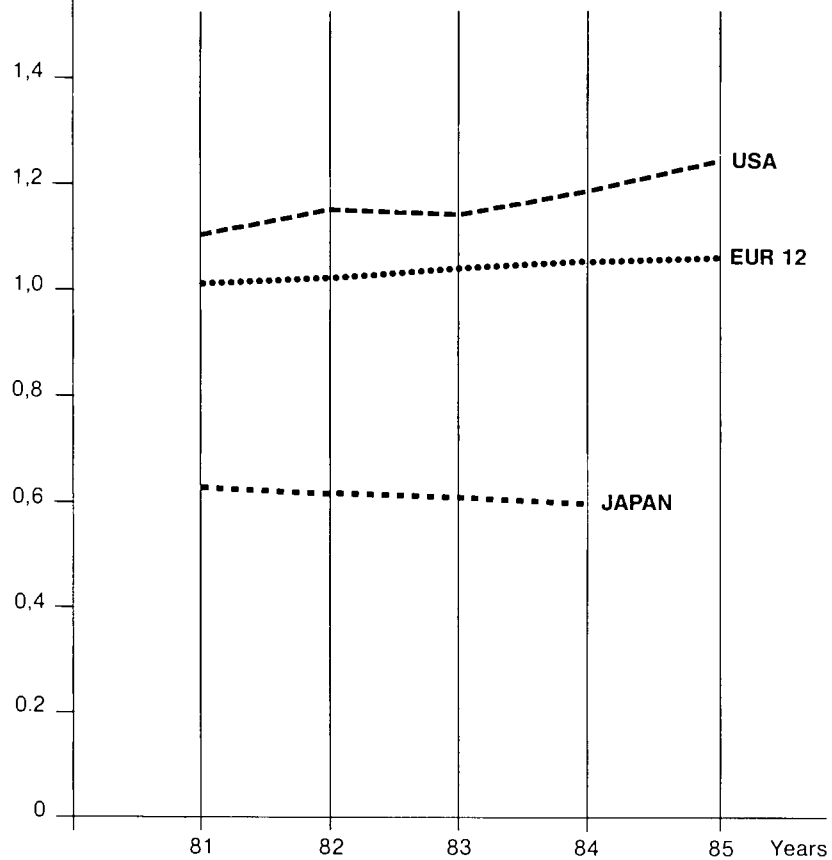


Graph E

Trend in the ratio of gross domestic R&D expenditure to GDP



Trend in the ratio of government financing to GDP



Source: OECD.

<sup>1</sup> Estimate.

### 2.1.2. *Comparative trends in the ratio of government financing of R & D to gross domestic product*

In contrast to the previous ratio, this ratio remained steady in Japan and showed a relatively modest increase for the Community as a whole and the United States over the period 1981-84 (see Graph F).

In the United States this modest increase is mainly due to the impact of defence appropriations. As the figures in Table 16.1 show, total budget appropriations recorded a far higher increase in 1981-84 than government appropriations for civil R & D, which even declined in real terms after deflation by the implicit index used to calculate the gross domestic product.

A predominance of one of the two types of appropriations cannot account for the small increase in the Community ratio. On average civil R & D appropriations increased at the same rate as total government appropriations over the period 1981-84 and this trend continued in 1985, as is shown by Table I, where the figures have been deflated by the R & D price index.

Nevertheless the ratio of gross domestic R & D expenditure to GDP rose only slightly faster than the ratio of government financing to GDP for the Community as a whole.

## 2.2. Trends in the breakdown of budget appropriations for R & D within the Community

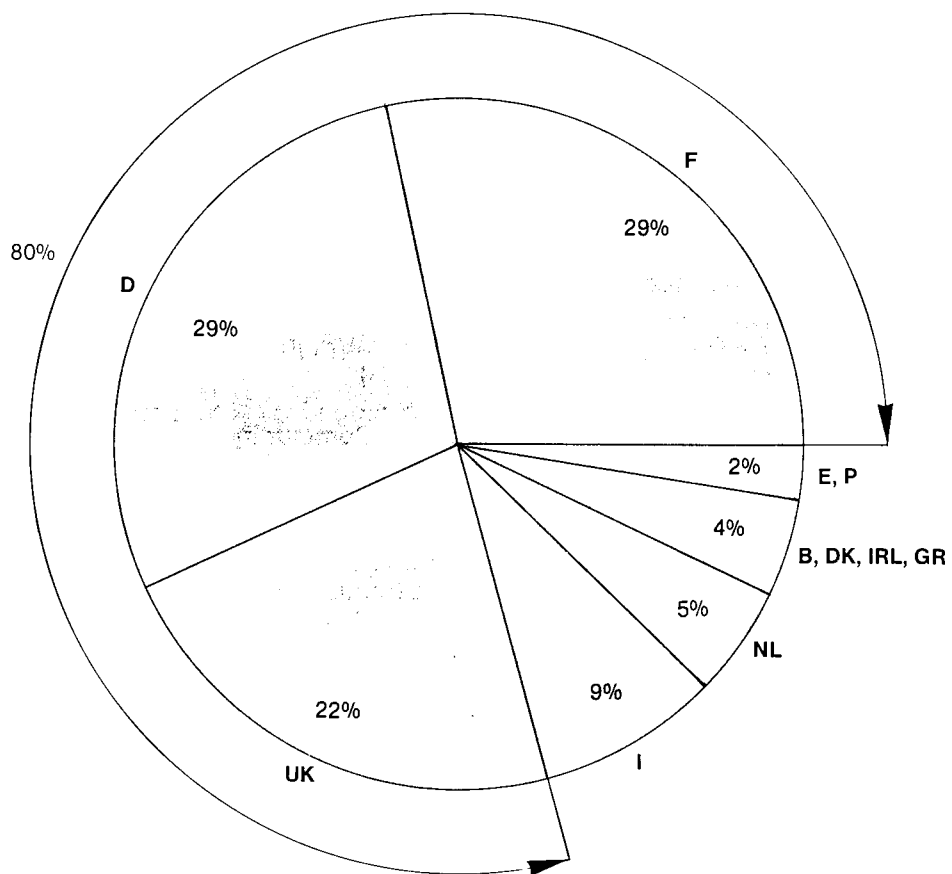
The figures in the following paragraphs relate solely to the Community and refer to budget appropriations for R & D as defined in the manual 'Methods and definitions' (see footnote 1, page 1).

Before examining the trends in government spending on R & D in EUR 12 as a whole and in the individual Member States, it might be useful to consider the relative importance of each country within the Community.

In order to rule out the incidence of any fluctuations in prices and exchange rates, figures deflated by the R & D price index and converted on the basis of 1980 exchange rates will be used. The choice of 1980 as the reference year for comparisons of R & D data may appear arbitrary but, as already mentioned, it is the year commonly taken for the preparation of all Community statistics, which include research figures. The breakdown of budget appropriations for R & D on that basis is shown below:

Graph F

**Breakdown of budget appropriations for R & D (at 1980 prices and exchange rates) within the Community in 1985**



In 1985 the three large countries (Germany, France and the United Kingdom) together accounted for 80% of the total budget appropriations for R&D (in real terms) of the Community countries. That share has declined somewhat in comparison to 1981 (see Table I). This changing pattern is due to Germany's slower rate of increase than the Community average and the very marked increase in Italy's government R&D funding since 1981 (see Graph G).

### **2.3. Trends in R&D budget appropriations for the Community as a whole**

#### *2.3.1. Trends in total budget appropriations*

In 1985 R&D budget appropriations for EUR 12 amounted to 34 500 million ECU, an increase of 2 800 million ECU or 8.8% over 1984. This growth in nominal terms is close to the average annual rate of increase over the period 1981-85, which was 9% (see Table 1 in the statistical annex). However, this average is distorted since it incorporates exchange rate fluctuations.

Evaluated in 1980 prices and exchange rates, total Community appropriations for R&D increased by 3.0% in 1985, slightly more than the average rise of 2.6% recorded over the period 1981-85. The growth in government R&D spending (expressed in real terms) is shown to be remarkably steady over this period.

A comparison of provisional budgets for 1985 and 1986 indicates that this growth in real terms is likely to continue at an annual average rate close to 2.2%.

#### *2.3.2. Trends in budget appropriations for civil R&D*

Although on average civil R&D appropriations (expressed in 1980 prices and exchange rates) have increased at a slightly higher rate than total R&D appropriations (see Table I), from 1982 to 1984 the growth rate for the former was consistently below that of the latter. Only in 1985 did civil R&D appropriations pick up to a growth rate similar to that of total appropriations and a comparison of provisional budgets indicates that they should record a similar rate in 1986.

#### *2.3.3. Trends in the ratio of R&D budget appropriations to total budgets and to gross domestic product*

The ratio of R&D budget appropriations to total budgets for EUR 12 may be estimated at slightly above 3% and has remained relatively steady over the years.

In contrast, the ratio of R&D budget appropriations to GDP, just above 1%, showed a steady upward trend over the whole period 1980-85 (see Graph H).

### **2.4. Trends in budget appropriations for R&D in the Community Member States**

#### *2.4.1. Trends in the total R&D budget appropriations of the Member States*

The steady increase in total budget appropriations for R&D over the period 1981-85 for EUR 12 as a whole (see Graph G) naturally conceals very differing trends in the Member States. However, on the basis of growth rates in appropriations (expressed in 1980 prices and exchange rates) from 1984 to 1985, the countries can be divided into two groups on either side of the growth rate in R&D appropriations for the Community as a whole for the same year (3%):

- (i) of the countries with a growth rate above the Community average (Ireland (13%), Greece (9%), Denmark (7.4%), Italy (4.2%), Belgium (3.7%), Germany (4.3%)), the first three had a particularly high rate of increase;
- (ii) of the countries with a growth rate below the Community average (France (1.7%), United Kingdom (-0.6%) and the Netherlands (-1%)), two countries saw a decline in real terms in their government R&D spending.

It should be pointed out that apart from Italy, whose R&D budget appropriations have recorded the highest growth of all the Member States since 1981 (see Graph G), all the countries in the first group saw their R&D budget appropriations increase in 1985, in real terms, at a rate higher than the annual average for the period 1981-85 (see Table I).

In contrast, all the countries in the second group recorded in 1985 a growth in real terms below the Community average for the same period.

The outlook for 1986 which emerges from a comparison of provisional budgets is as follows:

- (i) five countries are likely to see the volume of their R&D budget appropriations, expressed in 1980 prices and exchange rates, increase faster than the Community average (2.2%): Ireland (16.8%), Italy (13%), France (5.2%), Netherlands (3.3%) and Denmark (3%).

Thus Italy would revert to the high growth rate observed since 1981 apart from the levelling-off in 1982 and lower growth in 1985, while Ireland would continue the increase that started in 1985;

- (ii) all the other countries are likely to drop below the Community average in real terms:

Germany (0%), Greece (-3.2%), United Kingdom (-4.2%), Belgium (-6.1%).

Of the countries whose budget appropriations are likely to remain more or less the same or decline, the United Kingdom figure would be down for the second year running.

#### 2.4.2. *Trends in budget appropriations for civil R&D in the Member States*

As pointed out earlier, the growth in the volume of civil R&D appropriations did not run parallel to the increase in total research appropriations throughout the period 1980-85 but showed a downward trend in the years 1982 to 1984. This decline affected all the main countries involved in defence research (United Kingdom, France, Germany and even Italy).

It seems likely from a comparison of provisional budgets for 1985 and 1986 that the increase in civil R&D appropriations will pick up to a rate close to that of total appropriations. However, as Table I shows, this does not apply to the Federal Republic of Germany and Belgium where civil R&D appropriations may well even decline in real terms in 1986. The same seems probable for the United Kingdom and Greece but in those countries both civil and defence R&D appropriations will decline.

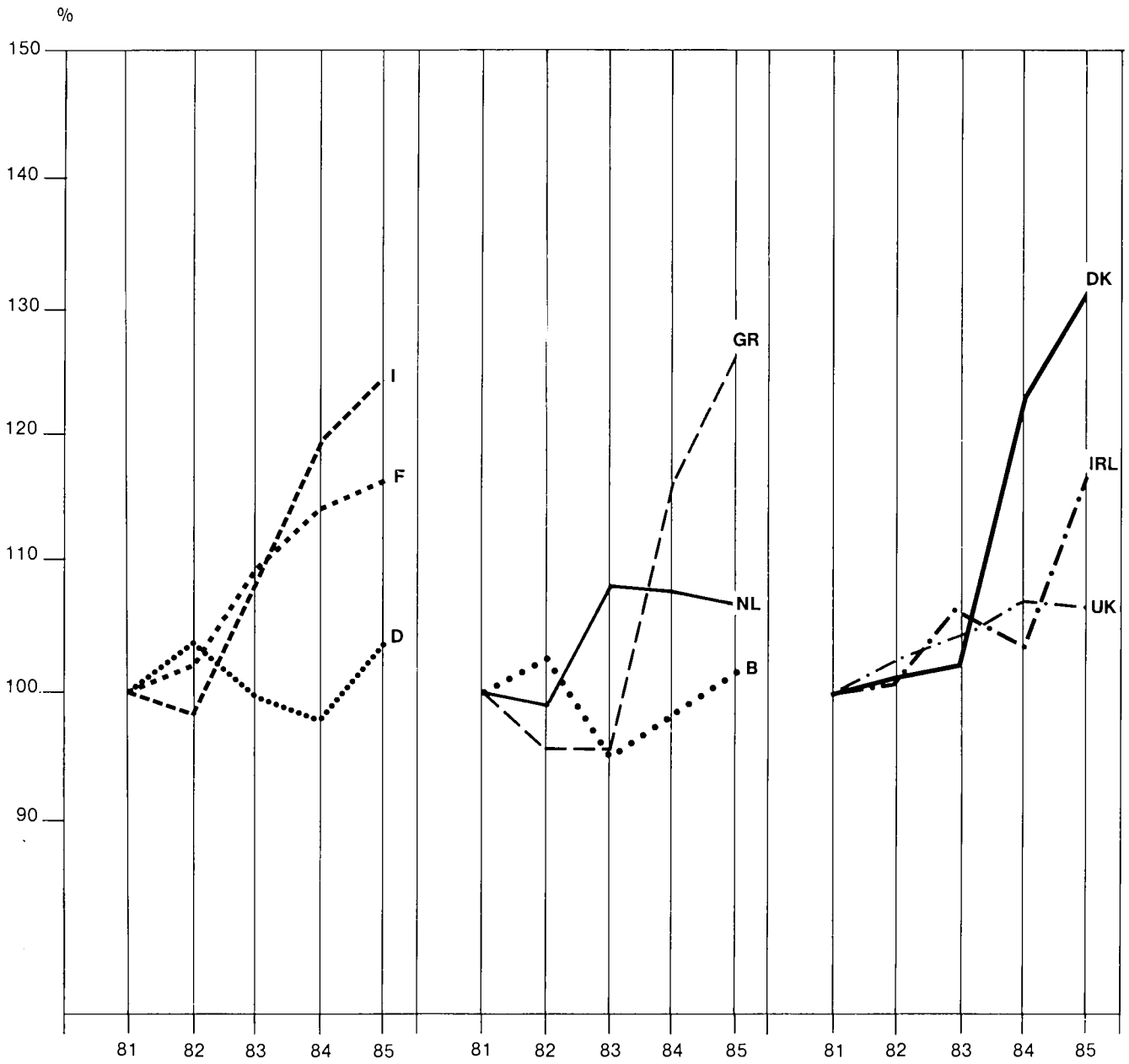
#### 2.4.3. *Trends in the ratio of R&D budget appropriations to total budgets and to gross domestic product*

The relative stability in the ratio of R&D budget appropriations to total budgets estimated for EUR 12 over the whole of the period 1980-85 is found in most of the countries with the exception of France, whose ratio has steadily increased, and the Netherlands, where the ratio is tending to decline.

The upward trend for the Community as a whole in the ratio of R&D budget appropriations to gross domestic product is reflected mainly in France and Italy and, to a lesser extent, in Denmark and Greece. In the other countries the ratio has tended to hover around an average rate over the whole of the period 1980-85 (see Graph H).

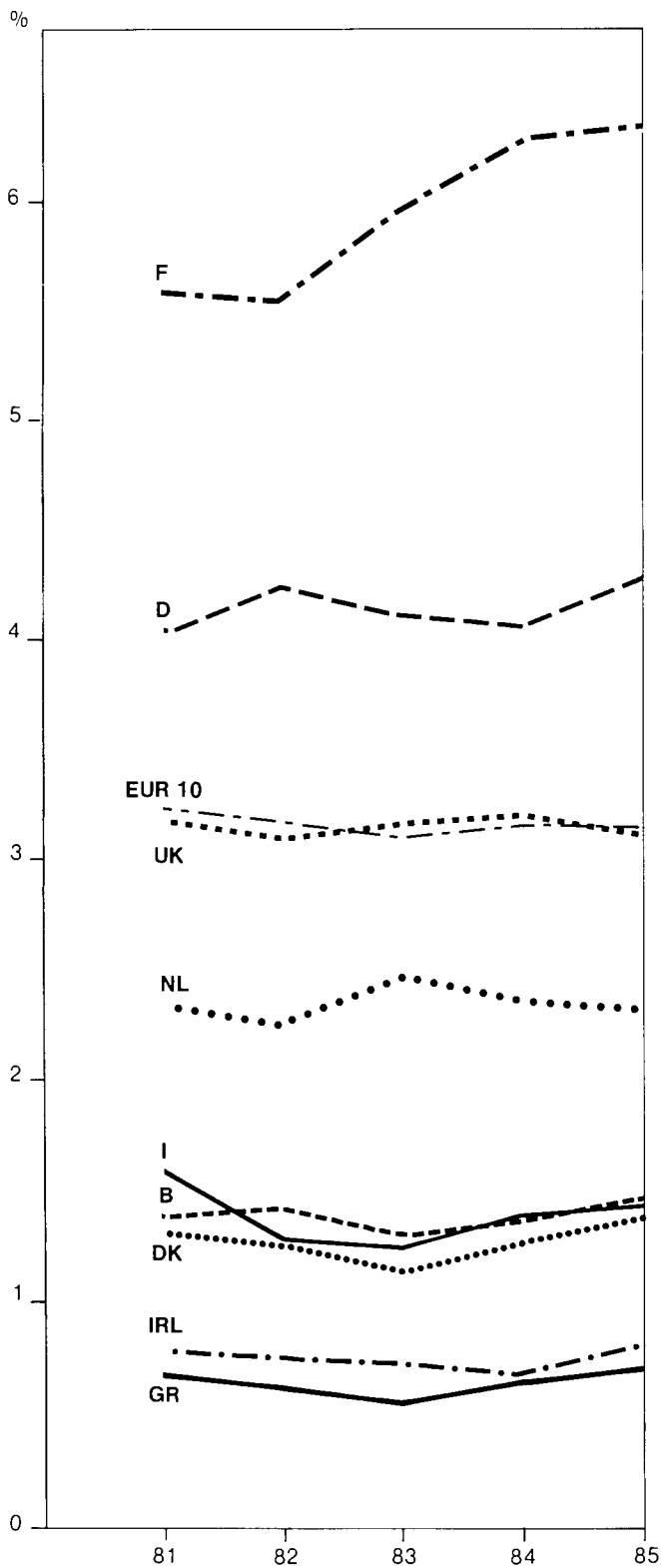
Graph G

Trends in R&D budget appropriations  
(calculated at 1980 prices and exchange rates)



Graph H

Trends in the ratio of R&D budget appropriations to total budgets



Trends in the ratio of R&D budget appropriations to GDP

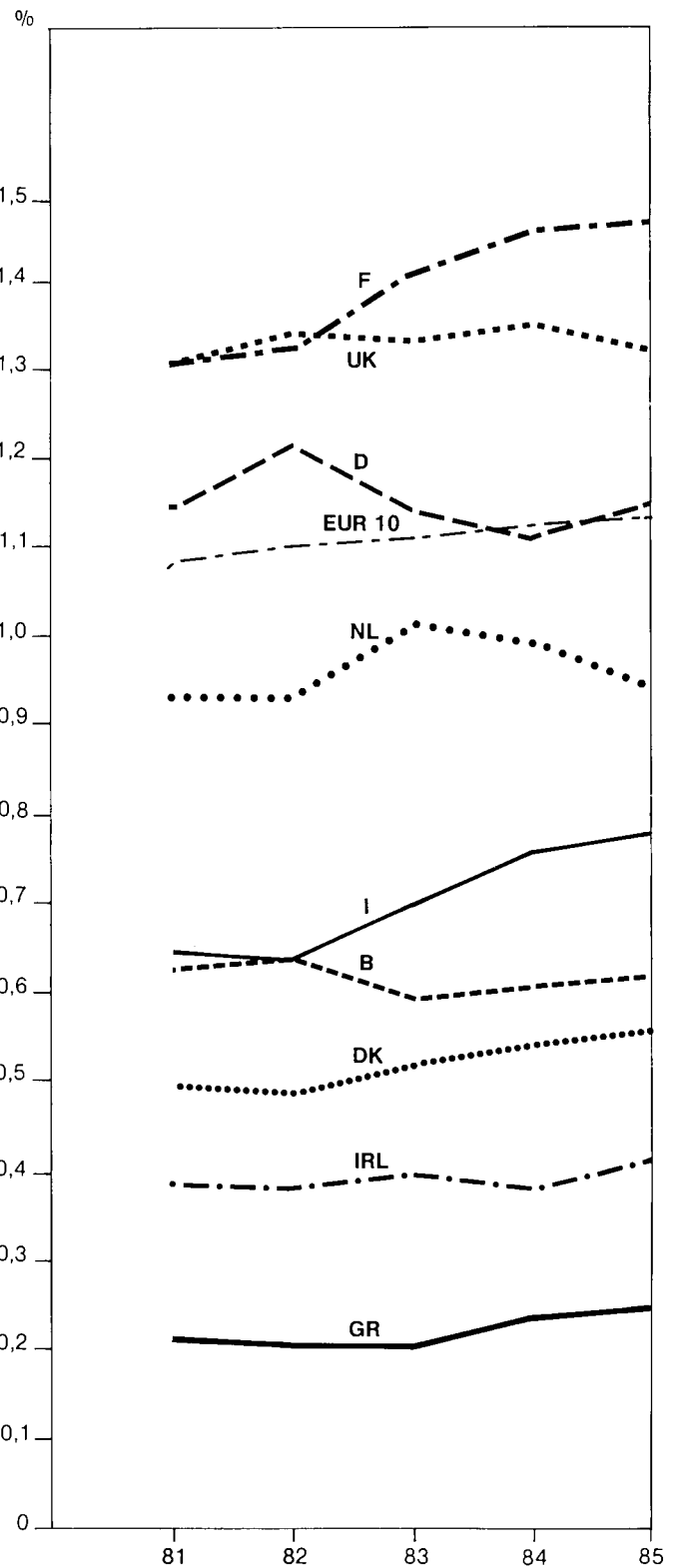


Table I

## General characteristics of budget appropriations for R &amp; D in 1985

	Final R & D appropriations in 1985 at current values and exchange rates  (million ECU)		Government R & D appropriations at 1980 prices and exchange rates						Ratio of government R & D appropriations to total budget		Ratio of government R & D appropriations to gross domestic product	
			Annual average rate of change				Contribution of Member States to the EUR 12 total					
			Total		Civil							
	Total	Civil	1981-85	1985-86 <sup>1</sup>	1981-85	1985-86 <sup>1</sup>	1981	1985	1981	1985	1981	1985
BR												
Deutschland	9 446	8 320	1.0	0.0	0.1	- 0.5	30.3	28.5	4.06	4.29	1.15	1.15
France	9 928	6 823	3.9	5.2	6.8	5.6	27.9	29.3	5.62	6.29	1.31	1.47
Italia	3 672	3 307	5.7	13.6	4.7	16.8	8.3	9.3	1.60	1.45	0.65	0.78
Nederland	1 546	1 499	1.5	3.3	1.5	3.7	5.2	4.9	2.34	2.33	0.93	0.94
Belgique/België	653	643	0.4	- 6.1	0.1	- 6.1	2.4	2.2	1.41	1.47	0.63	0.62
United Kingdom	7 780	3 741	1.5	- 4.2	1.5	- 4.0	22.4	21.5	3.18	3.12	1.31	1.32
Ireland	105	105	4.0	16.8	4.0	16.8	0.3	0.3	0.74	0.75	0.39	0.42
Danmark	425	423	7.1	3.0	7.1	3.2	1.0	1.2	1.36	1.40	0.49	0.56
Ελλάδα	110	107	5.8	- 3.6	6.4	- 3.6	0.3	0.3	0.65	0.68	0.21	0.25
España	811	766	-	-	-	-	-	2.3	-	1.75	-	0.37
Portugal	-	-	-	-	-	-	-	0.2	-	-	-	-
EUR 12	34 530 <sup>2</sup>	25 788 <sup>2</sup>	2.6 <sup>2</sup>	2.2 <sup>2</sup>	2.9 <sup>2</sup>	2.9 <sup>2</sup>	100.0	100.0	3.34 <sup>2</sup>	3.07	1.02 <sup>2</sup>	1.07
European Communities	573	573	-	-	-	-	-	-	-	-	-	-

<sup>1</sup> Comparison of provisional budgets.

<sup>2</sup> Estimate.

### 3. Changes in the structure of R & D budget appropriations by objectives

Because of the different share of R & D appropriations going to defence in the Community countries, a distinction will be made here between civil and defence R & D appropriations.

#### 3.1. Changes in the structure of total R & D appropriations

Although the importance of defence in total government R & D financing differs greatly from one country to another, one feature is common to all of them: the largest single amount of their financing goes to objective 10 (Research financed from general university funds). For EUR 10, more than 21% of total government R & D funding in 1985 went to this type of research, with only defence accounting for a larger percentage.

Two countries spent approximately the Community average on research financed from general university funds: Italy (21.7%) and Ireland (19.7%). Most of the others allocated a higher percentage: the Netherlands (46%), Germany and Denmark (31%), Greece (28%). Only the United Kingdom and France fell below the Community average: United Kingdom (14.6%), France (11.9%). Although this is partly due to the importance of defence research in those countries, another factor, at least in France, is the predominance of 'non-oriented research' which accounts for almost 15% of total government R & D appropriations there.



The following table grouping related objectives has been drawn up to facilitate comparison:

**Table II**  
**EUR 10: Government R & D appropriations classified by groups of objectives**

Groups of NABS objectives	%			
	Final budgets		Provisional budgets	
	1984	1985	1985	1986
2-3-4-8 Human and social objectives	9.6	9.4	9.7	9.5
1-5-7-9 Technological objectives	27.8	28.1	26.9	27.8
6 Agriculture	4.0	3.7	3.9	3.6
10 Research financed from general university funds	21.6	21.2	21.2	22.1
11 Non-oriented research	10.7	10.9	11.1	11.3
12 Unclassified	0.8	0.9	1.0	0.8
13 Defence	25.5	25.8	26.2	24.9
Total	100.0	100.0	100.0	100.0

There is no sign of any major structural changes between 1984 and 1985 for the Community of Ten. Only research financed from general university funds, agriculture and social and human objectives show a slight decline in their share in total government appropriations for R&D.

For objectives 10 and 6 this decline affects virtually all countries apart from Italy and Greece. The main reason for the reduction in the share of social and human objectives in 1985 is the reclassification of NABS objectives carried out by France in 1984, principally affecting objective 8 'social structures and relationships' (see Section 4.2).

In contrast the very small increase in the share of objective 11 'non-oriented research', again for the Community of Ten, is mainly due to the Italian figure which is up from 5.7% in 1984 to 7.6% in 1985.

The small rise in the share of technological objectives stems from movements in different directions in the Member States, with substantial increases in Ireland (25.6% in 1984, 32.7% in 1985) and Denmark (27.6% in 1984, 32% in 1985).

### 3.2. Changes in the structure of civil R&D spending

Overall government financing of civil R&D accounts for approximately three quarters of the total Community research budget but the percentage varies greatly from one country to another: Ireland (100%); the Netherlands, Belgium, Denmark, Greece (over 95%); Germany, Italy (around 90%); France (69%); United Kingdom (48%).

The breakdown of the appropriations is as follows for the Community as a whole:

**Table III**  
**EUR 10: Government appropriations for civil R&D classified by objectives**

NABS objectives	%			
	Final budgets		Provisional budgets	
	1984	1985	1985	1986
1. Exploration and exploitation of the earth	2.2	2.3	2.3	2.2
2. Infrastructure and general land-use planning	3.1	2.9	2.9	2.9
3. Control of environmental pollution	2.1	2.2	2.2	2.1
4. Protection and improvement of human health	5.4	4.8	5.2	4.7
5. Production, distribution and rational utilization of energy	14.4	12.9	13.2	11.5
6. Agricultural productivity and technology	5.4	5.0	5.3	4.8
7. Industrial productivity and technology	15.2	16.9	15.3	17.2
8. Social structures and relationships	2.3	2.8	2.8	3.0
9. Exploration and exploitation of space	5.6	5.7	5.7	6.1
10. Research financed from general university funds	29.0	28.6	28.7	29.4
11. Non-oriented research	14.3	14.7	15.1	15.1
12. Other civil research	1.0	1.2	1.3	1.0
Total civil R&D financing	100.0	100.0	100.0	100.0

Leaving aside Chapters 10 and 11, examined earlier, and Chapter 13, discussed below, technological objectives show the widest variations, and in particular appropriations for energy and industry.

The share of government R&D financing going to energy has shrunk in all the Member States except Greece and, to a lesser extent, Denmark. This is particularly marked in Italy (22.7% in 1984, 19.7% in 1985), although it remains the Community country devoting the highest proportion of its research spending to energy.

In contrast, spending on industrial research is up everywhere except in the United Kingdom and Belgium. The increase in the share of industrial research appropriations is particularly high in Ireland (21.6% in 1984, 28.9% in 1985) and Denmark (16.6% in 1984, 21% in 1985), both of which recorded a large increase in total budget appropriations for R&D in 1985. In Ireland, this high increase followed a law take-up of R&D grants by industry in 1984, compared to the provisional appropriations for that year.

### 3.3. Changes in the structure of defence spending

In 1985 military research accounted for one quarter of R&D budget appropriations in the Community as a whole and was concentrated mainly in four countries:

**Table IV**  
**Defence as a percentage of total government financing for R & D**

	Final budgets		Provisional budgets	
	1984	1985	1985	1986
United Kingdom	50.4	51.9	51.7	51.6
France	33.4	31.3	31.3	31.0
Federal Republic of Germany	10.0	11.9	12.0	12.4
Italy	8.3	9.9	11.0	8.4
EUR 12 <sup>1</sup>	25.4	25.3	25.6	24.5

<sup>1</sup> Estimate.

The share of defence increased in all these Member States except France where the decline was due to the 1984 extension of the basis for the evaluation of defence R & D (see Section 4.2).

Table V

## Breakdown of final R&amp;D budgets by objectives in 1980 and 1985

NABS objectives	D		F		I		NL		B		UK	
	1980	1985	1980	1985	1980	1985	1980	1985	1980	1985	1980	1985
1. Exploration and exploitation of the earth	2.8	2.1	3.0	1.5	2.1	1.1	0.9	0.6	3.7	3.1	0.9	1.8
2. Infrastructure and general planning of land use	3.6	1.9	4.1	3.1	1.2	1.1	5.7	4.7	3.4	0.6	1.7	1.2
3. Control of environmental pollution	2.0	3.2	1.1	0.5	0.9	1.0	3.0	3.1	2.8	2.4	0.9	1.1
4. Protection and improvement of human health	4.1	3.0	4.4	4.0	4.5	4.6	3.2	2.4	13.1	1.9	1.6	3.7
5. Production, distribution and rational utilization of energy	14.4	12.6	7.5	7.8	22.9	19.7	4.4	4.5	8.7	11.3	6.7	4.5
6. Agricultural productivity and technology	1.9	2.0	3.9	3.6	4.2	3.8	8.4	4.6	4.8	7.1	4.1	4.6
7. Industrial productivity and technology	10.0	14.2	9.3	12.1	17.4	20.7	6.2	10.4	14.9	17.8	6.2	6.7
8. Social structures and relationships	3.9	2.3	1.3	2.6	2.2	1.1	5.5	3.8	11.1	0.6	1.1	1.2
9. Exploration and exploitation of space	4.3	3.9	6.2	5.6	6.2	7.1	3.2	2.5	5.8	6.6	2.1	1.9
10. Research financed from general university funds	43.1	{ 31.4	22.2	{ 11.9	35.7	{ 21.7	55.8	{ 46.3	31.8	{ 22.1	20.5	{ 14.6
11. Non-oriented research		{ 11.4		{ 14.4		{ 7.6		{ 9.8		{ 21.8		{ 6.5
12. Other research	-	0.1	0.4	1.7	-	0.6	0.6	4.3	-	3.0	-	0.3
Total financing of civil R&D	89.8	88.1	63.5	68.7	97.3	80.1	96.8	97.0	99.7	98.5	45.8	48.1
13. Defence	10.2	11.9	36.5	31.3	2.7	19.9	3.2	3.0	0.3	1.5	54.2	51.9
Total financing	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

IRL		DK		GR		E		P		EUR 10		NABS objectives
1980	1985	1980	1985	1980	1985	1980	1985	1980	1985	1980	1985	
0.9	0.9	3.1	1.3	5.9	5.5	-	6.7	-	-	2.3	1.7	1. Exploration and exploitation of the earth
7.3	4.1	3.0	2.4	2.0	0.5	-	4.3	-	-	3.3	2.1	2. Infrastructure and general planning of land use
0.6	0.8	13.0	1.5 3.3	6.9	3.4 7.6	-	0.4	-	-	5.5	1.6 3.6	3. Control of environmental pollution
9.9	4.3					-	2.5	-	-			4. Protection and improvement of human health
1.0	1.3	7.7	6.5	10.0	2.6	-	7.9	-	-	10.6	9.6	5. Production, distribution and rational utilization of energy
25.7	28.7	8.8	7.4	23.5	27.1	-	7.3	-	-	3.7	3.7	6. Agricultural productivity and technology
6.1	28.9	13.6	21.0	5.2	7.7	-	18.5	-	-	9.4	12.5	7. Industrial productivity and technology
10.2	7.5	7.9	4.2	9.2	5.6	-	0.8	-	-	2.8	2.1	8. Social structures and relationships
0.9	1.6	3.6	3.2	0.4	0.6	-	3.7	-	-	4.4	4.2	9. Exploration and exploitation of space
37.4	19.7 2.2	39.1	31.0 17.7	30.8	28.3 6.1	-	21.3	-	-	32.5	21.2 10.9	10. Research financed from general university funds
						-	18.2	-	-			11. Non-oriented research
-	-	-	-	-	2.0	-	2.1	-	-	0.2	0.9	12. Other research
100.0	100.0	99.7	99.5	93.7	97.1	-	93.6	-	-	74.6	74.2	Total financing of civil R&D
-	-	0.3	0.5	6.3	2.9	-	6.4	-	-	25.4	25.8	13. Defence
100.0	100.0	100.0	100.0	100.0	100.0	-	100.0	-	-	100.0	100.0	Total financing

Table VI

## Breakdown of provisional R&amp;D budgets by objectives in 1985 and 1986

NABS objectives	D		F		I		NL		B		UK	
	1985	1986	1985	1986	1985	1986	1985	1986	1985	1986	1985	1986
1. Exploration and exploitation of the earth	2.1	2.1	1.5	1.5	1.5	1.1	0.6	0.6	2.4	2.5	1.7	1.7
2. Infrastructure and general planning of land use	1.9	1.9	3.1	3.2	1.2	0.9	4.7	4.2	2.4	0.6	1.3	1.3
3. Control of environmental pollution	3.1	3.3	0.5	0.5	1.0	1.0	3.1	3.1	2.0	2.4	1.2	0.7
4. Protection and improvement of human health	3.1	3.0	4.0	3.8	7.1	4.4	2.4	2.2	7.1	2.1	3.5	3.7
5. Production, distribution and rational utilization of energy	12.8	10.5	7.8	7.1	22.3	17.4	4.5	4.6	7.3	10.1	4.6	4.6
6. Agricultural productivity and technology	2.0	2.0	3.5	3.6	5.2	3.7	4.6	4.4	6.2	7.2	4.8	4.6
7. Industrial productivity and technology	14.0	14.3	12.1	12.5	8.8	19.2	10.4	14.8	10.5	16.2	7.3	6.7
8. Social structures and relationships	2.3	2.3	2.6	2.9	1.3	1.1	3.8	3.5	4.8	0.7	1.0	1.3
9. Exploration and exploitation of space	3.9	4.5	5.6	5.8	7.8	6.9	2.5	2.9	6.2	7.3	1.4	1.8
10. Research financed from general university funds	31.2	31.8	11.9	11.8	24.0	28.6	46.3	43.0	34.0	22.8	14.1	14.9
11. Non-oriented research	11.5	11.8	14.4	15.1	8.6	7.1	9.8	9.8	10.7	20.5	7.1	6.8
12. Other research	0.1	0.1	1.6	1.2	0.2	0.2	4.3	4.3	6.2	6.3	0.3	0.3
Total financing of civil R&D	88.0	87.6	68.7	69.0	89.0	91.6	97.0	97.4	99.8	98.5	48.3	48.4
13. Defence	12.0	12.4	31.3	31.0	11.0	8.4	3.0	2.6	0.2	1.5	51.7	51.6
Total financing	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

IRL		DK		GR		E		P		EUR 10		NABS objectives
1985	1986	1985	1986	1985	1986	1985	1986	1985	1986	1985	1986	
0.9	0.7	1.5	1.3	5.8	5.5	-	-	-	-	1.7	1.6	1. Exploration and exploitation of the earth
6.6	3.9	2.3	2.4	3.2	0.5	-	-	-	-	2.2	2.2	2. Infrastructure and general planning of land use
1.6	0.8	1.5	1.5	2.8	3.4	-	-	-	-	1.6	1.6	3. Control of environmental pollution
4.4	4.8	3.4	3.3	6.3	9.3	-	-	-	-	3.9	3.5	4. Protection and improvement of human health
1.9	1.2	4.7	6.8	2.6	2.6	-	-	-	-	9.7	8.7	5. Production, distribution and rational utilization of energy
29.2	27.3	7.7	7.0	28.0	24.9	-	-	-	-	3.9	3.6	6. Agricultural productivity and technology
23.3	26.1	21.3	20.6	8.1	8.7	-	-	-	-	11.2	12.9	7. Industrial productivity and technology
7.1	8.0	4.0	4.3	6.5	6.4	-	-	-	-	2.1	2.2	8. Social structures and relationships
1.5	1.1	3.2	3.1	0.5	0.6	-	-	-	-	4.2	4.6	9. Exploration and exploitation of space
20.4	23.9	32.9	29.5	25.4	26.9	-	-	-	-	21.4	22.1	10. Research financed from general university funds
3.1	2.2	16.8	19.7	7.3	6.1	-	-	-	-	11.0	11.3	11. Non-oriented research
-	-	-	-	0.7	2.2	-	-	-	-	0.9	0.8	12. Other research
100.0	100.0	99.3	99.5	97.1	97.1	-	-	-	-	83.8	75.1	Total financing of civil RD
-	-	0.7	0.5	2.9	2.9	-	-	-	-	16.2	24.9	13. Defence
100.0	100.0	100.0	100.0	100.0	100.0	-	-	-	-	100.0	100.0	Total financing

Table VII

## Breakdown of final budgets for civil R &amp; D by objectives in 1984 and 1985 (% of total civil R &amp; D)

NABS objectives	D		F		I		NL		B		UK	
	1984	1985	1984	1985	1984	1985	1984	1985	1984	1985	1984	1985
1. Exploration and exploitation of the earth	2.2	2.4	2.2	2.1	1.6	1.4	0.6	0.6	2.6	3.1	3.4	3.7
2. Infrastructure and general planning of land use	2.5	2.2	4.6	4.5	1.7	1.2	4.7	4.9	2.6	0.6	2.9	2.5
3. Control of environmental pollution	3.3	3.6	0.6	0.7	0.9	1.1	3.3	3.2	2.2	2.5	2.4	2.3
4. Protection and improvement of human health	3.6	3.4	5.7	5.8	9.0	5.1	2.6	2.5	7.6	1.9	7.3	7.6
5. Production, distribution and rational utilization of energy	16.9	14.4	11.6	11.4	24.8	21.8	4.9	4.7	7.8	11.5	10.2	9.4
6. Agricultural productivity and technology	2.3	2.2	5.6	5.2	5.5	4.2	5.1	4.7	6.6	7.2	10.1	9.7
7. Industrial productivity and technology	13.3	16.1	16.7	17.7	19.9	22.9	9.7	10.7	11.2	18.1	14.3	14.0
8. Social structures and relationships	2.6	2.6	2.4	3.7	1.4	1.2	3.9	3.9	5.2	0.6	1.8	2.5
9. Exploration and exploitation of space	4.4	4.4	8.4	8.2	7.0	7.9	2.6	2.6	6.7	6.7	3.7	3.8
10. Research financed from general university funds	36.2	35.7	18.2	17.3	22.0	24.1	48.5	47.7	36.3	22.4	29.7	30.4
11. Non-oriented research	12.7	12.9	21.6	21.0	6.2	8.4	10.1	10.1	11.4	22.0	13.6	13.6
12. Other research	0.0	0.1	2.4	2.4	0.0	0.7	4.4	4.4	-	3.1	0.6	0.5
Total financing of civil R & D	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

#### 4. Special features of government R & D financing in each Member State

##### 4.1. Federal Republic of Germany

###### 4.1.1. General trends in R & D expenditure

According to the final budgets of the Federal and *Land* governments, R & D expenditure financed by the public sector in Germany amounted to DM 21 000 million in 1985, a nominal increase of 8.3% over 1984 (DM 19 400 million). With a 2.5% rise in the R & D price index, this is equivalent to a real increase of over 5%.

