

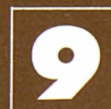
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**GOVERNMENT FINANCING
OF RESEARCH AND DEVELOPMENT**

1975 - 1985

Theme
Miscellaneous



Series
Accounts, surveys and statistics





OFICINA ESTADÍSTICA DE LAS COMUNIDADES EUROPEAS
DE EUROPÆISKE FÆLLESSKABERS STATISTISKE KONTOR
STATISTISCHES AMT DER EUROPÄISCHEN GEMEINSCHAFTEN
ΣΤΑΤΙΣΤΙΚΗ ΥΠΗΡΕΣΙΑ ΤΩΝ ΕΥΡΩΠΑΪΚΩΝ ΚΟΙΝΟΤΗΤΩΝ
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**GOVERNMENT FINANCING
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Analysis by objectives Detailed report 1975–85

Report from the Subcommittee 'Statistics'
to the Committee on Scientific and Technical Research (CREST)
This report was adopted by CREST at its session on 16 May 1986

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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 scientific 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.¹

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. Like the previous reports, this report takes 1975 as the reference year.² This is the reference year most commonly used for Community statistics in general and for statistics on national accounts in particular, which are the source of the economic data to which research spending is related.

1.1.3. This report gives data available in 1985 on final budgets for 1984 and provisional budgets for 1985 together with various time series going back to 1975. The basic data are given in terms of current prices, and at current exchange rates,³ 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),⁴ 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 1985 and from estimates for 1985 projected from earlier data.

¹ 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.

² A folder showing the main features of government R&D financing from 1970 to 1982, with 1970 as the reference year, can be obtained from the Subcommittee's secretariat.

³ For implementation of this principle, see Annex 2.

⁴ Generally, the tables in the text are numbered in roman numerals and those in the statistical annex in arabic numerals.

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 1975 to 1984, based on actual R&D appropriations taken from final budgets, and the comparison of provisional figures for 1984 and 1985, based on data from provisional budgets, likely to be substantially revised during the year.

1.1.5. At the end of the report there is also a specific analysis of government R&D funds for multi-lateral cooperation (Section 5). 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.

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

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 Twelve and the OECD countries with a major research effort (United States of America, 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 and 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 the respective countries 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 the Member States concerned and are supplied by the bodies financing the research.

These differences are reflected in the concepts used by 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).

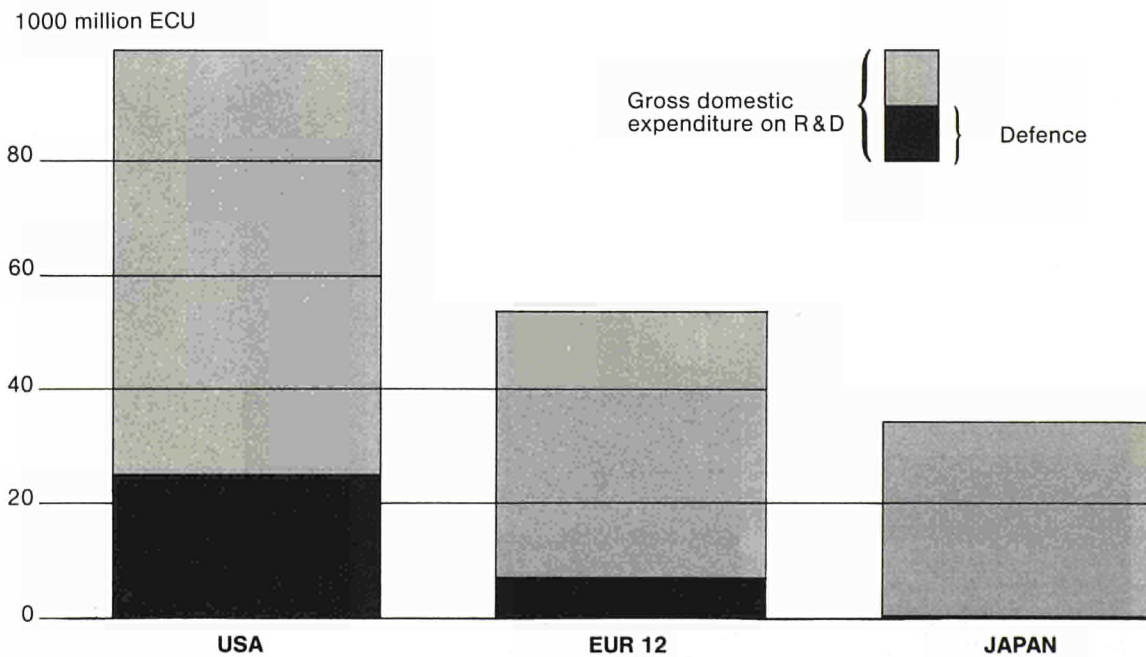
1.2.1. Gross domestic expenditure on civil and military R&D

At current exchange rates, gross domestic expenditure on R&D in the United States of America and Japan was equivalent to 1.85 and 0.63 times the expenditure of all Community countries taken together.

However, military research expenditure has a significant effect on these comparisons. Comparing gross domestic expenditure on civil R&D alone, expenditure in the United States of America is down to 1.40 times that of the Community while the figure for Japan increases to 0.72 times the corresponding Community expenditure.

Graph A

Gross domestic expenditure on civil and defence R&D



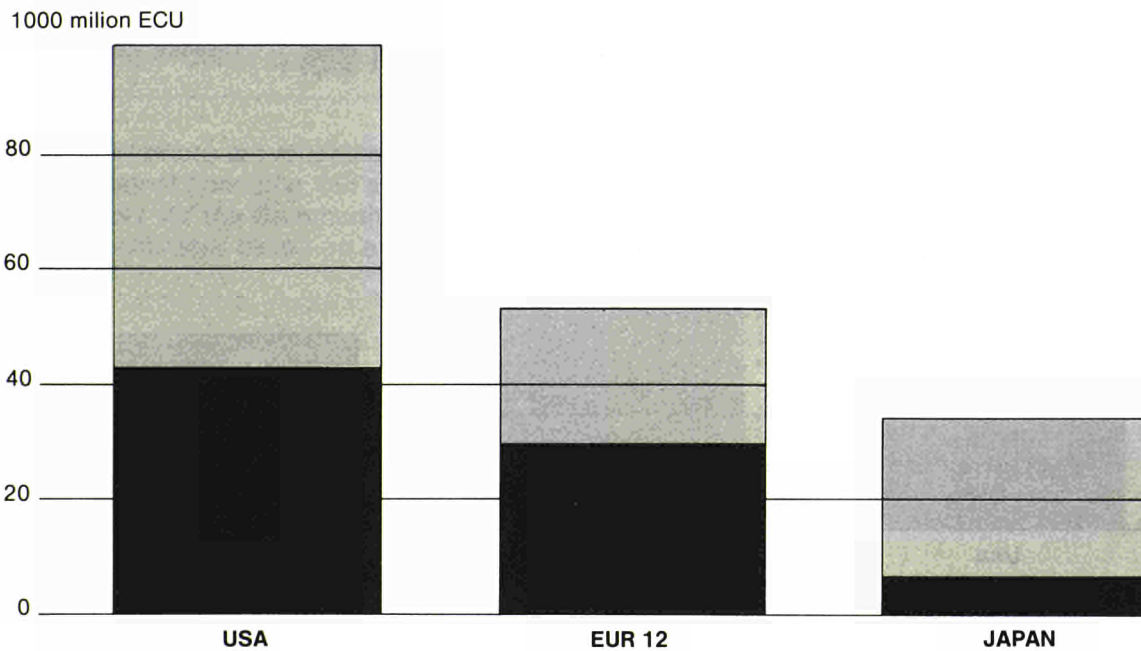
Source: OECD

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

The following graph illustrates the share of gross domestic expenditure on R&D accounted for by government financing and other sources of financing:

Graph B

Total R&D expenditure and the share of government funding

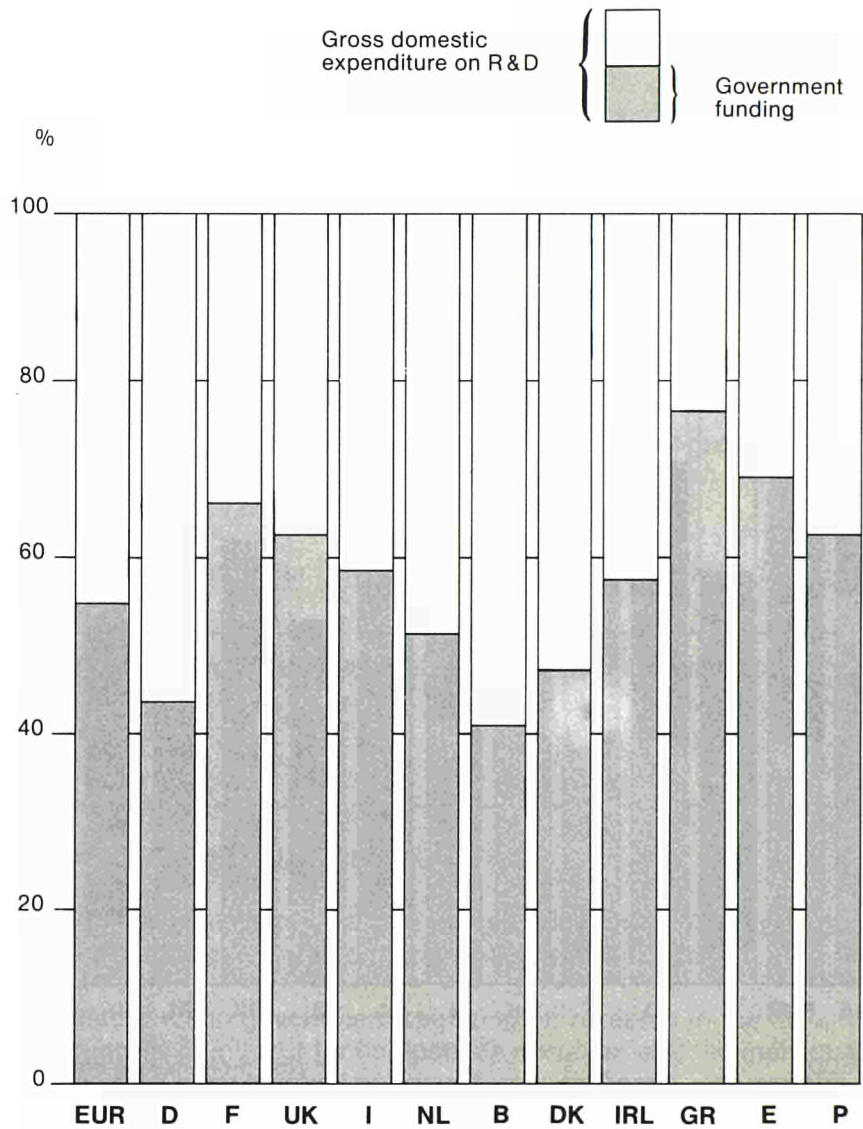


Source: OECD.

The following graph shows the actual share of government financing in total R&D expenditure in the Member States:

Graph C

Total R&D expenditure and the share of government funding within the Member States



Source: OECD.

In seven Member States the share of government financing in gross domestic expenditure on R&D was above the Community average of 56%. These were: F (67%), UK and P (63%), I (59%), IRL (58%), GR (78%), E (70%).

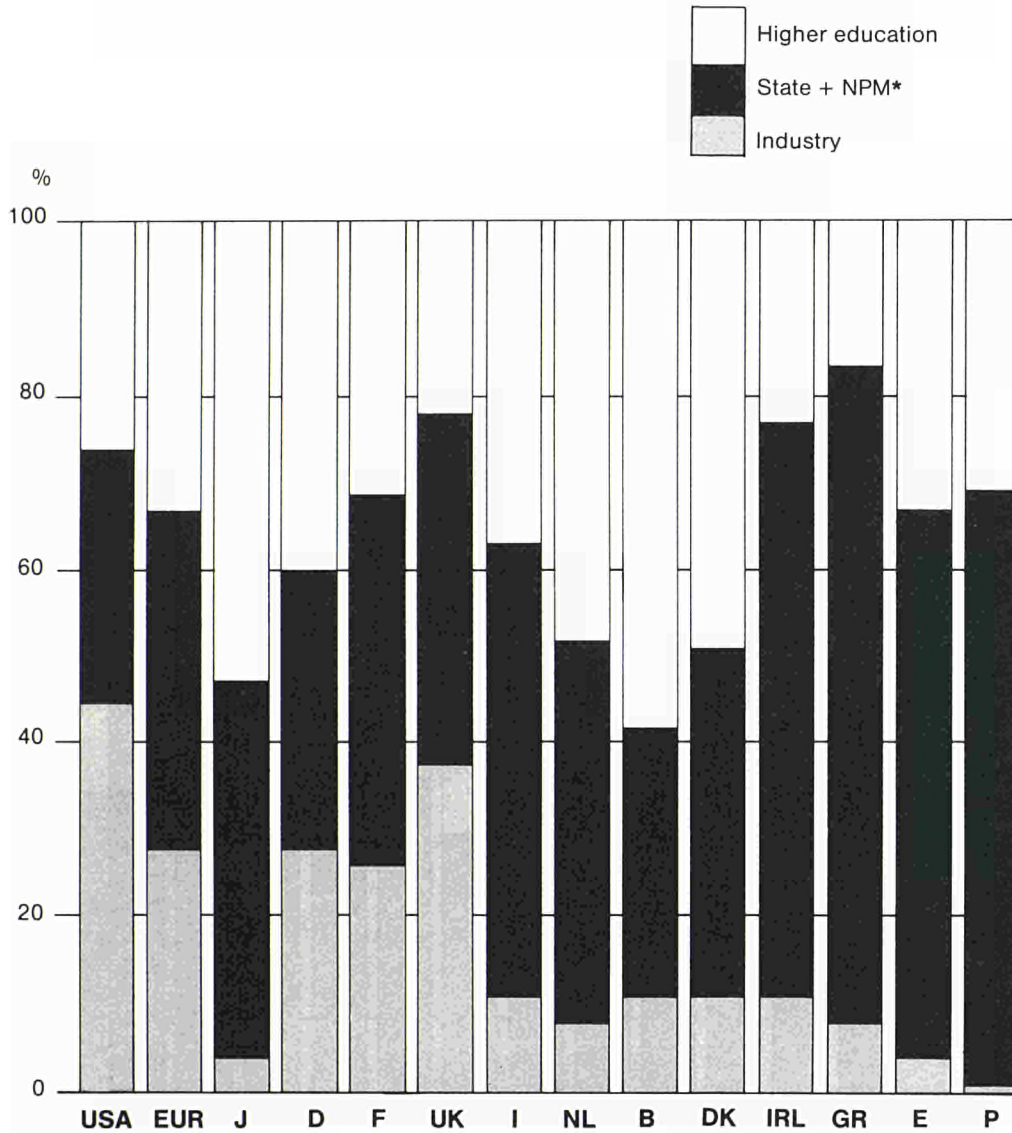
In other Member States, the share accounted for by government financing was considerably below the Community average: NL (52%), DK (48%), D (44%), B (41%).