R & D spending for 1986 entered in the provisional budgets of the Federal and *Land* governments (to some extent supplemented by estimates) totals DM 21 400 million, 2.5% up on the comparable figures for 1985, so that a slight real increase can also be expected.



IRL		DK		GR		E		P		EUR 10		EC		NABS objectives
1984	1985	1984	1985	1984	1985	1984	1985	1984	1985	1984	1985	1984	1985	
0.6	0.9	1.7	1.3	6.0	5.7	-	7.2	-	-	2.2	2.3	0.4	1.6	1. Exploration and exploitation of the earth
6.9	4.1	2.3	2.4	3.5	0.5	-	4.6	-	-	3.2	2.9	0.2	0.6	2. Infrastructure and general planning of land use
1.6	0.8	1.5	1.5	2.5	3.5	-	0.4	-	-	2.1	2.2	9.7	5.4	3. Control of environmental pollution
4.7	4.3	3.6	3.3	6.4	7.8	-	2.7	-	-	5.5	4.8	1.9	4.2	4. Protection and improvement of human health
1.8	1.3	6.2	6.5	3.4	2.7	-	8.4	-	-	14.2	12.9	71.7	55.9	5. Production, distribution and rational utilization of energy
30.2	28.7	8.5	7.5	27.9	27.9	-	7.8	-	-	5.4	5.0	0.7	2.8	6. Agricultural productivity and technology
21.6	28.9	16.7	21.2	6.4	8.0	-	19.8	-	-	15.0	16.9	12.6	26.7	7. Industrial productivity and technology
7.5	7.5	3.7	4.2	7.0	5.8	-	0.8	-	-	2.4	2.8	0.8	0.5	8. Social structures and relationships
1.6	1.6	3.3	3.2	0.5	0.6	-	3.9	-	-	5.6	5.7	1.4	1.0	9. Exploration and exploitation of space
20.3	19.7	36.1	31.1	28.1	29.1	-	22.8	-	-	29.3	28.6	-	-	10. Research financed from general university funds
3.2	2.2	16.4	17.8	7.6	6.3	-	19.4	-	-	14.1	14.7	0.8	1.3	11. Non-oriented research
-	-	-	-	0.7	2.1	-	2.2	-	-	1.0	1.2	-	-	12. Other research
100.0	100.0	100.0	100.0	100.0	100.0	-	100.0	-	-	100.0	100.0	100.0	100.0	Total financing of civil R&D

From the evolution in R & D expenditure on the groups of NABS objectives (see Table VIII-1) it can be seen that, between 1984 and 1985, all groups with the exception of non-oriented research experienced a proportionate decline to the advantage of defence research, and this decline was greatest in the proportion allocated from research financed from general university funds. According to the data in the 1986 provisional budget, however, the share of this research objective may increase again, and this also applies, albeit less clearly, to the human and social objectives. In the case of the non-oriented research objectives and in that of defence, these data also indicate a proportionate improvement over the comparable 1985 values, whereas the technological objectives suffer a decline in their share of the overall R & D expenditure financed by the public sector.

**Table VIII-1**

**Breakdown of government R & D appropriations by groups of objectives**

%

Groups of objectives (NABS 1983)	Final budgets		Provisional budgets	
	1984	1985	1985	1986
2-3-4-8 Human and social objectives	10.8	10.4	10.4	10.5
1-5-7-9 Technological objectives	33.1	32.8	32.8	31.4
6 Agriculture	2.1	2.0	2.0	2.0
10 Research financed from general university funds	32.6	31.4	31.2	31.8
11 Non-oriented research	11.4	11.4	11.5	11.8
13 Defence	10.0	11.9	12.0	12.4
Total	100.0	100.0	100.0	100.0

A decline in the human and social objectives was due mainly to the decrease in R & D expenditure in Chapter 2 (infrastructure and general planning of land use), all other chapters showing at least some increase. The situation as regards the technological objectives is similar: both the decline which occurred between 1984 and 1985 according to the data in the final budget and that to be expected according to the provisional 1986 budget stem mainly from the reduced expenditure in Chapter 5 (production, distribution and rational use of energy).

Referred to the groups of research objectives, the lion's share of government-financed R & D expenditure still goes to technological research and research financed from general university funds, which together account for about 63.2% of the resources, according to the provisional 1986 budget.

**4.1.2. R & D expenditure under chapter headings**

The trend in expenditure under the individual chapters is as follows:

**Chapter 1**

The funds allocated in the final budget to exploration and exploitation of the earth increased at an above-average rate (+ 14.7%) between 1984 and 1985. There were increases in expenditure on general research (heading 1.0) and climatology (heading 1.6). The most important headings in this chapter are headings 1.0 and 1.5.

**Chapter 2**

The data in the final budget show a 7% decrease in funds for 1985 as compared with 1984, and a further – though lesser – decrease is to be expected for 1986. Expenditure on the further development of town planning (heading 2.1) is affected by severe cut-backs, as are land transport and traffic (heading 2.4). As before, the main emphasis in this chapter is placed on R & D expenditure on traffic systems.

**Chapter 3**

Expenditure on research and development relating to the control and prevention of environmental pollution shows an increase well above average both in the final 1985 budget as compared with 1984 (+ 14.4%) and in the provisional 1986 budget as compared with 1985 (+6.8%). The increases in expenditure, which are financed by the Federal Government and by the *Länder*, are spread over all headings in the chapter; however, the greatest increase occurs in the field of ecological research under heading 3.0, on which the main emphasis in this chapter is placed.

## Chapter 4

According to final 1985 figures, R&D expenditure on the protection and promotion of human health increased only at a below-average rate as compared with 1984; a slight decline in such expenditure is to be expected for 1986. This development is due mainly to a marked decrease in expenditure under heading 4.8, while the other headings in this chapter show only increases. The main emphasis in this chapter is placed on headings 4.1 and 4.0.

## Chapter 5

Comparison of the data in both the 1984 and 1985 final budgets and the 1985 and 1986 provisional budgets show a decrease in R&D expenditure on the production, distribution and rational use of energy (– 10% and – 15.5% respectively). This change is due to cut-backs on the part of the Federal Government and the *Länder*. The most severely affected area is nuclear energy (e. g. fast breeder reactors) (heading 5.2); there are also decreases in expenditure on fossil energy sources (heading 5.1) and coal technology (heading 5.5).

## Chapter 6

During the periods under consideration, R&D expenditure on agricultural productivity and technology increased only at a below-average rate: according to the final budget, there was an increase of + 4.7% in 1985 over 1984, while the 1986 provisional budget indicates that an increase of + 1.8% over 1985 is to be expected. In 1985, for example, there are increases in the field of fisheries research (heading 6.2) and in that of foodstuffs technology (heading 6.6). The main emphasis in this chapter is placed on heading 6.4.

## Chapter 7

Research expenditure on industrial productivity and technology shows an upward trend. This applies in particular to a comparison of the data in the 1984 and 1985 final budgets, which shows an increase of + 27.8%. Much of this increase is to the benefit of civil aircraft manufacturing (heading 7.5); headings 7.1 and 7.2 also benefit to an above-average degree, particularly through increases in Federal expenditure on indirect research promotion (e.g. in the staff costs subsidy programme) and on indirect-specific promotion (e.g. in manufacturing techniques). Marked increases in expenditure by the *Länder* are mainly to the benefit of headings 7.0 and 7.7.

As compared with 1985, the provisional budget for 1986 shows a further increase in R&D expenditure (+ 4.9%). Once again, indirect promotion measures relating to research personnel account for part of that increase, as does R&D expenditure in the field of electronic components. During this period, however, there is a marked decline in civil aircraft manufacturing. As before, headings 7.1, 7.2 and 7.5 together account for over two thirds of the total expenditure under Chapter 7.

## Chapter 8

Increases of almost the same magnitude in R&D expenditure under the chapter 'Social structures and relationships' can be perceived during both of the periods under consideration: in the final 1985 budget they amount to + 6.5% as compared with 1984, while the provisional 1986 budget once again shows a rise of + 6.4% with respect to 1985. For 1985, this change is due to increases in expenditure by the *Länder* under headings 8.4 and 8.7; Federal expenditure in that year was mainly to the benefit of headings 8.6 and 8.3. For 1986, the increases are accounted for principally by intensified support for the new generation of highly qualified science graduates. Expenditure under this chapter is concentrated mainly on heading 8.1.

## Chapter 9

Whereas the increase in R&D expenditure on space research and utilization in 1985 as compared with 1984 (final budget) is just below the average, a well-above-average increase (+ 17.7%) over 1985 is to be expected for 1986 (provisional budget). In 1985, it was mainly heading 9.1 which benefited from a considerable increase, and it is here that the main thrust under this chapter lies. In 1986, however, in contrast to the other headings in this chapter, there is a decline in expenditure with respect to the corresponding data for 1985.

## Chapter 10

According to the available data for 1985, the general university research funds, which are financed mainly from the *Länder* budgets, increased by 4.4% over 1984 (final budget). The increase under heading 10.4 is here above average; this is partly due to a change in method (R&D expenditure on veterinary medicine being included, from 1985, under agricultural sciences and not, as was previously the case, under medical sciences (heading 10.3).

For 1986, according to the provisional figures, an increase of over 4% in the expenditure under this chapter is again to be expected. Most of the expenditure is accounted for by heading 10.1.

## Chapter 11

Expenditure on non-oriented research increased both in 1985 as compared with 1984 (final budget) and in 1986 as compared with 1985 (provisional budget), these increases being 7.9% and 5.2%, respectively. The first three headings in this chapter benefited from considerable increases in Federal expenditure in both periods. As regards expenditure by the *Länder*, headings 11.0 and 11.1 showed substantial increases for 1985 as compared with 1984, but according to the available data these are not being maintained in 1986, so that a decline in expenditure is occurring here. About 12% of the total R&D expenditure in 1986 falls to Chapter 11 (in 1985 the figure was still 11.4%), and the greater part of that expenditure is concentrated on heading 11.1 (mathematics and natural sciences).

## Chapter 13

The final figures for 1985 show a very great increase over 1984 in expenditure on defence research (+ 29.5%), which is accounted for mainly by research and development expenditure on a bomber and a fighter aircraft.

The provisional figures for 1986 show an increase of only 6% over 1985 in expenditure under this chapter.

## 4.2. France

4.2.1. Government appropriations for R&D totalled FF 67 500 million in 1984, an increase of FF 5 100 million or 8.2% over 1983. As the R&D price index rose by 6.4% in the same period, this means that government R&D financing increased by 1.7% in real terms, well below the average of 6.4% over the period 1980-85.

It seems from a comparison of provisional budgets for 1985 and 1986 that in this period government R&D appropriations will increase by more than the above average.

4.2.2. An examination by objectives of the variations between 1984 and 1985 gives the following breakdown on either side of the increase in R&D prices (6.4%):

Nominal rate of change (1985/84) (%)

<b>(a) Objectives with a nominal growth equal to or greater than the rise in R &amp; D prices</b>	
8 – Social structures and relationships	74
3 – Control of environmental pollution	36
7 – Industrial productivity and technology	18
4 – Protection and improvement of human health	12
5 – Production, distribution and rational utilization of energy	9
2 – Infrastructure and general planning of land use	9
9 – Exploration and exploitation of space	9
11 – Non-oriented research	9
All objectives	8
1 – Exploration and exploitation of the earth	8
<b>(b) Objectives with a nominal growth below the rise in R &amp; D prices</b>	
10 – Research financed from general university funds	6
6 – Agricultural productivity and technology	3
13 – Defence	1

The substantial increase in objective 8 (social structures and relationships and the virtual lack of change in the defence objective 13 are due to the reasons given in the previous report.<sup>1</sup>

Firstly, identification of military spending has been improved, leading to a broadening of the basis for evaluation of R&D appropriations in 1984, to which the 1985 data refer.

Secondly, although the basis for the evaluation of civil R&D spending remained unchanged, appropriations were reclassified to the various objectives and some of the funds were grouped together in Chapter 8.

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<sup>1</sup> Within the basis for evaluation of civil R&D spending, which has remained unchanged, a set of appropriations consisting of FF 140 million allocated to Chapter 11 and an overall amount of FF 480 million divided between all the other chapters except Chapters 10 and 13 in 1983 was incorporated under Chapter 8 in 1984 and 1985. A second set consisting of FF 805 million allocated to Chapter 11 and a total of FF 85 million allocated to the first eight chapters in 1983 has been classified to Chapter 10. In addition, improved identification of defence R&D appropriations led to the broadening of the basis for evaluation of these appropriations (FF 20.8 million instead of 20.4 million in 1984).

These changes in the basis for evaluation and in the classification to objectives are reflected in the structure of R&D budget appropriations as the following table shows:

**Table VIII-2**  
**Government R&D financing classified by groups of objectives**

Groups of NABS objectives	%			
	Final budgets		Provisional budgets	
	1984	1985	1985	1986
2-3-4-8 Human and social objectives	8.9	10.1	10.1	10.4
1-5-7-9 Technological objectives	26.0	27.1	27.0	27.0
6 Agriculture	3.7	3.5	3.5	3.6
10 Research financed from general university funds	12.1	11.9	11.9	11.8
11 Non-oriented research	14.3	14.4	14.4	15.1
12 Unclassified research	1.6	1.7	1.7	1.1
13 Defence	33.4	31.3	31.3	31.0
Total	100.0	100.0	100.0	100.0

### 4.3. Italy

4.3.1. In 1985 government R&D financing totalled LIT 5 314 000 million, an increase of 660 000 million over 1984, giving a nominal growth of 14%. As the R&D price index rose by 9.5% over the same period, this is equivalent to a growth in real terms of 4.2%, well below the average growth rate recorded over the period 1980-85 (11.7%).

A comparison of provisional budgets for 1985 and 1986 indicates, however, that this is likely to be temporary and that Italian R&D appropriations in 1986 should pick up again to the highest multi-annual growth rate of the Community countries.

4.3.2. An examination by objectives of the annual variations between 1984 and 1985 gives the following breakdown on either side of the increase in R&D prices (9.5%):

Nominal rate of change (1985/84) (%)

**(a) Objectives with a nominal growth equal to or greater than the rise in R&D prices**

11 - Non-oriented research	52
3 - Control of environmental pollution	40
13 - Defence	36
7 - Industrial productivity and technology	29
9 - Exploration and exploitation of space	26
10 - Research financed from general university funds	22
All objectives	14

**(b) Objectives with a nominal growth below the rise in R&D prices**

1 - Exploration and exploitation of the earth	- 1
5 - Production, distribution and rational utilization of energy	- 1
8 - Social structures and relationships	- 4
6 - Agricultural productivity and technology	- 13
2 - Infrastructure and general planning of land use	- 17
4 - Protection and improvement of human health	- 37

The following points can be made on those objectives which received a substantial increase in funding in 1985:

- (a) appropriations for Chapters 9 (Exploration and exploitation of space) and 13 (Defence) benefited from an appreciable increase as a result of the updating of the space plan and the launching of the programme on aircraft construction and telecommunications in 1984.

Defence accounts for practically 10% of total budget appropriations in Italy, a percentage similar to that in Germany;

- (b) the marked increase in funding for Chapters 10 (Research financed from general university funds) and 11 (Non-oriented research) went to all disciplines, with particular emphasis on the exact sciences;

- (c) the increase in funds for industry benefited information technology in particular.

As regards chapter appropriations which declined in absolute terms:

- (d) the reduction in funding for Chapter 2 (infrastructure and general planning of land use) followed a high level of appropriations in 1984;

- (e) the reduction in appropriations for agriculture mainly affected forestry and the timber industry;

- (f) the substantial decline in health funding affected mainly biomedical engineering and medicinal products.

For (d) and (e) the main reason lies in a statistical reorganization. For (f) the reduction is due to many causes: first a different evaluation method used by the National Health Fund (law on the financing of health activities) and secondly a reduction in the contribution of ENEA (the main energy research body).

Table VIII-3 gives an overall picture of these variations, showing the reduced share of human and social objectives and agriculture.

**Table VIII-3**  
**Government R&D financing classified by groups of objectives**

Groups of NABS objectives	%			
	Final budgets		Provisional budgets	
	1984	1985	1985	1986
2-3-4-8 Human and social objectives	11.9	7.8	10.7	7.4
1-5-7-9 Technological objectives	48.8	48.6	40.4	44.6
6 Agriculture	5.0	3.8	5.2	3.7
10 Research financed from general university funds	20.2	21.7	23.9	28.6
11 Non-oriented research	5.7	7.6	8.6	7.1
12 Unclassified research	0.1	0.6	0.2	0.2
13 Defence	8.3	9.9	11.0	8.4
Total	100.0	100.0	100.0	100.0

#### 4.4. The Netherlands

4.4.1. In 1985 the Netherlands R & D budget came to HFL 3 882 million, HFL 23 million up on 1984, giving a nominal growth of 0.6%. As the R & D price index rose by 1.6% in the same period, the Netherlands R & D budget declined slightly in real terms (- 1%).

Nevertheless a comparison of provisional budgets for 1985 and 1986 indicates that the situation is likely to change in 1986.

4.4.2. Classified by NABS objectives, the annual variations between 1984 and 1985 give the following breakdown on either side of the increase in R & D prices (1.6%):

Nominal rate of change (1985/84) (%)

(a) **Objectives with a nominal growth equal to or greater than the rise in R & D prices**

7 - Industrial productivity and technology	11
2 - Infrastructure and general planning of land use	4
1 - Exploration and exploitation of the earth	3
9 - Exploration and exploitation of space	2

(b) **Objectives with a nominal growth below the rise in R & D prices**

11 - Non-oriented research	1
8 - Social structures and relationships	1
All objectives	1
4 - Protection and improvement of human health	-1
10 - Research financed from general university funds	-1
13 - Defence	-2
3 - Control of environmental pollution	-3
5 - Production, distribution and rational utilization of energy	-3
6 - Agricultural productivity and technology	-7



The highest growth was recorded by industry but it is not possible to identify the specific fields most concerned.<sup>1</sup>

In contrast the substantial decline in appropriations for agriculture affects all research areas in that sector.

The moderate fall (1%) in general university funds is significant since this sector swallows up almost half the total R & D budget appropriations in the Netherlands.

These variations are reflected in the following structural changes:

**Table VIII-4**  
**Government R & D financing classified by groups of objectives**

Groups of NABS objectives	Final budgets		Provisional budgets	
	1984	1985	1985	1986
2-3-4-8 Human and social objectives	14.0	14.0	14.0	13.1
1-5-7-9 Technological objectives	17.2	18.0	18.0	22.8
6 Agriculture	5.0	4.6	4.6	4.4
10 Research financed from general university funds	47.0	46.3	46.3	43.0
11 Non-oriented research	9.8	9.8	9.8	9.8
12 Unclassified research	3.9	4.3	4.3	4.3
13 Defence	3.1	3.0	3.0	2.6
Total	100.0	100.0	100.0	100.0

A comparison of provisional budgets for 1985 and 1986 indicates that the trend mentioned above will intensify.

#### 4.5. Belgium

4.5.1. Total government R & D financing in the national budget was BFR 29 300 million in 1985, 2 500 million up on 1984, reflecting a rise of 9.4% in nominal terms. With the R & D price index up by 5.4%, this means that government research appropriations expressed in 1980 prices and exchange rates increased by 3.7%, bringing Belgium back to a real level higher than in 1981.

However, prospects for 1986 that emerge from a comparison of provisional budgets indicate a further fall in government R & D appropriations (expressed in 1980 prices and exchange rates) to below the 1981 level.

4.5.2. A study by objectives of the variations recorded between 1984 and 1985 gives the following breakdown on either side of the increase in R & D prices (5.4%):

<sup>1</sup> Probably for reasons concerning statistical secrecy of data on very large firms.

Nominal rate of change (1985/84) (%)

(a) Objectives with a nominal growth equal to or greater than the rise in R&D prices

8 – Social structures and relationships	74
1 – Exploration and exploitation of the earth	18
9 – Exploration and exploitation of space	16
13 – Defence	15
11 – Non-oriented research	14
<b>All objectives</b>	<b>9</b>
2 – Infrastructure and general planning of land use	9
7 – Industrial production and technology	9
6 – Agricultural production and technology	8
4 – Protection and improvement of human health	7
3 – Control of environmental pollution	7

(b) Objectives with a nominal growth below the rise in R&D prices

10 – Research financed from general university funds	3
5 – Production, distribution and utilization of energy	2

These wide variations are reflected in the structural changes summarized below:

**Table VIII-5**  
**Breakdown of government R&D appropriations by groups of objectives**

Groups of NABS objectives	Final budgets		Provisional budgets		%
	1984	1985	1985	1986	
	2-3-4-8 Human and social objectives	5.5	5.5	5.4	
1-5-7-9 Technological objectives	39.1	38.8	35.8	36.0	
6 Agriculture	7.2	7.1	6.9	7.2	
10 Research financed from general university funds	23.4	22.1	21.8	22.8	
11 Non-oriented research	21.0	21.8	19.8	20.5	
12 Unclassified research	2.4	3.0	8.9	6.3	
13 Defence	1.4	1.5	1.5	1.5	
<b>Total</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	

The most outstanding feature is the reduction in the share of research financed from general university funds in total government R&D appropriations (23.4% in 1984, 22.1% in 1985), a relative decline that is likely to continue in 1986.

The other striking point is the fall in the share of energy research in total research spending (12.2% in 1984, 11.3% in 1985), also likely to continue in 1986.

#### 4.6. United Kingdom

4.6.1. The total government funds allocated to R&D in 1985 amounted to UKL 4 582 million, an increase of UKL 274 million or 6.4% over 1984. As the R&D price index went up by 7% in the same period, government research funding showed a very small decline in real terms (-0.6%).

A comparison of provisional budgets for 1985 and 1986 indicates that this downward trend is unlikely to be reversed.

4.6.2. A calculation by NABS objectives of the annual variations in government R&D funding between 1984 and 1985 gives the following breakdown on either side of the rise in R&D price increase (7%):

Nominal rate of change (1985/84) (%)

**(a) Objectives with a nominal growth equal to or greater than the rise in R&D prices**

8 – Social structures and relationships	47
1 – Exploration and exploitation of the earth	11
13 – Defence	10

**(b) Objectives with a nominal growth below the rise in R&D prices**

9 – Exploration and exploitation of space	7
4 – Protection and improvement of human health	6
All objectives	6
10 – Research financed from general university funds	6
11 – Non-oriented research	3
3 – Control of environmental pollution	2
7 – Industrial productivity and technology	0
6 – Agricultural productivity and technology	– 1
5 – Production, distribution and rational utilization of energy	– 6
2 – Infrastructure and general planning of land use	– 12

The marked increase in funds for Chapter 8 (Social structures and relationships) goes mainly to training activities.

The more moderate increase in defence funding has a substantial impact on the pattern of budget appropriations because of the predominance of defence.

The increase in Chapter 1 (Exploration and exploitation of the earth) goes mainly to marine and ocean research and to mineral prospecting.

In contrast, the substantial fall in appropriations for Chapter 2 (Infrastructure and general planning of land use) mainly affects civil engineering and transport systems.

The impact of these variations on the pattern of R&D appropriations is as follows:

**Table VIII-6**

**Government R&D financing classified by groups of objectives**

Groups of NABS objectives	Final budgets		Provisional budgets	
	1984	1985	1985	1986
2-3-4-8 Human and social objectives	7.1	7.2	6.9	7.0
1-5-7-9 Technological objectives	15.7	14.9	15.0	14.8
6 Agriculture	5.0	4.6	4.8	4.6
10 Research financed from general university funds	14.7	14.6	14.2	14.9
11 Non-oriented research	6.8	6.5	7.1	6.8
12 Unclassified research	0.3	0.3	0.3	0.3
13 Defence	50.4	51.9	51.7	51.6
Total	100.0	100.0	100.0	100.0

## 4.7. Ireland

4.7.1. The Irish R&D budget in 1985 was IRL 75 million, 12.7 million or 20% higher than in 1984. This growth in nominal terms is appreciably higher than the rise in the R&D price index (6.5%) in the same period, giving in 1985 a substantial real growth rate of 13%, the highest figure of all the Member States.

A comparison of provisional data for 1985 and 1986 seems to indicate that this trend will continue.

4.7.2. The variations in government R&D funding between 1984 and 1985 classified by NABS objectives gives the following breakdown on either side of the rise in R&D prices (6.5%):

Nominal rate of change (1985/84) (%)

(a) **Objectives with a nominal growth equal to or greater than the rise in R&D prices**

1 – Exploration and exploitation of the earth	75
7 – Industrial productivity and technology	61
8 – Social structures and relationships	21
All objectives	20
9 – Exploration and exploitation of space	19
10 – Research financed from general university funds	17
6 – Agricultural productivity and technology	14
4 – Protection and improvement of human health	11

(b) **Objectives with a nominal growth below the rise in R&D prices**

5 – Production, distribution and rational utilization of energy	– 15
11 – Non-oriented research	– 17
2 – Infrastructure and general planning of land use	– 29
3 – Control of environmental pollution	– 40

When comparing the financing of different objectives the relatively small amounts going to many of them have to be taken into consideration, as a small increase or decrease in financing can produce a large percentage change.

As the above table shows, the high growth in spending in 1985 was associated with clear choices as regards allocation to objectives.

The high growth in Chapter 8 (Social structures and relationships) is aimed primarily at training activities while the increase for Chapter 7 (Industry) is designed mainly to increase industrial efficiency and competitiveness.

Similarly, money for agricultural research, an objective which swallows up almost one third of government R&D spending, is being diverted from general research towards research in specific fields. This trend is confirmed by an examination of Chapters 10 (University research) and 11 (Non-oriented research) where there is a marked reduction in appropriations for the agricultural sciences.

The impact of these trends on the pattern of government R&D appropriations is reflected in the following table:

**Table VIII-7**  
**Government R&D financing classified by groups of objectives**

Groups of NABS objectives	Final budgets		Provisional budgets	
	1984	1985	1985	1986
2-3-4-8 Human and social objectives	20.7	16.7	19.6	17.5
1-5-7-9 Technological objectives	25.6	32.7	27.7	29.1
6 Agriculture	30.2	28.7	29.2	27.3
10 Research financed from general university funds	20.3	19.7	20.4	23.9
11 Non-oriented research	3.2	2.2	3.1	2.2
12 Unclassified research	-	-	-	-
13 Defence	-	-	-	-
Total	100.0	100.0	100.0	100.0

#### 4.8. Denmark

4.8.1. In 1985 government R&D spending totalled DKR 3 409 million, which was 307 million or 12% more than in 1984. With the R&D price index up by 4.5%, government R&D spending increased in real terms by 7.4% in 1985. This is in line with the average trend recorded over the period 1980–85 (6.9%).

A comparison of provisional budgets for 1985 and 1986 indicates, however, that the average trend is likely to weaken slightly.

4.8.2. Considered by objectives, the variations in government appropriations give the following breakdown on either side of the rise in R&D prices (4.5%):

Nominal rate of change (1985/84) (%)

**(a) Objectives with a nominal growth equal to or greater than the rise in R&D prices**

7 – Industrial productivity and technology	43
8 – Social structures and relationships	27
11 – Non-oriented research	22
5 – Production, distribution and rational utilization of energy	19
2 – Infrastructure and general planning of land use	16
All objectives	12
9 – Exploration and exploitation of space	9
3 – Control of environmental pollution	9

**(b) Objectives with a nominal growth below the rise in R&D prices**

4 – Protection and improvement of human health	3
6 – Agricultural productivity and technology	0
10 – Research financed from general university funds	– 3
1 – Exploration and exploitation of the earth	– 12
13 – Defence	– 20

The impact of these wide variations on the pattern of government R&D appropriations is summarized in the following table:

**Table VIII-8**  
**Government R&D financing classified by groups of objectives**

Groups of NABS objectives	%			
	Final budgets		Provisional budgets	
	1984	1985	1985	1986
2-3-4-8 Human and social objectives	11.1	11.4	11.1	11.5
1-5-7-9 Technological objectives	27.6	32.0	30.8	31.8
6 Agriculture	8.4	7.4	7.7	7.0
10 Research financed from general university funds	35.9	31.0	32.9	29.5
11 Non-oriented research	16.3	17.7	16.8	19.7
12 Unclassified research	-	-	-	-
13 Defence	0.7	0.5	0.7	0.5
Total	100.0	100.0	100.0	100.0

Technological objectives have increased more than the others, particularly research financed from general university funds and, within that category, research on health.

## 4.9. Greece

4.9.1. In 1985 actual government spending on R&D was DR 11 600 million, an increase of 2 700 million over 1984, giving a nominal rise of 30%. As the R&D price index rose by 19.3%, government financing of R&D increased by 9% in real terms during 1985.

A straightforward comparison of provisional budgets for 1985 and 1986 might seem to indicate that spending will fall in real terms in 1986 but it appears that this is because of an over-evaluation of the expenditure initially planned.

4.9.2. The variations in government research funding give the following breakdown on either side of the rise in the R&D price index (19.3%):

Nominal rate of change (1985/84) (%)

**(a) Objectives with a nominal growth equal to or greater than the rise in R&D prices**

3 – Control of environmental pollution	82
7 – Industrial productivity and technology	64
4 – Protection and improvement of human health	60
9 – Exploration and exploitation of space	43
10 – Research financed from general university funds	36
6 – Agricultural productivity and technology	31
All objectives	30
1 – Exploration and exploitation of the earth	22

**(b) Objectives with a nominal growth below the rise in R&D prices**

13 – Defence	10
11 – Non-oriented research	9
8 – Social structures and relationships	8
5 – Production, distribution and rational utilization of energy	6
2 – Infrastructure and general planning of land use	– 81

Leaving aside the wide variations in two related objectives, Chapters 3 (Control of environmental pollution) and 2 (Infrastructure and general planning of land use), it is clear that there is a substantial increase in objectives 7 (Industry) and 4 (Health):

- (i) the increase in appropriations for industry is due mainly to the setting-up of new technological research centres (computing, genetic engineering) under the 1984 programme and better provision for existing centres;
- (ii) the increase in appropriations for health is due not only to better budget provision for medical centres but also to the development of health research programmes carried out in other multi-disciplinary centres.

The increase in money for the universities, less marked than for the previous objectives, is essentially due to a rise in the number of research scientists. The same is true of the increase in appropriations for agriculture, where government financing remains predominant.

The increase in space funding results from international commitments concluded at European level.



These variations lead to structural changes summarized in the following table:

**Table VIII-9**  
**Government R & D financing classified by groups of objectives**

Groups of NABS objectives	Final budgets		Provisional budgets	
	1984	1985	1985	1986
2-3-4-8 Human and social objectives	18.8	17.2	18.7	19.6
1-5-7-9 Technological objectives	15.7	16.4	17.0	17.4
6 Agriculture	26.9	27.1	28.0	24.9
10 Research financed from general university funds	27.1	28.3	25.4	26.9
11 Non-oriented research	7.3	6.1	7.3	6.1
12 Unclassified research	0.7	2.0	0.7	2.2
13 Defence	3.5	2.9	2.9	2.9
Total	100.0	100.0	100.0	100.0

Despite the increase in health spending, the share of human and social objectives has declined to the benefit of all other objectives except non-oriented research.