1.2.3. Breakdown of government financing of gross domestic expenditure on R&D by sector

Turning to the question of how government funding is actually shared between the three main sectors of research expenditure, namely industry, the public sector and non-profit-making organizations, and higher education, the situation is illustrated in the following graph.

Graph D

Breakdown of government funding of gross domestic R&D expenditure by sector



Source: OECD.

* Non-profit-making organizations.

The Community occupies an intermediate position between the United States of America and Japan as regards the breakdown of government financing of gross domestic expenditure on R&D: the USA, the Community of Ten and Japan respectively allocate 45%, 28% and 4% of government financing to enterprises and 26%, 33% and 52% to higher education.

In one Member State, France, the breakdown of government funding of R&D is identical to the Community average.

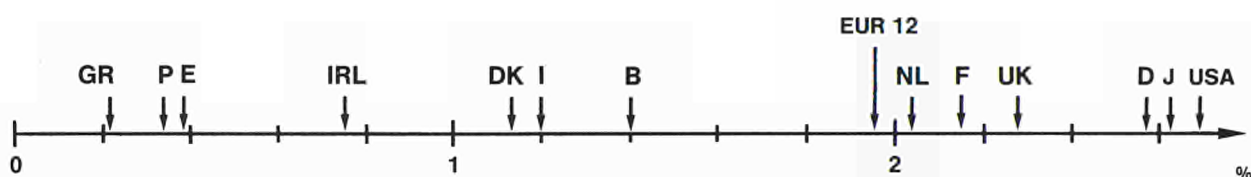
Of the other Member States, the United Kingdom is the country whose configuration is closest to that of the United States, while in the Netherlands, Belgium and Denmark the breakdown more closely resembles that of Japan.

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

If gross domestic expenditure on R&D is related to gross domestic product to give an idea of the impact of research spending on the economy, the position of the various countries can be illustrated as follows:

Graph E

Ratio of gross domestic R&D expenditure to gross domestic product



Amongst the Member States, only one country had in 1983 a ratio of gross domestic expenditure to gross domestic product well above the Community average of (1.95%) and close to those of Japan (2.61%) and the United States (2.70%); this was Germany (2.58%).

Three countries were just above the Community average: UK (2.27%), France (2.15%) and the Netherlands (2.03%).

The ratios in the other countries were well under the Community average.

2. TRENDS IN BUDGET APPROPRIATIONS FOR R&D

It should be explained first of all that the data relating to the Community in paragraph 2 *et seq.* refer to R&D budget appropriations as defined in the NABS nomenclature.

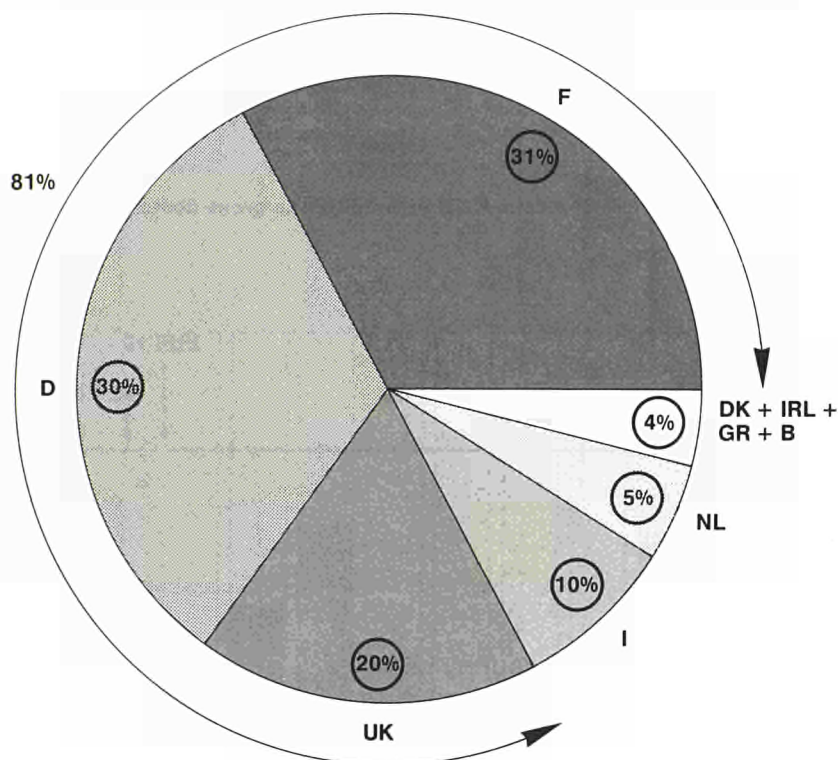
Before examining the trends in government spending on research in the Community as a whole, the non-member countries of interest for comparison purposes and the individual Member States, it might be useful to show comparative importance of each Community country.

2.1. Trends in the breakdown of budget appropriations for R&D 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 1975 exchange rates will be used. If the choice of 1975 as a reference year for comparing R&D budget data seems somewhat arbitrary, it should be remembered that 1975 is also the year chosen as a reference basis for all Community statistics, of which those on research spending are a part. The breakdown of budget appropriations for R&D within the Community on that basis is shown in Graph F.

Graph F

Breakdown of budget appropriations for R&D
(at 1975 prices and exchange rates) within the Community in 1984



In 1984 the three largest countries (Germany, France and the United Kingdom) together accounted for 80% of total government financing of R&D (in real terms). This share, which in 1975 was close to 85%, has fallen slightly over the years. This changing pattern is essentially due to the slower rate of increase in budget appropriations for R&D in the Federal Republic of Germany relative to the Community average and to the very pronounced growth in R&D funding in Italy in recent years (see Table 3 in the statistical annex and Graph G).

2.2. Trends in R&D budget appropriations for the Community as a whole

2.2.1. Trends in overall budget appropriations

In 1984 R&D budget appropriations for the Community of Ten amounted to 31 100 million EUA, a nominal increase of 2 300 million EUA or 8.1% over 1983. This increase in nominal terms is below the annual rate of growth in government R&D spending over the period 1975-84, which is 11.7% (see Table 1 in the statistical annex).

The main reason for this downward trend in the Community average is the slower rate of increase in budget appropriations for R&D in the Federal Republic of Germany, compared to the Community of Ten as a whole. The introduction of a new method of accounting for budget appropriations for R&D in conjunction with the use of the 1983 version of NABS provides only part of the explanation for this trend.

In terms of 1975 prices and exchange rates, R&D budget appropriations in the Community of Ten increased by some 1.8% in 1984. This rate is below the annual average of 2.1% recorded over the period 1975-84.

A comparison of provisional budgets for 1984 and 1985 indicates that this rate of growth is likely to slow down significantly.

2.2.2. Trends in budget appropriations for civil R & D

Budget appropriations for civil R&D expressed in 1975 prices and exchange rates were up by 0.6% in 1984 over 1983, giving a rate of growth considerably lower than that for total government R&D financing (2%). This gap is not confined to 1984 and is part of an underlying trend that has been evident, apart from the occasional slight improvement, since 1975.

A comparison of the provisional budgets for 1984 and 1985, far from heralding a reversal of this trend, suggests that appropriations for civil R&D will not increase and may even fall in real terms.

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

The ratio of government R&D financing to total budgets has hovered around the 3.2% mark since 1979, without showing any definite upward or downward trend (see Graph H).

This relative stability contrasts sharply with the trend in government R&D financing related to gross domestic product.

2.2.4. Trends in the ratio of R&D budget appropriations to gross domestic product

In contrast to the previous ratio, this ratio has steadily increased since 1979, even though the rate of increase has slackened somewhat since 1982 (see Graph I).

2.3. Comparison with non-member countries

It is still practically impossible to obtain meaningful statistics for Japan that allow comparison with the Community. The only figures available for R&D budget appropriations are partial estimates which, for various reasons, do not go beyond 1981-82. Suffice to point out that it is extremely difficult to single out R&D expenditure within the Japanese budget and that the only estimates available are those for domestic research which disregard government funding for research outside Japan. Consequently, there is no alternative but to make use of the figures for government R&D financing taken from the OECD biennial surveys which stop at 1981-82. Since these data already appear in the report on government R&D financing for 1975-84, the comparative analysis will be confined to trends in the United States of America, based on the US Federal budget figures published by the National Science Foundation.

2.3.1. Trends in total budget appropriations

In 1984 total Federal expenditure on R&D was USD 44 200 million, an increase of nearly 14% in nominal terms and well above the annual average growth rate recorded since 1975. After deflation by the implicit index used to calculate gross domestic product (see Table 16.2), Federal research spending on R&D increased by some 10% in volume, which is close to the annual average rate of growth in Federal spending on R&D for the period 1975-84.

Judging by the estimates for 1985, this trend is likely to continue.

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

Federal appropriations for civil R&D increased by much less than the total Federal R&D budget (around 4% compared to 8%). This trend, which has been particularly marked since 1980, has resulted in a fall in the volume of budget appropriations for civil R&D over the period 1975–84.

2.3.3. *Trends in the ratio of budget appropriations for R&D to gross domestic product*

Measured in relation to its gross domestic product, the intensity of Federal R&D financing declined during the period 1975–80, but picked up again in 1984 to regain its 1975 level (1.23%).

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

2.4.1. *Trends in budget appropriations for R&D in the Member States*

The increase of 1.8% in real terms in budget appropriations for R&D for the Community as a whole in 1984 naturally conceals very differing trends in the individual Member States:

- (i) Two countries recorded an appreciable growth in government R&D appropriations in 1984: these were Greece and Denmark.

However, the data for the latter country for 1983 and 1984 relate to different bases and are therefore not easy to compare.

- (ii) One country is continuing to record very high growth in real terms, namely Italy (9.2%).
- (iii) In two countries, budget appropriations for R&D increased at a rate comparable to the Community average: these are France (3.1%) and the United Kingdom (1.4%).
- (iv) In the Netherlands there was no increase in government R&D spending.
- (v) In Belgium, the Federal Republic of Germany and Ireland, budget appropriations for research declined in real terms: Belgium (–1.2%), Federal Republic of Germany (–1.7%), Ireland (–4.8%).

It should be noted that the decline recorded for the Federal Republic of Germany is slightly less significant than the figures suggest owing to the alteration to the method of evaluation explained in Section 4.1.

The outlook which emerges from a comparison of the provisional budgets for 1984 and 1985 indicates that the situation will change in 1985 compared to 1984 in the following respects (see Table I):

- (i) R&D spending will decrease in real terms in France, the Netherlands and the United Kingdom.
- (ii) Italy, Ireland and Greece are likely to record a slight increase in R&D appropriations in real terms.
- (iii) The growth in the volume of budget appropriations for R&D in two Member States, namely the Federal Republic of Germany and Belgium, is likely to pick up sharply.

Lastly, the very marked increase in Denmark is largely explained by the different basis used to estimate provisional appropriations for 1984 and 1985.

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

As mentioned in Section 2.2.2, the increase in budget appropriations allocated to civil R&D at Community level was less than the increase in the total volume of R&D funding in 1984 (0.6% compared to 1.8%).

In fact, this trend is quite a pronounced feature of all the national budgets in 1984, with the exception of Ireland which does not carry out defence research.

Moreover, a comparison of the provisional budgets for 1984 and 1985 expressed in 1975 prices and exchange rates indicates that this trend is likely to continue for all the Member States except Ireland and France.

2.4.3. Trends in the ratio of budget appropriations for R&D to total budgets in the Member States

The relative stability in this ratio for the Community as a whole observed over recent years is reflected in only the Federal Republic of Germany and Denmark. The ratio has therefore increased over the same period in some countries (France, United Kingdom, Italy) and declined in others (Belgium, the Netherlands, Ireland).

2.4.4. Trends in the ratio of R&D budget appropriations to gross domestic product in the Member States

The upward trend in this ratio in recent years for the Community as a whole is reflected in only four countries: France, the United Kingdom, Italy and Denmark.

In the other countries, this ratio has tended to hover around an average value below or close to the rate recorded in 1975.