## 5. R & D budget appropriations going to enterprises

### 5.1. Type

For the purposes of the surveys on government financing of R&D, enterprises are defined as in the European system of integrated economic accounts (ESA) and therefore include both public and private enterprises and non-profit institutions recognized as independent legal entities in the following three sectors:

- (a) non-financial corporate and quasi-corporate enterprises;
- (b) credit institutions;
- (c) insurance enterprises;

while the R&D payments to be taken into consideration are essentially:

- (i) purchases of research services;
- (ii) current transfers (production subsidies);
- (iii) capital transfers (investment grants);
- (iv) loans and investments in the capital of research companies.

Insofar as they do not pass through the companies' general university funds, these payments are included regardless of the channels through which they reach the enterprise: direct transfer or via one or more intermediate bodies (distribution funds, credit institutions, etc.).

This budgetary approach can give figures very different from the results of the OECD statistical surveys (see Section 1.2.3). A substantial share of the budget appropriations intended for enterprises which are paid to intermediate bodies may be used by these bodies for their own research. The money actually received by the enterprises may then fall well short of the appropriations actually intended for them.

Consequently great caution is called for in comparing Community and OECD figures for payments to enterprises.

### 5.2. Amount

Even though they do not cover all the Member States, the figures for grants paid to enterprises for R&D (see Table IX for 1985) do throw some light on the scope and structure of the funds allocated.

Overall the larger countries allocate a bigger share of their government R&D funding to enterprises than the smaller ones: United Kingdom (39%), Germany (30%), France (26%), Italy (20%), Ireland (13%), the Netherlands (10%).

In the larger countries, the proportion of government financing going to research in enterprises depends greatly on the importance of defence and on the contracts concluded between the State and private enterprises in those countries.

Considering only appropriations to enterprises for civil R&D, we see that the share of these appropriations in the total civil R&D budget falls within a narrower range: Germany (23%), Italy (22%), France and Ireland (13%), United Kingdom (11%), the Netherlands (10%).

In 1985 the share of civil R&D in the total funds for enterprises fell only in Germany. While total budget appropriations paid to enterprises for R&D rose by 13.4% in 1985, funds for civil R&D alone were up by only 5.5%.

In 1985 the total R&D appropriations for enterprises increased in the Netherlands and the United Kingdom at a rate similar to that recorded in Germany. In Ireland and Italy, by contrast, appropriations increased sharply by 121% and 45% respectively.

Leaving aside defence, the main objective to benefit from grants to enterprises was of course industrial technology, and its share increases as defence becomes less important (see Table IX): Ireland (100%), France (84%), Italy and the Netherlands (83%), Germany (31%), United Kingdom (11%).

Within Chapter 7 (Industrial technology), Ireland (where funds for this objective more than doubled in 1985) and the Netherlands put the main emphasis on increasing industrial efficiency and competitiveness while the United Kingdom spent more on developing means of transport. In Germany and Italy, the effort is more equally divided over all industrial branches.

In the United Kingdom and France, since almost all of the defence appropriations intended for enterprises went to Chapter 7, the share of this objective in total funds for enterprises was in fact comparable to the percentages for Italy and the Netherlands.

Mention should be made of the importance Germany attaches to funds for energy R&D by enterprises, the main focus of which was nuclear fission research. However, it should not be concluded from this that the other countries neglect research by enterprises in this sector. The differences between Member States result largely from the fact that own funds put up by public enterprises in this field are not taken into account in total R&D budget appropriations.

**Table IX**  
**Breakdown of R&D budget appropriations going to enterprises<sup>1</sup>**  
**1985**

%

NABS objectives	D	F	I	NL	B	UK	IRL	DK	GR	E	P
1. Exploration and exploitation of the earth	1.2	-	-	-	-	0.0	-	-	-	-	-
2. Infrastructure and general planning of land use	2.8	1.6	1.2	-	-	0.0	-	-	-	-	-
3. Control of environmental pollution	2.7	-	-	-	-	0.2	-	-	-	-	-
4. Protection and improvement of human health	1.2	0.8	-	-	-	1.3	-	-	-	-	-
5. Production, distribution and rational utilization of energy	23.9	2.0	3.2	0.3	-	1.0	-	-	-	-	-
6. Agricultural productivity and technology	0.1	0.7	-	-	-	0.1	-	-	-	-	-
7. Industrial productivity and technology	30.8	29.8	83.1	83.0	-	10.9	100.0	-	-	-	-
8. Social structures and relationships	0.7	-	-	-	-	-	-	-	-	-	-
9. Exploration and exploitation of space	3.2	1.2	12.5	15.4	-	0.1	-	-	-	-	-
10. Research financed from general university funds	-	0.2	-	-	-	-	-	-	-	-	-
11. Non-oriented research	0.1	-	-	-	-	0.0	-	-	-	-	-
12. Unclassified research	0.1	1.0	-	-	-	0.1	-	-	-	-	-
13. Defence	33.2	62.5	-	1.3	-	86.1	-	-	-	-	-
Total R&D appropriations for enterprises	(%) 2847	100.0 -	100.0 733	100.0 148	-	100.0 3066	100.0 17	-	-	-	-
Share in total government R&D funding (%)	30.1	26.0	20.0	9.5	-	39.4	13.4	-	-	-	-

<sup>1</sup> The structural differences in the organization of business activities in different countries can distort the pattern of R&D financing going to business enterprises.

## 6. Multilateral cooperation

R&D funds for multilateral cooperation are included in the total amount of R&D only if they are entered in the central government budget as defined in the European system of integrated economic accounts (ESA). Informal collaboration and intramural support for multilateral projects are excluded from the analysis.

The comparison of multilateral cooperation figures for different countries is distorted if defence is taken into account, for a number of reasons:

- (i) of the large countries, the Federal Republic of Germany and the United Kingdom devote a far higher proportion of their cooperation appropriations to defence than the other countries: Germany (19%), United Kingdom (43%), compared with only 2% for the other countries excluding France;
- (ii) for some countries, including France, it is very difficult to single out cooperation appropriations from the general defence research budget;
- (iii) the nature of defence cooperation depends greatly on the size of the country: small countries make greater use of multilateral cooperation whereas the larger ones prefer to enter into bilateral agreements.

For all these reasons it seems preferable to confine the comparative analysis to the cooperation appropriations for civil R & D as shown in Table X.

This table demonstrates the following similarities:

- (i) in 1985 the three large countries devoted a higher proportion of their overall civil R & D budget to international cooperation than the other countries;
- (ii) all countries gave priority to two objectives in international cooperation: basic research (objectives 10 and 11) and space (European Space Agency programmes).

Most of the space research funding comes from international cooperation, as is shown by the percentages of cooperation appropriations in total appropriations for space research: Germany (74%), France (56%), Italy (43%), the Netherlands (25%), United Kingdom (85%), Ireland (100%), Denmark (88%).

Over and above these similarities, there are differences in emphasis which depend on national policies and choices:

- (i) Ireland gives preference to agricultural research in its cooperation activities, just as it does domestically, and to a lesser extent to industry. However, R & D on objective 8 (Social structures and relationships) while receiving a relatively small amount of money, occupies a prominent position out of all proportion to the situation in the other countries, the aim being to develop research activities in the field of training and education;
- (ii) in the United Kingdom, industrial research and particularly research on means of transport is of greater importance in civil R & D cooperation than at the national level;
- (iii) the Netherlands supports cooperation on energy and exclusively in the field of nuclear fission although that objective has no national priority;
- (iv) the Federal Republic of Germany and France encourage international cooperation in energy and industrial research, two fields that also receive support at home.

Finally, national priorities for energy (Italy) and industry (Italy, Denmark) are not reflected in international cooperation.

**Table X**  
**Multilateral cooperation appropriations for civil R & D**  
**1985**

%

NABS objectives	D	F	I	NL	B	UK	IRL	DK	GR	E	P
1. Exploration and exploitation of the earth	0.3	2.8	0.1	-	-	0.1	-	-	-	-	-
2. Infrastructure and general planning of land use	0.6	1.0	-	0.9	-	0.0	2.0	0.0	-	-	-
3. Control of environmental pollution	0.3	0.5	0.1	-	-	0.0	0.6	-	-	-	-
4. Protection and improvement of human health	0.2	2.2	1.1	1.5	-	2.1	-	-	-	-	-
5. Production, distribution and rational utilization of energy	25.0	13.7	-	19.8	-	9.6	0.5	1.3	-	-	-
6. Agricultural productivity and technology	1.3	5.8	2.9	-	-	2.2	28.2	-	-	-	-
7. Industrial productivity and technology	28.3	11.7	0.9	-	-	33.9	7.3	-	-	-	-
8. Social structures and relationships	0.4	2.2	0.7	-	-	0.0	10.4	0.2	-	-	-
9. Exploration and exploitation of space	28.0	33.7	59.7	21.7	-	30.8	29.9	44.6	-	-	-
10. Research financed from general university funds	-	-	-	-	-	-	20.4	0.4	-	-	-
11. Non-oriented research	15.6	25.4	34.5	54.9	-	21.0	0.7	53.5	-	-	-
12. Unclassified research	-	1.0	-	1.2	-	0.3	-	-	-	-	-
Total appropriations for cooperation in civil R & D	100.0 966	100.0 935	100.0 185	100.0 46	- -	100.0 396	100.0 56	100.0 27	- -	- -	- -
Share of civil R & D cooperation appropriations in total government R & D funding (%)	11.6	13.7	5.6	3.1	-	10.6	5.3	6.4	-	-	-

## **7. Cooperation in the Community institutions**

The Community institutions participate directly or indirectly in civil research projects. The relevant amounts, which are not normally included in national R&D expenditure, are shown separately in the tables.

The money contributed by these institutions to research programmes in 1985 amounted to 573 million ECU, 2.2% of all government research funding for civil R&D.

Reference to the figures alone would seem to indicate that research appropriations from the Community institutions were almost 30% up in 1985 compared to 1984. However, these figures are not comparable. Up to 1984 only actual expenditure obtained from accounting documents was taken into account. In 1985, however, returns were aligned on the procedure used by the Member States, i.e. the figures are based on appropriations taken from budget documents. Consequently caution is called for in comparing figures for 1984 and 1985.

Nevertheless, Table VII indicates two main trends concerning the energy and industrial objectives. There is a substantial reduction in energy's share of total R&D appropriations as a result of a cut in spending on nuclear fission, and a large increase in funding for information technology research.

A comparison of 1985 and 1986 budgets established on a similar basis shows that total R&D spending is likely to increase by 14% over that period (see Table 5 in the statistical annex).

## **8. Attempt to evaluate government R&D appropriations for biotechnology, information technology and the developing countries**

This chapter covers research which inherently cuts across a whole range of NABS objectives and is of vital importance for Europe. The three fields involved are biotechnology, information technology and developing countries.

Because of the degree of uncertainty in identifying defence appropriations for all these three research areas and the difficulty of collecting data from universities carrying out R&D in these fields, the amounts of government financing intended for biotechnology, information technology and developing countries set out in the series of Tables XI apply only to civil R&D and exclude general university funds (GUF).

### **8.1 Biotechnology**

Generally speaking the definition of biotechnology R&D adopted by the subcommittee agrees with the OECD definition of biotechnology but confines it to R&D activities.

Examination of Table XI-1 shows that countries generally devote 1 to 2% of their civil research appropriations to biotechnology R&D with the exception of Ireland and to a lesser extent Greece.

The high proportion of government financing for civil research that goes to biotechnology R&D in Ireland (6.4%) is due partly to the very large increase in these appropriations in 1985 (+ 66%) reflecting the emphasis on agricultural and food research in Ireland.

This increase is even more marked if we consider only appropriations intended for biotechnology R&D in industry (+ 116%). Within this sector, it is even higher if we take only appropriations designed to promote industrial efficiency and competitiveness (+ 172%). This extremely substantial increase is in line with a general policy already discussed during the analysis of financing for enterprises.

Another objective also occupies a prominent position in biotechnology R&D. This is agriculture, financing for which rose substantially in 1985 (+ 23%). Here again this increase reflects the general priority for agriculture carried over into biotechnology.

Overall the budget appropriations for biotechnology R&D in Greece increased by more than 100% in 1985. Biotechnology R&D in industry rose by the same proportion but growth rates exceeding 300% were recorded for objectives concerning pollution, health and agriculture, the last still being one of the main national priorities for R&D.

In Germany, France and the United Kingdom, R&D appropriations for biotechnology did not increase to the same extent as in the two countries mentioned above. It is not so much the rate of increase as the structure of R&D spending on biotechnology that is of interest in these countries.

All three give priority to biotechnology R&D in agriculture, industry and non-oriented research. It is worth noting that unlike other trends in the United Kingdom, the trend in the allocation to biotechnology R&D is the result of a definite policy and not a coincidence of policies by different ministries. Only France would appear to attribute less importance to biotechnology R&D in industry, but that is partly due to the size of the item 'other research'.

There are differences as well as similarities between these countries. Biotechnology R&D in the health sector is not given as high a priority in the United Kingdom as in the other two countries. Similarly biotechnology R&D in the field of environmental pollution control is non-existent or insignificant in France and in the United Kingdom. Biotechnology R&D under the objective 'social structures and relationships' in the Federal Republic of Germany is devoted mainly to training activities in that field of research.

Taking the Community as a whole, biotechnology R&D accounts for a similar proportion of civil R&D as in the three countries mentioned above. However, it is far more concentrated, especially on agriculture and health, while biotechnology R&D in industry is confined to petrochemistry and coal chemistry.

## 8.2. Information technology

Figures for information technology R&D are particularly blurred in the large countries (Germany, France and the United Kingdom) because of the lack of information on defence appropriations for research in this field. In these countries, or at least in France and the United Kingdom, appropriations for information technology R&D in the civil sector are probably only a minor part of total appropriations for such research.

Considering civil R&D alone (excluding GUF), Table XI-2 shows the same general finding as for biotechnology. Apart from Ireland, the countries devote around 4-5% of their civil R&D appropriations to information technology.

The substantial share of civil appropriations going to information technology R&D in Ireland (11.6%) in 1985 is also due to the reasons mentioned earlier: a broad interpretation of the concept of information technology which takes account of its economic and social implications, and the high increase in public appropriations for such research in 1985 (+ 184%).

Industry is obviously the main beneficiary by a very long way (92%). Here again most of the money is designed to increase industrial efficiency and competitiveness.

Naturally the other countries also give priority to industry research in this field, the proportion in Germany being similar to that of Ireland. They also provide generous financing for non-oriented research related to information technology R&D, with the exception of Germany where some of this research has to be financed by industry.

However, there are significant differences from one country to another as well as these similarities.



A significant share of information technology R & D financing in France goes to energy rather than industry, probably because of the importance of State enterprises in that sector. Similarly France allocates an even higher proportion of these appropriations to social structures and relationships, probably as a result of the reclassification of objectives in 1984 (see Section 4.2.).

Germany includes in Table XI-2 space appropriations which the other countries include under international cooperation appropriations.

In the United Kingdom a proportion, although a modest one, of information technology R & D appropriations goes to the exploration and exploitation of the earth (the same is incidentally true of biotechnology) for research of a general nature.

To wind up, mention should be made of the significant effort being made in the European Community in information technology R & D through the arrangements made under the Esprit programme.

### **8.3. Developing countries**

There are two possible approaches to R & D for the benefit of developing countries: either the projects relate exclusively to the developing countries or they are of interest to the developing countries but also pursue a more general objective. The predominant approach varies from one country to another.

France is a typical example of the first approach. Here most of the research concerning the developing countries is done by two institutes: the Research Office for Overseas Scientific and Technical Development (Orstom) and the Study and Research Group for the Development of Tropical Agriculture.

In the other countries, R & D relevant to the developing countries is not as specific and it is more difficult to identify its share in the many different programmes or institutions engaged in such research.

This difference partly explains the wide deviation between the figures for France and for the two other countries (see Table XI-3).

The main objectives under which R & D for development is classified are obviously agriculture, industry and health.

However, Germany does not give any particular priority to health and instead is stepping up R & D in the energy sector, especially on new sources and energy conservation.

The efforts made by France in the exploration and exploitation of the earth and by the United Kingdom in the general planning of land use should also be mentioned.

Community R & D appropriations for the benefit of the developing countries are divided between health and agriculture, with medical research playing a much more prominent part than in the individual countries.

In general there is a possibility of overlaps between R & D in biotechnology and/or information technology and R & D related to developing countries. This makes it extremely difficult to collect quantitative data on these research areas.

Table XI-1

**Breakdown of the share of civil R&D budget appropriations going to biotechnology  
1985**

%

NABS objectives	D	F	I	NL	B	UK	IRL	DK	GR	E	P	EC	
1. Exploration and exploitation of the earth	-	-	-	-	-	1.9	-	-	-	-	-	-	
2. Infrastructure and general land-use planning	-	-	-	-	-	-	0.8	-	-	-	-	-	
3. Control of environmental pollution	6.1	-	-	-	-	0.5	1.2	-	3.2	-	-	-	
4. Protection and improvement of human health	33.5	45.1	-	-	-	4.8	4.2	-	33.8	-	-	22.2	
5. Production, distribution and rational utilization of energy	-	1.6	-	-	-	0.0	-	-	0.3	-	-	-	
6. Agricultural productivity and technology	11.8	24.2	-	-	-	69.0	29.7	-	26.1	-	-	72.3	
7. Industrial productivity and technology	28.4	8.2	-	-	-	11.8	64.1	-	15.5	-	-	5.5	
8. Social structures and relationships	0.4	-	-	-	-	-	-	-	-	-	-	-	
9. Exploration and exploitation of space	-	-	-	-	-	-	-	-	-	-	-	-	
11. Non-oriented research	19.8	12.3	-	-	-	12.0	-	-	15.4	-	-	-	
12. Other civil research	-	8.6	-	-	-	-	-	-	5.7	-	-	-	
Total													
	(%)	100.0	100.0	-	100.0	-	100.0	100.0	-	100.0	-	-	100.0
	(million ECU)	87.3	179.5	-	20.0 <sup>1</sup>	-	53.1	6.7	-	3.4	-	-	9.2
Share in total government appropriations for civil R&D (%)		1.1	1.6	-	-	-	1.4	6.4	-	3.2	-	-	1.6

<sup>1</sup> Excluding government subsidies to enterprises for programmes carried out within those enterprises (approximately 4 to 6 million ECU per year).

**Table XI-2**  
**Breakdown of the share of civil R&D budget appropriations going to information technology**  
**1985**

%

NABS objectives	D	F	I	NL	B	UK	IRL	DK	GR	E	P	EC
1. Exploration and exploitation of the earth	-	-	-	-	-	2.5	1.5	-	-	-	-	-
2. Infrastructure and general land-use planning	4.8	-	-	-	-	0.0	-	-	4.3	-	-	-
3. Control of environmental pollution	0.1	-	-	-	-	-	-	-	-	-	-	-
4. Protection and improvement of human health	-	0.4	-	-	-	-	-	-	0.2	-	-	-
5. Production, distribution and rational utilization of energy	-	9.2	-	-	-	-	-	-	-	-	-	-
6. Agricultural productivity and technology	0.1	-	-	-	-	-	-	-	-	-	-	-
7. Industrial productivity and technology	86.6	61.7	-	-	-	50.9	92.1	-	48.7	-	-	100.0
8. Social structures and relationships	0.2	14.9	-	-	-	0.8	6.4	-	5.0	-	-	-
9. Exploration and exploitation of space	6.8	-	-	-	-	-	-	-	-	-	-	-
11. Non-oriented research	1.3	13.8	-	-	-	45.8	-	-	17.9	-	-	-
12. Other civil research	-	-	-	-	-	-	-	-	23.9	-	-	-
Total	{	(%)	100.0	100.0	-	100.0	-	100.0	100.0	-	-	100.0
	{	(million ECU)	385.4	361.2	-	1.3	-	140.1	11.9	-	-	4.8
Share in total government appropriations for civil R&D (%)	4.6	5.3	-	0.9	-	3.8	11.3	-	4.5	-	-	17.5

**Table XI-3**  
**Breakdown of the share of civil R&D budget appropriations going to research for the developing countries**  
**1985**

%

NABS objectives	D	F	I	NL	B	UK	IRL	DK	GR	E	P	EC
1. Exploration and exploitation of the earth	1.6	10.9	-	-	-	6.5	-	-	-	-	-	-
2. Infrastructure and general land-use planning	5.1	5.3	-	-	-	14.0	-	-	-	-	-	-
3. Control of environmental pollution	1.7	2.8	-	-	-	0.6	-	-	-	-	-	-
4. Protection and improvement of human health	0.3	19.6	-	-	-	19.7	-	-	-	-	-	75.0
5. Production, distribution and rational utilization of energy	31.2	5.9	-	-	-	1.8	-	-	-	-	-	-
6. Agricultural productivity and technology	26.2	27.7	-	-	-	42.3	-	-	-	-	-	25.0
7. Industrial productivity and technology	22.1	8.3	-	-	-	7.1	-	-	-	-	-	-
8. Social structures and relationships	5.4	8.3	-	-	-	6.1	-	-	-	-	-	-
9. Exploration and exploitation of space	-	-	-	-	-	-	-	-	-	-	-	-
11. Non-oriented research	6.4	1.4	-	-	-	-	-	-	-	-	-	-
12. Other civil research	-	9.8	-	-	-	-	-	-	-	-	-	-
Total	{	(%)	100.0	100.0	-	100.0	-	100.0	-	-	-	100.0
	{	(million ECU)	75.3	263.4	-	40.0	-	40.4	-	-	-	9.1
Share in total government appropriations for civil R&D (%)	0.9	3.9	-	2.3	-	1.1	-	-	-	-	-	1.6

**Calculation of the R & D price index**

The price index prepared to deflate R & D financing is defined by the equation:

$$I^{(t+n/I)} = \sum_i \omega_i \frac{P_i(t+n)}{P_i(t)}$$

$$\text{where } \sum_i \omega_i = 1$$

and t and t+n are two years under consideration

$\omega_i$  (i = 1, 2, 3) are the weightings

$P_i(t)$  (t = 1, 2, 3) are the corresponding prices for year t.

1. The weightings correspond to the shares of government expenditure that can be allocated to the following three expenditure categories:

- (i) wage and salary expenditure;
- (ii) other current expenditure;
- (iii) capital expenditure.

The data for evaluating these allocations are obtained from the OECD international statistical surveys.

2. Data on prices are obtained from the European system of national accounts and are defined as follows:

$P_1(t)$  per capita remuneration;

$P_2(t)$  general consumer price index;

$P_3(t)$  index of gross fixed capital formation.

**Increase in the R & D price index**

	D	F	I	NL	B	UK	IRL	DK	GR	E	P	%
1981/1980	5.4	13.7	20.6	4.6	6.5	12.3	17.8	10.3	24.1	17.0	21.7	
1982/1981	4.3	12.8	16.9	5.5	7.9	8.3	14.6	11.1	24.3	13.8	23.5	
1983/1982	3.4	10.0	15.1	3.0	6.3	6.8	10.0	6.8	20.7	13.1	15.9	
1984/1983	2.9	7.5	11.1	1.5	6.3	5.2	8.8	5.3	21.7	12.6	-	
1985/1984	2.6	6.4	9.5	1.6	5.4	7.0	6.5	4.5	19.3	9.2	-	
1986/1985 <sup>1</sup>	2.5	3.3	11.8	1.3	2.4	5.7	4.9	2.5	17.3	8.3	-	

<sup>1</sup> Estimate.

## Methodological notes

### R & D objectives

The Nomenclature for the analysis and comparison of scientific programmes and budgets (NABS), 1983 version, is used for the breakdown of data.

### Government financing

This is financing by central government as defined by the European system of national accounts (ESA). This definition includes the 11 *Länder* in the Federal Republic of Germany.

It should be noted that there are breaks in the continuity of the figures for five countries.

There has been a slight discontinuity in the Italian series since 1973. Since then a small percentage of R & D relating mainly to human health and agriculture has gradually been transferred from the central government budget to the budgets of the regions which now are excluded from the survey. The effects of this transfer cannot be accurately estimated but are thought to be around 1–2%. They go some way to explaining the marked irregularity in the Italian figures for that period. Changes in the methods, timing of the surveys and definitions of R & D coefficients are responsible for a lack of continuity in the figures for the United Kingdom in the period 1974 to 1976, for the Federal Republic of Germany between 1976 and 1977 and for Ireland between 1977 and 1979, where a continuous process of improving definitions has been instituted. For Belgium, the adoption of new methods of breaking down the science policy budget is responsible for a break in the continuity of the series from 1978.

In addition, unlike previous years, the United Kingdom included in its budget for 1979–80 a provision to cover the increase in prices during the period between the passing of the budget and its implementation. This provision represents on average 8–9% of the total financing.

The Danish data do not refer to an actual R & D budget. They are estimated from coefficients dating back to 1982 and must therefore be interpreted with some caution.

The regular collection of data on Greek R & D activities started in the late 1970s. The first survey of government research spending supplemented by estimates of the R & D workforce was made in 1977 and repeated in 1978. These figures included research spending by a few large public-sector undertakings (electricity, posts and telecommunications, oil, etc.). Since the collection of figures for actual expenditure delayed the provision of data and was not in line with the Community system, a number of innovations were made in 1983:

- (i) public undertakings were excluded from the scope of the survey;
- (ii) the recording of actual expenditure was abandoned;
- (iii) total figures for each research centre were recorded;
- (iv) research coefficients were applied to the figures recorded for higher education.

These changes are obviously the reason for the break in the series mentioned in the report.

### Total R & D financing

For 1975 to 1985, the total appropriations for R & D in the final budgets of the Member States, including revisions to the budgets during the budgetary year, are used; for 1986, the figures in the provisional budgets are used.

Two separate questions arise concerning the use of data from provisional budgets:

- (a) the value of these data in predicting minor changes in structure that occur from one year to another. It seems inherently probable that the guidance will be valuable and broadly speaking this has been confirmed by the analysis of final budgets once they become available. This report has been written on the assumption that the provisional budgets for 1982 and 1983 provide reliable warning of changes in pattern and structure.

(b) the value of these data in providing a forecast of the volume of expenditure. Here the difficulties are greater but the important point is not so much the absolute size of the differences between provisional and final budgets as their relative size and the changes in the budgets from one year to the next. No clear-cut conclusions can be drawn from the evidence available but it suggests that the relationship differs from one country to another.

This is not surprising in itself as the institutional relationship between the two budgets varies in different countries. The total amount of the provisional budget appears to be information valuable enough to justify the use made of it in Table II but not to warrant its inclusion in the main tables on the same footing as final budgets.

#### **Total budgets**

The figures quoted are taken from the harmonized statistics prepared by DG II (Economic and Financial Affairs) of the Commission. The definitions correspond to those normally used in discussion of government financing of R&D but are not always identical with those most commonly used in the Member States.

#### **Population**

The figures used are the harmonized estimates of mean population over the year, prepared by Eurostat.

#### **Data on European Communities expenditure**

The figures are based on the Commission's budget documents. They include R&D financing by the European Coal and Steel Community but not funding of technological research by the European Development Fund, which is financed directly by the Member States. Up to 1978, Commission appropriations were expressed initially in budget units of account equal to one United States dollar or 50 Belgian francs at 1970 rates of exchange. They were then converted into EUA. As the budget has been expressed in EUA since 1978, previous budgets have also been converted into that unit. Following the adoption of the ECU in 1979, the Community institutions have used it for the presentation of data since 1981.

#### **Comparison between EUR 12, the United States and Japan**

The US figures are taken from the following publications: *Science resource studies – Highlights*, NSF 85-322 by the National Science Foundation and *Survey of current business* by the US Department of Commerce. The Japanese figures are taken from OECD international surveys of R&D resources.

#### **Gross domestic product (GDP)**

The figures for gross domestic product have been prepared in accordance with the European system of integrated economic accounts (ESA).

#### **Figures in current values**

These amounts are expressed in national currencies and in EUA, i.e. units of accounts calculated by converting the national currencies at either the central rates or at the market rates depending on the country (see Eurostatistics, Data for short-term economic analysis). For conversion into ECU, the averages of the rates of exchange for each year have been used, except for comparison of the last two years, which was based on the rates in March 1985 and 1986 (see Table 16.2 of the statistical annex).

#### **Figures in constant terms**

The figures in current national currencies have been deflated for the period 1980–86 by the R&D price index. For 1986, deflation was based on an estimate of the R&D price index, using data from 'Economic forecast 1986–87, April–May 1986' by DG II.

Statistical data





## Symbols and abbreviations

EUA/UCE	Statistical unit of account (based on central market rates)
GDP/PIB	Gross domestic product (GDP)
Mio/mio	Million
Mrd/mia	Thousand million
p	Provisional
.	Data not available
-	Nil
0 (0.0)	Less than half of the unit used

The symbols +, 0 and - in the tables which contain calculations of mean trends are used to indicate whether the values for the latest year are above, on, or below the mean trend line (regression)

R&D FINANCING

CREDITS POUR LA R&D

IN NATIONAL CURRENCIES AT CURRENT VALUES

EN MONNAIES NATIONALES A PRIX COURANTS

BR DEUTSCH- LAND	FRANCE	ITALIE	NEDER- LAND	BELGIQUE /BELGIE	UNITED KINGDOM	IRELAND	DANMARK	GRECE	EUR-10	COMMUN. EUROP
MIO DM	MIO FF	MRD LIT	MIO FL	MIO FB	MIO £	MIO £	MIO DKR	MIO DRA	MIO EUA /UCE	MIO EUA /UCE

TOTAL FINANCING OF R&D

CREDITS TOTAUX DE R&D

1980	17 046,4	31 100,0	1 549,7	3 105,8	21 098,8	2 477,1	41,2	1 697,6	3 082,1	19 468,9	284,3
1981	17 741,7	40 832,0	2 603,1	3 266,5	22 395,2	3 315,8	43,9	1 982,3	4 254,0	23 975,4	351,7
1982	19 306,0	47 187,0	2 996,7	3 415,5	24 847,9	3 689,8	50,7	2 219,4	5 019,2	26 594,8	389,2
1983	19 095,4	55 400,0	3 782,3	3 830,5	24 396,6	3 999,8	58,9	2 642,5	6 067,7	28 739,7	462,6
1984	19 413,6	62 375,0	4 653,5	3 858,5	20 815,9	4 307,8	62,3	3 038,9	8 907,7	31 092,4	442,1
1985	21 030,8	67 460,0	5 313,7	3 882,1	29 320,8	4 582,1	75,0	3 409,2	11 600,2	33 664,3	572,5
d) 1985	20 847,8	67 460,0	4 809,2	3 882,1	29 644,4	4 605,2	66,4	3 391,7	12 345,3	33 289,9	864,5
1986	21 374,8	72 990,0	6 105,8	4 062,1	28 516,2	4 666,2	81,3	3 583,5	13 949,3	35 054,2	653,7
MEAN TREND PER YEAR TENDANCE ANN. MOYENNE	1980-1985 4,3	16,8	27,9	4,6	* 5,1	13,1	12,7	15,0	30,4	11,6	16,2
EXPECTED CHANGE (IN %) ACCROISSEMENT EN %	1986-1985 2,5	8,2	27,0	4,6	-3,9	1,3	22,5	5,7	13,0	5,3	-24,4

FINANCING OF CIVIL R&D

CREDITS POUR LA RECHERCHE CIVIL

1980	15 316,2	19 750,0	1 508,0	3 008,0	21 040,5	1 133,5	41,2	1 692,9	2 880,3	14 529,0	284,3
1981	16 169,4	25 132,0	2 435,0	3 167,4	22 330,9	1 590,0	43,9	1 977,2	4 032,7	17 455,9	351,7
1982	17 659,2	30 487,0	2 854,0	3 311,6	24 719,1	1 931,6	50,7	2 213,8	5 019,2	20 016,7	389,2
1983	17 260,9	37 300,0	3 566,4	3 717,8	24 329,4	2 034,5	58,9	2 636,2	6 043,9	21 703,6	462,6
1984	17 476,8	41 535,0	4 266,3	3 738,5	26 429,0	2 138,5	62,3	3 016,8	8 599,9	23 178,8	442,1
1985	18 521,8	46 360,0	4 786,0	3 764,8	28 877,6	2 203,2	75,0	3 391,4	11 261,2	24 966,4	572,5
d) 1985	18 338,9	46 360,0	4 281,4	3 764,8	29 222,3	2 226,4	66,4	3 369,3	11 985,2	24 574,0	864,5
1986	18 716,4	50 290,0	5 590,6	3 955,1	28 088,6	2 258,6	81,3	3 564,9	13 548,4	26 315,6	653,7
MEAN TREND PER YEAR TENDANCE ANN. MOYENNE	1980-1985 3,9	18,6	26,0	4,6	* 4,9	14,2	12,7	14,9	31,3	11,4	16,2
EXPECTED CHANGE (IN %) ACCROISSEMENT EN %	1986-1985 2,1	8,5	30,6	5,1	-3,9	1,4	22,5	5,8	13,0	7,1	-24,4

\* 1980-1986

## R&amp;D FINANCING

## CREDITS POUR LA R&amp;D

IN MIO EUA ET CURRENT VALUES  
AND CURRENT EXCHANGE RATESEN MIO UCE A PRIX ET  
TAUX DE CHANGE COURANTS

BR DEUTSCH- LAND	FRANCE	ITALIA	NEDER- LAND	BELGIQUE /BELGIE	UNITED KINGDOM	IRELAND	DANMARK	GRECE	EUR-10	COMMUN. EUROP.
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## TOTAL FINANCING OF R&amp;D

## CREDITS TOTAUX DE R&amp;D

1980	6 753,1	5 299,1	1 303,2	1 125,2	519,7	4 138,9	61,0	216,9	52,0	19 468,9	284,3	
1981	7 057,5	6 760,3	2 060,7	1 177,1	542,3	5 994,8	63,6	250,2	69,0	23 975,4	351,7	
1982	8 125,4	7 337,2	2 263,7	1 306,7	555,7	6 583,6	73,5	272,1	76,8	26 594,8	389,2	
1983	8 410,2	8 182,2	2 801,9	1 509,7	536,9	6 813,7	82,4	325,0	77,7	28 739,7	462,6	
1984	8 674,1	9 077,1	3 368,7	1 529,1	590,1	7 293,7	85,8	373,0	108,8	31 092,4	442,1	
1985	9 446,4	9 927,9	3 671,8	1 546,0	652,8	7 779,7	104,8	425,2	109,7	33 664,3	572,5	
p) 1985	9 321,3	9 875,3	3 365,9	1 538,7	659,1	7 885,3	92,6	424,3	127,6	33 289,9	864,5	
1986	9 941,6	10 649,6	4 139,7	1 676,5	649,8	7 329,1	115,0	449,6	103,3	35 054,2	653,7	
MEAN TREND PER YEAR TENDANCE ANN. MOYENNE	1980-1985	6,9	11,0	23,0	6,6	* 3,8	13,5	11,4	14,4	16,1	11,5	16,2
EXPECTED CHANGE (IN %) ACCROISSEMENT EN %	1986-1985	6,7	7,8	23,0	9,0	-1,4	-7,1	24,2	6,0	-19,1	5,3	-24,4

## FINANCING OF CIVIL R&amp;D

## CREDITS POUR LA RECHERCHE CIVIL

1980	6 067,7	3 365,2	1 268,1	1 009,7	510,3	1 894,0	61,0	216,3	48,7	14 529,0	284,3	
1981	6 432,0	4 161,0	1 927,7	1 141,4	540,8	2 874,6	63,6	249,6	65,4	17 455,9	351,7	
1982	7 432,3	4 740,5	2 156,0	1 266,9	552,9	3 446,4	73,5	271,4	76,8	20 016,7	389,2	
1983	7 602,2	5 508,9	2 641,9	1 465,3	535,4	3 465,8	82,4	324,2	77,4	21 703,6	462,6	
1984	7 808,7	6 044,4	3 088,4	1 481,6	581,6	3 620,7	85,8	370,3	97,4	23 178,8	442,1	
1985	8 319,5	6 822,7	3 307,1	1 499,3	643,0	3 740,7	104,8	422,9	106,5	24 966,4	572,5	
p) 1985	8 199,5	6 786,5	2 996,6	1 492,2	649,3	3 812,1	92,6	421,5	123,9	24 574,0	864,5	
1986	8 705,1	7 337,6	3 790,5	1 632,4	640,5	3 547,6	115,0	447,2	100,3	26 315,6	653,7	
MEAN TREND PER YEAR TENDANCE ANN. MOYENNE	1980-1985	6,5	12,5	21,1	6,6	* 3,6	14,6	11,4	14,4	16,9	11,4	16,2
EXPECTED CHANGE (IN %) ACCROISSEMENT EN %	1986-1985	6,2	8,1	26,5	9,4	-1,4	-6,9	24,2	6,1	-19,0	7,1	-24,4

\* 1980-1986

## R&amp;D FINANCING

## CREDITS POUR LA R&amp;D

IN MIO EUA AT VALUES AND EXCHANGE RATES 1980

EN MIO UCE A PRIX ET TAUX DE CHANGE DE 1980

BR DEUTSCH- LAND	FRANCE	ITALIA	NEDER- LAND	BELGIQUE /BELGIE	UNITED KINGDOM	IRELAND	DANMARK	GRECE	EUR-10	COMMUN. EUROP
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## TOTAL FINANCING OF R&amp;D

## CREDITS TOTAUX DE R&amp;D

1980	6 753,2	5 299,1	1 303,2	1 125,2	519,7	4 138,9	61,0	216,9	52,0	19 469,0	
1981	6 666,4	6 120,5	1 814,8	1 131,6	518,0	4 932,3	55,1	229,6	57,8	21 526,0	
1982	6 957,3	6 270,7	1 787,4	1 121,6	532,5	5 066,0	55,5	231,4	54,9	22 077,3	
1983	6 652,4	6 690,5	1 959,4	1 221,3	491,9	5 141,0	58,7	258,0	54,9	22 528,2	
1984	6 572,5	7 009,2	2 170,7	1 212,4	508,6	5 263,5	57,0	281,6	66,3	23 141,9	
1985	6 936,3	7 127,9	2 262,8	1 201,2	527,5	5 232,0	64,4	302,4	72,3	23 726,9	
p) 1985	6 914,8	7 147,9	2 088,3	1 204,0	533,4	5 114,3	57,0	300,7	83,6	23 443,9	
1986	6 914,3	7 489,2	2 372,2	1 243,6	500,9	4 902,9	66,5	309,8	80,6	23 880,0	
MEAN TREND PER YEAR TENDANCE ANN. MOYENNE	1980-1985	0,5	6,1	11,7	1,3	* -0,6	4,8	1,1	6,9	6,8	4,0
EXPECTED CHANGE (IN %) ACCROISSEMENT EN %	1986-1985	-0,0	4,8	13,6	3,3	-6,1	-4,1	16,8	3,0	-3,6	1,9

## FINANCING OF CIVIL R&amp;D

## CREDITS POUR LA RECHERCHE CIVIL

1980	6 067,8	3 365,2	1 268,1	1 089,7	518,3	1 894,0	61,0	216,3	48,7	14 529,0	
1981	6 075,6	3 767,1	1 697,6	1 097,3	516,5	2 365,1	55,1	229,0	54,8	15 858,1	
1982	6 363,9	4 051,4	1 702,3	1 087,5	529,8	2 652,0	55,5	230,8	54,9	16 728,1	
1983	6 013,3	4 504,6	1 847,5	1 185,4	490,5	2 615,0	58,7	257,4	54,7	17 027,2	
1984	5 916,8	4 667,4	1 990,1	1 174,7	501,3	2 612,9	57,0	279,6	64,0	17 263,8	
1985	6 108,9	4 898,4	2 038,0	1 164,9	519,6	2 515,7	64,4	300,8	70,2	17 680,9	
p) 1985	6 082,7	4 912,2	1 859,1	1 167,6	525,4	2 472,4	57,0	298,7	81,2	17 456,3	
1986	6 054,4	5 160,0	2 172,1	1 210,8	493,4	2 373,2	66,5	308,2	78,3	17 916,9	
MEAN TREND PER YEAR TENDANCE ANN. MOYENNE	1980-1985	0,1	7,8	10,0	1,3	* -0,8	5,8	1,1	6,8	7,6	4,0
EXPECTED CHANGE (IN %) ACCROISSEMENT EN %	1986-1985	-0,5	5,0	16,8	3,7	-6,1	-4,0	16,8	3,2	-3,6	2,6

\* 1980-1986

## R&amp;D FINANCING IN CONTEXT OF OTHER ECONOMIC AGGREGATES

## CREDIT DE R&amp;D EN RELATION A D'AUTRES AGREGATS ECONOMIQUES

GOVERNMENT R&D FINANCING PER HEAD CREDITS PUBLICS DE R&D PAR HABITANT		BR DEUTSCHLND	FRANCE	ITALIA	NEDERLND	BELGIQUE /BELGIE	UNITED KINGDOM	IRELAND	DANMARK	GRECE	EUR-10
	1980	109.7	98.7	22.8	79.5	52.7	73.9	17.9	42.3	5.4	72.0
EUA CURRENT	1981	114.4	125.3	36.1	82.6	55.0	107.0	18.5	48.9	7.1	88.4
PRICES AND	1982	131.8	134.8	40.0	91.3	56.4	116.9	21.1	53.2	7.8	97.9
EXCHANGE RATES	1983	136.9	149.7	49.3	105.1	54.5	120.9	23.5	63.5	7.9	105.7
UCE PRIX ET	1984	141.8	165.9	59.8	106.0	52.8	129.7	24.3	73.0	10.2	114.6
TAUX DE CHANGE	1985	154.8	179.9	64.3	106.7	66.2	137.3	29.6	83.1	11.0	123.4
COURANTS	1986	.	.	.	.	.	.	.	.	.	.
	1980	109.7	98.7	22.8	79.5	52.7	73.9	17.9	42.3	5.4	72.0
EUA PRICES	1981	108.1	113.4	31.8	79.4	52.5	88.0	16.0	44.8	5.9	79.4
AND EXCHANGE	1982	112.9	115.2	31.6	78.4	54.0	89.9	15.9	45.2	5.6	81.3
RATES (1980)	1983	108.3	122.4	34.5	85.0	49.9	91.2	16.7	50.4	5.6	82.8
UCE PRIX ET	1984	107.4	128.1	38.5	84.1	51.6	93.6	16.1	55.1	6.7	85.3
TAUX DE CHANGE	1985	113.7	129.2	39.6	82.9	53.5	92.3	18.2	59.1	7.3	86.9
1980	1986	.	.	.	.	.	.	.	.	.	.
	1980	4.16	5.26	1.25	2.82	1.56	2.61	0.85	1.36	0.75	3.13
IN % OF	1981	4.06	5.62	1.60	2.34	1.41	3.18	0.74	1.36	0.65	3.27
TOTAL BUDGET	1982	4.24	5.59	1.32	2.26	1.43	3.10	0.71	1.31	0.60	3.16
EN % DU	1983	4.12	5.96	1.30	2.48	1.35	3.16	0.70	1.19	0.55	3.11
BUDGET TOTAL	1984	4.08	6.20	1.42	2.37	1.41	3.20	0.67	1.29	0.64	3.16
	1985	4.29	6.29	1.45	2.33	1.47	3.12	0.75	1.40	0.68	3.14
	1986	.	.	.	.	.	.	.	.	.	.
	1980	1.15	1.12	0.46	0.92	0.61	1.08	0.44	0.45	0.18	0.96
IN % OF GROSS	1981	1.15	1.31	0.65	0.93	0.63	1.31	0.39	0.49	0.21	1.08
DOMESTIC PRODUCT	1982	1.21	1.32	0.64	0.93	0.64	1.34	0.38	0.48	0.20	1.10
EN % DU	1983	1.14	1.41	0.70	1.01	0.59	1.33	0.40	0.51	0.20	1.11
PRODUIT INTERIEUR	1984	1.11	1.46	0.76	0.98	0.61	1.35	0.38	0.54	0.24	1.12
BRUT	1985	1.15	1.47	0.78	0.94	0.62	1.32	0.42	0.56	0.25	1.13
	1986	.	.	.	.	.	.	.	.	.	.
MEAN TREND PER YEAR											
TENDANCE ANNUELLE MOYENNE											
TOTAL BUDGET		3.7	11.0	21.7	7.4	8.0	7.9	14.0	13.0	30.4	
BUDGET TOTAL											
GROSS		4.6	9.8	14.4	3.8	6.3	8.2	12.9	9.5	21.6	6.8
DOMESTIC PRODUCT											
PRODUIT INTERIEUR											
BRUT 1980-1986											

TAB. 5

## R &amp; D FINANCING BY CHAPTERS OF NABS

IN NATIONAL CURRENCIES AND AT CURRENT VALUES

OBJECTIVES NABS		DEUTSCH- LAND BR 1000 DM	FRANCE 1000 FF	ITALIA MIO LIT	NEDERLAND 1000 FL	BELGIQUE /BELGIE 1000 FB	UNITED KINGDOM 1000 PSTE
1984							
1. EXPLORATION AND EXPLOITATION OF THE EARTH	0100	387441	920000	67129	22935	759500	73790
2. INFRASTRUCTURE AND GENERAL PLANNING OF LAND-USE	0200	434129	1920000	71019	176929	164500	62817
3. CONTROL OF ENVIRONMENTAL POLLUTION	0300	578319	235000	39466	123307	671900	50761
4. PROTECTION AND IMPROVEMENT OF HUMAN HEALTH	0400	626322	2390000	385459	94858	524800	156777
5. PRODUCTION, DISTRIBUTION AND RAT. UTILIZATION OF ENERGY	0500	2951481	4825000	1058623	181003	3261100	218569
6. AGRICULTURAL PRODUCTION AND TECHNOLOGY	0600	398644	2325000	233282	192095	1936100	214816
7. INDUSTRIAL PRODUCTION AND TECHNOLOGY	0700	2327612	6920000	848386	362267	4808800	306906
8. SOCIAL STRUCTURES AND RELATIONSHIPS	0800	452756	995000	60143	144893	104600	37490
9. EXPLORATION AND EXPLOITATION OF SPACE	0900	762096	3495000	297831	97524	1670100	79063
10. RESEARCH FINANCED FROM GEN. UNIV. FUNDS (GUF)	1000	6329445	7570000	938135	1814000	6268000	634000
11. NON-ORIENTED RESEARCH	1100	2219273	8950000	263499	377737	5626600	291430
12. OTHER CIVIL RESEARCH	1200	9318	990000	3361	150914	633000	12067
13. DEFENCE	1300	1936733	20840000	387195	120011	385900	2169344
TOTAL EXPENDITURE	9900	19413568	62370000	4653528	3858473	26814896	4307830
1985							
1. EXPLORATION AND EXPLOITATION OF THE EARTH	0100	444800	990000	66597	23525	898600	82039
2. INFRASTRUCTURE AND GENERAL PLANNING OF LAND-USE	0200	403701	2100000	58534	183159	178800	55492
3. CONTROL OF ENVIRONMENTAL POLLUTION	0300	661688	320000	55200	119844	716200	51684
4. PROTECTION AND IMPROVEMENT OF HUMAN HEALTH	0400	637076	2680000	243776	94134	561400	166801
5. PRODUCTION, DISTRIBUTION AND RAT. UTILIZATION OF ENERGY	0500	2657273	5280000	1044476	175336	3313500	206233
6. AGRICULTURAL PRODUCTION AND TECHNOLOGY	0600	417443	2390000	202503	178428	2090600	212536
7. INDUSTRIAL PRODUCTION AND TECHNOLOGY	0700	2974210	8190000	1096501	402222	5224300	307588
8. SOCIAL STRUCTURES AND RELATIONSHIPS	0800	482257	1730000	57470	145707	182400	54966
9. EXPLORATION AND EXPLOITATION OF SPACE	0900	820443	3805000	375767	99006	1942100	84486
10. RESEARCH FINANCED FROM GEN. UNIV. FUNDS (GUF)	1000	6610266	8040000	1151877	1795800	6480000	670012
11. NON-ORIENTED RESEARCH	1100	2395523	9715000	400936	381703	6398200	299379
12. OTHER CIVIL RESEARCH	1200	17168	1120000	32330	165924	891500	11974
13. DEFENCE	1300	2508905	21100000	527761	117327	443200	2378877
TOTAL EXPENDITURE	9900	21030752	67460000	5313728	3882117	29320800	4582064

CREDITS DE R & D PAR CHAPITRES NABS  
EN MONNAIES NATIONALES ET A PRIX COURANTS

IRELAND 1000 ISTE	DANMARK 1000 DKR	GRECE 1000 DRA	EUR 10 1000 UCE	EC/CE 1000 UCE		OBJECTIFS NABS
						1984
384	50564	520699	518957	1784	0100	1. EXPLORATION ET EXPLOITATION DU MILIEU TERRESTRE
4283	69923	301903	722784	693	0200	2. INFRASTRUCTURES ET AMENAGEMENT DES ESPACES
1027	46649	218572	480376	42724	0300	3. POLLUTION DE L'ENVIRONNEMENT (LUTTE ET PREVENTION)
2928	107640	549158	1244731	8194	0400	4. PROTECTION ET PROMOTION DE LA SANTÉ HUMAINE
1146	186017	287943	3328468	317133	0500	5. PRODUCT.,DISTRIBUT. ET UTILIS. RATIONNELLE DE L'ENERGIE
18791	255020	2399882	1252132	3052	0600	6. PRODUCTIVITE ET TECHNOLOGIE DE L'AGRICULTURE
13434	503112	547272	3516649	55654	0700	7. PRODUCTIVITE ET TECHNOLOGIE INDUSTRIELLES
4686	112970	602677	540971	3488	0800	8. VIE EN SOCIETE (STRUCTURES ET RELATIONS)
1007	100327	45445	1288199	5987	0900	9. EXPLORATION ET EXPLOITATION DE L'ESPACE
12649	1090306	2412728	6717607	-	1000	10. RECHERCHE FINANCEE PAR FONDS GENERAUX DES UNIVERSITES
1967	494270	651072	3322470	3418	1100	11. RECHERCHES NON ORIENTEES
-	:	62552	245542	-	1200	12. RECHERCHES NON VENTILEES
-	22144	307806	7913586	-	1300	13. DEFENSE
62302	3038942	89077093	1092416	442128	9900	TOTAL DES CREDITS
						1985
672	44429	636310	572671	8831	0100	1. EXPLORATION ET EXPLOITATION DU MILIEU TERRESTRE
3025	80957	56231	716827	3500	0200	2. INFRASTRUCTURES ET AMENAGEMENT DES ESPACES
613	50890	398893	544850	31114	0300	3. POLLUTION DE L'ENVIRONNEMENT (LUTTE ET PREVENTION)
3251	111032	877331	1208894	23964	0400	4. PROTECTION ET PROMOTION DE LA SANTÉ HUMAINE
978	220422	305284	3217843	319736	0500	5. PRODUCT.,DISTRIBUT. ET UTILIS. RATIONNELLE DE L'ENERGIE
21497	253942	3145608	1249101	16117	0600	6. PRODUCTIVITE ET TECHNOLOGIE DE L'AGRICULTURE
21643	717826	896609	4225913	152992	0700	7. PRODUCTIVITE ET TECHNOLOGIE INDUSTRIELLES
5651	143168	651748	698260	3070	0800	8. VIE EN SOCIETE (STRUCTURES ET RELATIONS)
1200	109552	65090	1430212	5492	0900	9. EXPLORATION ET EXPLOITATION DE L'ESPACE
14791	1055916	3281000	7128741	-	1000	10. RECHERCHE FINANCEE PAR FONDS GENERAUX DES UNIVERSITES
1636	603276	709440	3669773	7670	1100	11. RECHERCHES NON ORIENTEES
-	:	237629	303384	-	1200	12. RECHERCHES NON VENTILEES
-	17755	339034	8697845	-	1300	13. DEFENSE
74957	3409165	116002073	3664272	572536	9900	TOTAL DES CREDITS

TAB. 5

## R &amp; D FINANCING BY CHAPTERS OF NABS

IN NATIONAL CURRENCIES AND AT CURRENT VALUES

OBJECTIVES NABS		DEUTSCH- LAND BR 1000 DM	FRANCE 1000 FF	ITALIA MIO LIT	NEDERLAND 1000 FL	BELGIQUE /BELGIE 1000 FB	UNITED KINGDOM 1000 PSTE
1986							
1. EXPLORATION AND EXPLOITATION OF THE EARTH	0100	443582	1085000	69859	23451	700500	78547
2. INFRASTRUCTURE AND GENERAL PLANNING OF LAND-USE	0200	401268	2375000	56125	169313	181400	63267
3. CONTROL OF ENVIRONMENTAL POLLUTION	0300	699398	340000	61558	123861	674400	34234
4. PROTECTION AND IMPROVEMENT OF HUMAN HEALTH	0400	635582	2755000	269723	89761	585600	174325
5. PRODUCTION, DISTRIBUTION AND RAT. UTILIZATION OF ENERGY	0500	2245769	5215000	1061095	184979	2866300	213130
6. AGRICULTURAL PRODUCTION AND TECHNOLOGY	0600	424175	2640000	223562	176764	2047700	213089
7. INDUSTRIAL PRODUCTION AND TECHNOLOGY	0700	3057735	8890000	1169122	602059	4612100	313754
8. SOCIAL STRUCTURES AND RELATIONSHIPS	0800	500442	2160000	66444	143149	187700	60208
9. EXPLORATION AND EXPLOITATION OF SPACE	0900	965382	4285000	421879	119820	2078900	84298
10. RESEARCH FINANCED FROM GEN. UNIV. FUNDS (GUF)	1000	6795780	8610000	1747730	1749300	6510500	695096
11. NON-ORIENTED RESEARCH	1100	2521468	11085000	429984	399631	5853000	316010
12. OTHER CIVIL RESEARCH	1200	25841	850000	13563	172931	1790500	12685
13. DEFENCE	1300	2658416	22700000	515182	106986	427600	2407600
TOTAL EXPENDITURE	9900	21374832	72990000	6105826	4062095	28516192	4666200



CREDITS DE R & D PAR CHAPITRES NABS  
EN MONNAIES NATIONALES ET A PRIX COURANTS

IRELAND 1000 ISTE	DANMARK 1000 DKR	GRECE 1000 DRA	EUR 10 1000 UCE	EC/CE 1000 UCE		OBJECTIFS NABS
						1986
597	45628	767866	573253	4209	0100	1. EXPLORATION ET EXPLOITATION DU MILIEU TERRESTRE
3189	86175	55752	760330	5416	0200	2. INFRASTRUCTURES ET AMENAGEMENT DES ESPACES
626	55418	477460	548271	37988	0300	3. POLLUTION DE L'ENVIRONNEMENT (LUTTE ET PREVENTION)
3953	118236	1295136	1234668	26582	0400	4. PROTECTION ET PROMOTION DE LA SANTE HUMAINE
979	241883	369374	3035719	371287	0500	5. PRODUCT.,DISTRIBUT. ET UTILIS. RATIONNELLE DE L'ENERGIE
22173	251624	3472947	1277011	12525	0600	6. PRODUCTIVITE ET TECHNOLOGIE DE L'AGRICULTURE
21209	738845	1212357	4489990	174822	0700	7. PRODUCTIVITE ET TECHNOLOGIE INDUSTRIELLES
6504	152534	893200	785839	5097	0800	8. VIE EN SOCIETE (STRUCTURES ET RELATIONS)
889	109508	84350	1605087	6904	0900	9. EXPLORATION ET EXPLOITATION DE L'ESPACE
19386	1058393	3759000	7752112	-	1000	10. RECHERCHE FINANCEE PAR FONDS GENERAUX DES UNIVERSITES
1772	706675	849036	3973747	8898	1100	11. RECHERCHES NON ORIENTEES
-	:	311968	279641	-	1200	12. RECHERCHES NON VENTILEES
-	18566	400900	8738566	-	1300	13. DEFENSE
81277	3583485	13949346	35054160	653728	9900	TOTAL DES CREDITS

TAB. 6

R & D FINANCING BY CHAPTERS OF NABS  
IN 1000 EUA

OBJECTIVES NABS		DEUTSCH- LAND BR	FRANCE	ITALIA	NEDERLAND	BELGIQUE /BELGIE	UNITED KINGDOM
1984							
1. EXPLORATION AND EXPLOITATION OF THE EARTH	0100	173111	133883	48595	9089	16714	124935
2. INFRASTRUCTURE AND GENERAL PLANNING OF LAND-USE	0200	193971	279408	51411	70117	3619	106357
3. CONTROL OF ENVIRONMENTAL POLLUTION	0300	258396	34198	28570	48867	14786	85944
4. PROTECTION AND IMPROVEMENT OF HUMAN HEALTH	0400	279844	347805	279038	37592	11549	265442
5. PRODUCTION, DISTRIBUTION AND RAT. UTILIZATION OF ENERGY	0500	1318736	702158	766348	71731	71764	370063
6. AGRICULTURAL PRODUCTION AND TECHNOLOGY	0600	178116	338346	168875	76127	42606	363709
7. INDUSTRIAL PRODUCTION AND TECHNOLOGY	0700	1039989	1007033	614155	143566	105822	519628
8. SOCIAL STRUCTURES AND RELATIONSHIPS	0800	202294	144797	43538	57421	2302	63475
9. EXPLORATION AND EXPLOITATION OF SPACE	0900	340508	508610	215603	38649	36752	133863
10. RESEARCH FINANCED FROM GEN. UNIV. FUNDS (GUF)	1000	2828027	1101624	679125	718888	137934	1073437
11. NON-ORIENTED RESEARCH	1100	991582	1302448	190750	149697	123819	493426
12. OTHER CIVIL RESEARCH	1200	4163	144070	2433	59807	13930	20431
13. DEFENCE	1300	865342	3032740	280294	47560	8492	3672957
TOTAL EXPENDITURE	9900	8674078	9077119	3368735	1529112	590089	7293669
1985							
1. EXPLORATION AND EXPLOITATION OF THE EARTH	0100	199792	145695	46019	9369	20007	139291
2. INFRASTRUCTURE AND GENERAL PLANNING OF LAND-USE	0200	181331	309051	40447	72943	3980	94218
3. CONTROL OF ENVIRONMENTAL POLLUTION	0300	297212	47093	38143	47728	15946	87752
4. PROTECTION AND IMPROVEMENT OF HUMAN HEALTH	0400	286157	394407	168449	37489	12500	283205
5. PRODUCTION, DISTRIBUTION AND RAT. UTILIZATION OF ENERGY	0500	1193572	777042	721733	69827	73775	350155
6. AGRICULTURAL PRODUCTION AND TECHNOLOGY	0600	187504	351729	139930	71058	46547	360856
7. INDUSTRIAL PRODUCTION AND TECHNOLOGY	0700	1335931	1205297	757682	160184	116319	522241
8. SOCIAL STRUCTURES AND RELATIONSHIPS	0800	216616	254599	39712	58027	4061	93325
9. EXPLORATION AND EXPLOITATION OF SPACE	0900	368520	559970	259655	39429	43241	143445
10. RESEARCH FINANCED FROM GEN. UNIV. FUNDS (GUF)	1000	2969146	1183222	795947	715172	144277	1137586
11. NON-ORIENTED RESEARCH	1100	1076001	1429727	277047	152012	142456	508304
12. OTHER CIVIL RESEARCH	1200	7711	164827	22340	66079	19849	20330
13. DEFENCE	1300	1126929	3105223	364683	46725	9868	4038999
TOTAL EXPENDITURE	9900	9446424	9927883	3671785	1546041	652828	7779702

## CREDITS DE R &amp; D PAR CHAPITRES NABS

EN 1000 UCE

IRELAND	DANMARK	GRECE	EUR 10	EC/CE		OBJECTIFS NABS
						1984
529	6207	5894	518957	1784	0100	1. EXPLORATION ET EXPLOITATION DU MILIEU TERRESTRE
5900	8583	3418	722784	693	0200	2. INFRASTRUCTURES ET AMENAGEMENT DES ESPACES
1415	5726	2474	480376	42724	0300	3. POLLUTION DE L'ENVIRONNEMENT (LUTTE ET PREVENTION)
4033	13213	6216	1244731	8194	0400	4. PROTECTION ET PROMOTION DE LA SANTE HUMAINE
1579	22834	3260	3328468	317133	0500	5. PRODUCT.,DISTRIBUT. ET UTILIS. RATIONNELLE DE L'ENERGIE
25885	31304	27167	1252132	3052	0600	6. PRODUCTIVITE ET TECHNOLOGIE DE L'AGRICULTURE
18506	61758	6195	3516649	55654	0700	7. PRODUCTIVITE ET TECHNOLOGIE INDUSTRIELLES
6455	13867	6822	540971	3488	0800	8. VIE EN SOCIETE (STRUCTURES ET RELATIONS)
1387	12315	514	1288199	5987	0900	9. EXPLORATION ET EXPLOITATION DE L'ESPACE
17424	133837	27312	6717607	-	1000	10. RECHERCHE FINANCEE PAR FONDS GENERAUX DES UNIVERSITES
2710	60673	7370	3322470	3418	1100	11. RECHERCHES NON ORIENTEES
-	:	708	245542	-	1200	12. RECHERCHES NON VENTILEES
-	2718	3484	7913586	-	1300	13. DEFENSE
85822	373036	100835	31092416	442128	9900	TOTAL DES CREDITS
						1985
940	5541	6018	572671	8831	0100	1. EXPLORATION ET EXPLOITATION DU MILIEU TERRESTRE
4230	10096	532	716827	3500	0200	2. INFRASTRUCTURES ET AMENAGEMENT DES ESPACES
857	6346	3773	544850	31114	0300	3. POLLUTION DE L'ENVIRONNEMENT (LUTTE ET PREVENTION)
4546	13847	8298	1208894	23964	0400	4. PROTECTION ET PROMOTION DE LA SANTE HUMAINE
1368	27488	2887	3217843	319736	0500	5. PRODUCT.,DISTRIBUT. ET UTILIS. RATIONNELLE DE L'ENERGIE
30059	31669	29751	1249101	16117	0600	6. PRODUCTIVITE ET TECHNOLOGIE DE L'AGRICULTURE
30263	89519	8480	4225913	152992	0700	7. PRODUCTIVITE ET TECHNOLOGIE INDUSTRIELLES
7902	17854	6164	698260	3070	0800	8. VIE EN SOCIETE (STRUCTURES ET RELATIONS)
1678	13662	616	1430212	5492	0900	9. EXPLORATION ET EXPLOITATION DE L'ESPACE
20682	131681	31032	7128741	-	1000	10. RECHERCHE FINANCEE PAR FONDS GENERAUX DES UNIVERSITES
2288	75233	6710	3669773	7670	1100	11. RECHERCHES NON ORIENTEES
-	:	2247	303384	-	1200	12. RECHERCHES NON VENTILEES
-	2214	3207	8697845	-	1300	13. DEFENSE
104811	425150	109715	33664272	572536	9900	TOTAL DES CREDITS

TAB. 6

## R &amp; D FINANCING BY CHAPTERS OF NABS

IN 1000 EUA

OBJECTIVES NABS		DEUTSCH- LAND BR	FRANCE	ITALIA	NEDERLAND	BELGIQUE /BELGIE	UNITED KINGDOM
1986							
1. EXPLORATION AND EXPLOITATION OF THE EARTH	0100	206313	158307	47364	9679	15962	123373
2. INFRASTRUCTURE AND GENERAL PLANNING OF LAND-USE	0200	186632	346524	38053	69880	4134	99373
3. CONTROL OF ENVIRONMENTAL POLLUTION	0300	325294	49608	41736	51121	15368	53771
4. PROTECTION AND IMPROVEMENT OF HUMAN HEALTH	0400	295613	401968	182872	37047	13344	273810
5. PRODUCTION, DISTRIBUTION AND RAT. UTILIZATION OF ENERGY	0500	1044521	760894	719422	76346	65314	334761
6. AGRICULTURAL PRODUCTION AND TECHNOLOGY	0600	197286	385189	151575	72955	46661	334697
7. INDUSTRIAL PRODUCTION AND TECHNOLOGY	0700	1422170	1297095	792665	248485	105096	492810
8. SOCIAL STRUCTURES AND RELATIONSHIPS	0800	232759	315155	45049	59081	4277	94568
9. EXPLORATION AND EXPLOITATION OF SPACE	0900	449005	625203	286034	49453	47372	132406
10. RESEARCH FINANCED FROM GEN. UNIV. FUNDS (GUF)	1000	3160757	1256241	1184960	721982	148355	1091779
11. NON-ORIENTED RESEARCH	1100	1172749	1617356	291529	164938	133372	496353
12. OTHER CIVIL RESEARCH	1200	12019	124019	9196	71373	40800	19924
13. DEFENCE	1300	1236445	3312042	349293	44156	9744	3781591
TOTAL EXPENDITURE	9900	9941561	10649602	4139749	1676532	649798	7329149

## CREDITS DE R &amp; D PAR CHAPITRES NABS

EN 1000 UCE

IRELAND	DANMARK	GRECE	EUR 10	EC/CE		OBJECTIFS NABS
						1986
845	5724	5686	573252	4209	0100	1. EXPLORATION ET EXPLOITATION DU MILIEU TERRESTRE
4511	10811	413	760330	5416	0200	2. INFRASTRUCTURES ET AMENAGEMENT DES ESPACES
886	6953	3536	548270	37988	0300	3. POLLUTION DE L'ENVIRONNEMENT (LUTTE ET PREVENTION)
5592	14834	9590	1234668	26582	0400	4. PROTECTION ET PROMOTION DE LA SANTÉ HUMAINE
1385	30346	2735	3035719	371287	0500	5. PRODUCT.,DISTRIBUT. ET UTILIS. RATIONNELLE DE L'ENERGIE
31365	31568	25717	1277011	12525	0600	6. PRODUCTIVITE ET TECHNOLOGIE DE L'AGRICULTURE
30002	92693	8978	4489990	174822	0700	7. PRODUCTIVITE ET TECHNOLOGIE INDUSTRIELLES
9200	19136	6614	785839	5097	0800	8. VIE EN SOCIÉTÉ (STRUCTURES ET RELATIONS)
1258	13739	625	1605087	6904	0900	9. EXPLORATION ET EXPLOITATION DE L'ESPACE
27423	132783	27835	7752112	-	1000	10. RECHERCHE FINANCEE PAR FONDS GENERAUX DES UNIVERSITES
2507	88657	6287	3973747	8898	1100	11. RECHERCHES NON ORIENTEES
-	:	2310	279641	-	1200	12. RECHERCHES NON VENTILEES
-	2329	2969	8738566	-	1300	13. DEFENSE
114973	449573	103295	35054160	653728	9900	TOTAL DES CREDITS

TAB. 7

## R &amp; D FINANCING BY CHAPTERS OF NABS

IN % OF TOTAL FINANCING

OBJECTIVES NABS		DEUTSCH- LAND BR	FRANCE	ITALIA	NEDERLAND	BELGIQUE /BELGIE	UNITED KINGDOM
1984							
1. EXPLORATION AND EXPLOITATION OF THE EARTH	0100	2,0	1,5	1,4	0,6	2,8	1,7
2. INFRASTRUCTURE AND GENERAL PLANNING OF LAND-USE	0200	2,2	3,1	1,5	4,6	0,6	1,5
3. CONTROL OF ENVIRONMENTAL POLLUTION	0300	3,0	0,4	0,8	3,2	2,5	1,2
4. PROTECTION AND IMPROVEMENT OF HUMAN HEALTH	0400	3,2	3,8	8,3	2,5	2,0	3,6
5. PRODUCTION, DISTRIBUTION AND RAT. UTILIZATION OF ENERGY	0500	15,2	7,7	22,7	4,7	12,2	5,1
6. AGRICULTURAL PRODUCTION AND TECHNOLOGY	0600	2,1	3,7	5,0	5,0	7,2	5,0
7. INDUSTRIAL PRODUCTION AND TECHNOLOGY	0700	12,0	11,1	18,2	9,4	17,9	7,1
8. SOCIAL STRUCTURES AND RELATIONSHIPS	0800	2,3	1,6	1,3	3,8	0,4	0,9
9. EXPLORATION AND EXPLOITATION OF SPACE	0900	3,9	5,6	6,4	2,5	6,2	1,8
10. RESEARCH FINANCED FROM GEN. UNIV. FUNDS (GUF)	1000	32,6	12,1	20,2	47,0	23,9	14,7
11. NON-ORIENTED RESEARCH	1100	11,4	14,3	5,7	9,8	21,0	6,8
12. OTHER CIVIL RESEARCH	1200	0,0	1,6	0,1	3,9	2,4	0,3
13. DEFENCE	1300	10,0	33,4	8,3	3,1	1,4	50,4
TOTAL EXPENDITURE	9900	100,0	100,0	100,0	100,0	100,0	100,0
1985							
1. EXPLORATION AND EXPLOITATION OF THE EARTH	0100	2,1	1,5	1,3	0,6	3,1	1,8
2. INFRASTRUCTURE AND GENERAL PLANNING OF LAND-USE	0200	1,9	3,1	1,1	4,7	0,6	1,2
3. CONTROL OF ENVIRONMENTAL POLLUTION	0300	3,1	0,5	1,0	3,1	2,4	1,1
4. PROTECTION AND IMPROVEMENT OF HUMAN HEALTH	0400	3,0	4,0	4,6	2,4	1,9	3,6
5. PRODUCTION, DISTRIBUTION AND RAT. UTILIZATION OF ENERGY	0500	12,6	7,8	19,7	4,5	11,3	4,5
6. AGRICULTURAL PRODUCTION AND TECHNOLOGY	0600	2,0	3,5	3,8	4,6	7,1	4,6
7. INDUSTRIAL PRODUCTION AND TECHNOLOGY	0700	14,1	12,1	20,6	10,4	17,8	6,7
8. SOCIAL STRUCTURES AND RELATIONSHIPS	0800	2,3	2,6	1,1	3,8	0,6	1,2
9. EXPLORATION AND EXPLOITATION OF SPACE	0900	3,9	5,6	7,1	2,6	6,6	1,8
10. RESEARCH FINANCED FROM GEN. UNIV. FUNDS (GUF)	1000	31,4	11,9	21,7	46,3	22,1	14,6
11. NON-ORIENTED RESEARCH	1100	11,4	14,4	7,5	9,8	21,8	6,5
12. OTHER CIVIL RESEARCH	1200	0,1	1,7	0,6	4,3	3,0	0,3
13. DEFENCE	1300	11,9	31,3	9,9	3,0	1,5	51,9
TOTAL EXPENDITURE	9900	100,0	100,0	100,0	100,0	100,0	100,0

TAB. 7

## CREDITS DE R &amp; D PAR CHAPITRES NABS

EN % DES CREDITS TOTAUX

IRELAND	DANMARK	GRECE	EUR 10	EC/CE		OBJECTIFS NABS
						1984
0,6	1,7	5,8	1,7	0,4	0100	1. EXPLORATION ET EXPLOITATION DU MILIEU TERRESTRE
6,9	2,3	3,4	2,3	0,2	0200	2. INFRASTRUCTURES ET AMENAGEMENT DES ESPACES
1,6	1,5	2,5	1,5	9,7	0300	3. POLLUTION DE L'ENVIRONNEMENT (LUTTE ET PREVENTION)
4,7	3,5	6,2	4,0	1,9	0400	4. PROTECTION ET PROMOTION DE LA SANTE HUMAINE
1,8	6,1	3,2	10,7	71,7	0500	5. PRODUCT.,DISTRIBUT. ET UTILIS. RATIONNELLE DE L'ENERGIE
30,2	8,4	26,9	4,0	0,7	0600	6. PRODUCTIVITE ET TECHNOLOGIE DE L'AGRICULTURE
21,6	16,6	6,1	11,3	12,6	0700	7. PRODUCTIVITE ET TECHNOLOGIE INDUSTRIELLES
7,5	3,7	6,8	1,7	0,8	0800	8. VIE EN SOCIETE (STRUCTURES ET RELATIONS)
1,6	3,3	0,5	4,1	1,4	0900	9. EXPLORATION ET EXPLOITATION DE L'ESPACE
20,3	35,9	27,1	21,6	-	1000	10. RECHERCHE FINANCEE PAR FONDS GENERAUX DES UNIVERSITES
3,2	16,3	7,3	10,7	0,8	1100	11. RECHERCHES NON ORIENTEES
-	:	0,7	0,8	-	1200	12. RECHERCHES NON VENTILEES
-	0,7	3,5	25,5	-	1300	13. DEFENSE
100,0	100,0	100,0	100,0	100,0	9900	TOTAL DES CREDITS
						1985
0,9	1,3	5,5	1,7	1,5	0100	1. EXPLORATION ET EXPLOITATION DU MILIEU TERRESTRE
4,0	2,4	0,5	2,1	0,6	0200	2. INFRASTRUCTURES ET AMENAGEMENT DES ESPACES
0,8	1,5	3,4	1,6	5,4	0300	3. POLLUTION DE L'ENVIRONNEMENT (LUTTE ET PREVENTION)
4,3	3,3	7,6	3,6	4,2	0400	4. PROTECTION ET PROMOTION DE LA SANTE HUMAINE
1,3	6,5	2,6	9,6	55,8	0500	5. PRODUCT.,DISTRIBUT. ET UTILIS. RATIONNELLE DE L'ENERGIE
28,7	7,4	27,1	3,7	2,8	0600	6. PRODUCTIVITE ET TECHNOLOGIE DE L'AGRICULTURE
28,9	21,1	7,7	12,6	26,7	0700	7. PRODUCTIVITE ET TECHNOLOGIE INDUSTRIELLES
7,5	4,2	5,6	2,1	0,5	0800	8. VIE EN SOCIETE (STRUCTURES ET RELATIONS)
1,6	3,2	0,6	4,3	1,0	0900	9. EXPLORATION ET EXPLOITATION DE L'ESPACE
19,7	31,0	28,3	21,2	-	1000	10. RECHERCHE FINANCEE PAR FONDS GENERAUX DES UNIVERSITES
2,2	17,7	6,1	10,9	1,3	1100	11. RECHERCHES NON ORIENTEES
-	:	2,0	0,9	-	1200	12. RECHERCHES NON VENTILEES
-	0,5	2,9	25,8	-	1300	13. DEFENSE
100,0	100,0	100,0	100,0	100,0	9900	TOTAL DES CREDITS