Table I

General characteristics of budget appropriations for R&D in 1984

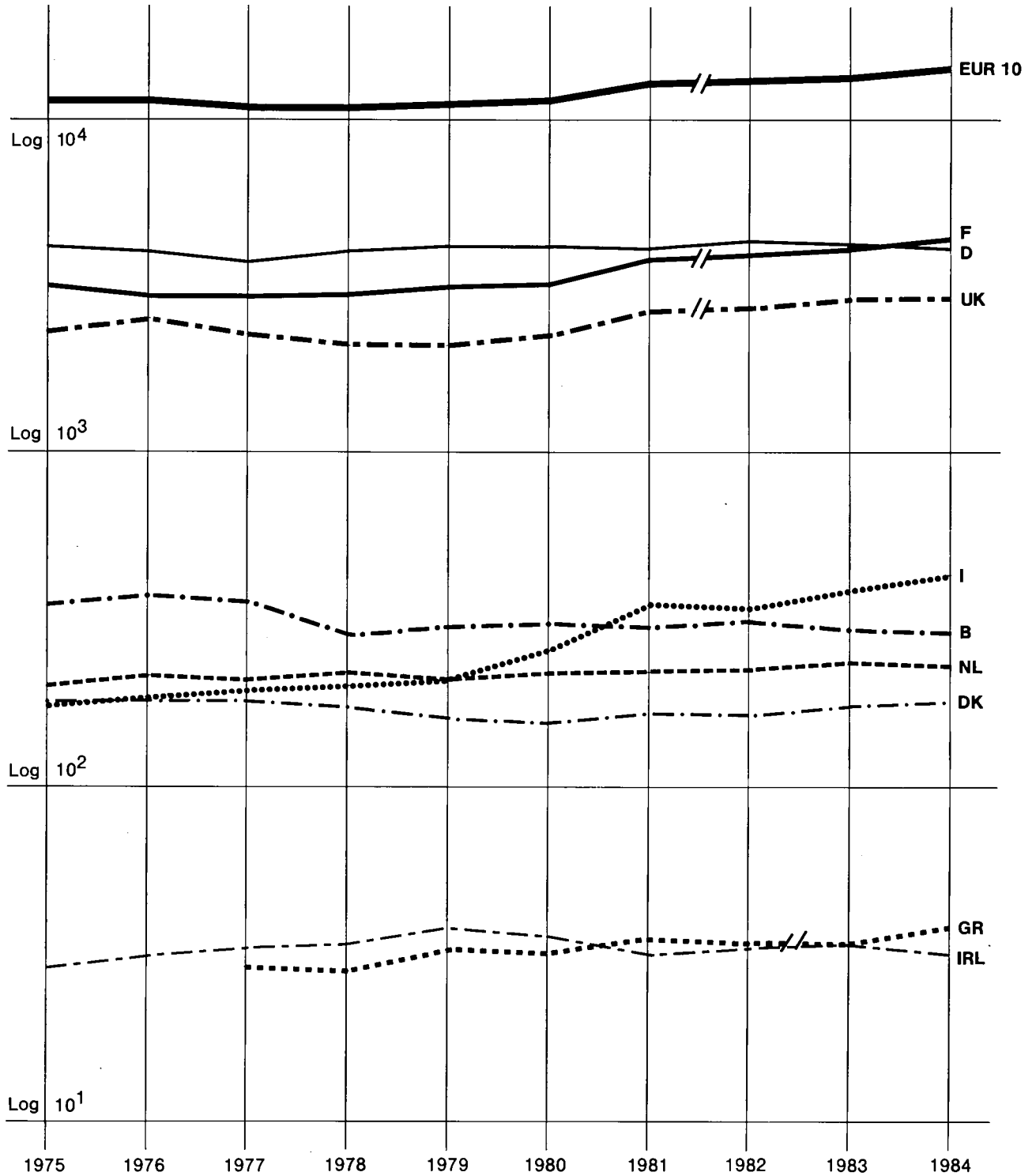
	Final R&D appropriations in 1984 at current values and exchange rates		Government R&D appropriations at 1975 prices and exchange rates						Ratio of government R&D appropriations to total budget		Ratio of government R&D appropriations to gross domestic product	
			Annual average rate of change				Contribution of Member States to the Community total					
	(Mio EUA)		(%)				(%)		(%)		(%)	
	Total	Civil	Total		Civil		1975	1984	1975	1984	1975	1984
		1975-84	1984-85 ¹	1975-84	1984-85 ¹							
BR												
Deutschland	8 674	7 809	- 0.2	3.1	- 0.1	- 0.6	36.3	29.5	4.37	4.08	1.23	1.12
France	9 077	6 044	3.3	- 1.0	2.7	0.9	27.7	30.7	5.50	6.20	1.17	1.45
Italia	3 369	3 088	10.3	0.2	9.7	- 2.1	4.9	9.7	1.40	1.58	0.36	0.77
Nederland	1 529	1 482	1.9	- 1.0	1.9	- 1.0	5.6	5.5	3.15	2.38	0.96	0.98
Belgique/België	569	569	- 2.4	3.8	- 2.3	3.8	3.2	2.3	2.23	1.36	0.73	0.59
United Kingdom	7 294	3 621	2.1	- 2.1	1.2	- 6.6	20.6	20.4	2.86	3.20	1.27	1.35
Ireland	86	86	1.1	0.9	1.1	0.9	0.2	0.2	0.94	0.77	0.44	0.39
Danmark	373	370	0.7	15.2	0.7	14.7	1.6	1.4	1.76	1.63	0.58	0.54
Ellada	101	97	-	-	-	-	-	0.3	-	0.66	-	0.24
EUR 10	31 071	23 165	2.1	0.7	1.8	- 0.1	100.0	100.0	3.59	3.26	1.03	1.12
European Communities	442	442	-	-	-	-	-	-	-	-	-	-

¹ Comparison of provisional budgets.

Graph G

Trend in budget appropriations for R&D (at 1975 prices and exchange rates)