TAB. 7

R & D FINANCING BY CHAPTERS OF NABS  
IN % OF TOTAL FINANCING

OBJECTIVES NABS		DEUTSCH- LAND BR	FRANCE	ITALIA	NEDERLAND	BELGIQUE /BELGIE	UNITED KINGDOM
1986							
1. EXPLORATION AND EXPLOITATION OF THE EARTH	0100	2,1	1,5	1,1	0,6	2,5	1,7
2. INFRASTRUCTURE AND GENERAL PLANNING OF LAND-USE	0200	1,9	3,2	0,9	4,2	0,6	1,4
3. CONTROL OF ENVIRONMENTAL POLLUTION	0300	3,3	0,5	1,0	3,0	2,4	0,7
4. PROTECTION AND IMPROVEMENT OF HUMAN HEALTH	0400	3,0	3,8	4,4	2,2	2,1	3,7
5. PRODUCTION, DISTRIBUTION AND RAT. UTILIZATION OF ENERGY	0500	10,5	7,1	17,4	4,6	10,1	4,6
6. AGRICULTURAL PRODUCTION AND TECHNOLOGY	0600	2,0	3,6	3,7	4,4	7,2	4,6
7. INDUSTRIAL PRODUCTION AND TECHNOLOGY	0700	14,3	12,1	19,1	14,8	16,2	6,7
8. SOCIAL STRUCTURES AND RELATIONSHIPS	0800	2,3	2,9	1,1	3,5	0,7	1,3
9. EXPLORATION AND EXPLOITATION OF SPACE	0900	4,5	5,8	6,9	2,9	7,3	1,8
10. RESEARCH FINANCED FROM GEN. UNIV. FUNDS (GUF)	1000	31,8	11,8	28,6	43,1	22,8	14,9
11. NON-ORIENTED RESEARCH	1100	11,8	15,1	7,0	9,8	20,5	6,8
12. OTHER CIVIL RESEARCH	1200	0,1	1,2	0,2	4,3	6,3	0,3
13. DEFENCE	1300	12,4	31,0	8,4	2,6	1,5	51,6
TOTAL EXPENDITURE	9900	100,0	100,0	100,0	100,0	100,0	100,0



TAB. 7

CREDITS DE R & D PAR CHAPITRES NABS  
EN % DES CREDITS TOTAUX

IRELAND	DANMARK	GRECE	EUR 10	EC/CE		OBJECTIFS NABS
						1986
0,7	1,3	5,5	1,6	0,6	0100	1. EXPLORATION ET EXPLOITATION DU MILIEU TERRESTRE
3,9	2,4	0,4	2,2	0,8	0200	2. INFRASTRUCTURES ET AMENAGEMENT DES ESPACES
0,8	1,5	3,4	1,6	5,8	0300	3. POLLUTION DE L'ENVIRONNEMENT (LUTTE ET PREVENTION)
4,9	3,3	9,3	3,5	4,1	0400	4. PROTECTION ET PROMOTION DE LA SANTE HUMAINE
1,2	6,7	2,6	8,7	56,8	0500	5. PRODUCT.,DISTRIBUT. ET UTILIS. RATIONNELLE DE L'ENERGIE
27,3	7,0	24,9	3,6	1,9	0600	6. PRODUCTIVITE ET TECHNOLOGIE DE L'AGRICULTURE
26,1	20,6	8,7	12,8	26,7	0700	7. PRODUCTIVITE ET TECHNOLOGIE INDUSTRIELLES
8,0	4,3	6,4	2,2	0,8	0800	8. VIE EN SOCIETE (STRUCTURES ET RELATIONS)
1,1	3,1	0,6	4,6	1,1	0900	9. EXPLORATION ET EXPLOITATION DE L'ESPACE
23,9	29,5	26,9	22,1	-	1000	10. RECHERCHE FINANCEE PAR FONDS GENERAUX DES UNIVERSITES
2,2	19,7	6,1	11,3	1,4	1100	11. RECHERCHES NON ORIENTEES
-	:	2,2	0,8	-	1200	12. RECHERCHES NON VENTILEES
-	0,5	2,9	24,9	-	1300	13. DEFENSE
100,0	100,0	100,0	100,0	100,0	9900	TOTAL DES CREDITS

TAB. 8

## R &amp; D FINANCING BY CHAPTERS OF NABS

IN % OF FINANCING OF CIVIL R&amp;D

OBJECTIVES NABS			DEUTSCH- LAND BR	FRANCE	ITALIA	NEDERLAND	BELGIQUE /BELGIE	UNITED KINGDOM
1984								
1.	EXPLORATION AND EXPLOITATION OF THE EARTH	0100	2,2	2,2	1,6	0,6	2,9	3,5
2.	INFRASTRUCTURE AND GENERAL PLANNING OF LAND-USE	0200	2,5	4,6	1,7	4,7	0,6	2,9
3.	CONTROL OF ENVIRONMENTAL POLLUTION	0300	3,3	0,6	0,9	3,3	2,5	2,4
4.	PROTECTION AND IMPROVEMENT OF HUMAN HEALTH	0400	3,6	5,8	9,0	2,5	2,0	7,3
5.	PRODUCTION, DISTRIBUTION AND RAT. UTILIZATION OF ENERGY	0500	16,9	11,6	24,8	4,8	12,3	10,2
6.	AGRICULTURAL PRODUCTION AND TECHNOLOGY	0600	2,3	5,6	5,5	5,1	7,3	10,0
7.	INDUSTRIAL PRODUCTION AND TECHNOLOGY	0700	13,3	16,7	19,9	9,7	18,2	14,4
8.	SOCIAL STRUCTURES AND RELATIONSHIPS	0800	2,6	2,4	1,4	3,9	0,4	1,8
9.	EXPLORATION-AND EXPLOITATION OF SPACE	0900	4,4	8,4	7,0	2,6	6,3	3,7
10.	RESEARCH FINANCED FROM GEN. UNIV. FUNDS (GUF)	1000	36,2	18,2	22,0	48,5	23,7	29,6
11.	NON-ORIENTED RESEARCH	1100	12,7	21,5	6,2	10,1	21,3	13,6
12.	OTHER CIVIL RESEARCH	1200	0,1	2,4	0,1	4,0	2,4	0,6
	TOTAL EXPENDITURE	9900	100,0	100,0	100,0	100,0	100,0	100,0
1985								
1.	EXPLORATION AND EXPLOITATION OF THE EARTH	0100	2,4	2,1	1,4	0,6	3,1	3,7
2.	INFRASTRUCTURE AND GENERAL PLANNING OF LAND-USE	0200	2,2	4,5	1,2	4,9	0,6	2,5
3.	CONTROL OF ENVIRONMENTAL POLLUTION	0300	3,6	0,7	1,2	3,2	2,5	2,3
4.	PROTECTION AND IMPROVEMENT OF HUMAN HEALTH	0400	3,4	5,8	5,1	2,5	1,9	7,6
5.	PRODUCTION, DISTRIBUTION AND RAT. UTILIZATION OF ENERGY	0500	14,3	11,4	21,8	4,7	11,5	9,4
6.	AGRICULTURAL PRODUCTION AND TECHNOLOGY	0600	2,3	5,2	4,2	4,7	7,2	9,6
7.	INDUSTRIAL PRODUCTION AND TECHNOLOGY	0700	16,1	17,7	22,9	10,7	18,1	14,0
8.	SOCIAL STRUCTURES AND RELATIONSHIPS	0800	2,6	3,7	1,2	3,9	0,6	2,5
9.	EXPLORATION AND EXPLOITATION OF SPACE	0900	4,4	8,2	7,9	2,6	6,7	3,8
10.	RESEARCH FINANCED FROM GEN. UNIV. FUNDS (GUF)	1000	35,7	17,3	24,1	47,7	22,4	30,4
11.	NON-ORIENTED RESEARCH	1100	12,9	21,0	8,4	10,1	22,2	13,6
12.	OTHER CIVIL RESEARCH	1200	0,1	2,4	0,7	4,4	3,1	0,5
	TOTAL EXPENDITURE	9900	100,0	100,0	100,0	100,0	100,0	100,0

TAB. 8

CREDITS DE R & D PAR CHAPITRES NABS  
EN % DES CREDITS POUR LA R&D CIVILE

IRELAND	DANMARK	GRECE	EUR 10	EC/CE		OBJECTIFS NABS
1984						
0,6	1,7	6,1	2,2	0,4	0100	1. EXPLORATION ET EXPLOITATION DU MILIEU TERRESTRE
6,9	2,3	3,5	3,1	0,2	0200	2. INFRASTRUCTURES ET AMENAGEMENT DES ESPACES
1,6	1,5	2,5	2,1	9,7	0300	3. POLLUTION DE L'ENVIRONNEMENT (LUTTE ET PREVENTION)
4,7	3,6	6,4	5,4	1,9	0400	4. PROTECTION ET PROMOTION DE LA SANTE HUMAINE
1,8	6,2	3,3	14,4	71,7	0500	5. PRODUCT.,DISTRIBUT. ET UTILIS. RATIONNELLE DE L'ENERGIE
30,2	8,5	27,9	5,4	0,7	0600	6. PRODUCTIVITE ET TECHNOLOGIE DE L'AGRICULTURE
21,6	16,7	6,4	15,2	12,6	0700	7. PRODUCTIVITE ET TECHNOLOGIE INDUSTRIELLES
7,5	3,7	7,0	2,3	0,8	0800	8. VIE EN SOCIETE (STRUCTURES ET RELATIONS)
1,6	3,3	0,5	5,6	1,4	0900	9. EXPLORATION ET EXPLOITATION DE L'ESPACE
20,3	36,1	28,1	29,0		1000	10. RECHERCHE FINANCEE PAR FONDS GENERAUX DES UNIVERSITES
3,2	16,4	7,6	14,3	0,8	1100	11. RECHERCHES NON ORIENTEES
-	:	0,7	1,0	-	1200	12. RECHERCHES NON VENTILEES
100,0	100,0	100,0	100,0	100,0	9900	TOTAL DES CREDITS
1985						
0,9	1,3	5,7	2,3	1,5	0100	1. EXPLORATION ET EXPLOITATION DU MILIEU TERRESTRE
4,0	2,4	0,5	2,9	0,6	0200	2. INFRASTRUCTURES ET AMENAGEMENT DES ESPACES
0,8	1,5	3,5	2,2	5,4	0300	3. POLLUTION DE L'ENVIRONNEMENT (LUTTE ET PREVENTION)
4,3	3,3	7,8	4,8	4,2	0400	4. PROTECTION ET PROMOTION DE LA SANTE HUMAINE
1,3	6,5	2,7	12,9	55,8	0500	5. PRODUCT.,DISTRIBUT. ET UTILIS. RATIONNELLE DE L'ENERGIE
28,7	7,5	27,9	5,0	2,8	0600	6. PRODUCTIVITE ET TECHNOLOGIE DE L'AGRICULTURE
28,9	21,2	8,0	16,9	26,7	0700	7. PRODUCTIVITE ET TECHNOLOGIE INDUSTRIELLES
7,5	4,2	5,8	2,8	0,5	0800	8. VIE EN SOCIETE (STRUCTURES ET RELATIONS)
1,6	3,2	0,6	5,7	1,0	0900	9. EXPLORATION ET EXPLOITATION DE L'ESPACE
19,7	31,1	29,1	28,6	-	1000	10. RECHERCHE FINANCEE PAR FONDS GENERAUX DES UNIVERSITES
2,2	17,8	6,3	14,7	1,3	1100	11. RECHERCHES NON ORIENTEES
-	:	2,1	1,2	-	1200	12. RECHERCHES NON VENTILEES
100,0	100,0	100,0	100,0	100,0	9900	TOTAL DES CREDITS

TAB. 8

## R &amp; D FINANCING BY CHAPTERS OF NABS

IN % OF FINANCING OF CIVIL R&amp;D

OBJECTIVES NABS		DEUTSCH- LAND BR	FRANCE	ITALIA	NEDERLAND	BELGIQUE /BELGIE	UNITED KINGDOM
1986							
1. EXPLORATION AND EXPLOITATION OF THE EARTH	0100	2,4	2,1	1,2	0,6	2,5	3,5
2. INFRASTRUCTURE AND GENERAL PLANNING OF LAND-USE	0200	2,1	4,7	1,0	4,3	0,7	2,8
3. CONTROL OF ENVIRONMENTAL POLLUTION	0300	3,7	0,7	1,1	3,1	2,4	1,5
4. PROTECTION AND IMPROVEMENT OF HUMAN HEALTH	0400	3,4	5,4	4,8	2,3	2,1	7,7
5. PRODUCTION, DISTRIBUTION AND RAT. UTILIZATION OF ENERGY	0500	12,0	10,3	19,0	4,7	10,2	9,4
6. AGRICULTURAL PRODUCTION AND TECHNOLOGY	0600	2,3	5,2	4,0	4,5	7,3	9,4
7. INDUSTRIAL PRODUCTION AND TECHNOLOGY	0700	16,3	17,7	20,9	15,2	16,4	13,9
8. SOCIAL STRUCTURES AND RELATIONSHIPS	0800	2,7	4,3	1,2	3,6	0,7	2,7
9. EXPLORATION AND EXPLOITATION OF SPACE	0900	5,2	8,5	7,5	3,0	7,4	3,7
10. RESEARCH FINANCED FROM GEN. UNIV. FUNDS (GUF)	1000	36,3	17,0	31,3	44,2	23,2	30,8
11. NON-ORIENTED RESEARCH	1100	13,5	21,9	7,7	10,1	20,8	14,0
12. OTHER CIVIL RESEARCH	1200	0,1	1,7	0,2	4,4	6,4	0,6
TOTAL EXPENDITURE	9900	100,0	100,0	100,0	100,0	100,0	100,0

CREDITS DE R & D PAR CHAPITRES NABS  
EN % DES CREDITS POUR LA R&D CIVILE

IRELAND	DANMARK	GRECE	EUR 10	EC/CE		OBJECTIFS NABS
						1986
0,7	1,3	5,7	2,2	0,6	0100	1. EXPLORATION ET EXPLOITATION DU MILIEU TERRESTRE
3,9	2,4	0,4	2,9	0,8	0200	2. INFRASTRUCTURES ET AMENAGEMENT DES ESPACES
0,8	1,6	3,5	2,1	5,8	0300	3. POLLUTION DE L'ENVIRONNEMENT (LUTTE ET PREVENTION)
4,9	3,3	9,6	4,7	4,1	0400	4. PROTECTION ET PROMOTION DE LA SANTÉ HUMAINE
1,2	6,8	2,7	11,5	56,8	0500	5. PRODUCT.,DISTRIBUT. ET UTILIS. RATIONNELLE DE L'ENERGIE
27,3	7,1	25,6	4,9	1,9	0600	6. PRODUCTIVITE ET TECHNOLOGIE DE L'AGRICULTURE
26,1	20,7	8,9	17,1	26,7	0700	7. PRODUCTIVITE ET TECHNOLOGIE INDUSTRIELLES
8,0	4,3	6,6	3,0	0,8	0800	8. VIE EN SOCIETE (STRUCTURES ET RELATIONS)
1,1	3,1	0,6	6,1	1,1	0900	9. EXPLORATION ET EXPLOITATION DE L'ESPACE
23,9	29,7	27,7	29,5	-	1000	10. RECHERCHE FINANCEE PAR FONDS GENERAUX DES UNIVERSITES
2,2	19,8	6,3	15,1	1,4	1100	11. RECHERCHES NON ORIENTEES
-	:	2,3	1,1	-	1200	12. RECHERCHES NON VENTILEES
100,0	100,0	100,0	100,0	100,0	9900	TOTAL DES CREDITS

TAB. 9

## R &amp; D FINANCING BY CHAPTERS OF NABS

IN EUA PER HEAD AT CURRENT VALUES AND CURRENT EXCHANGE RATES

OBJECTIVES NABS		DEUTSCH- LAND BR	FRANCE	ITALIA	NEDERLAND	BELGIQUE /BELGIE	UNITED KINGDOM
1984							
1. EXPLORATION AND EXPLOITATION OF THE EARTH	0100	2,8	2,4	0,9	0,6	1,5	2,2
2. INFRASTRUCTURE AND GENERAL PLANNING OF LAND-USE	0200	3,2	5,1	0,9	4,9	1,5	1,9
3. CONTROL OF ENVIRONMENTAL POLLUTION	0300	4,2	0,6	0,5	3,4	1,2	1,5
4. PROTECTION AND IMPROVEMENT OF HUMAN HEALTH	0400	4,6	6,4	5,0	2,6	4,4	4,7
5. PRODUCTION, DISTRIBUTION AND RAT. UTILIZATION OF ENERGY	0500	21,6	12,8	13,6	5,0	4,5	6,6
6. AGRICULTURAL PRODUCTION AND TECHNOLOGY	0600	2,9	6,2	3,0	5,3	3,8	6,5
7. INDUSTRIAL PRODUCTION AND TECHNOLOGY	0700	17,0	18,4	10,9	10,0	6,5	9,2
8. SOCIAL STRUCTURES AND RELATIONSHIPS	0800	3,3	2,6	0,8	4,0	3,0	1,1
9. EXPLORATION AND EXPLOITATION OF SPACE	0900	5,6	9,3	3,8	2,7	3,8	2,4
10. RESEARCH FINANCED FROM GEN. UNIV. FUNDS (GUF)	1000	46,2	20,1	12,1	49,8	20,9	19,1
11. NON-ORIENTED RESEARCH	1100	16,2	23,8	3,4	10,4	6,6	8,8
12. OTHER CIVIL RESEARCH	1200	0,1	2,6	0,0	4,1	:	0,4
13. DEFENCE	1300	14,1	55,4	5,0	3,3	0,1	65,3
TOTAL EXPENDITURE	9900	141,8	165,9	59,8	106,0	57,8	129,7
1985							
1. EXPLORATION AND EXPLOITATION OF THE EARTH	0100	3,3	2,6	0,8	0,6	1,5	2,5
2. INFRASTRUCTURE AND GENERAL PLANNING OF LAND-USE	0200	3,0	5,6	0,7	5,0	1,5	1,7
3. CONTROL OF ENVIRONMENTAL POLLUTION	0300	4,9	0,9	0,7	3,3	1,3	1,5
4. PROTECTION AND IMPROVEMENT OF HUMAN HEALTH	0400	4,7	7,1	2,9	2,6	4,5	5,0
5. PRODUCTION, DISTRIBUTION AND RAT. UTILIZATION OF ENERGY	0500	19,6	14,1	12,6	4,8	4,7	6,2
6. AGRICULTURAL PRODUCTION AND TECHNOLOGY	0600	3,1	6,4	2,4	4,9	4,0	6,4
7. INDUSTRIAL PRODUCTION AND TECHNOLOGY	0700	21,9	21,8	13,3	11,1	6,7	9,2
8. SOCIAL STRUCTURES AND RELATIONSHIPS	0800	3,5	4,6	0,7	4,0	3,1	1,6
9. EXPLORATION AND EXPLOITATION OF SPACE	0900	6,0	10,1	4,5	2,7	4,0	2,5
10. RESEARCH FINANCED FROM GEN. UNIV. FUNDS (GUF)	1000	48,7	21,4	13,9	49,4	21,8	20,1
11. NON-ORIENTED RESEARCH	1100	17,6	25,9	4,8	10,5	6,8	9,0
12. OTHER CIVIL RESEARCH	1200	0,1	3,0	0,4	4,6	4,0	0,4
13. DEFENCE	1300	18,5	56,3	6,4	3,2	0,1	71,3
TOTAL EXPENDITURE	9900	154,8	179,9	64,3	106,7	64,2	137,3

CREDITS DE R & D PAR CHAPITRES NABS  
EN UCE PAR HABITANT A PRIX ET TAUX DE CHANGE COURANTS

IRELAND	DANMARK	GRECE	EUR 10			OBJECTIFS NABS
						1984
0,1	9,9	0,6	1,9	0100	1.	EXPLORATION ET EXPLOITATION DU MILIEU TERRESTRE
1,2	13,7	0,3	2,7	0200	2.	INFRASTRUCTURES ET AMENAGEMENT DES ESPACES
0,3	9,1	0,2	1,8	0300	3.	POLLUTION DE L'ENVIRONNEMENT (LUTTE ET PREVENTION)
0,8	21,1	0,6	4,7	0400	4.	PROTECTION ET PROMOTION DE LA SANTE HUMAINE
0,3	36,4	0,3	12,2	0500	5.	PRODUCT.,DISTRIBUT. ET UTILIS. RATIONNELLE DE L'ENERGIE
5,3	49,9	2,7	4,6	0600	6.	PRODUCTIVITE ET TECHNOLOGIE DE L'AGRICULTURE
3,8	98,4	0,6	12,8	0700	7.	PRODUCTIVITE ET TECHNOLOGIE INDUSTRIELLES
1,3	22,1	0,7	2,1	0800	8.	VIE EN SOCIETE (STRUCTURES ET RELATIONS)
0,3	19,6	0,1	4,8	0900	9.	EXPLORATION ET EXPLOITATION DE L'ESPACE
3,6	213,3	2,8	25,0	1000	10.	RECHERCHE FINANCEE PAR FONDS GENERAUX DES UNIVERSITES
0,6	96,7	0,7	12,0	1100	11.	RECHERCHES NON ORIENTEES
-	:	0,1	0,9	1200	12.	RECHERCHES NON VENTILEES
-	4,3	0,4	29,1	1300	13.	DEFENSE
24,3	73,0	10,2	114,5	9900		TOTAL DES CREDITS
						1985
0,2	8,7	0,6	2,1	0100	1.	EXPLORATION ET EXPLOITATION DU MILIEU TERRESTRE
0,9	15,8	0,1	2,7	0200	2.	INFRASTRUCTURES ET AMENAGEMENT DES ESPACES
0,2	10,0	0,4	2,0	0300	3.	POLLUTION DE L'ENVIRONNEMENT (LUTTE ET PREVENTION)
0,9	21,7	0,8	4,5	0400	4.	PROTECTION ET PROMOTION DE LA SANTE HUMAINE
0,3	43,1	0,3	11,7	0500	5.	PRODUCT.,DISTRIBUT. ET UTILIS. RATIONNELLE DE L'ENERGIE
6,1	49,7	3,0	4,6	0600	6.	PRODUCTIVITE ET TECHNOLOGIE DE L'AGRICULTURE
6,1	140,4	0,9	15,3	0700	7.	PRODUCTIVITE ET TECHNOLOGIE INDUSTRIELLES
1,6	28,0	0,6	2,7	0800	8.	VIE EN SOCIETE (STRUCTURES ET RELATIONS)
0,3	21,4	0,1	5,2	0900	9.	EXPLORATION ET EXPLOITATION DE L'ESPACE
4,2	206,5	3,1	26,4	1000	10.	RECHERCHE FINANCEE PAR FONDS GENERAUX DES UNIVERSITES
0,5	118,0	0,7	13,2	1100	11.	RECHERCHES NON ORIENTEES
-	:	0,2	1,2	1200	12.	RECHERCHES NON VENTILEES
-	3,5	0,3	31,8	1300	13.	DEFENSE
29,6	83,1	11,0	123,3	9900		TOTAL DES CREDITS

TAB. 10

## R &amp; D FINANCING BY CHAPTERS OF NABS

PER 10,000 UNITS OF GDP

OBJECTIVES NABS			DEUTSCH- LAND BR	FRANCE	ITALIA	NEDERLAND	BELGIQUE /BELGIE	UNITED KINGDOM
1984								
1.	EXPLORATION AND EXPLOITATION OF THE EARTH	0100	2,2	2,2	1,1	0,6	1,5	2,3
2.	INFRASTRUCTURE AND GENERAL PLANNING OF LAND-USE	0200	2,5	4,5	1,2	4,5	1,5	2,0
3.	CONTROL OF ENVIRONMENTAL POLLUTION	0300	3,3	0,5	0,6	3,1	1,3	1,6
4.	PROTECTION AND IMPROVEMENT OF HUMAN HEALTH	0400	3,6	5,6	6,3	2,4	4,5	4,9
5.	PRODUCTION, DISTRIBUTION AND RAT. UTILIZATION OF ENERGY	0500	16,9	11,3	17,3	4,6	4,6	6,9
6.	AGRICULTURAL PRODUCTION AND TECHNOLOGY	0600	2,3	5,4	3,8	4,9	3,9	6,7
7.	INDUSTRIAL PRODUCTION AND TECHNOLOGY	0700	13,3	16,2	13,9	9,2	6,6	9,6
8.	SOCIAL STRUCTURES AND RELATIONSHIPS	0800	2,6	2,3	1,0	3,7	3,0	1,2
9.	EXPLORATION AND EXPLOITATION OF SPACE	0900	4,4	8,2	4,9	2,5	3,9	2,5
10.	RESEARCH FINANCED FROM GEN. UNIV. FUNDS (GUF)	1000	36,3	17,7	15,3	45,9	21,3	19,9
11.	NON-ORIENTED RESEARCH	1100	12,7	20,9	4,3	9,6	6,7	9,2
12.	OTHER CIVIL RESEARCH	1200	0,1	2,3	0,1	3,8	:	0,4
13.	DEFENCE	1300	11,1	48,7	6,3	3,0	0,1	68,2
	TOTAL EXPENDITURE	9900	111,2	145,8	76,0	97,7	59,0	135,3
1985								
1.	EXPLORATION AND EXPLOITATION OF THE EARTH	0100	2,4	2,2	1,0	0,6	1,5	2,4
2.	INFRASTRUCTURE AND GENERAL PLANNING OF LAND-USE	0200	2,2	4,6	0,9	4,4	1,4	1,6
3.	CONTROL OF ENVIRONMENTAL POLLUTION	0300	3,6	0,7	0,8	2,9	1,2	1,5
4.	PROTECTION AND IMPROVEMENT OF HUMAN HEALTH	0400	3,5	5,8	3,6	2,3	4,3	4,8
5.	PRODUCTION, DISTRIBUTION AND RAT. UTILIZATION OF ENERGY	0500	14,5	11,5	15,3	4,3	4,4	6,0
6.	AGRICULTURAL PRODUCTION AND TECHNOLOGY	0600	2,3	5,2	3,0	4,3	3,8	6,1
7.	INDUSTRIAL PRODUCTION AND TECHNOLOGY	0700	16,2	17,9	16,0	9,8	6,4	8,9
8.	SOCIAL STRUCTURES AND RELATIONSHIPS	0800	2,6	3,8	0,8	3,5	2,9	1,6
9.	EXPLORATION AND EXPLOITATION OF SPACE	0900	4,5	8,3	5,5	2,4	3,8	2,4
10.	RESEARCH FINANCED FROM GEN. UNIV. FUNDS (GUF)	1000	36,1	17,5	16,8	43,6	20,6	19,3
11.	NON-ORIENTED RESEARCH	1100	13,1	21,2	5,9	9,3	6,5	8,6
12.	OTHER CIVIL RESEARCH	1200	0,1	2,4	0,5	4,0	3,8	0,3
13.	DEFENCE	1300	13,7	46,0	7,7	2,8	0,1	68,7
	TOTAL EXPENDITURE	9900	114,9	147,2	77,6	94,3	60,6	132,3



## CREDITS DE R &amp; D PAR CHAPITRES NABS

PAR 10,000 UNITS DE PIB

IRELAND	DANMARK	GRECE	EUR 10			OBJECTIFS NABS
						1984
0,2	0,9	1,4	1,9	0100	1.	EXPLORATION ET EXPLOITATION DU MILIEU TERRESTRE
2,6	1,2	0,8	2,6	0200	2.	INFRASTRUCTURES ET AMENAGEMENT DES ESPACES
0,6	0,8	0,6	1,7	0300	3.	POLLUTION DE L'ENVIRONNEMENT (LUTTE ET PREVENTION)
1,8	1,9	1,5	4,6	0400	4.	PROTECTION ET PROMOTION DE LA SANTE HUMAINE
0,7	3,3	0,8	11,9	0500	5.	PRODUCT.,DISTRIBUT. ET UTILIS. RATIONNELLE DE L'ENERGIE
11,5	4,5	6,4	4,5	0600	6.	PRODUCTIVITE ET TECHNOLOGIE DE L'AGRICULTURE
8,3	8,9	1,5	12,5	0700	7.	PRODUCTIVITE ET TECHNOLOGIE INDUSTRIELLES
2,9	2,0	1,6	2,0	0800	8.	VIE EN SOCIETE (STRUCTURES ET RELATIONS)
0,6	1,8	0,1	4,7	0900	9.	EXPLORATION ET EXPLOITATION DE L'ESPACE
7,8	19,3	6,4	24,5	1000	10.	RECHERCHE FINANCEE PAR FONDS GENERAUX DES UNIVERSITES
1,2	8,7	1,7	11,8	1100	11.	RECHERCHES NON ORIENTEES
-	:	0,2	0,8	1200	12.	RECHERCHES NON VENTILEES
-	0,4	0,8	28,5	1300	13.	DEFENSE
38,3	53,7	23,6	112,1	9900		TOTAL DES CREDITS
						1985
0,4	0,7	1,4	1,9	0100	1.	EXPLORATION ET EXPLOITATION DU MILIEU TERRESTRE
1,7	1,3	0,1	2,5	0200	2.	INFRASTRUCTURES ET AMENAGEMENT DES ESPACES
0,3	0,8	0,9	1,8	0300	3.	POLLUTION DE L'ENVIRONNEMENT (LUTTE ET PREVENTION)
1,8	1,8	1,9	4,2	0400	4.	PROTECTION ET PROMOTION DE LA SANTE HUMAINE
0,6	3,6	0,7	10,7	0500	5.	PRODUCT.,DISTRIBUT. ET UTILIS. RATIONNELLE DE L'ENERGIE
12,1	4,2	6,8	4,2	0600	6.	PRODUCTIVITE ET TECHNOLOGIE DE L'AGRICULTURE
12,2	11,8	1,9	14,1	0700	7.	PRODUCTIVITE ET TECHNOLOGIE INDUSTRIELLES
3,2	2,3	1,4	2,4	0800	8.	VIE EN SOCIETE (STRUCTURES ET RELATIONS)
0,7	1,8	0,1	4,8	0900	9.	EXPLORATION ET EXPLOITATION DE L'ESPACE
8,4	17,3	7,1	24,2	1000	10.	RECHERCHE FINANCEE PAR FONDS GENERAUX DES UNIVERSITES
0,9	9,9	1,5	12,1	1100	11.	RECHERCHES NON ORIENTEES
-	:	0,5	1,1	1200	12.	RECHERCHES NON VENTILEES
-	0,3	0,7	29,2	1300	13.	DEFENSE
42,4	55,9	25,2	113,3	9900		TOTAL DES CREDITS

R&D FINANCING BY SECTION AND OUTSECTION OF NABS  
IN NATIONAL CURRENCIES, AT CURRENT VALUES

1985

OBJECTIVES NABS		DEUTSCH- LAND BR 1000 DM	FRANCE 1000 FF	ITALIA MIO LIT	NEDERLAND 1000 FL	BELGIQUE /BELGIE 1000 FB	UNITED KINGDOM 1000 PSTR
1. EXPLORATION AND EXPLOITATION OF THE EARTH	0100	444800	990000	66597	23525	898600	82039
1.0 GENERAL RESEARCH	0188	118383	:	15053	-	:	65247
1.1 MINERAL, OIL AND NATURAL GAS PROSPECTING	0110	51407	:	12269	-	:	2751
1.2 EXPLORATION AND EXPLOITATION OF THE SEA-BED	0120	23070	:	1427	-	:	262
1.3 EARTH'S CRUST AND MANTLE EXCLUDING SEA-BED	0130	2464	:	8583	1630	:	524
1.4 HYDROLOGY	0140	15938	:	4446	927	:	834
1.5 SEA AND OCEANS	0150	107253	:	13840	18187	:	4677
1.6 ATMOSPHERE	0160	49142	:	3774	2781	:	7775
1.9 OTHER RESEARCH ON THE EXPLOR. AND EXPLOITATION OF THE EARTH	0190	77143	:	7205	-	:	29
2. INFRASTRUCTURE AND GENERAL PLANNING OF LAND-USE	0200	403701	2100000	58534	183159	178800	55492
2.0 GENERAL RESEARCH	0288	15838	:	2031	-	:	978
2.1 GENERAL PLANNING OF LAND-USE	0210	76029	:	9433	48076	:	7876
2.2 CONSTRUCTION AND PLANNING OF BUILDINGS	0220	26864	:	4504	47009	:	16907
2.3 CIVIL ENGINEERING	0230	70568	:	350	34778	:	12707
2.4 TRANSPORT SYSTEMS	0240	158645	:	21204	37893	:	13835
2.5 TELECOMMUNICATIONS SYSTEMS	0250	28292	:	17017	249	:	799
2.6 WATER SUPPLY	0260	27465	:	3373	15134	:	2990
2.9 OTHER RESEARCH ON THE INFRASTR. AND GENERAL PLANNING LAND-USE	0290	-	:	622	-	:	-
3. CONTROL OF ENVIRONMENTAL POLLUTION	0300	661688	320000	55200	119844	716200	51684
3.0 GENERAL RESEARCH	0388	382099	:	16569	65008	:	1542
3.1 WATER POLLUTION	0310	63252	:	11325	6800	:	4617
3.2 ATMOSPHERIC POLLUTION	0320	52488	:	6337	25732	:	7059
3.3 SOIL AND SUBSTRATUM POLLUTION	0330	22673	:	3358	3400	:	49
3.4 NOISE AND VIBRATION	0340	20210	:	2209	4930	:	3303
3.5 RADIOACTIVE POLLUTION	0350	80226	:	13372	3500	:	33280
3.6 THERMAL POLLUTION	0360	-	:	-	-	:	-
3.7 POLLUTION BY SOLID WASTE MAT.	0370	40740	:	75	10474	:	1834
3.9 OTHER SCIENT. RESEARCH ON THE POLLUTION OF THE ENVIRONMENT	0390	-	:	1955	-	:	-
4. PROTECTION AND IMPROVEMENT OF HUMAN HEALTH	0400	637076	2680000	243776	94134	561400	166801
4.0 GENERAL RESEARCH	0488	123362	:	128253	54802	:	140716
4.1 MEDICAL RESEARCH, HOSPITAL TREATMENT, SURGERY	0410	245422	:	32924	16701	:	2805
4.2 PREVENTIVE MEDICINE	0420	9048	:	22017	-	:	313
4.3 BIOMEDICAL ENGINEERING AND MEDICINES	0430	87331	:	39902	8409	:	2911
4.4 OCCUPATIONAL MEDICINE	0440	35923	:	2098	-	:	4382
4.5 NUTRITION AND FOOD HYGIENE	0450	35479	:	6508	9863	:	8053
4.6 DRUG ABUSE AND ADDICTION	0460	8000	:	4761	791	:	139
4.7 SOCIAL MEDICINE	0470	15235	:	1556	353	:	381
4.8 HOSPITAL STRUCTURE AND ORGANISATION OF MEDICAL CARE	0480	57725	:	1462	3215	:	3645
4.9 OTHER MEDICAL RESEARCH	0490	19551	:	4295	-	:	3456
5. PRODUCTION, DISTRIBUTION AND RAT. UTILIZATION OF ENERGY	0500	2657273	5280000	1044476	175336	3313500	206233
5.0 GENERAL RESEARCH	0588	189928	:	73984	83322	:	375
5.1 FOSSIL FUELS AND THEIR DERIVATIVES	0510	337384	:	8916	17593	:	8122
5.2 NUCLEAR FISSION	0520	1641998	:	636659	55860	:	148888
5.3 NUCLEAR FUSION	0530	174814	:	93348	7886	:	21886
5.4 RENEWABLE ENERGY SOURCES	0540	127400	:	65153	6346	:	14796
5.5 RATIONAL UTILIZAT. OF ENERGY	0550	183249	:	51135	1903	:	3604
5.9 OTHER RES. ON PROD.,DISTRIB. AND RAT. UTILIZAT. OF ENERGY	0590	2500	:	115281	2427	:	8562

CREDITS POUR LA R&D PAR CHAPITRES, DIVISIONS ET RUBIQUES DE LA NABS  
EN MONNAIES NATIONALES, A PRIX COURANTS

1985

IRELAND 1000 ISTR	DANMARK 1000 DMR	GRECE 1000 DRA	EUR-10 1000 UCE	EC/CE 1000 UCE		OBJECTIFS NABS
672	44429	636310	572671	8831	0100	1. EXPLORATION ET EXPLOITATION DU MILIEU TERRESTRE
-	:	:	:	-	0188	1.0 RECHERCHES A CARACT. GENERAL
-	:	:	:	6604	0110	1.1 PROSPECTION MINIERE, PETROLIERE ET GAZIERE
-	:	:	:	-	0120	1.2 EXPLORATION ET EXPLOITATION DES PLATEAUX IMMERGES
-	:	:	:	-	0130	1.3 CROUTE ET ENVELOPPE TERREST. HORMIS PLATEAUX IMMERGES
-	:	:	:	-	0140	1.4 HYDROLOGIE
-	:	:	:	-	0150	1.5 MERS ET OCEANS
672	:	:	:	2227	0160	1.6 ATMOSPHERE
-	:	:	:	-	0190	1.9 AUTRES RECHER. CONC. EXPLORAT. ET EXPLOITAT. MILIEU TERREST.
3025	80957	56231	716827	3500	0200	2. INFRASTRUCTURES ET AMENAGEMENT DES ESPACES
492	:	:	:	-	0288	2.0 RECHERCHES A CARACT. GENERAL
1489	:	:	:	-	0210	2.1 AMENAGEMENT GENERAL DU TERRITOIRE
848	:	:	:	-	0220	2.2 CONSTRUCTION ET AMENAGEMENT DE L'HABITAT
-	:	:	:	-	0230	2.3 GENIE CIVIL
196	:	:	:	500	0240	2.4 SYSTEMES DE TRANSPORT
-	:	:	:	3000	0250	2.5 SYST. DE TELECOMMUNICATIONS
-	:	:	:	-	0260	2.6 APPROVISIONNEMENT EN EAU
-	:	:	:	-	0290	2.9 AUTRES RECHER. CONC. INFRASTR. ET AMENAGEMENT DES ESPACES
613	50890	398893	544850	31114	0300	3. POLLUTION DE L'ENVIRONNEMENT (LUTTE ET PREVENTION)
174	:	:	:	21595	0388	3.0 RECHERCHES A CARACT. GENERAL
285	:	:	:	329	0310	3.1 POLLUTION DE L'EAU
44	:	:	:	70	0320	3.2 POLLUTION DE L'ATMOSPHERE
-	:	:	:	3421	0330	3.3 POLLUTION DU SOL ET DU SOUS- SOL
55	:	:	:	-	0340	3.4 BRUIT ET VIBRATIONS
-	:	:	:	5700	0350	3.5 NUISANCES RADIOACTIVES
-	:	:	:	-	0360	3.6 POLLUTION THERMIQUE
55	:	:	:	-	0370	3.7 POLLUTION PAR DECHETS SOLIDES
-	:	:	:	-	0390	3.9 AUTRES RECHER. CONC. POLLUTION DE L'ENVIRONNEMENT
3251	111032	877331	1208894	23964	0400	4. PROTECTION ET PROMOTION DE LA SANTÉ HUMAINE
-	:	:	:	-	0488	4.0 RECHERCHES A CARACT. GENERAL
2735	:	:	:	10725	0410	4.1 RECHERCHES MED., TRAITEMENT HOSPITALIER, CHIRURGIE
516	:	:	:	-	0420	4.2 MEDECINE PREVENTIVE
-	:	:	:	2040	0430	4.3 GENIE BIOMED. ET MEDICAMENTS
-	:	:	:	11119	0440	4.4 MEDECINE DU TRAVAIL
-	:	:	:	-	0450	4.5 HYGIENE ALIMENT. ET NUTRITION
-	:	:	:	-	0460	4.6 RISQUES DE TOXICOMANIE
-	:	:	:	-	0470	4.7 MEDECINE SOCIALE
-	:	:	:	-	0480	4.8 STRUCTURES HOSPITALIERES ET ORGANISATION DES SOINS
-	:	:	:	-	0490	4.9 AUTRES RECHERCHES MEDICALES
978	220422	305284	3217843	319736	0500	5. PRODUCT., DISTRIBUT. ET UTILIS. RATIONNELLE DE L'ENERGIE
-	:	:	:	3334	0588	5.0 RECHERCHES A CARACT. GENERAL
64	:	:	:	23022	0510	5.1 COMBUSTIBLES FOSSILES ET DERIVES
-	:	:	:	127391	0520	5.2 FISSION NUCLEAIRE
-	:	:	:	140909	0530	5.3 FUSION NUCLEAIRE
419	:	:	:	23928	0540	5.4 SOURCES D'ENERGIE RENOUVELAB.
495	:	:	:	1154	0550	5.5 UTILISATION RATIONNELLE DE L'ENERGIE
-	:	:	:	-	0590	5.9 AUT. RECHER. CONC. PRODUCTION, DISTRIB. ET UTIL. RAT. ENERG.

R&D FINANCING BY SECTION AND OUTSECTION OF NABS  
IN NATIONAL CURRENCIES, AT CURRENT VALUES

1985

OBJECTIVES NABS		DEUTSCH- LAND BR 1000 DM	FRANCE 1000 FF	ITALIA MIO LIT	NEDERLAND 1000 FL	BELGIQUE /BELGIE 1000 FB	UNITED KINGDOM 1000 PSTR
6. AGRICULTURAL PRODUCTION AND TECHNOLOGY	0600	417443	2390000	202503	178428	2090600	212536
6.0 GENERAL RESEARCH	0688	75594	:	30268	112704	:	14783
6.1 ANIMAL PRODUCTS	0610	37148	:	20540	7751	:	43226
6.2 FISHING AND FISH-FARMING	0620	42857	:	4921	5329	:	11820
6.3 VETERINARY MEDICINE	0630	10618	:	2294	9660	:	28172
6.4 CROPS	0640	128886	:	56034	36561	:	92859
6.5 FORESTRY AND TIMBER PRODUCT.	0650	48816	:	10751	5688	:	6931
6.6 FOOD TECHNOLOGY	0660	53423	:	10348	735	:	13716
6.9 OTHER RES. ON AGRICULTURAL PRODUCTION AND TECHNOLOGY	0690	20101	:	67347	-	:	1029
7. INDUSTRIAL PRODUCTION AND TECHNOLOGY	0700	2974210	8190000	1096501	402222	5224300	307588
7.0 GENERAL RESEARCH	0788	316012	:	164482	68477	:	37326
7.1 INCREASING ECON. EFFICIENCY AND COMPETITIVENESS	0710	791428	:	14082	294597	:	1397
7.2 MANUFACT. AND PROCESSING TECH. AND MATERIALS RESEARCH	0720	504502	:	34472	-	:	33910
7.3 EXTRACT. AND PROCESSING OF NON ENERGY MIN. AND DERIVED PROD.	0730	24772	:	8925	-	:	1773
7.4 PRODUCTS OF CHEMICAL INDUSTRY	0740	9401	:	118470	-	:	5450
7.4a PETROCHEMICAL AND COAL BY-PRODUCTS	0741	6250	:	11917	-	:	1770
7.4b PHARMACEUTICAL PRODUCTS	0742	:	:	87611	-	:	1079
7.5 MANUFACT. OF MOTOR VEHICLES A. OTHER MEANS OF TRANSPORT	0750	855931	:	106276	28029	:	133496
7.5a AEROSPACE EQUIPMENT MANUFACT. AND REPAIRING	0751	763939	:	57855	-	:	119337
7.5b MANUFACTURE OF MOTOR VEHICLES AND PARTS	0752	:	:	-	-	:	11361
7.5c MANUFACTURE OF RAILWAY AND TRAMWAY EQUIPMENT	0753	:	:	1190	-	:	
7.5d SHIPBUILDING AND REPAIRING	0754	28547	:	1000	-	:	2713
7.6 MANUF. OF OFFICE MACHINERY AND DATA-PROCESSING EQUIPMENT	0760	175928	:	125832	-	:	13166
7.7 ELECTRICAL AND ELECTRONIC ENGINEERING	0770	279431	:	299189	-	:	59579
7.7a ELECTRICAL ENGINEERING	0771	:	:	28010	-	:	55111
7.7b TELECOMMUNICATIONS EQUIPMENT	0772	275831	:	255681	-	:	4468
7.8 MECHAN. A. INSTRUMENT ENGIN. AND OTHER METAL INDUSTRIES	0780	9425	:	155895	-	:	6658
7.8a MECHANICAL ENGINEERING	0781	:	:	-	-	:	6514
7.8b MANUF. MED. AND SURGICAL EQUIP AND ORTHOPAEDIC APPLIANCES	0782	:	:	-	-	:	
7.9 OTHER MANUFACTURING INDUST.	0790	7380	:	68878	11119	:	14833
7.9a FOOD, DRINK AND TOBACCO IND.	0791	160	:	20631	-	:	3234
7.9b TEXTILE INDUSTRY	0792	1245	:	645	-	:	5189
7.9c RECYCLING OF WASTE	0793	5975	:	140	-	:	697
8. SOCIAL STRUCTURES AND RELATIONSHIPS	0800	482257	1730000	57470	145707	182400	54966
8.0 GENERAL RESEARCH	0888	93225	:	12045	34906	:	8204
8.1 EDUC., TRAINING, RECURRENT EDUCATION AND RETRAINING	0810	167861	:	9903	42853	:	32353
8.2 CULTURAL ACTIVITIES	0820	30082	:	20719	31501	:	200
8.3 MANAGEMENT OF BUSINESSES AND INSTITUTIONS	0830	19359	:	7765	8359	:	1720
8.4 IMPROVEMENT OF WORKING COND.	0840	62640	:	732	-	:	210
8.5 SOCIAL SECURITY SYSTEM	0850	46046	:	1466	6000	:	1946
8.6 POLITICAL STRUCTURE OF SOC.	0860	40640	:	2486	10381	:	542
8.7 SOCIAL CHANGE, SOC. PROCESSES AND SOCIAL CONFLICTS	0870	21468	:	2158	2296	:	3590
8.9 OTHER RESEARCH WITH REGARD TO SOCIETY	0890	939	:	196	9410	:	6201
9. EXPLORATION AND EXPLOITATION OF SPACE	0900	820443	3805000	375767	99006	1942100	84486

CREDITS POUR LA R&D PAR CHAPITRES, DIVISIONS ET RUBIQUES DE LA NABS  
EN MONNAIES NATIONALES, A PRIX COURANTS  
1985

IRELAND 1000 ISTR	DANMARK 1000 DMR	GRECE 1000 DRA	EUR-10 1000 UCE	EC/CE 1000 UCE		OBJECTIFS NABS
21497	253942	3145608	1249101	16117	0600	6. PRODUCTIVITE ET TECHNOLOGIE DE L'AGRICULTURE
1788	:	:	:	6830	0688	6.0 RECHERCHES A CARACT. GENERAL
10624	:	:	:		0610	6.1 PRODUITS ANIMAUX
2754	:	:	:	250	0620	6.2 PECHE ET PISCICULTURE
570	:	:	:	832	0630	6.3 MEDECINE VETERINAIRE
4519	:	:	:	747	0640	6.4 PRODUITS VEGETAUX
1242	:	:	:	3893	0650	6.5 SYLVICULTURE ET INDUSTRIE DU BOIS
-	:	:	:	825	0660	6.6 TECHNOLOGIE AGRO-ALIMENTAIRE
-	:	:	:	2790	0690	6.9 AUT. RECHER. CONC. PRODUCTIV. ET TECHNOLOGIE DE L'AGRICUL.
21643	717826	896609	4225913	152992	0700	7. PRODUCTIVITE ET TECHNOLOGIE INDUSTRIELLES
1922	:	:	:	13073	0788	7.0 RECHERCHES A CARACT. GENERAL
13650	:	:	:		0710	7.1 ACCROISS. DE L'EFFICACITE ET COMPETITIVITE DE L'INDUSTRIE
505	:	:	:	18448	0720	7.2 TECHNIQ. FABRICAT., ENGINEERING ET RECHER. SUR LES MATERIAUX
3	:	:	:	17100	0730	7.3 EXTRACT. ET TRANSFORM. MINER. NON ENERGET. ET PROD. DERIVES
96	:	:	:	510	0740	7.4 PRODUITS DE L'INDUST. CHIMIQ.
	:	:	:	510	0741	7.4a PRODUITS DE LA PETROCHIMIE ET DE LA CARDOCHIMIE
96	:	:	:	-	0742	7.4b PRODUITS PHARMACEUTIQUES
	:	:	:	-	0750	7.5 CONSTRUCTION, MATERIEL DE TRANSPORT
-	:	:	:	-	0751	7.5a CONSTRUCTION AERONAUTIQUE
-	:	:	:	-	0752	7.5b CONSTRUCTION DE MATERIEL DE TRANSPORT ROUTIER
-	:	:	:	-	0753	7.5c CONSTRUCTION DE MATERIEL FERROVIAIRE ROULANT
-	:	:	:	-	0754	7.5d CONSTRUCTION NAVALE
-	:	:	:	80000	0760	7.6 CONSTR. MACH. BUR. ET DE MACH. ET INSTAL. TRAIT. INFORMAT.
1770	:	:	:	20369	0770	7.7 MATERIEL ELECTRIQUE ET ELECTRONIQUE
16	:	:	:	-	0771	7.7a CONSTRUCTION ELECTRIQUE
1744	:	:	:	20369	0772	7.7b MATERIEL DE TELECOMMUNICAT.
722	:	:	:	-	0780	7.8 AUT. INDUS. TRANSFORM. METAUX ET MECANIQUE DE PRECISION
90	:	:	:	-	0781	7.8a CONSTRUCTION DE MACHINES
5	:	:	:	-	0782	7.8b FABRIC. MATER. MED.-CHIRURGIC. ET APPAREILS ORTHOPEDIQUES
2975	:	:	:	3491	0790	7.9 AUT. INDUSTRIES MANUFACTUR.
2808	:	:	:	275	0791	7.9a INDUSTRIE PRODUITS ALIMENT., BOISSONS ET DU TABAC
167	:	:	:	700	0792	7.9b INDUSTRIE TEXTILE
-	:	:	:	2516	0793	7.9c RECYCLAGE DES DECHETS
5651	143168	651748	698260	3070	0800	8. VIE EN SOCIETE (STRUCTURES ET RELATIONS)
1285	:	:	:	350	0888	8.0 RECHERCHES A CARACT. GENERAL
1140	:	:	:	-	0810	8.1 ENSEIGNEMENT, FORMATION, PERFECTIONNEMENT ET RECYCLAGE
256	:	:	:	750	0820	8.2 CULTURE
1177	:	:	:	-	0830	8.3 GESTION D'ENTREPRISES ET D'ADMINISTRATIONS
65	:	:	:	1320	0840	8.4 AMELIORATION DES CONDITIONS DE TRAVAIL
1298	:	:	:	-	0850	8.5 ACTION SOCIALE
-	:	:	:	-	0860	8.6 STRUCTURE POLITIQUE DE LA SOCIETE
324	:	:	:	650	0870	8.7 CHANGEMENT SOCIAL, PROCESSUS SOCIAUX, CONFLITS SOCIAUX
106	:	:	:	-	0890	8.9 AUTRES RECHERCHES CONCERNANT LA VIE EN SOCIETE
1200	109552	65090	1430212	5492	0900	9. EXPLORATION ET EXPLOITATION DE L'ESPACE

R&D FINANCING BY SECTION AND OUTSECTION OF NABS  
IN NATIONAL CURRENCIES, AT CURRENT VALUES

1985

OBJECTIVES NABS		DEUTSCH- LAND BR 1000 DM	FRANCE 1000 FF	ITALIA MIO LIT	NEDERLAND 1000 FL	BELGIQUE /BELGIE 1000 FB	UNITED KINGDOM 1000 PSTR
9.0 GENERAL RESEARCH	0988	112143	:	180563	3493	:	70680
9.1 SCIENTIFIC EXPLORATION OF SPACE	0910	281300	:	65446	25150	:	17867
9.2 APPLIED RESEARCH PROGRAMMES	0920	155200	:	111565	-	:	46399
9.3 LAUNCH SYSTEMS	0930	145000	:	16893	-	:	5634
9.4 SPACE LABORATORIES AND SPACE TRAVEL	0940	126800	:	1300	70363	:	3906
9.9 OTHER RES. ON EXPLORATION AND EXPLOITATION OF SPACE	0990	:	:	-	-	:	-
10. RESEARCH FINANCED FROM GEN. UNIV. FUNDS (GUF)	1000	6610266	8040000	1151877	1795800	6480000	670012
10.0 MULTI-DISCIPLINARY RESEARCH	1088	:	:		103700	:	669800
10.1 MATHEMATICS AND NAT. SCIENCES	1010	2066279	:	339228	373400	:	-
10.2 ENGINEERING SCIENCES	1020	1191506	:	175085	327200	:	-
10.3 MEDICAL SCIENCES	1030	1727844	:	264356	433900	:	-
10.4 AGRICULTURAL SCIENCES	1040	329549	:	108276	117800	:	-
10.5 SOCIAL SCIENCE AND HUMANITIES	1050	1295088	:	264932	439800	:	212
X10.1 EXPLORATION AND EXPLOITATION OF THE EARTH	1001	:	:	:	:	:	:
X10.2 INFRASTRUCTURE AND GENERAL PLANNING OF LAND-USE	1002	:	:	:	:	:	:
X10.3 CONTROL OF ENVIRONMENTAL POLLUTION	1003	:	:	:	:	:	:
X10.4 PROTECTION AND IMPROVEMENT OF HUMAN HEALTH	1004	:	:	:	:	:	:
X10.5 PRODUCTION, DISTRIBUTION AND RAT. UTILIZATION OF ENERGY	1005	:	:	:	:	:	:
X10.6 AGRICULTURAL PRODUCTION AND TECHNOLOGY	1006	:	:	:	:	:	:
X10.7 INDUSTRIAL PRODUCTION AND TECHNOLOGY	1007	:	:	:	:	:	:
X10.8 SOCIAL STRUCTURES AND RELATIONSHIPS	1008	:	:	:	:	:	:
X10.9 EXPLORATION AND EXPLOITATION OF SPACE	1009	:	:	:	:	:	:
X10.10 OTHER CIVIL RESEARCH	1011	:	:	:	:	:	:
11. NON-ORIENTED RESEARCH	1100	2395523	9715000	400936	381703	6398200	299379
11.0 MULTI-DISCIPLINARY RESEARCH	1188	409551	:	3800	37286	-	693
11.1 MATHEMATICS AND NAT. SCIENCES	1110	1697210	:	370188	288183	:	207180
11.2 ENGINEERING SCIENCES	1120	62201	:	7183	1028	:	79539
11.3 MEDICAL SCIENCES	1130	88976	:	10356	20922	:	-
11.4 AGRICULTURAL SCIENCES	1140	5648	:			:	
11.5 SOC. SCIENCES AND HUMANITIES	1150	131937	:	9409	34283	:	11964
12. OTHER CIVIL RESEARCH	1200	17168	1120000	32330	165924	891500	11974
13. DEFENCE	1300	2508905	21100000	527761	117327	443200	2378877
TOTAL EXPENDITURE	9900	21030752	67460000	5313728	3882117	29320800	4582064

CREDITS POUR LA R&D PAR CHAPITRES, DIVISIONS ET RUBIQUES DE LA NABS  
EN MONNAIES NATIONALES, A PRIX COURANTS

1985

IRELAND 1000 ISTR	DANMARK 1000 DMR	GRECE 1000 DRA	EUR-10 1000 UCE	EC/CE 1000 UCE		OBJECTIFS NABS
1200	:	:	:	-	0988	9.0 RECHERCHES A CARACT. GENERAL
-	:	:	:	-	0910	9.1 EXPLORATION SCIENTIFIQUE DE L'ESPACE
-	:	:	:	5492	0920	9.2 SYSTEMES D'APPLICATION
-	:	:	:	-	0930	9.3 SYSTEMES DE LANCEMENT
-	:	:	:	-	0940	9.4 STATIONS ORBITALES ET ASTRONAUTIQUES
-	:	:	:	-	0990	9.9 AUT. RECHER. CONC. EXPLORAT. ET EXPLOITATION DE L'ESPACE
14791	1055916	3281000	7128741	-	1000	10. RECHERCHE FINANCEE PAR FONDS GENERAUX DES UNIVERSITES
		:	:	-	1088	10.0 RECHERCHE INTERDISCIPLINAIRE
4881	328717	:	:	-	1010	10.1 MATHEMATIQUES ET SCIENC. NAT.
2958	153488	:	:	-	1020	10.2 SCIENCES DE L'INGENIEUR
2514	196794	:	:	-	1030	10.3 SCIENCES MEDICALES
888	37899	:	:	-	1040	10.4 SCIENCES AGRICOLES
3550	339018	:	:	-	1050	10.5 SCIENCES SOCIALES ET HUMAINES
:	22725	:	:	-	1001	X10.1 EXPLORATION ET EXPLOITATION DU MILIEU TERRESTRE
:	36835	:	:	-	1002	X10.2 INFRASTRUCTURES ET AMENAGEMENT DES ESPACES
:	21874	:	:	-	1003	X10.3 POLLUTION DE L'ENVIRONNEMENT (LUTTE ET PREVENTION)
:	107414	:	:	-	1004	X10.4 PROTECTION ET PROMOTION DE LA SANTE HUMAINE
:	44256	:	:	-	1005	X10.5 PRODUCT.,DISTRIBUT. ET UTILIS. RATIONNELLE DE L'ENERGIE
:	38655	:	:	-	1006	X10.6 PRODUCTIVITE ET TECHNOLOGIE DE L'AGRICULTURE
:	55137	:	:	-	1007	X10.7 PRODUCTIVITE ET TECHNOLOGIE INDUSTRIELLES
:	209411	:	:	-	1008	X10.8 VIE EN SOCIETE (STRUCTURES ET RELATIONS)
:	5044	:	:	-	1009	X10.9 EXPLORATION ET EXPLOITATION DE L'ESPACE
:		:	:	-	1011	X10.0 AUTRES RECHERCHES CIVILES
1636	603276	799440	3669773	7670	1100	11. RECHERCHES NON ORIENTEES
-	:	:	:	2901	1188	11.0 RECHERCHE MULTIDISCIPLINAIRE
1634	:	:	:	1732	1110	11.1 SCIENCES MATHEMATIQUES ET SCIENCES NATURELLES
-	:	:	:	1908	1120	11.2 SCIENCES DE L'INGENIEUR
-	:	:	:	1129	1130	11.3 SCIENCES MEDICALES
-	:	:	:	-	1140	11.4 SCIENCES AGRICOLES
2	:	:	:	-	1150	11.5 SCIENCES SOCIALES ET HUMAINES
-	-	237629	303384	-	1200	12. RECHERCHES NON VENTILEES
-	17755	339034	8697845	-	1300	13. DEFENSE
74957	3409165	11600207	33664272	572536	9900	TOTAL DES CREDITS

R&D FINANCING BY SECTION AND OUTSECTION OF NABS  
IN 1000 EUR AT CURRENT VALUES AND EXCHANGE RATES  
1985

OBJECTIVES NABS		DEUTSCH- LAND BR	FRANCE	ITALIA	NEDERLAND	BELGIQUE /BELGIE	UNITED KINGDOM
1. EXPLORATION AND EXPLOITATION OF THE EARTH	0100	199792	145695	46019	9369	20007	139291
1.0 GENERAL RESEARCH	0188	53174	:	10402	-	:	110780
1.1 MINERAL, OIL AND NATURAL GAS PROSPECTING	0110	23091	:	8478	-	:	4671
1.2 EXPLORATION AND EXPLOITATION OF THE SEA-BED	0120	10362	:	986	-	:	445
1.3 EARTH'S CRUST AND MANTLE EXCLUDING SEA-BED	0130	1107	:	5931	649	:	890
1.4 HYDROLOGY	0140	7159	:	3072	369	:	1416
1.5 SEA AND OCEANS	0150	48175	:	9564	7243	:	7941
1.6 ATMOSPHERE	0160	22073	:	2608	1108	:	13201
1.9 OTHER RESEARCH ON THE EXPLOR. AND EXPLOITATION OF THE EARTH	0190	34650	:	4979	-	:	49
2. INFRASTRUCTURE AND GENERAL PLANNING OF LAND-USE	0200	181331	309051	40447	72943	3980	94218
2.0 GENERAL RESEARCH	0288	7114	:	1403	-	:	1661
2.1 GENERAL PLANNING OF LAND-USE	0210	34150	:	6518	19146	:	13372
2.2 CONSTRUCTION AND PLANNING OF BUILDINGS	0220	12067	:	3112	18721	:	28706
2.3 CIVIL ENGINEERING	0230	31697	:	242	13850	:	21575
2.4 TRANSPORT SYSTEMS	0240	71259	:	14652	15091	:	23490
2.5 TELECOMMUNICATIONS SYSTEMS	0250	12708	:	11759	99	:	1357
2.6 WATER SUPPLY	0260	12337	:	2331	6027	:	5077
2.9 OTHER RESEARCH ON THE INFRASTR. AND GENERAL PLANNING LAND-USE	0290	-	:	430	-	:	-
3. CONTROL OF ENVIRONMENTAL POLLUTION	0300	297212	47093	38143	47728	15946	87752
3.0 GENERAL RESEARCH	0388	171628	:	11449	25889	:	2618
3.1 WATER POLLUTION	0310	28411	:	7826	2708	:	7839
3.2 ATMOSPHERIC POLLUTION	0320	23576	:	4379	10248	:	11985
3.3 SOIL AND SUBSTRATUM POLLUTION	0330	10184	:	2320	1354	:	83
3.4 NOISE AND VIBRATION	0340	9078	:	1526	1963	:	5608
3.5 RADIOACTIVE POLLUTION	0350	36035	:	9240	1394	:	56505
3.6 THERMAL POLLUTION	0360	-	:	-	-	:	-
3.7 POLLUTION BY SOLID WASTE MAT.	0370	18299	:	52	4171	:	3114
3.9 OTHER SCIENT. RESEARCH ON THE POLLUTION OF THE ENVIRONMENT	0390	-	:	1351	-	:	-
4. PROTECTION AND IMPROVEMENT OF HUMAN HEALTH	0400	286157	394407	168449	37489	12500	283205
4.0 GENERAL RESEARCH	0408	55411	:	88623	21825	:	238916
4.1 MEDICAL RESEARCH, HOSPITAL TREATMENT, SURGERY	0410	110237	:	22750	6651	:	4762
4.2 PREVENTIVE MEDICINE	0420	4064	:	15214	-	:	531
4.3 BIOMEDICAL ENGINEERING AND MEDICINES	0430	39227	:	27572	3349	:	4942
4.4 OCCUPATIONAL MEDICINE	0440	16136	:	1450	-	:	7440
4.5 NUTRITION AND FOOD HYGIENE	0450	15936	:	4497	3928	:	13673
4.6 DRUG ABUSE AND ADDICTION	0460	3593	:	3290	315	:	236
4.7 SOCIAL MEDICINE	0470	6843	:	1075	141	:	647
4.8 HOSPITAL STRUCTURE AND ORGANISATION OF MEDICAL CARE	0480	25928	:	1010	1280	:	6189
4.9 OTHER MEDICAL RESEARCH	0490	8782	:	2968	-	:	5868
5. PRODUCTION, DISTRIBUTION AND RAT. UTILIZATION OF ENERGY	0500	1193572	777042	721733	69827	73775	350155
5.0 GENERAL RESEARCH	0588	85310	:	51123	33183	:	637
5.1 FOSSIL FUELS AND THEIR DERIVATIVES	0510	151543	:	6161	7006	:	13790
5.2 NUCLEAR FISSION	0520	737539	:	439931	22246	:	252791
5.3 NUCLEAR FUSION	0530	78522	:	64503	3141	:	37159
5.4 RENEWABLE ENERGY SOURCES	0540	57225	:	45021	2527	:	25122
5.5 RATIONAL UTILIZAT. OF ENERGY	0550	82310	:	35334	758	:	6119



CREDITS POUR LA R&D PAR CHAPITRES, DIVISION ET RUBIQUES DE LA NABS  
EN 1000 UCE, A PRIX ET TAUX DE CHANGE COURANTS  
1985

IRELAND	DANMARK	GRECE	EUR 10	EC/CE		OBJECTIFS NABS
940	5541	6018	572671	8831	0100	1. EXPLORATION ET EXPLOITATION DU MILIEU TERRESTRE
-	:	:	:	-	0188	1.0 RECHERCHES A CARACT. GENERAL
-	:	:	:	6604	0110	1.1 PROSPECTION MINIÈRE, PETROLIÈRE ET GAZIÈRE
-	:	:	:	-	0120	1.2 EXPLORATION ET EXPLOITATION DES PLATEAUX IMMERSÉS
-	:	:	:	-	0130	1.3 CROUTE ET ENVELOPPE TERREST. HORMIS PLATEAUX IMMERSÉS
-	:	:	:	-	0140	1.4 HYDROLOGIE
-	:	:	:	-	0150	1.5 MERS ET OCEANS
940	:	:	:	2227	0160	1.6 ATMOSPHERE
-	:	:	:	-	0190	1.9 AUTRES RECHER. CONC. EXPLORAT. ET EXPLOITAT. MILIEU TERREST.
4230	10096	532	716827	3500	0200	2. INFRASTRUCTURES ET AMENAGEMENT DES ESPACES
688	:	:	:	-	0288	2.0 RECHERCHES A CARACT. GENERAL
2082	:	:	:	-	0210	2.1 AMENAGEMENT GENERAL DU TERRITOIRE
1186	:	:	:	-	0220	2.2 CONSTRUCTION ET AMENAGEMENT DE L'HABITAT
-	:	:	:	-	0230	2.3 GENIE CIVIL
274	:	:	:	500	0240	2.4 SYSTEMES DE TRANSPORT
-	:	:	:	3000	0250	2.5 SYST. DE TELECOMMUNICATIONS
-	:	:	:	-	0260	2.6 APPROVISIONNEMENT EN EAU
-	:	:	:	-	0290	2.9 AUTRES RECHER. CONC. INFRASTR. ET AMENAGEMENT DES ESPACES
857	6346	3773	544850	31114	0300	3. POLLUTION DE L'ENVIRONNEMENT (LUTTE ET PREVENTION)
243	:	:	:	21595	0388	3.0 RECHERCHES A CARACT. GENERAL
399	:	:	:	329	0310	3.1 POLLUTION DE L'EAU
62	:	:	:	70	0320	3.2 POLLUTION DE L'ATMOSPHERE
-	:	:	:	3421	0330	3.3 POLLUTION DU SOL ET DU SOUS-SOL
77	:	:	:	-	0340	3.4 BRUIT ET VIBRATIONS
-	:	:	:	5700	0350	3.5 NUISANCES RADIOACTIVES
-	:	:	:	-	0360	3.6 POLLUTION THERMIQUE
77	:	:	:	-	0370	3.7 POLLUTION PAR DECHETS SOLIDES
-	:	:	:	-	0390	3.9 AUTRES RECHER. CONC. POLLUTION DE L'ENVIRONNEMENT
4546	13847	8298	1208894	23964	0400	4. PROTECTION ET PROMOTION DE LA SANTE HUMAINE
-	:	:	:	-	0488	4.0 RECHERCHES A CARACT. GENERAL
3824	:	:	:	10725	0410	4.1 RECHERCHES MED., TRAITEMENT HOSPITALIER, CHIRURGIE
722	:	:	:	-	0420	4.2 MEDECINE PREVENTIVE
-	:	:	:	2040	0430	4.3 GENIE BIOMED. ET MEDICAMENTS
-	:	:	:	11119	0440	4.4 MEDECINE DU TRAVAIL
-	:	:	:	-	0450	4.5 HYGIENE ALIMENT. ET NUTRITION
-	:	:	:	-	0460	4.6 RISQUES DE TOXICOMANIE
-	:	:	:	-	0470	4.7 MEDECINE SOCIALE
-	:	:	:	-	0480	4.8 STRUCTURES HOSPITALIERES ET ORGANISATION DES SOINS
-	:	:	:	-	0490	4.9 AUTRES RECHERCHES MEDICALES
1368	27488	2887	3217843	319736	0500	5. PRODUCT., DISTRIBUT. ET UTILIS. RATIONNELLE DE L'ENERGIE
-	:	:	:	3334	0588	5.0 RECHERCHES A CARACT. GENERAL
89	:	:	:	23022	0510	5.1 COMBUSTIBLES FOSSILES ET DERIVES
-	:	:	:	127391	0520	5.2 FISSION NUCLEAIRE
-	:	:	:	140909	0530	5.3 FUSION NUCLEAIRE
586	:	:	:	23928	0540	5.4 SOURCES D'ENERGIE RENOUVELAB.
692	:	:	:	1154	0550	5.5 UTILISATION RATIONNELLE DE L'ENERGIE

R&D FINANCING BY SECTION AND OUTSECTION OF NABS  
IN 1000 EUR AT CURRENT VALUES AND EXCHANGE RATES  
1985

OBJECTIVES NABS		DEUTSCH- LAND BR	FRANCE	ITALIA	NERderland	BELGIQUE /BELGIE	UNITED KINGDOM
5.9 OTHER RES. ON PROD.,DISTRIB. AND RAT. UTILIZAT. OF ENERGY	0590	1123	:	79659	967	:	14537
6. AGRICULTURAL PRODUCTION AND TECHNOLOGY	0600	187504	351729	139930	71058	46547	360856
6.0 GENERAL RESEARCH	0608	33955	:	20915	44884	:	25099
6.1 ANIMAL PRODUCTS	0610	16686	:	14193	3087	:	73392
6.2 FISHING AND FISH-FARMING	0620	19250	:	3400	2122	:	20069
6.3 VETERINARY MEDICINE	0630	4769	:	1585	3847	:	47832
6.4 CROPS	0640	57892	:	38719	14560	:	157662
6.5 FORESTRY AND TIMBER PRODUCT.	0650	21927	:	7429	2265	:	11768
6.6 FOOD TECHNOLOGY	0660	23996	:	7150	293	:	23288
6.9 OTHER RES. ON AGRICULTURAL PRODUCTION AND TECHNOLOGY	0690	9029	:	46537	-	:	1747
7. INDUSTRIAL PRODUCTION AND TECHNOLOGY	0700	1335931	1205297	757682	160184	116369	522241
7.0 GENERAL RESEARCH	0788	141944	:	113657	27271	:	63374
7.1 INCREASING ECON. EFFICIENCY AND COMPETITIVENESS	0710	355487	:	9731	117322	:	2372
7.2 MANUFACT. AND PROCESSING TECH. AND MATERIALS RESEARCH	0720	226608	:	23820	-	:	57574
7.3 EXTRACT. AND PROCESSING OF NON ENERGY MIN. AND DERIVED PROD.	0730	11127	:	6167	-	:	3010
7.4 PRODUCTS OF CHEMICAL INDUSTRY	0740	4223	:	81863	-	:	9253
7.4a PETROCHEMICAL AND COAL BY- PRODUCTS	0741	2807	:	8235	-	:	3005
7.4b PHARMACEUTICAL PRODUCTS	0742	:	:	60539	-	:	1832
7.5 MANUFACT. OF MOTOR VEHICLES A. OTHER MEANS OF TRANSPORT	0750	384460	:	73437	11162	:	226657
7.5a AEROSPACE EQUIPMENT MANUFACT. AND REPAIRING	0751	343140	:	39978	-	:	202617
7.5b MANUFACTURE OF MOTOR VEHICLES AND PARTS	0752	:	:	-	-	:	19289
7.5c MANUFACTURE OF RAILWAY AND TRAMWAY EQUIPMENT	0753	:	:	822	-	:	-
7.5d SHIPBUILDING AND REPAIRING	0754	12823	:	691	-	:	4606
7.6 MANUF. OF OFFICE MACHINERY AND DATA-PROCESSING EQUIPMENT	0760	79022	:	86950	-	:	22354
7.7 ELECTRICAL AND ELECTRONIC ENGINEERING	0770	125513	:	206740	-	:	101157
7.7a ELECTRICAL ENGINEERING	0771	:	:	19355	-	:	93571
7.7b TELECOMMUNICATIONS EQUIPMENT	0772	123896	:	176676	-	:	7586
7.8 MECHAN. A. INSTRUMENT ENGIN. AND OTHER METAL INDUSTRIES	0780	4233	:	107723	-	:	11304
7.8a MECHANICAL ENGINEERING	0781	:	:	-	-	:	11060
7.8b MANUF. MED. AND SURGICAL EQUIP AND ORTHOPAEDIC APPLIANCES	0782	:	:	-	-	:	-
7.9 OTHER MANUFACTURING INDUST.	0790	3315	:	47595	4428	:	25184
7.9a FOOD, DRINK AND TOBACCO IND.	0791	72	:	14256	-	:	5491
7.9b TEXTILE INDUSTRY	0792	559	:	446	-	:	8810
7.9c RECYCLING OF WASTE	0793	2684	:	97	-	:	1183
8. SOCIAL STRUCTURES AND RELATIONSHIPS	0800	216616	254599	39712	58027	4061	93325
8.0 GENERAL RESEARCH	0808	41874	:	8323	13901	:	13929
8.1 EDUC., TRAINING, RECURRENT EDUCATION AND RETRAINING	0810	75398	:	6843	17066	:	54931
8.2 CULTURAL ACTIVITIES	0820	13512	:	14317	12545	:	340
8.3 MANAGEMENT OF BUSINESSES AND INSTITUTIONS	0830	8696	:	5366	3329	:	2920
8.4 IMPROVEMENT OF WORKING COND.	0840	28136	:	506	-	:	357
8.5 SOCIAL SECURITY SYSTEM	0850	20683	:	1013	2389	:	3304
8.6 POLITICAL STRUCTURE OF SOC.	0860	18254	:	1718	4134	:	920