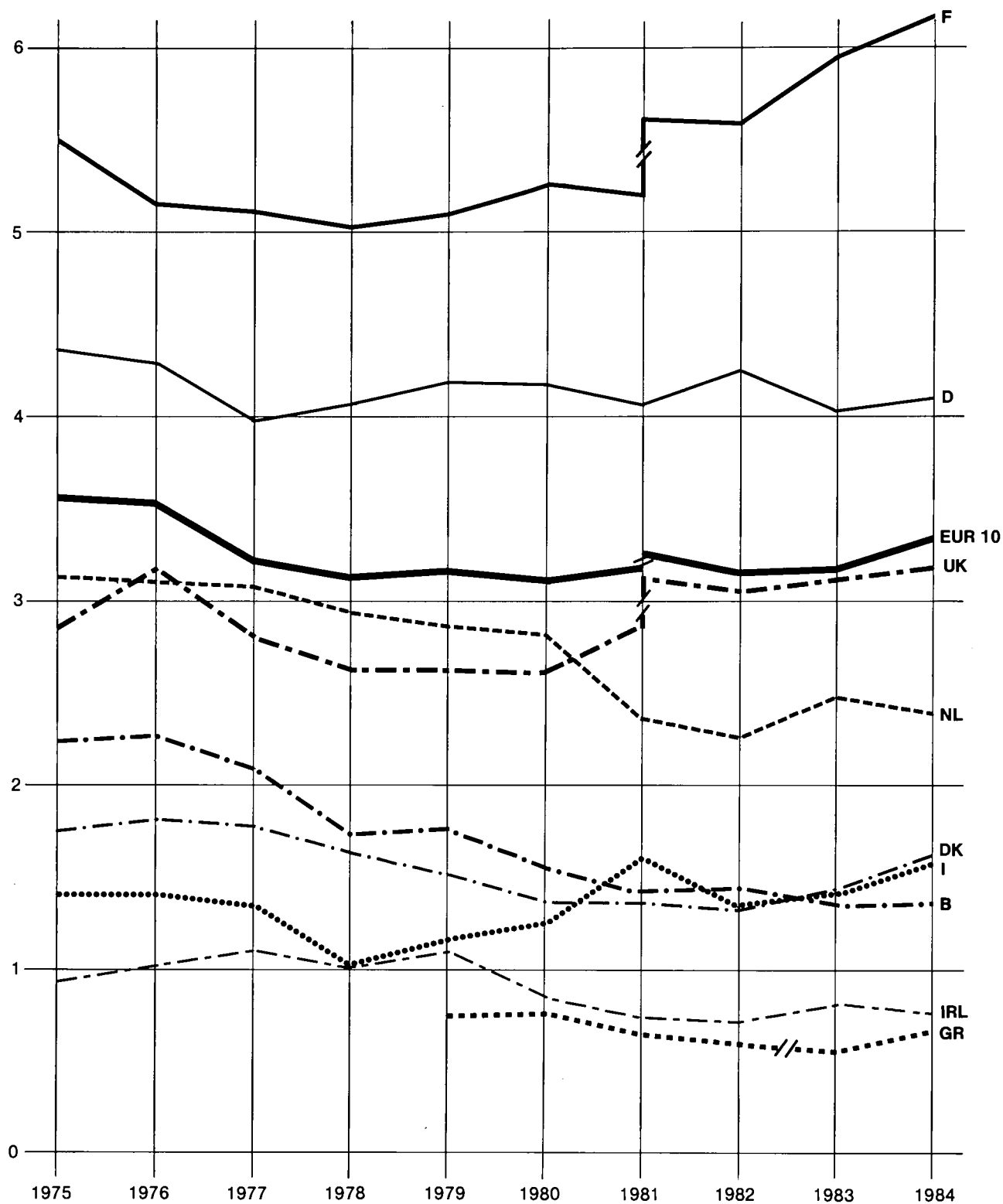
Log MioECU



Note: The double slash (//) indicates a break in the series.

Graph H

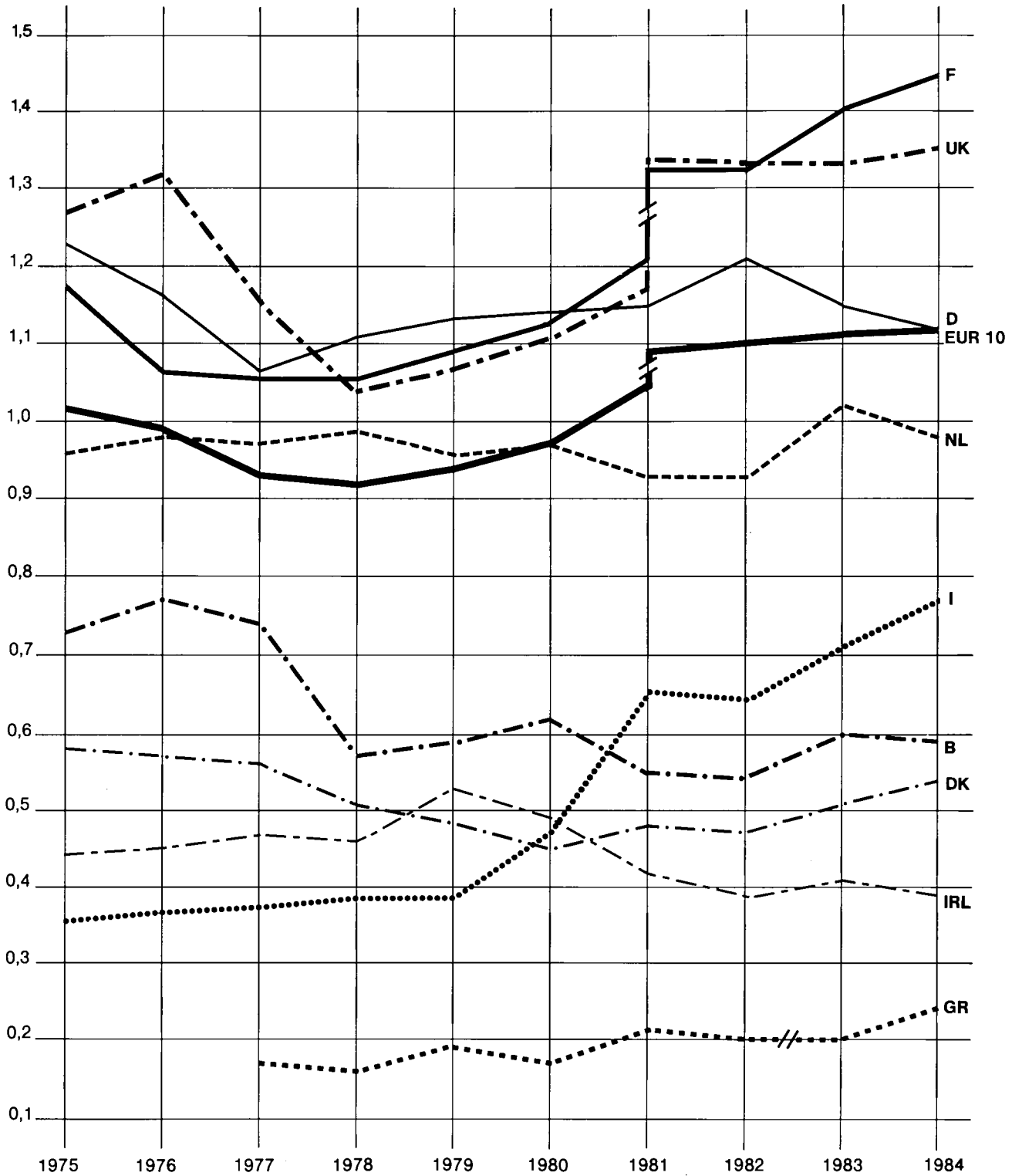
Trends in the ratio of government financing of R&D to the total budget



Note: The double slash (//) indicates a break in the series.

Graph I

Ratio of government financing of R&D to gross domestic product



Note: The double slash (//) indicates a break in the series.

3. CHANGES IN THE STRUCTURE OF R&D BUDGET APPROPRIATIONS BY OBJECTIVES

A distinction will be made here between civil and defence appropriations.

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

Although there are important differences in the structure of R&D appropriations from one country to another, there is one characteristic feature which is common to all countries, namely the prime importance attached to 'research financed from general university funds' (Chapter 10) and also, in some countries, to defence.

At Community level, research financed from general university funds received more than 20% of total government R&D funding in 1984. Only defence accounted for a larger percentage (see Table V).

While the share of total funding allocated to research financed from general university funds is equal to the Community average in two countries (Italy, Ireland), most countries allocate an even larger share of funding to this objective (Germany, Netherlands, Belgium, Denmark, Greece). Only France is below the Community average, but it should be pointed out that 'non-oriented research' (Chapter 11) accounts for a larger proportion of funding in France than in most of the other Member States.

In order to be able to analyse the broad pattern of R&D budget appropriations, it was felt preferable to classify related objectives in main groups as shown in Table II.