CREDITS POUR LA R&D PAR CHAPITRES, DIVISION ET RUBIQUES DE LA NABS  
EN 1000 UCE, A PRIX ET TAUX DE CHANGE COURANTS  
1985

IRELAND	DANMARK	GRECE	EUR 10	EC/CE		OBJECTIFS NABS
-	:	:	:	-	0590	5.9 AUT. RECHER. CONC. PRODUCTION, DISTRIB. ET UTIL. RAT. ENERG.
30059	31669	29751	1249104	16117	0600	6. PRODUCTIVITE ET TECHNOLOGIE DE L'AGRICULTURE
2500	:	:	:	6830	0688	6.0 RECHERCHES A CARACT. GENERAL
14855	:	:	:		0610	6.1 PRODUITS ANIMAUX
3851	:	:	:	250	0620	6.2 PECHE ET PISCICULTURE
797	:	:	:	832	0630	6.3 MEDECINE VETERINAIRE
6319	:	:	:	747	0640	6.4 PRODUITS VEGETAUX
1737	:	:	:	3893	0650	6.5 SYLVICULTURE ET INDUSTRIE DU BOIS
-	:	:	:	825	0660	6.6 TECHNOLOGIE AGRO-ALIMENTAIRE
-	:	:	:	2790	0690	6.9 AUT. RECHER. CONC. PRODUCTIV. ET TECHNOLOGIE DE L'AGRICUL.
30263	89519	8480	4225913	152992	0700	7. PRODUCTIVITE ET TECHNOLOGIE INDUSTRIELLES
2687	:	:	:	13073	0788	7.0 RECHERCHES A CARACT. GENERAL
19087	:	:	:	-	0710	7.1 ACCROISS. DE L'EFFICACITE ET COMPETITIVITE DE L'INDUSTRIE
706	:	:	:	18448	0720	7.2 TECHNIQ. FABRICAT., ENGINEERING ET RECHER. SUR LES MATERIAUX
4	:	:	:	17100	0730	7.3 EXTRACT. ET TRANSFORM. MINER. NON ENERGET. ET PROD. DERIVES
134	:	:	:	510	0740	7.4 PRODUITS DE L'INDUST. CHIMIQ.
	:	:	:	510	0741	7.4a PRODUITS DE LA PETROCHIMIE ET DE LA CARBOCHIMIE
134	:	:	:	-	0742	7.4b PRODUITS PHARMACEUTIQUES
-	:	:	:	-	0750	7.5 CONSTRUCTION, MATERIEL DE TRANSPORT
-	:	:	:	-	0751	7.5a CONSTRUCTION AERONAUTIQUE
-	:	:	:	-	0752	7.5b CONSTRUCTION DE MATERIEL DE TRANSPORT ROUTIER
-	:	:	:	-	0753	7.5c CONSTRUCTION DE MATERIEL FERROVIAIRE ROULANT
-	:	:	:	-	0754	7.5d CONSTRUCTION NAVALE
-	:	:	:	80000	0760	7.6 CONSTR. MACH. BUR. ET DE MACH. ET INSTAL. TRAIT. INFORMAT.
2475	:	:	:	20369	0770	7.7 MATERIEL ELECTRIQUE ET ELECTRONIQUE
22	:	:	:	-	0771	7.7a CONSTRUCTION ELECTRIQUE
2439	:	:	:	20369	0772	7.7b MATERIEL DE TELECOMMUNICAT.
1010	:	:	:	-	0780	7.8 AUT. INDUS. TRANSFORM. METAUX ET MECANIQUE DE PRECISION
126	:	:	:	-	0781	7.8a CONSTRUCTION DE MACHINES
7	:	:	:	-	0782	7.8b FABRIC. MATER. MED.-CHIRURGIC. ET APPAREILS ORTHOPEDIQUES
4160	:	:	:	3491	0790	7.9 AUT. INDUSTRIES MANUFACTUR.
3926	:	:	:	275	0791	7.9a INDUSTRIE PRODUITS ALIMENT., BOISSONS ET DU TABAC
234	:	:	:	700	0792	7.9b INDUSTRIE TEXTILE
-	:	:	:	2516	0793	7.9c RECYCLAGE DES DECHETS
7902	17854	6164	698260	3070	0800	8. VIE EN SOCIETE (STRUCTURES ET RELATIONS)
1797	:	:	:	350	0888	8.0 RECHERCHES A CARACT. GENERAL
1594	:	:	:	-	0810	8.1 ENSEIGNEMENT, FORMATION, PERFECTIONNEMENT ET RECYCLAGE
358	:	:	:	750	0820	8.2 CULTURE
1646	:	:	:	-	0830	8.3 GESTION D'ENTREPRISES ET D'ADMINISTRATIONS
91	:	:	:	1320	0840	8.4 AMELIORATION DES CONDITIONS DE TRAVAIL
1815	:	:	:	-	0850	8.5 ACTION SOCIALE
-	:	:	:	-	0860	8.6 STRUCTURE POLITIQUE DE LA SOCIETE

Tab 12/3

R&D FINANCING BY SECTION AND OUTSECTION OF NABS  
IN 1000 EUR AT CURRENT VALUES AND EXCHANGE RATES  
1985

OBJECTIVES NABS		DEUTSCH- LAND BR	FRANCE	ITALIA	NEDERLAND	BELGIQUE /BELGIE	UNITED KINGDOM
8.7 SOCIAL CHANGE, SOC. PROCESSES AND SOCIAL CONFLICTS	0870	9643	:	1491	914	:	6095
8.9 OTHER RESEARCH WITH REGARD TO SOCIETY	0890	422	:	135	3748	:	10528
9. EXPLORATION AND EXPLOITATION OF SPACE	0900	368520	559970	259655	39429	43241	143445
9.0 GENERAL RESEARCH	0988	50371	:	124769	1391	:	120005
9.1 SCIENTIFIC EXPLORATION OF SPACE	0910	126352	:	45223	10016	:	30336
9.2 APPLIED RESEARCH PROGRAMMES	0920	69711	:	77091	-	:	78779
9.3 LAUNCH SYSTEMS	0930	65130	:	11673	-	:	9566
9.4 SPACE LABORATORIES AND SPACE TRAVEL	0940	56955	:	898	28022	:	6632
9.9 OTHER RES. ON EXPLORATION AND EXPLOITATION OF SPACE	0990	:	:	-	-	:	-
10. RESEARCH FINANCED FROM GEN. UNIV. FUNDS (GUF)	1000	2969146	1183222	795947	715172	144277	1137586
10.0 MULTI-DISCIPLINARY RESEARCH	1088	:	:	-	41298	:	1137226
10.1 MATHEMATICS AND NAT. SCIENCES	1010	928115	:	234407	148705	:	-
10.2 ENGINEERING SCIENCES	1020	535191	:	120984	130306	:	-
10.3 MEDICAL SCIENCES	1030	776099	:	182670	172799	:	-
10.4 AGRICULTURAL SCIENCES	1040	148024	:	74819	46913	:	-
10.5 SOCIAL SCIENCE AND HUMANITIES	1050	581717	:	183068	175149	:	360
X10.1 EXPLORATION AND EXPLOITATION OF THE EARTH	1001	:	:	:	:	:	:
X10.2 INFRASTRUCTURE AND GENERAL PLANNING OF LAND-USE	1002	:	:	:	:	:	:
X10.3 CONTROL OF ENVIRONMENTAL POLLUTION	1003	:	:	:	:	:	:
X10.4 PROTECTION AND IMPROVEMENT OF HUMAN HEALTH	1004	:	:	:	:	:	:
X10.5 PRODUCTION, DISTRIBUTION AND RAT. UTILIZATION OF ENERGY	1005	:	:	:	:	:	:
X10.6 AGRICULTURAL PRODUCTION AND TECHNOLOGY	1006	:	:	:	:	:	:
X10.7 INDUSTRIAL PRODUCTION AND TECHNOLOGY	1007	:	:	:	:	:	:
X10.8 SOCIAL STRUCTURES AND RELATIONSHIPS	1008	:	:	:	:	:	:
X10.9 EXPLORATION AND EXPLOITATION OF SPACE	1009	:	:	:	:	:	:
X10.0 OTHER CIVIL RESEARCH	1011	:	:	:	:	:	:
11. NON-ORIENTED RESEARCH	1100	1076001	1429727	277047	152012	142456	508304
11.0 MULTI-DISCIPLINARY RESEARCH	1188	183959	:	2626	14849	:	1177
11.1 MATHEMATICS AND NAT. SCIENCES	1110	762339	:	255800	114768	:	351763
11.2 ENGINEERING SCIENCES	1120	27939	:	4963	409	:	135046
11.3 MEDICAL SCIENCES	1130	39966	:	7156	8332	:	-
11.4 AGRICULTURAL SCIENCES	1140	2537	:			:	
11.5 SOC. SCIENCES AND HUMANITIES	1150	59262	:	6502	13653	:	20313
12. OTHER CIVIL RESEARCH	1200	7711	164827	22340	66079	19849	20330
13. DEFENCE	1300	1126929	3105223	364683	46725	9868	4038999
TOTAL EXPENDITURE	9900	9446424	9927883	3671785	1546041	652828	7779702

CREDITS POUR LA R&D PAR CHAPITRES, DIVISION ET RUBIQUES DE LA NABS  
EN 1000 UCE, A PRIX ET TAUX DE CHANGE COURANTS  
1985

IRELAND	DANMARK	GRECE	EUR 10	EC/CE		OBJECTIFS NABS
453	:	:	:	650	0870	8.7 CHANGEMENT SOCIAL, PROCESSUS SOCIAUX, CONFLITS SOCIAUX
148	:	:	:	-	0890	8.9 AUTRES RECHERCHES CONCERNANT LA VIE EN SOCIETE
1678	13662	616	1430212	5492	0900	9. EXPLORATION ET EXPLOITATION DE L'ESPACE
1678	:	:	:	-	0988	9.0 RECHERCHES A CARACT. GENERAL
-	:	:	:	-	0910	9.1 EXPLORATION SCIENTIFIQUE DE L'ESPACE
-	:	:	:	5492	0920	9.2 SYSTEMES D'APPLICATION
-	:	:	:	-	0930	9.3 SYSTEMES DE LANCEMENT
-	:	:	:	-	0940	9.4 STATIONS ORBITALES ET ASTRONAUTIQUES
-	:	:	:	-	0990	9.9 AUT. RECHER. CONC. EXPLORAT. ET EXPLOITATION DE L'ESPACE
20682	131681	31032	7128741		1000	10. RECHERCHE FINANCEE PAR FONDS GENERAUX DES UNIVERSITES
-		:	:	-	1088	10.0 RECHERCHE INTERDISCIPLINAIRE
6825	40994	:	:	-	1010	10.1 MATHÉMATIQUES ET SCIENC. NAT.
4136	19141	:	:	-	1020	10.2 SCIENCES DE L'INGENIEUR
3515	24542	:	:	-	1030	10.3 SCIENCES MEDICALES
1242	4726	:	:	-	1040	10.4 SCIENCES AGRICOLES
4964	42278	:	:	-	1050	10.5 SCIENCES SOCIALES ET HUMAINES
:	2834	:	:	-	1001	X10.1 EXPLORATION ET EXPLOITATION DU MILIEU TERRESTRE
:	4594	:	:	-	1002	X10.2 INFRASTRUCTURES ET AMENAGEMENT DES ESPACES
:	2728	:	:	-	1003	X10.3 POLLUTION DE L'ENVIRONNEMENT (LUTTE ET PREVENTION)
:	13395	:	:	-	1004	X10.4 PROTECTION ET PROMOTION DE LA SANTE HUMAINE
:	5519	:	:	-	1005	X10.5 PRODUCT.,DISTRIBUT. ET UTILIS. RATIONNELLE DE L'ENERGIE
:	4821	:	:	-	1006	X10.6 PRODUCTIVITE ET TECHNOLOGIE DE L'AGRICULTURE
:	6876	:	:	-	1007	X10.7 PRODUCTIVITE ET TECHNOLOGIE INDUSTRIELLES
:	26115	:	:	-	1008	X10.8 VIE EN SOCIETE (STRUCTURES ET RELATIONS)
:	629	:	:	-	1009	X10.9 EXPLORATION ET EXPLOITATION DE L'ESPACE
:	-	:	:	-	1011	X10.0 AUTRES RECHERCHES CIVILES
2288	75233	6710	3669773	7670	1100	11. RECHERCHES NON ORIENTEES
-	:	:	:	2901	1188	11.0 RECHERCHE MULTIDISCIPLINAIRE
2285	:	:	:	1732	1110	11.1 SCIENCES MATHÉMATIQUES ET SCIENCES NATURELLES
-	:	:	:	1908	1120	11.2 SCIENCES DE L'INGENIEUR
-	:	:	:	1129	1130	11.3 SCIENCES MEDICALES
-	:	:	:	-	1140	11.4 SCIENCES AGRICOLES
3	:	:	:	-	1150	11.5 SCIENCES SOCIALES ET HUMAINES
-	-	2247	303384	-	1200	12. RECHERCHES NON VENTILEES
-	2214	3207	8697845	-	1300	13. DEFENSE
104811	425150	109715	33664272	572536	9900	TOTAL DES CREDITS

R&D FINANCING BY SECTION AND OUTSECTION OF NABS  
 IN % WITHIN EACH CHAPTER OF NABS

1985

OBJECTIVES NABS		DEUTSCH- LAND BR	FRANCE	ITALIA	NEDERLAND	BELGIQUE /BELGIE	UNITED KINGDOM
1. EXPLORATION AND EXPLOITATION OF THE EARTH	0100	100,0	100,0	100,0	100,0	100,0	100,0
1.0 GENERAL RESEARCH	0188	26,6	:	22,6	-	:	79,5
1.1 MINERAL, OIL AND NATURAL GAS PROSPECTING	0110	11,6	:	18,4	-	:	3,4
1.2 EXPLORATION AND EXPLOITATION OF THE SEA-BED	0120	5,2	:	2,1	-	:	0,3
1.3 EARTH'S CRUST AND MANTLE EXCLUDING SEA-BED	0130	0,6	:	12,9	6,9	:	0,6
1.4 HYDROLOGY	0140	3,6	:	6,7	3,9	:	1,0
1.5 SEA AND OCEANS	0150	24,1	:	20,8	77,3	:	5,7
1.6 ATMOSPHERE	0160	11,0	:	5,7	11,8	:	9,5
1.9 OTHER RESEARCH ON THE EXPLOR. AND EXPLOITATION OF THE EARTH	0190	17,3	:	10,8	-	:	-
2. INFRASTRUCTURE AND GENERAL PLANNING OF LAND-USE	0200	100,0	100,0	100,0	100,0	100,0	100,0
2.0 GENERAL RESEARCH	0288	3,9	:	3,5	-	:	1,8
2.1 GENERAL PLANNING OF LAND-USE	0210	18,8	:	16,1	26,2	:	14,2
2.2 CONSTRUCTION AND PLANNING OF BUILDINGS	0220	6,7	:	7,7	25,7	:	30,5
2.3 CIVIL ENGINEERING	0230	17,5	:	0,6	19,0	:	22,9
2.4 TRANSPORT SYSTEMS	0240	39,3	:	36,2	20,7	:	24,9
2.5 TELECOMMUNICATIONS SYSTEMS	0250	7,0	:	29,1	0,1	:	1,4
2.6 WATER SUPPLY	0260	6,8	:	5,8	8,3	:	5,4
2.9 OTHER RESEARCH ON THE INFRASTR. AND GENERAL PLANNING LAND-USE	0290	-	:	1,1	-	:	-
3. CONTROL OF ENVIRONMENTAL POLLUTION	0300	100,0	100,0	100,0	100,0	100,0	100,0
3.0 GENERAL RESEARCH	0388	57,7	:	30,0	54,2	:	3,0
3.1 WATER POLLUTION	0310	9,6	:	20,5	5,7	:	8,9
3.2 ATMOSPHERIC POLLUTION	0320	7,9	:	11,5	21,5	:	13,7
3.3 SOIL AND SUBSTRATUM POLLUTION	0330	3,4	:	6,1	2,8	:	0,1
3.4 NOISE AND VIBRATION	0340	3,1	:	4,0	4,1	:	6,4
3.5 RADIOACTIVE POLLUTION	0350	12,1	:	24,2	2,9	:	64,4
3.6 THERMAL POLLUTION	0360	-	:	-	-	:	0,0
3.7 POLLUTION BY SOLID WASTE MAT.	0370	6,2	:	0,1	8,7	:	3,5
3.9 OTHER SCIENT. RESEARCH ON THE POLLUTION OF THE ENVIRONMENT	0390	-	:	3,5	-	:	-
4. PROTECTION AND IMPROVEMENT OF HUMAN HEALTH	0400	100,0	100,0	100,0	100,0	100,0	100,0
4.0 GENERAL RESEARCH	0488	19,4	:	52,6	58,2	:	84,4
4.1 MEDICAL RESEARCH, HOSPITAL TREATMENT, SURGERY	0410	38,5	:	13,5	17,7	:	1,7
4.2 PREVENTIVE MEDICINE	0420	1,4	:	9,0	-	:	0,2
4.3 BIOMEDICAL ENGINEERING AND MEDICINES	0430	13,7	:	16,4	8,9	:	1,7
4.4 OCCUPATIONAL MEDICINE	0440	5,6	:	0,9	-	:	2,6
4.5 NUTRITION AND FOOD HYGIENE	0450	5,6	:	2,7	10,5	:	4,8
4.6 DRUG ABUSE AND ADDICTION	0460	1,3	:	2,0	0,8	:	0,1
4.7 SOCIAL MEDICINE	0470	2,4	:	0,6	0,4	:	0,2
4.8 HOSPITAL STRUCTURE AND ORGANISATION OF MEDICAL CARE	0480	9,1	:	0,6	3,4	:	2,2
4.9 OTHER MEDICAL RESEARCH	0490	3,1	:	1,8	-	:	2,1
5. PRODUCTION, DISTRIBUTION AND RATIONAL UTILIZATION OF ENERGY	0500	100,0	100,0	100,0	100,0	100,0	100,0
5.0 GENERAL RESEARCH	0588	7,1	:	7,1	47,5	:	0,2
5.1 FOSSIL FUELS AND THEIR DERIVATIVES	0510	12,7	:	0,9	10,0	:	3,9
5.2 NUCLEAR FISSION	0520	61,8	:	61,0	31,9	:	72,2
5.3 NUCLEAR FUSION	0530	6,6	:	8,9	4,5	:	10,6
5.4 RENEWABLE ENERGY SOURCES	0540	4,8	:	6,2	3,6	:	7,2
5.5 RATIONAL UTILIZATION OF ENERGY	0550	6,9	:	4,9	1,1	:	1,7

CREDITS POUR LE R&D PAR CHAPITRES, DIVISION ET RUBIQUES DE LA NABS  
EN % A L'INTERIEUR DE CHAQUE CHAPITRE DE LA NABS

1985

IRELAND	DANMARK	GRECE	EUR 10	EC/CE		OBJECTIFS NABS
100,0	100,0	100,0	100,0	100,0	0100	1. EXPLORATION ET EXPLOITATION DU MILIEU TERRESTRE
-	:	:	:	-	0188	1.0 RECHERCHES A CARACT. GENERAL
.	:	:	:	74,8	0110	1.1 PROSPECTION MINIERE, PETROLIERE ET GAZIERE
-	:	:	:	-	0120	1.2 EXPLORATION ET EXPLOITATION DES PLATEAUX IMMERGES
-	:	:	:	-	0130	1.3 CROUTE ET ENVELOPPE TERREST. FORMIS PLATEAUX IMMERGES
-	:	:	:	-	0140	1.4 HYDROLOGIE
-	:	:	:	-	0150	1.5 MERS ET OCEANS
100,0	:	:	:	25,2	0160	1.6 ATMOSPHERE
-	:	:	:	-	0190	1.9 AUTRES RECHER. CONC. EXPLORAT. ET EXPLOITAT. MILIEU TERREST.
100,0	100,0	100,0	100,0	100,0	0200	2. INFRASTRUCTURES ET AMENAGEMENT DES ESPACES
16,3	:	:	:	-	0288	2.0 RECHERCHES A CARACT. GENERAL
49,2	:	:	:	-	0210	2.1 AMENAGEMENT GENERAL DU TERRITOIRE
28,0	:	:	:	-	0220	2.2 CONSTRUCTION ET AMENAGEMENT DE L'HABITAT
-	:	:	:	-	0230	2.3 GENIE CIVIL
6,5	:	:	:	14,3	0240	2.4 SYSTEMES DE TRANSPORT
-	:	:	:	85,7	0250	2.5 SYST. DE TELECOMMUNICATIONS
-	:	:	:	-	0260	2.6 APPROVISIONNEMENT EN EAU
-	:	:	:	-	0290	2.9 AUTRES RECHER. CONC. INFRASTR. ET AMENAGEMENT DES ESPACES
100,0	100,0	100,0	100,0	100,0	0300	3. POLLUTION DE L'ENVIRONNEMENT (LUTTE ET PREVENTION)
28,4	:	:	:	69,4	0388	3.0 RECHERCHES A CARACT. GENERAL
46,5	:	:	:	1,1	0310	3.1 POLLUTION DE L'EAU
7,2	:	:	:	0,2	0320	3.2 POLLUTION DE L'ATMOSPHERE
-	:	:	:	11,0	0330	3.3 POLLUTION DU SOL ET DU SOUS-SOL
9,0	:	:	:	-	0340	3.4 BRUIT ET VIBRATIONS
-	:	:	:	18,3	0350	3.5 NUISANCES RADIOACTIVES
-	:	:	:	-	0360	3.6 POLLUTION THERMIQUE
9,0	:	:	:	-	0370	3.7 POLLUTION PAR DECHETS SOLIDES
-	:	:	:	-	0390	3.9 AUTRES RECHER. CONC. POLLUTION DE L'ENVIRONNEMENT
100,0	100,0	100,0	100,0	100,0	0400	4. PROTECTION ET PROMOTION DE LA SANTE HUMAINE
-	:	:	:	-	0488	4.0 RECHERCHES A CARACT. GENERAL
84,1	:	:	:	44,8	0410	4.1 RECHERCHES MED., TRAITEMENT HOSPITALIER, CHIRURGIE
15,9	:	:	:	-	0420	4.2 MEDECINE PREVENTIVE
0,0	:	:	:	8,5	0430	4.3 GENIE BIOMED. ET MEDICAMENTS
-	:	:	:	46,4	0440	4.4 MEDECINE DU TRAVAIL
-	:	:	:	-	0450	4.5 HYGIENE ALIMENT. ET NUTRITION
-	:	:	:	-	0460	4.6 RISQUES DE TOXICOMANIE
-	:	:	:	-	0470	4.7 MEDECINE SOCIALE
-	:	:	:	-	0480	4.8 STRUCTURES HOSPITALIERES ET ORGANISATION DES SOINS
-	:	:	:	-	0490	4.9 AUTRES RECHERCHES MEDICALES
100,0	100,0	100,0	100,0	100,0	0500	5. PRODUCT., DISTRIBUT. ET UTILIS. RATIONNELLE DE L'ENERGIE
-	:	:	:	1,0	0588	5.0 RECHERCHES A CARACT. GENERAL
6,5	:	:	:	7,2	0510	5.1 COMBUSTIBLES FOSSILES ET DERIVES
-	:	:	:	39,8	0520	5.2 FISSION NUCLEAIRE
-	:	:	:	44,1	0530	5.3 FUSION NUCLEAIRE
42,8	:	:	:	7,5	0540	5.4 SOURCES D'ENERGIE RENOUVELAB.
50,6	:	:	:	0,4	0550	5.5 UTILISATION RATIONNELLE DE L'ENERGIE

R&D FINANCING BY SECTION AND OUTSECTION OF NABS  
IN % WITHIN EACH CHAPTER OF NABS

1985

OBJECTIVES NABS		DEUTSCH- LAND BR	FRANCE	ITALIA	NEDERLAND	BELGIQUE /BELGIE	UNITED KINGDOM
5.9 OTHER RES. ON PROD.,DISTRIB. AND RAT. UTILIZAT. OF ENERGY	0590	0,1	:	11,0	1,4	:	4,2
6. AGRICULTURAL PRODUCTION AND TECHNOLOGY	0600	100,0	100,0	100,0	100,0	100,0	100,0
6.0 GENERAL RESEARCH	0688	18,1	:	14,9	63,2	:	7,0
6.1 ANIMAL PRODUCTS	0610	8,9	:	10,1	4,3	:	20,3
6.2 FISHING AND FISH-FARMING	0620	10,3	:	2,4	3,0	:	5,6
6.3 VETERINARY MEDICINE	0630	2,5	:	1,1	5,4	:	13,3
6.4 CROPS	0640	30,9	:	27,7	20,5	:	43,7
6.5 FORESTRY AND TIMBER PRODUCT.	0650	11,7	:	5,3	3,2	:	3,3
6.6 FOOD TECHNOLOGY	0660	12,8	:	5,1	0,4	:	6,5
6.9 OTHER RES. ON AGRICULTURAL PRODUCTION AND TECHNOLOGY	0690	4,8	:	33,3	0,0	:	0,5
7. INDUSTRIAL PRODUCTION AND TECHNOLOGY	0700	100,0	100,0	100,0	100,0	100,0	100,0
7.0 GENERAL RESEARCH	0788	10,6	:	15,0	17,0	:	12,1
7.1 INCREASING ECON. EFFICIENCY AND COMPETITIVENESS	0710	26,6	:	1,3	73,2	:	0,5
7.2 MANUFACT. AND PROCESSING TECH. AND MATERIALS RESEARCH	0720	17,0	:	3,1	-	:	11,0
7.3 EXTRACT. AND PROCESSING OF NON ENERGY MIN. AND DERIVED PROD.	0730	0,8	:	0,8	-	:	0,6
7.4 PRODUCTS OF CHEMICAL INDUSTRY	0740	0,3	:	10,8	-	:	1,8
7.4a PETROCHEMICAL AND COAL BY- PRODUCTS	0741	0,2	:	1,1	-	:	0,6
7.4b PHARMACEUTICAL PRODUCTS	0742	:	:	8,0	-	:	0,4
7.5 MANUFACT. OF MOTOR VEHICLES A. OTHER MEANS OF TRANSPORT	0750	28,8	:	9,7	7,0	:	43,4
7.5a AEROSPACE EQUIPMENT MANUFACT. AND REPAIRING	0751	25,7	:	5,3	-	:	38,8
7.5b MANUFACTURE OF MOTOR VEHICLES AND PARTS	0752	:	:	-	-	:	3,7
7.5c MANUFACTURE OF RAILWAY AND TRAMWAY EQUIPMENT	0753	:	:	0,1	-	:	0,0
7.5d SHIPBUILDING AND REPAIRING	0754	1,0	:	0,1	-	:	0,9
7.6 MANUF. OF OFFICE MACHINERY AND DATA-PROCESSING EQUIPMENT	0760	5,9	:	11,5	-	:	4,3
7.7 ELECTRICAL AND ELECTRONIC ENGINEERING	0770	9,4	:	27,3	-	:	19,4
7.7a ELECTRICAL ENGINEERING	0771	:	:	2,6	-	:	17,9
7.7b TELECOMMUNICATIONS EQUIPMENT	0772	9,3	:	23,3	-	:	1,5
7.8 MECHAN. A. INSTRUMENT ENGIN. AND OTHER METAL INDUSTRIES	0780	0,3	:	14,2	-	:	2,2
7.8a MECHANICAL ENGINEERING	0781	:	:	-	-	:	2,1
7.8b MANUF. MED. AND SURGICAL EQUIP AND ORTHOPAEDIC APPLIANCES	0782	:	:	-	-	:	0,0
7.9 OTHER MANUFACTURING INDUST.	0790	0,2	:	6,3	2,8	:	4,8
7.9a FOOD, DRINK AND TOBACCO IND.	0791	0,0	:	1,9	-	:	1,1
7.9b TEXTILE INDUSTRY	0792	0,0	:	0,1	-	:	1,7
7.9c RECYCLING OF WASTE	0793	0,2	:	0,0	-	:	0,2
8. SOCIAL STRUCTURES AND RELATIONSHIPS	0800	100,0	100,0	100,0	100,0	100,0	100,0
8.0 GENERAL RESEARCH	0888	19,3	:	21,0	24,0	:	14,9
8.1 EDUC., TRAINING, RECURRENT EDUCATION AND RETRAINING	0810	34,8	:	17,2	29,4	:	58,9
8.2 CULTURAL ACTIVITIES	0820	6,2	:	36,1	21,6	:	0,4
8.3 MANAGEMENT OF BUSINESSES AND INSTITUTIONS	0830	4,0	:	13,5	5,7	:	3,1
8.4 IMPROVEMENT OF WORKING COND.	0840	13,0	:	1,3	-	:	0,4
8.5 SOCIAL SECURITY SYSTEM	0850	9,5	:	2,6	4,1	:	3,5
8.6 POLITICAL STRUCTURE OF SOC.	0860	8,4	:	4,3	7,1	:	1,0



CREDITS POUR LE R&D PAR CHAPITRES, DIVISION ET RUBIQUES DE LA NABS  
EN % A L'INTERIEUR DE CHAQUE CHAPITRE DE LA NABS  
1985

IRELAND	DANMARK	GRECE	EUR 10	EC/CE		OBJECTIFS NABS
-	:	:	:	-	0590	5.9 AUT. RECHER. CONC. PRODUCTION, DISTRIB. ET UTIL. RAT. ENERG.
100,0	100,0	100,0	100,0	100,0	0600	6. PRODUCTIVITE ET TECHNOLOGIE DE L'AGRICULTURE
8,3	:	:	:	42,4	0688	6.0 RECHERCHES A CARACT. GENERAL
49,4	:	:	:	-	0610	6.1 PRODUITS ANIMAUX
12,8	:	:	:	1,6	0620	6.2 PECHE ET PISCICULTURE
2,7	:	:	:	5,2	0630	6.3 MEDECINE VETERINAIRE
21,0	:	:	:	4,6	0640	6.4 PRODUITS VEGETAUX
5,8	:	:	:	24,2	0650	6.5 SYLVICULTURE ET INDUSTRIE DU BOIS
-	:	:	:	5,1	0660	6.6 TECHNOLOGIE AGRO-ALIMENTAIRE
-	:	:	:	17,3	0690	6.9 AUT. RECHER. CONC. PRODUCTIV. ET TECHNOLOGIE DE L'AGRICUL.
100,0	100,0	100,0	100,0	100,0	0700	7. PRODUCTIVITE ET TECHNOLOGIE INDUSTRIELLES
8,9	:	:	:	8,5	0788	7.0 RECHERCHES A CARACT. GENERAL
63,1	:	:	:	-	0710	7.1 ACCROISS. DE L'EFFICACITE ET COMPETITIVITE DE L'INDUSTRIE
2,3	:	:	:	12,1	0720	7.2 TECHNIQ. FABRICAT., ENGINEERING ET RECHER. SUR LES MATERIAUX
-	:	:	:	11,2	0730	7.3 EXTRACT. ET TRANSFORM. MINER. NON ENERGET. ET PROD. DERIVES
0,4	:	:	:	0,3	0740	7.4 PRODUITS DE L'INDUST. CHIMIQ.
-	:	:	:	0,3	0741	7.4a PRODUITS DE LA PETROCHIMIE ET DE LA CARBOCHIMIE
0,4	:	:	:	-	0742	7.4b PRODUITS PHARMACEUTIQUES
-	:	:	:	-	0750	7.5 CONSTRUCTION, MATERIEL DE TRANSPORT
-	:	:	:	-	0751	7.5a CONSTRUCTION AERONAUTIQUE
-	:	:	:	-	0752	7.5b CONSTRUCTION DE MATERIEL DE TRANSPORT ROUTIER
-	:	:	:	-	0753	7.5c CONSTRUCTION DE MATERIEL FERROVIAIRE ROULANT
-	:	:	:	-	0754	7.5d CONSTRUCTION NAVALE
-	:	:	:	52,3	0760	7.6 CONSTR. MACH. BUR. ET DE MACH. ET INSTAL. TRAIT. INFORMAT.
8,2	:	:	:	13,3	0770	7.7 MATERIEL ELECTRIQUE ET ELECTRONIQUE
0,1	:	:	:	-	0771	7.7a CONSTRUCTION ELECTRIQUE
8,1	:	:	:	13,3	0772	7.7b MATERIEL DE TELECOMMUNICAT.
3,3	:	:	:	-	0780	7.8 AUT. INDUS. TRANSFORM. METAUX ET MECANIQUE DE PRECISION
0,4	:	:	:	-	0781	7.8a CONSTRUCTION DE MACHINES
-	:	:	:	-	0782	7.8b FABRIC. MATER. MED.-CHIRURGIC. ET APPAREILS ORTHOPEDIQUES
13,7	:	:	:	2,3	0790	7.9 AUT. INDUSTRIES MANUFACTUR.
13,0	:	:	:	0,2	0791	7.9a INDUSTRIE PRODUITS ALIMENT., BOISSONS ET DU TABAC
0,8	:	:	:	0,5	0792	7.9b INDUSTRIE TEXTILE
-	:	:	:	1,6	0793	7.9c RECYCLAGE DES DECHETS
100,0	100,0	100,0	100,0	100,0	0800	8. VIE EN SOCIETE (STRUCTURES ET RELATIONS)
22,7	:	:	:	11,4	0888	8.0 RECHERCHES A CARACT. GENERAL
20,2	:	:	:	-	0810	8.1 ENSEIGNEMENT, FORMATION, PERFECTIONNEMENT ET RECYCLAGE
4,5	:	:	:	24,4	0820	8.2 CULTURE
20,8	:	:	:	-	0830	8.3 GESTION D'ENTREPRISES ET D'ADMINISTRATIONS
1,2	:	:	:	43,0	0840	8.4 AMELIORATION DES CONDITIONS DE TRAVAIL
23,0	:	:	:	-	0850	8.5 ACTION SOCIALE
-	:	:	:	-	0860	8.6 STRUCTURE POLITIQUE DE LA SOCIETE