Table II

EUR 10: Government R&D financing classified by groups of objectives

(%)

Groups of NABS objectives	Final budgets		Provisional budgets	
	1983	1984	1984	1985
2-3-4-8 Human and social objectives	9.5	9.8	9.5	9.8
1-5-7-9 Technological objectives	27.9	27.6	27.9	26.8
6 Agriculture	4.1	4.0	4.1	3.9
10 Research financed from general university funds	22.4	21.8	22.4	21.4
11 Non-oriented research	10.6	10.5	10.6	11.0
12 Other civil research	0.9	0.8	1.0	0.9
13 Defence	24.5	25.5	24.5	26.2
Total	100.0	100.0	100.0	100.0

Between 1983 and 1984 there is no sign of any major structural changes in the Community of Ten, apart from a slight shift in the balance, mainly to the benefit of defence. Although this movement is only slight, it is nevertheless common to all the Community countries.

Within this general trend, the objective 'research financed from general university funds' has been most noticeably affected by a lower rate of growth than the other groups of objectives (despite its marked increase in France for methodological reasons – see Section 4.2). This decline in the share of overall R&D budget appropriations allocated to Chapter 10 is observed chiefly in three countries: Italy (23.2% in 1983; 20.2% in 1984), United Kingdom (15.5% in 1983; 14.7% in 1984) and the Netherlands (47.8% in 1983; 47.0% in 1984).

The main reason for the relative stability in the share of appropriations for non-oriented research in the Community of Ten is that the declining share in France (again linked to the alteration of the method) is offset by a corresponding increase in the other countries.

The slightly lesser increase in the share of technological objectives, again for the Community of Ten, is observed in practically all Member States and more particularly in three of them, where technological objectives accounted for the following percentages of total R&D budget appropriations: Italy (50.3% in 1983; 48.8% in 1984), Ireland (28.2% in 1983; 25.6% in 1984) and Denmark (31.2% in 1983; 27.6% in 1984).

Lastly, social and human objectives showed a broadly upward trend which was particularly noticeable in three countries where the share of total R&D budget appropriations allocated to this group of objectives was as follows: Italy (8.6% in 1983; 11.9% in 1984), the Netherlands (13.1% in 1983; 14.0% in 1984) and Ireland (19.7% in 1983; 20.7% in 1984).

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

Government financing of civil R&D accounted for three-quarters of the total Community research budget in 1984. The individual shares differed considerably from one country to another: 100% in Ireland, over 95% in the Netherlands, Belgium, Denmark and Greece. around 90% in Italy and Germany, 66% in France and 50% in the United Kingdom.

For the Community as a whole, the appropriations breakdown is shown in Table III.

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

(%)

NABS objectives	Final budgets		Provisional budgets	
	1983	1984	1984	1985
1. Exploration and exploitation of the earth	2.3	2.2	2.5	2.3
2. Infrastructures and general land-use planning	3.1	3.2	3.3	3.0
3. Control of environmental pollution	2.1	2.1	2.2	2.2
4. Protection and improvement of human health	5.0	5.5	4.8	5.3
5. Production, distribution and rational utilization of energy	14.1	14.2	13.7	13.1
6. Agricultural productivity and technology	5.4	5.4	5.6	5.3
7. Industrial productivity and technology	15.6	15.0	15.6	15.2
8. Social structures and relationships	2.3	2.4	2.3	2.9
9. Exploration and exploitation of space	4.9	5.6	5.8	5.4
10. Research financed from general university funds	29.6	29.3	28.6	29.0
11. Non-oriented research	14.0	14.1	14.1	15.2
12. Other civil research	1.5	1.0	1.4	1.3
Total civil R&D financing	100.0	100.0	100.0	100.0

Leaving aside, for the purpose of the analysis of this table, Chapters 10 and 11 dealt with earlier and Chapter 13, which is the subject of the following paragraph, a study of Tables II and VII shows that technological objectives have been subject to the widest variations:

The first point to note is that, within this group of objectives, financing of industrial research increased at a slower rate than financing of energy and, especially, space.

Apart from Denmark and Greece, the share of appropriations for industrial research fell in 1984, particularly in Italy (23.6% in 1983 against 19.9% in 1984) and in Ireland (23.3% in 1983 against 21.6% in 1984), the two countries in which industrial research is accorded the highest priority at national level. In the case of Ireland this is due to a reduction in the amount of money allocated to private industry in the form of research and development grants.

Research in the energy field saw its share decline in the United Kingdom (10.5% in 1983 against 10.2% in 1984), Ireland (3.0% in 1983 against 1.8% in 1984) and Denmark (10.1% in 1983 against 6.2% in 1984), whereas it increased noticeably in Italy (23.3% in 1983 and 24.8% in 1984), which is the only country among the Member States to allocate such a high percentage of its R&D financing to energy research.

The marked increase in appropriations for space research is particularly noticeable in France and Italy.

The relative increase in budget appropriations allocated at Community level to social and human objectives is particularly noticeable in the chapter on human health and particularly so in Italy where the share of government R&D financing for such research rose from 4.3% in 1983 to 9% in 1984.

3.3. Changes in the structure of defence spending

Military research, which accounted for 25% of total R&D financing at Community level in 1984, was mainly concentrated in three countries as shown in Table IV.

Table IV
Defence financing as % of total R & D financing

Country	Final budgets		Provisional budgets	
	1983	1984	1984	1985
United Kingdom	49.1	50.4	49.6	51.7
France	32.7	33.4	31.3	31.3
Federal Republic of Germany	9.6	10.0	9.8	12.0
EUR 10	24.5	25.5	24.8	26.2

Table IV illustrates the marked rise in military R&D spending observed in 1984.

Table V

Breakdown of final R&D budgets by objectives in 1975 and 1984 (%)

NABS objectives	D		F		I		NL		B	
	1975	1984	1975	1984	1975	1984	1975	1984	1975	1984
1. Exploration and exploitation of the earth	1.8	2.0	3.0	1.5	1.1	1.4	1.0	0.6	2.5	2.6
2. Infrastructure and general planning of land use	2.6	2.2	4.5	3.1	1.3	1.5	5.8	4.6	1.4	2.6
3. Control of environmental pollution	1.0	3.0	0.8	0.4	0.6	0.8	2.4	3.2	1.8	2.2
4. Protection and improvement of human health	3.3	3.2	4.0	3.8	2.2	8.3	4.0	2.4	2.0	7.6
5. Production, distribution and rational utilization of energy	10.5	15.2	8.6	7.7	17.6	22.8	4.5	4.7	13.2	7.8
6. Agricultural production and technology	1.9	2.1	3.8	3.7	3.0	5.0	7.6	5.0	4.4	6.6
7. Industrial production and technology	7.4	12.0	14.3	11.1	10.3	18.2	4.7	9.4	13.3	11.2
8. Social structures and relationships	4.9	2.3	1.1	1.6	1.3	1.3	7.2	3.8	4.9	5.1
9. Exploration and exploitation of space	4.2	3.9	5.6	5.6	8.5	6.4	2.4	2.5	3.6	6.7
10. Research financed from general university funds	51.5	32.6	24.1	12.1	50.8	20.2	54.3	47.0	52.2	36.2
11. Non-oriented research		11.4		14.4		5.7		9.8		11.3
12. Other research	-	0.1	0.4	1.6	-	0.1	2.6	3.1	-	-
Total financing of civil R&D	89.0	90.0	70.2	66.6	96.6	91.7	96.5	96.1	99.3	99.8
13. Defence	11.0	10.0	29.8	33.4	3.4	8.3	3.5	3.9	0.7	0.2
Total financing	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

¹ EUR 9.