R&D FINANCING BY SECTION AND OUTSECTION OF NABS  
IN % WITHIN EACH CHAPTER OF NABS

1985

OBJECTIVES NABS		DEUTSCH- LAND BR	FRANCE	ITALIA	NEDERLAND	BELGIQUE /BELGIE	UNITED KINGDOM
8.7 SOCIAL CHANGE, SOC. PROCESSES AND SOCIAL CONFLICTS	0870	4,5	:	3,8	1,6	:	6,5
8.9 OTHER RESEARCH WITH REGARD TO SOCIETY	0890	0,2	:	0,3	6,5	:	11,3
9. EXPLORATION AND EXPLOITATION OF SPACE	0900	100,0	100,0	100,0	100,0	100,0	100,0
9.0 GENERAL RESEARCH	0908	13,7	:	48,1	3,5	:	83,7
9.1 SCIENTIFIC EXPLORATION OF SPACE	0910	34,3	:	17,4	25,4	:	21,1
9.2 APPLIED RESEARCH PROGRAMMES	0920	18,9	:	29,7	-	:	54,9
9.3 LAUNCH SYSTEMS	0930	17,7	:	4,5	-	:	6,7
9.4 SPACE LABORATORIES AND SPACE TRAVEL	0940	15,5	:	0,3	71,1	:	4,6
9.9 OTHER RES. ON EXPLORATION AND EXPLOITATION OF SPACE	0990	:	:	-	-	:	-
10. RESEARCH FINANCED FROM GEN. UNIV. FUNDS (GUF)	1000	100,0	100,0	100,0	100,0	100,0	100,0
10.0 MULTI-DISCIPLINARY RESEARCH	1003	:	:	-	5,8	:	100,0
10.1 MATHEMATICS AND NAT. SCIENCES	1010	31,3	:	29,5	20,8	:	-
10.2 ENGINEERING SCIENCES	1020	18,0	:	15,2	18,2	:	-
10.3 MEDICAL SCIENCES	1030	26,1	:	23,0	24,2	:	-
10.4 AGRICULTURAL SCIENCES	1040	5,0	:	9,4	6,6	:	-
10.5 SOCIAL SCIENCE AND HUMANITIES	1050	19,6	:	23,0	24,5	:	-
X10.1 EXPLORATION AND EXPLOITATION OF THE EARTH	1001	:	:	:	:	:	:
X10.2 INFRASTRUCTURE AND GENERAL PLANNING OF LAND-USE	1002	:	:	:	:	:	:
X10.3 CONTROL OF ENVIRONMENTAL POLLUTION	1003	:	:	:	:	:	:
X10.4 PROTECTION AND IMPROVEMENT OF HUMAN HEALTH	1004	:	:	:	:	:	:
X10.5 PRODUCTION, DISTRIBUTION AND RAT. UTILIZATION OF ENERGY	1005	:	:	:	:	:	:
X10.6 AGRICULTURAL PRODUCTION AND TECHNOLOGY	1006	:	:	:	:	:	:
X10.7 INDUSTRIAL PRODUCTION AND TECHNOLOGY	1007	:	:	:	:	:	:
X10.8 SOCIAL STRUCTURES AND RELATIONSHIPS	1008	:	:	:	:	:	:
X10.9 EXPLORATION AND EXPLOITATION OF SPACE	1009	:	:	:	:	:	:
X10.0 OTHER CIVIL RESEARCH	1011	:	:	:	:	:	:
11. NON-ORIENTED RESEARCH	1100	100,0	100,0	100,0	100,0	100,0	100,0
11.0 MULTI-DISCIPLINARY RESEARCH	1108	17,1	:	0,9	9,8	:	0,2
11.1 MATHEMATICS AND NAT. SCIENCES	1110	70,8	:	92,3	75,5	:	69,2
11.2 ENGINEERING SCIENCES	1120	2,6	:	1,8	0,3	:	26,6
11.3 MEDICAL SCIENCES	1130	3,7	:	2,6	5,5	:	-
11.4 AGRICULTURAL SCIENCES	1140	0,2	:	0,0	0,0	:	-
11.5 SOC. SCIENCES AND HUMANITIES	1150	5,5	:	2,3	9,0	:	4,0
12. OTHER CIVIL RESEARCH	1200	100,0	100,0	100,0	100,0	100,0	100,0
13. DEFENCE	1300	100,0	100,0	100,0	100,0	100,0	100,0
TOTAL EXPENDITURE	9900	100,0	100,0	100,0	100,0	100,0	100,0

CREDITS POUR LE R&D PAR CHAPITRES, DIVISION ET RUBIQUES DE LA NABS  
EN % A L'INTERIEUR DE CHAQUE CHAPITRE DE LA NABS

1985

IRELAND	DANMARK	GRECE	EUR 10	EC/CE		OBJECTIFS NABS
5,7	:	:	:	21,2	0870	8.7 CHANGEMENT SOCIAL, PROCESSUS SOCIAUX, CONFLITS SOCIAUX
1,9	:	:	:	-	0890	8.9 AUTRES RECHERCHES CONCERNANT LA VIE EN SOCIETE
100,0	100,0	100,0	100,0	100,0	0900	9. EXPLORATION ET EXPLOITATION DE L'ESPACE
100,0	:	:	:	-	0988	9.0 RECHERCHES A CARACT. GENERAL
-	:	:	:	-	0910	9.1 EXPLORATION SCIENTIFIQUE DE L'ESPACE
-	:	:	:	100,0	0920	9.2 SYSTEMES D'APPLICATION
-	:	:	:	-	0930	9.3 SYSTEMES DE LANCEMENT
-	:	:	:	-	0940	9.4 STATIONS ORBITALES ET ASTRONAUTIQUES
-	:	:	:	-	0990	9.9 AUT. RECHER. CONC. EXPLORAT. ET EXPLOITATION DE L'ESPACE
100,0	100,0	100,0	100,0	-	1000	10. RECHERCHE FINANCEE PAR FONDS GENERAUX DES UNIVERSITES
0,0	0,0	:	:	-	1088	10.0 RECHERCHE INTERDISCIPLINAIRE
33,0	31,1	:	:	-	1010	10.1 MATHEMATIQUES ET SCIENC. NAT.
20,0	14,5	:	:	-	1020	10.2 SCIENCES DE L'INGENIEUR
17,0	18,6	:	:	-	1030	10.3 SCIENCES MEDICALES
6,0	3,6	:	:	-	1040	10.4 SCIENCES AGRICOLES
24,0	32,1	:	:	-	1050	10.5 SCIENCES SOCIALES ET HUMAINES
:	2,2	:	:	-	1001	X10.1 EXPLORATION ET EXPLOITATION DU MILIEU TERRESTRE
:	3,5	:	:	-	1002	X10.2 INFRASTRUCTURES ET AMENAGEMENT DES ESPACES
:	2,1	:	:	-	1003	X10.3 POLLUTION DE L'ENVIRONNEMENT (LUTTE ET PREVENTION)
:	10,2	:	:	-	1004	X10.4 PROTECTION ET PROMOTION DE LA SANTE HUMAINE
:	4,2	:	:	-	1005	X10.5 PRODUCT., DISTRIBUT. ET UTILIS. RATIONNELLE DE L'ENERGIE
:	3,7	:	:	-	1006	X10.6 PRODUCTIVITE ET TECHNOLOGIE DE L'AGRICULTURE
:	5,2	:	:	-	1007	X10.7 PRODUCTIVITE ET TECHNOLOGIE INDUSTRIELLES
:	19,8	:	:	-	1008	X10.8 VIE EN SOCIETE (STRUCTURES ET RELATIONS)
:	0,5	:	:	-	1009	X10.9 EXPLORATION ET EXPLOITATION DE L'ESPACE
:	0,0	:	:	-	1011	X10.0 AUTRES RECHERCHES CIVILES
100,0	100,0	100,0	100,0	100,0	1100	11. RECHERCHES NON ORIENTEES
-	:	:	:	37,8	1188	11.0 RECHERCHE MULTIDISCIPLINAIRE
99,9	:	:	:	22,6	1110	11.1 SCIENCES MATHEMATIQUES ET SCIENCES NATURELLES
-	:	:	:	24,9	1120	11.2 SCIENCES DE L'INGENIEUR
-	:	:	:	14,7	1130	11.3 SCIENCES MEDICALES
-	:	:	:	0,0	1140	11.4 SCIENCES AGRICOLES
0,1	:	:	:	0,0	1150	11.5 SCIENCES SOCIALES ET HUMAINES
-	-	100,0	100,0	-	1200	12. RECHERCHES NON VENTILEES
-	100,0	100,0	100,0	-	1300	13. DEFENSE
100,0	100,0	100,0	100,0	100,0	9900	TOTAL DES CREDITS

TAB. 14

R&D FINANCING OF MULTILATERAL AND BILATERAL  
PROJECTS BY CHAPTERS OF NABS  
IN NATIONAL CURRENCIES AND AT CURRENT VALUES

OBJECTIVES NABS		DEUTSCH- LAND BR	FRANCE	ITALIA	NEDERLAND	BELGIQUE /BELGIE	UNITED KINGDOM
1984							
1.	EXPLORATION AND EXPLOITATION OF THE EARTH	0100	3400	162000	331	-	580
2.	INFRASTRUCTURE AND GENERAL PLANNING OF LAND-USE	0200	14000	52000	-	1062	63
3.	CONTROL OF ENVIRONMENTAL POLLUTION	0300	4100	21000	118	-	128
4.	PROTECTION AND IMPROVEMENT OF HUMAN HEALTH	0400	4100	138000	2676	1651	4816
5.	PRODUCTION, DISTRIBUTION AND RAT. UTILIZATION OF ENERGY	0500	583600	790000	2600	27343	21103
6.	AGRICULTURAL PRODUCTION AND TECHNOLOGY	0600	24900	364000	6108	-	4148
7.	INDUSTRIAL PRODUCTION AND TECHNOLOGY	0700	242600	794000	2013	-	64838
8.	SOCIAL STRUCTURES AND RELATIONSHIPS	0800	7300	108000	2257	-	186
9.	EXPLORATION AND EXPLOITATION OF SPACE	0900	543500	2040000	141400	23548	68321
10.	RESEARCH FINANCED FROM GEN. UNIV. FUNDS (GUF)	1000	-	-	-	-	-
11.	NON-ORIENTED RESEARCH	1100	338500	1456000	81602	65119	46236
12.	OTHER CIVIL RESEARCH	1200	-	98000	-	1382	265
13.	DEFENCE	1300	416300	-	-	1860	156666
	TOTAL EXPENDITURE	9900	2182300	6023000	239105	121965	367350
1985							
1.	EXPLORATION AND EXPLOITATION OF THE EARTH	0100	7100	181000	367	-	140
2.	INFRASTRUCTURE AND GENERAL PLANNING OF LAND-USE	0200	11700	63000	-	1061	127
3.	CONTROL OF ENVIRONMENTAL POLLUTION	0300	5500	29000	162	-	65
4.	PROTECTION AND IMPROVEMENT OF HUMAN HEALTH	0400	4900	137000	2937	1716	4936
5.	PRODUCTION, DISTRIBUTION AND RAT. UTILIZATION OF ENERGY	0500	537500	868000	-	22950	22349
6.	AGRICULTURAL PRODUCTION AND TECHNOLOGY	0600	27300	372000	7908	-	5050
7.	INDUSTRIAL PRODUCTION AND TECHNOLOGY	0700	607700	745000	2314	-	79046
8.	SOCIAL STRUCTURES AND RELATIONSHIPS	0800	9300	139000	1889	-	111
9.	EXPLORATION AND EXPLOITATION OF SPACE	0900	602800	2142000	160000	25150	71747
10.	RESEARCH FINANCED FROM GEN. UNIV. FUNDS (GUF)	1000	-	-	-	-	-
11.	NON-ORIENTED RESEARCH	1100	335800	1613000	92444	63660	48970
12.	OTHER CIVIL RESEARCH	1200	-	65000	-	1381	610
13.	DEFENCE	1300	507800	-	-	1900	175296
	TOTAL EXPENDITURE	9900	2657400	6354000	268021	117818	408441

CREDITS R&D ACTIONS BI- ET MULTILATRALES  
PAR CHAPITRES DE LA NABS  
EN MONNAIES NATIONALES, A PRIX COURANTS

IRELAND 1000 ISTE	DANMARK 1000 DKR	GRECE 1000 DRA	EUR 10 1000 UCE	EC/CE 1000 UCE		OBJECTIFS NABS
						1984
-	-	:	:	-	0100	1. EXPLORATION ET EXPLOITATION DU MILIEU TERRESTRE
212	50	:	:	-	0200	2. INFRASTRUCTURES ET AMENAGEMENT DES ESPACES
57	-	:	:	-	0300	3. POLLUTION DE L'ENVIRONNEMENT (LUTTE ET PREVENTION)
4	-	:	:	-	0400	4. PROTECTION ET PROMOTION DE LA SANTÉ HUMAINE
50	1844	:	:	-	0500	5. PRODUCT.,DISTRIBUT. ET UTILIS. RATIONNELLE DE L'ENERGIE
731	-	:	:	-	0600	6. PRODUCTIVITE ET TECHNOLOGIE DE L'AGRICULTURE
390	-	:	:	-	0700	7. PRODUCTIVITE ET TECHNOLOGIE INDUSTRIELLES
155	347	:	:	-	0800	8. VIE EN SOCIETE (STRUCTURES ET RELATIONS)
1002	88206	:	:	-	0900	9. EXPLORATION ET EXPLOITATION DE L'ESPACE
389	-	:	:	-	1000	10. RECHERCHE FINANCEE PAR FONDS GENERAUX DES UNIVERSITES
18	117874	:	:	-	1100	11. RECHERCHES NON ORIENTEES
-	-	:	:	-	1200	12. RECHERCHES NON VENTILEES
-	-	:	:	-	1300	13. DEFENSE
3008	208321	:	:	-	9900	TOTAL DES CREDITS
						1985
-	-	:	:	-	0100	1. EXPLORATION ET EXPLOITATION DU MILIEU TERRESTRE
80	50	:	:	-	0200	2. INFRASTRUCTURES ET AMENAGEMENT DES ESPACES
23	-	:	:	-	0300	3. POLLUTION DE L'ENVIRONNEMENT (LUTTE ET PREVENTION)
-	-	:	:	-	0400	4. PROTECTION ET PROMOTION DE LA SANTÉ HUMAINE
20	2823	:	:	-	0500	5. PRODUCT.,DISTRIBUT. ET UTILIS. RATIONNELLE DE L'ENERGIE
1134	-	:	:	-	0600	6. PRODUCTIVITE ET TECHNOLOGIE DE L'AGRICULTURE
292	-	:	:	-	0700	7. PRODUCTIVITE ET TECHNOLOGIE INDUSTRIELLES
417	352	:	:	-	0800	8. VIE EN SOCIETE (STRUCTURES ET RELATIONS)
1200	96836	:	:	-	0900	9. EXPLORATION ET EXPLOITATION DE L'ESPACE
822	771	:	:	-	1000	10. RECHERCHE FINANCEE PAR FONDS GENERAUX DES UNIVERSITES
29	116107	:	:	-	1100	11. RECHERCHES NON ORIENTEES
-	-	:	:	-	1200	12. RECHERCHES NON VENTILEES
-	-	:	:	-	1300	13. DEFENSE
4017	216939	:	:	-	9900	TOTAL DES CREDITS

TAB. 14

R&D FINANCING OF MULTILATERAL AND BILATERAL  
PROJECTS BY CHAPTERS OF NABS  
IN NATIONAL CURRENCIES AND AT CURRENT VALUES

OBJECTIVES NABS		DEUTSCH- LAND BR 1000 DM	FRANCE 1000 FF	ITALIA MIO LIT	NEDERLAND 1000 FL	BELGIQUE /BELGIE 1000 FB	UNITED KINGDOM 1000 PSTE
1986							
1. EXPLORATION AND EXPLOITATION OF THE EARTH	0100	5400	202000	333	-	:	1100
2. INFRASTRUCTURE AND GENERAL PLANNING OF LAND-USE	0200	10100	112000	8	995	:	11
3. CONTROL OF ENVIRONMENTAL POLLUTION	0300	5900	41000	197	-	:	12
4. PROTECTION AND IMPROVEMENT OF HUMAN HEALTH	0400	4900	154000	3469	1110	:	5515
5. PRODUCTION, DISTRIBUTION AND RAT. UTILIZATION OF ENERGY	0500	445100	848000	-	21250	:	465
6. AGRICULTURAL PRODUCTION AND TECHNOLOGY	0600	27400	427000	10528	-	:	5512
7. INDUSTRIAL PRODUCTION AND TECHNOLOGY	0700	431300	1342000	2429	-	:	87780
8. SOCIAL STRUCTURES AND RELATIONSHIPS	0800	10300	140000	2259	-	:	100
9. EXPLORATION AND EXPLOITATION OF SPACE	0900	723400	2260000	215000	25677	:	69507
10. RESEARCH FINANCED FROM GEN. UNIV. FUNDS (GUF)	1000	-	0	-	-	:	-
11. NON-ORIENTED RESEARCH	1100	346800	1951000	92762	68555	:	50649
12. OTHER CIVIL RESEARCH	1200	-	38000	-	1379	:	345
13. DEFENCE	1300	428700	0	-	1938	:	205726
TOTAL EXPENDITURE	9900	2439300	7515000	326985	122897	:	426722

CREDITS R&D ACTIONS BI- ET MULTILATERALES  
PAR CHAPITRES DE LA NABS  
EN MONNAIES NATIONALES, A PRIX COURANTS

IRELAND 1000 ISTE	DANMARK 1000 DKR	GRECE 1000 DRA	EUR 10 1000 UCE	EC/CE 1000 UCE		OBJECTIFS NABS
						1986
-	-	:	:	-	0100	1. EXPLORATION ET EXPLOITATION DU MILIEU TERRESTRE
84	50	:	:	-	0200	2. INFRASTRUCTURES ET AMENAGEMENT DES ESPACES
23	-	:	:	-	0300	3. POLLUTION DE L'ENVIRONNEMENT (LUTTE ET PREVENTION)
-	-	:	:	-	0400	4. PROTECTION ET PROMOTION DE LA SANTE HUMAINE
20	2713	:	:	-	0500	5. PRODUCT.,DISTRIBUT. ET UTILIS. RATIONNELLE DE L'ENERGIE
1170	-	:	:	-	0600	6. PRODUCTIVITE ET TECHNOLOGIE DE L'AGRICULTURE
286	-	:	:	-	0700	7. PRODUCTIVITE ET TECHNOLOGIE INDUSTRIELLES
480	371	:	:	-	0800	8. VIE EN SOCIETE (STRUCTURES ET RELATIONS)
889	96623	:	:	-	0900	9. EXPLORATION ET EXPLOITATION DE L'ESPACE
1077	800	:	:	-	1000	10. RECHERCHE FINANCEE PAR FONDS GENERAUX DES UNIVERSITES
31	119434	:	:	-	1100	11. RECHERCHES NON ORIENTEES
-	-	:	:	-	1200	12. RECHERCHES NON VENTILEES
-	-	:	:	-	1300	13. DEFENSE
4060	219991	:	:	-	9900	TOTAL DES CREDITS

TAB. 15

R&D FINANCING OF MULTILATERAL AND BILATERAL  
PROJECTS BY CHAPTERS OF NABS  
IN 1000 EUA, AT CURRENT VALUES AND EXCHANGE RATES

OBJECTIVES NABS		DEUTSCH- LAND BR	FRANCE	ITALIA	NEDERLAND	BELGIQUE /BELGIE	UNITED KINGDOM
<b>1984</b>							
1. EXPLORATION AND EXPLOITATION OF THE EARTH	0100	1519	23575	240	-	:	982
2. INFRASTRUCTURE AND GENERAL PLANNING OF LAND-USE	0200	6255	7567	-	421	:	107
3. CONTROL OF ENVIRONMENTAL POLLUTION	0300	1832	3056	85	-	:	217
4. PROTECTION AND IMPROVEMENT OF HUMAN HEALTH	0400	1832	20082	1937	654	:	8154
5. PRODUCTION, DISTRIBUTION AND RAT. UTILIZATION OF ENERGY	0500	260755	114965	1882	10836	:	35730
6. AGRICULTURAL PRODUCTION AND TECHNOLOGY	0600	11125	52971	4422	-	:	7023
7. INDUSTRIAL PRODUCTION AND TECHNOLOGY	0700	108395	115547	1457	-	:	109778
8. SOCIAL STRUCTURES AND RELATIONSHIPS	0800	3262	15717	1634	-	:	315
9. EXPLORATION AND EXPLOITATION OF SPACE	0900	242838	296871	102361	9332	:	115676
10. RESEARCH FINANCED FROM GEN. UNIV. FUNDS (GUF)	1000	-	-	-	-	:	-
11. NON-ORIENTED RESEARCH	1100	151243	211884	59073	25007	:	78283
12. OTHER CIVIL RESEARCH	1200	-	14261	-	548	:	449
13. DEFENCE	1300	186005	-	-	737	:	265254
TOTAL EXPENDITURE	9900	975062	876497	173090	48335	:	621967
<b>1985</b>							
1. EXPLORATION AND EXPLOITATION OF THE EARTH	0100	3189	26637	254	-	:	238
2. INFRASTRUCTURE AND GENERAL PLANNING OF LAND-USE	0200	5255	9272	-	423	:	216
3. CONTROL OF ENVIRONMENTAL POLLUTION	0300	2470	4268	112	-	:	110
4. PROTECTION AND IMPROVEMENT OF HUMAN HEALTH	0400	2201	20162	2029	683	:	8381
5. PRODUCTION, DISTRIBUTION AND RAT. UTILIZATION OF ENERGY	0500	241430	127741	-	9140	:	37945
6. AGRICULTURAL PRODUCTION AND TECHNOLOGY	0600	12262	54746	5464	-	:	8574
7. INDUSTRIAL PRODUCTION AND TECHNOLOGY	0700	272962	109639	1599	-	:	134209
8. SOCIAL STRUCTURES AND RELATIONSHIPS	0800	4177	20456	1305	-	:	188
9. EXPLORATION AND EXPLOITATION OF SPACE	0900	270761	315232	110560	10016	:	121816
10. RESEARCH FINANCED FROM GEN. UNIV. FUNDS (GUF)	1000	-	-	-	-	:	-
11. NON-ORIENTED RESEARCH	1100	150832	237380	63879	25352	:	83144
12. OTHER CIVIL RESEARCH	1200	-	9566	-	550	:	1036
13. DEFENCE	1300	228090	-	-	757	:	297628
TOTAL EXPENDITURE	9900	1193629	935099	185203	46920	:	693476



CREDITS R&D ACTIONS BI- ET MULTILATERALES  
PAR CHAPITRES DE LA NABS  
EN 1000 UCE, A PRIX ET TAUX DE CHANGE COURANTS

IRELAND	DANMARK	GRECE	EUR 10	EC/CE		OBJECTIFS NABS
						1984
-	-	:	:	-	0100	1. EXPLORATION ET EXPLOITATION DU MILIEU TERRESTRE
292	6	:	:	-	0200	2. INFRASTRUCTURES ET AMENAGEMENT DES ESPACES
79	-	:	:-	-	0300	3. POLLUTION DE L'ENVIRONNEMENT (LUTTE ET PREVENTION)
6	-	:	:	-	0400	4. PROTECTION ET PROMOTION DE LA SANTÉ HUMAINE
69	226	:	:	-	0500	5. PRODUCT.,DISTRIBUT. ET UTILIS. RATIONNELLE DE L'ENERGIE
1007	-	:	:	-	0600	6. PRODUCTIVITE ET TECHNOLOGIE DE L'AGRICULTURE
537	-	:	:	-	0700	7. PRODUCTIVITE ET TECHNOLOGIE INDUSTRIELLES
214	43	:	:	-	0800	8. VIE EN SOCIETE (STRUCTURES ET RELATIONS)
1380	10827	:	:	-	0900	9. EXPLORATION ET EXPLOITATION DE L'ESPACE
536	-	:	:	-	1000	10. RECHERCHE FINANCEE PAR FONDS GENERAUX DES UNIVERSITES
25	14469	:	:	-	1100	11. RECHERCHES NON ORIENTEES
-	-	:	:	-	1200	12. RECHERCHES NON VENTILEES
-	-	:	:	-	1300	13. DEFENSE
4144	25572	:	:	-	9900	TOTAL DES CREDITS
						1985
-	-	:	:	-	0100	1. EXPLORATION ET EXPLOITATION DU MILIEU TERRESTRE
112	6	:	:	-	0200	2. INFRASTRUCTURES ET AMENAGEMENT DES ESPACES
32	-	:	:	-	0300	3. POLLUTION DE L'ENVIRONNEMENT (LUTTE ET PREVENTION)
-	-	:	:	-	0400	4. PROTECTION ET PROMOTION DE LA SANTÉ HUMAINE
28	352	:	:	-	0500	5. PRODUCT.,DISTRIBUT. ET UTILIS. RATIONNELLE DE L'ENERGIE
1586	-	:	:	-	0600	6. PRODUCTIVITE ET TECHNOLOGIE DE L'AGRICULTURE
408	-	:	:	-	0700	7. PRODUCTIVITE ET TECHNOLOGIE INDUSTRIELLES
583	44	:	:	-	0800	8. VIE EN SOCIETE (STRUCTURES ET RELATIONS)
1678	12076	:	:	-	0900	9. EXPLORATION ET EXPLOITATION DE L'ESPACE
1149	96	:	:	-	1000	10. RECHERCHE FINANCEE PAR FONDS GENERAUX DES UNIVERSITES
41	14479	:	:	-	1100	11. RECHERCHES NON ORIENTEES
-	-	:	:	-	1200	12. RECHERCHES NON VENTILEES
-	-	:	:	-	1300	13. DEFENSE
5617	27054	:	:	-	9900	TOTAL DES CREDITS

TAB. 15

R&D FINANCING OF MULTILATERAL AND BILATERAL  
PROJECTS BY CHAPTERS OF NABS

IN 1000 EUA, AT CURRENT VALUES AND EXCHANGE RATES

OBJECTIVES NABS		DEUTSCH- LAND BR	FRANCE	ITALIA	NEDERLAND	BELGIQUE /BELGIE	UNITED KINGDOM
1986							
1. EXPLORATION AND EXPLOITATION OF THE EARTH	0100	2512	29473	226	-	:	1728
2. INFRASTRUCTURE AND GENERAL PLANNING OF LAND-USE	0200	4698	16341	5	411	:	17
3. CONTROL OF ENVIRONMENTAL POLLUTION	0300	2744	5982	134	-	:	19
4. PROTECTION AND IMPROVEMENT OF HUMAN HEALTH	0400	2279	22469	2352	458	:	8662
5. PRODUCTION, DISTRIBUTION AND RAT. UTILIZATION OF ENERGY	0500	207019	123727	-	8770	:	730
6. AGRICULTURAL PRODUCTION AND TECHNOLOGY	0600	12744	62301	7138	-	:	8658
7. INDUSTRIAL PRODUCTION AND TECHNOLOGY	0700	200600	195804	1647	-	:	137875
8. SOCIAL STRUCTURES AND RELATIONSHIPS	0800	4791	20427	1532	-	:	157
9. EXPLORATION AND EXPLOITATION OF SPACE	0900	336458	329745	145770	10598	:	109174
10. RESEARCH FINANCED FROM GEN. UNIV. FUNDS (GUF)	1000	-	-	-	-	:	-
11. NON-ORIENTED RESEARCH	1100	161299	284661	62893	28294	:	79554
12. OTHER CIVIL RESEARCH	1200	-	5549	-	569	:	542
13. DEFENCE	1300	199391	-	-	800	:	323132
TOTAL EXPENDITURE	9900	1134532	1096475	221696	50723	:	670248

PAR CHAPITRES DE LA NABS  
EN 1000 UCE, A PRIX ET TAUX DE CHANGE COURANTS

IRELAND	DANMARK	GRECE	EUR 10	EC/CE		OBJECTIFS NABS
						1986
-	-	:	:	-	0100	1. EXPLORATION ET EXPLOITATION DU MILIEU TERRESTRE
119	6	:	:	-	0200	2. INFRASTRUCTURES ET AMENAGEMENT DES ESPACES
33	-	:	:	-	0300	3. POLLUTION DE L'ENVIRONNEMENT (LUTTE ET PREVENTION)
-	-	:	:	-	0400	4. PROTECTION ET PROMOTION DE LA SANTÉ HUMAINE
28	340	:	:	-	0500	5. PRODUCT.,DISTRIBUT. ET UTILIS. RATIONNELLE DE L'ENERGIE
1655	-	:	:	-	0600	6. PRODUCTIVITE ET TECHNOLOGIE DE L'AGRICULTURE
405	-	:	:	-	0700	7. PRODUCTIVITE ET TECHNOLOGIE INDUSTRIELLES
679	47	:	:	-	0800	8. VIE EN SOCIÉTÉ (STRUCTURES ET RELATIONS)
1258	12122	:	:	-	0900	9. EXPLORATION ET EXPLOITATION DE L'ESPACE
1524	100	:	:	-	1000	10. RECHERCHE FINANCEE PAR FONDS GENERAUX DES UNIVERSITES
44	14984	:	:	-	1100	11. RECHERCHES NON ORIENTEES
-	-	:	:	-	1200	12. RECHERCHES NON VENTILEES
-	-	:	:	-	1300	13. DEFENSE
5743	27599	:	:	-	9900	TOTAL DES CREDITS

## OTHER BASIC DATA

## DONNEES DE REFERENCE

	DEUTSCH- LAND (GR)	FRANCE	ITALIA	NETHERLAND	BELGIE /BELGIE	UNITED KINGDOM	IRELAND	DANMARK	GRECE	EUR-10
TOTAL BUDGETS IN NATIONAL CURRENCIES AT CURRENT VALUES EUR-10 AT CURRENT EXCHANGE RATES					ENSEMBLE DU BUDGET EN MONNAIES NATIONALES A PRIX COURANTS POUR EUR-10 CALCUL A TAUX DE CHANGE COURANTS					
	MIO DM	MIO FF	MRD LIT	MIO FL	MIO FB	MIO £	MIO €	MIO DKR	MIO DRA	MRD EUA/UCE
1980	409 700	590 800	123 973	110 200	1354 400	95 081	4 824	124 800	411 900	621,9
1981	436 600	726 300	162 948	139 500	1583 600	104 400	5 919	145 900	651 800	733,6
1982	455 100	843 700	227 395	151 000	1735 200	117 000	7 100	169 900	838 500	810,9
1983	463 600	929 300	291 114	154 700	1809 900	126 600	8 431	222 100	1096 800	923,5
1984	475 700	1005 800	328 365	162 700	1936 100	134 500	9 256	236 100	1339 800	984,8
1985	490 100	1072 500	366 245	166 400	1992 600	146 900	10 005	243 000	1709 800	1070,9
1986	508 500	1105 400	402 800	169 500	2151 000	150 100	10 571	259 800	2028 800	
MEAN TREND PER YEAR 1980-1986 TEND. ANN. MOYENNE	3,7	11,0	21,7	7,4	8,9	7,9	14,0	13,0	30,4	

GROSS DOMESTIC PRODUCT IN NATIONAL CURRENCIES AT CURRENT VALUES EUR-10 AT CURRENT EXCHANGE RATES

PRODUIT INTERIEUR BRUT EN MONNAIES NATIONAL A PRIX COURANTS POUR EUR-10 CALCUL A TAUX DE CHANGE COURANTS

	MRD DM	MRD FF	MRD LIT	MIO FL	MRD FB	MIO £	MIO €	MIO DKR	MIO DRA	MRD EUA/UCE
1980	1478,94	2769,31	338 743	336 740	3434,17	229 463	9 361	373 785	1710,90	2023,04
1981	1560,93	3110,61	401 579	352 850	3549,87	252 991	11 348	407 790	2040,80	2217,39
1982	1597,92	3566,98	470 484	368 860	3859,07	275 930	13 262	466 637	2547,85	2418,70
1983	1670,94	3935,91	538 998	378 440	4101,66	299 622	14 636	515 051	3065,77	2589,29
1984	1745,61	4277,16	612 112	394 860	4381,53	318 305	16 282	565 838	3772,29	2771,91
1985	1830,31	4584,26	684 564	411 800	4691,54	346 438	17 695	609 403	4599,91	2970,74
1986	1941,01	4862,21	761 220	421 100	4961,12	368 029	19 362	644 497	5538,00	3007,10
MEAN TREND PER YEAR 1980-1986 TEND. ANN. MOYENNE	4,6	9,8	14,4	3,8	6,3	8,2	12,9	9,5	21,6	6,8

## POPULATION

\* 1000

## POPULATION

1980	61 566	53 714	57 070	14 150	9 859	56 010	3 401	5 123	9 599	270 492
1981	61 632	53 962	57 042	14 246	9 859	56 020	3 440	5 122	9 740	271 113
1982	61 638	54 430	56 640	14 310	9 856	56 335	3 483	5 118	9 790	271 600
1983	61 423	54 652	56 836	14 367	9 856	56 377	3 508	5 114	9 850	271 933
1984	61 181	54 713	56 344	14 422	9 849	56 256	3 533	5 112	9 910	271 320
1985	61 024	55 172	57 127	14 491	9 858	56 659	3 540	5 114	9 935	272 920

TAB. 16/2

	DEUTSCH- LAND (BR)	FRANCE	ITALIA	NERELAND	BELGIQUE/ BELGIË	UNITED KINGDOM	IRELAND	DANMARK	GRECE
	INDEX OF R&D PRICES					INDICE DES PRIX R&D			
1980	100,00	100,00	100,00	100,00	100,00	100,00	100,00	100,00	100,00
1981	105,43	113,67	120,62	104,58	106,50	112,33	117,85	110,32	124,08
1982	109,93	128,22	140,98	110,32	114,93	121,70	135,07	122,53	154,16
1983	113,72	141,09	162,32	113,62	122,17	130,00	148,57	130,86	186,14
1984	117,02	151,63	180,27	115,29	129,86	136,75	161,68	137,86	226,62
1985	120,12	161,26	197,47	117,08	136,90	146,33	172,12	144,02	270,44

	EXCHANGE RATES					1 EUA/UCE		TAUX DE CHANGE	
	DM	FF	LIT	FL	FB	£	£	DKR	DR
1980	2.52421	5.86895	1189.205	2.76027	40.5979	0.598488	0.675997	7.82736	59.3228
1981	2.51390	6.03992	1263.180	2.77510	41.2946	0.553110	0.691021	7.92255	61.6241
1982	2.37599	6.43116	1323.784	2.61390	44.7107	0.560453	0.689603	8.15687	65.3424
1983	2.27052	6.77078	1349.920	2.53720	45.4380	0.587014	0.714956	8.13188	78.0883
1984	2.23811	6.87165	1381.381	2.52334	45.4420	0.590629	0.725942	8.14647	88.3370
1985	2.22632	6.79502	1447.987	2.51101	44.9136	0.588977	0.715167	8.01876	105.7390
1986	2.12768	6.80000	1461.656	2.40036	43.7923	0.672154	0.733901	7.93484	137.4940
1985-3	2.23658	6.83117	1428.770	2.52306	45.0079	0.584022	0.717068	7.99418	96.7198
1986-3	2.17136	6.68034	1477.470	2.44816	44.4739	0.632076	0.718357	8.02081	134.5900

	GOVERNMENT FINANCING OF R&D						FINANCEMENT PUBLIC DE LA R&D		
	Mrd \$ (current)		Mrd \$ (1980)		Mrd ECU	%	Mrd \$	Implicit	Exchange
	total	civil	total	civil	total	total/GDP	GDP	index	rates
								prices	1 EUA =
									..... \$
1980	28.7	13.8	28.7	13.8	20.6	1.10	2606.6	100.0	1.392
1981	33.7	15.3	31.0	14.1	30.2	1.15	2934.9	108.9	1.116
1982	36.1	14.0	31.0	12.1	36.8	1.19	3045.3	116.4	0.980
1983	38.8	13.8	31.9	11.4	43.6	1.18	3275.7	121.7	0.890
1984	44.2	14.9	35.1	11.8	56.0	1.22	3634.6	126.0	0.789
1985*	50.5	16.1	38.8	12.4	66.2	1.32	3833.4	130.0	0.763
1986*	58.3	15.9	43.5	11.9	61.1	1.44	4047.1	133.9	0.954
MEAN TREND PER YEAR 1980-1985	12.5	2.4	7.2	- 2.3					

\*Estimate

\*Estimation

	GOVERNMENT FINANCING OF R&D			JAPAN/JAPON		FINANCEMENT PUBLIC DE LA R&D	
	Total			%	GDP	Implicit index	Exchange rates
	Mrd Yen	Mrd Yen	Mrd ECU	total/GDP	Mrd Yen	prices	1 EUA = .... Yen
	(current)	(1980)					
1980	1464.7	1464.7	4.65	0.61	240.176	100.0	315.044
1981	1612.1	1560.6	6.57	0.63	257.363	103.3	245.379
1982	1665.5	1583.2	6.84	0.62	269.629	105.2	243.545
1983	1721.2	1623.8	8.14	0.61	280.094	106.0	211.354
1984	1777.3	1667.3	9.50	0.60	298.089	106.6	187.089
MEAN TREND PER YEAR 1980-1984	5.0	3.3					



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