Table V

Breakdown of final R&D budgets by objectives in 1975 and 1984 (%)

	UK		IRL		DK		GR		EUR 10		NABS objectives
	1975	1984	1975	1984	1975	1984	1975	1984	1975 ¹	1984	
	0.7	1.7	2.9	0.6	1.7	1.7	.	5.9	1.9	1.7	1. Exploration and exploitation of the earth
	2.5	1.4	7.6	6.9	1.5	2.3	.	3.4	3.1	2.4	2. Infrastructure and general planning of land use
	0.6	1.2	3.1	1.6	1.9	1.5	.	8.6	1.1	1.5	3. Control of environmental pollution
	2.8	3.6	3.9	4.7	5.7	3.5	.		3.4	4.1	4. Protection and improvement of human health
	7.3	5.1	0.7	1.8	2.8	6.1	.	3.2	9.9	10.6	5. Production, distribution and rational utilization of energy
	4.4	5.0	10.8	30.2	9.7	8.4	.	26.9	3.6	4.0	6. Agricultural production and technology
	12.4	7.1	21.9	21.5	9.5	16.6	.	6.1	10.6	11.2	7. Industrial production and technology
	0.8	0.9	6.7	7.5	4.2	3.7	.	6.8	2.9	1.8	8. Social structures and relationships
	2.3	1.8	0.0	1.6	3.7	3.3	.	0.5	4.2	4.1	9. Exploration and exploitation of space
	19.9	14.7	12.5	20.3	58.7	35.9	.	27.1	37.1	21.8	10. Research financed from general university funds
		6.8		3.2		16.3	7.3	10.5		11. Non-oriented research	
	-	0.3	-	.	.	.	.	0.7	0.3	0.8	12. Other research
	53.6	49.6	100.0	100.0	99.3	99.3	.	96.5	78.0	74.5	Total financing of civil R&D
	46.4	50.4	.	.	0.7	0.7	.	3.5	22.0	25.5	13. Defence
	100.0	100.0	100.0	100.0	100.0	100.0	.	100.0	100.0	100.0	Total financing

¹ EUR 9.

Table VI

Breakdown of provisional R&D budgets by objectives in 1984 and 1985 (%)

NABS objectives	D		F		I		NL		B	
	1984	1985	1984	1985	1984	1985	1984	1985	1984	1985
1. Exploration and exploitation of the earth	2.2	2.1	1.5	1.5	1.5	1.5	0.6	0.6	2.6	2.4
2. Infrastructure and general planning of land use	2.2	1.9	3.1	3.1	1.0	1.2	4.6	4.7	2.6	2.4
3. Control of environmental pollution	2.8	3.1	0.4	0.5	1.9	1.0	3.2	3.1	2.2	2.0
4. Protection and improvement of human health	3.2	3.1	3.8	4.0	3.9	7.1	2.4	2.4	7.6	7.1
5. Production, distribution and rational utilization of energy	15.0	12.8	8.0	7.8	20.7	22.3	4.7	4.5	7.8	7.3
6. Agricultural production and technology	2.5	2.0	3.7	3.5	4.7	5.2	5.0	4.6	6.7	6.2
7. Industrial production and technology	11.6	14.0	11.7	12.1	20.6	8.8	9.4	10.4	11.3	10.5
8. Social structures and relationships	2.4	2.3	1.6	2.6	1.4	1.3	3.8	3.8	5.2	4.8
9. Exploration and exploitation of space	3.9	3.9	5.7	5.6	7.3	7.8	2.5	2.5	6.7	6.2
10. Research financed from general university funds	33.0	31.2	12.0	11.9	21.5	24.0	47.0	46.3	36.5	34.0
11. Non-oriented research	11.4	11.5	14.3	14.4	5.5	8.6	9.8	9.8	11.5	10.7
12. Other research	-	0.1	1.6	1.6	1.1	0.2	3.9	4.3	-	6.2
Total financing of civil R&D	90.2	88.0	77.4	68.7	91.1	89.0	96.9	97.0	99.8	99.8
13. Defence	9.8	12.0	22.6	31.3	8.9	11.0	3.1	3.0	0.2	0.2
Total financing	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Table VI

Breakdown of provisional R&D budgets by objectives in 1984 and 1985

(%)

UK		IRL		DK		GR		EUR 10		NABS objectives
1984	1985	1984	1985	1984	1985	1984	1985	1984	1985	
1.7	1.7	0.6	0.9	1.7	1.5	.	5.8	1.7	1.7	1. Exploration and exploitation of the earth
1.5	1.3	6.9	6.6	2.9	2.3	.	3.2	2.3	2.2	2. Infrastructure and general planning of land use
1.2	1.2	0.9	1.6	1.1	1.5	.	2.8	1.6	1.6	3. Control of environmental pollution
3.5	3.5	4.2	4.4	4.6	3.4	.	6.3	3.6	3.9	4. Protection and improvement of human health
4.8	4.6	2.3	1.9	7.2	4.7	.	2.6	10.3	9.7	5. Production, distribution and rational utilization of energy
5.0	4.8	29.3	29.2	7.2	7.7	.	28.0	4.0	3.9	6. Agricultural production and technology
8.5	7.3	24.9	23.3	18.0	21.3	.	8.1	11.8	11.2	7. Industrial production and technology
0.7	1.0	8.0	7.1	2.9	4.0	.	6.5	1.8	2.1	8. Social structures and relationships
2.2	1.4	1.6	1.5	3.4	3.2	.	0.5	4.4	4.2	9. Exploration and exploitation of space
14.6	14.1	19.0	20.4	35.1	32.9	.	25.4	22.0	21.4	10. Research financed from general university funds
5.1	7.1	2.3	3.1	15.5	16.8	.	7.3	10.1	11.0	11. Non-oriented research
1.8	0.3	.	.	0.2	.	.	0.7	1.2	0.9	12. Other research
50.6	48.3	100.0	100.0	99.8	99.3	.	97.1	74.8	73.8	Total financing of civil R&D
49.4	51.7	.	.	0.2	0.7	.	2.9	25.2	26.2	13. Defence
100.0	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&D by objectives in 1983 and 1984 (% of total civil R&D)

NABS objectives	D		F		I		NL		B	
	1983	1984	1983	1984	1983	1984	1983	1984	1983	1984
1. Exploration and exploitation of the earth	2.1	2.2	2.6	2.2	1.8	1.6	0.6	0.6	2.5	2.6
2. Infrastructure and general planning of land use	2.5	2.5	4.8	4.6	1.1	1.7	4.6	4.7	2.9	2.6
3. Control of environmental pollution	3.1	3.3	0.5	0.6	2.2	0.9	2.9	3.3	2.1	2.2
4. Protection and improvement of human health	3.6	3.6	6.1	5.7	4.3	9.0	2.3	2.6	7.5	7.6
5. Production, distribution and rational utilization of energy	16.8	16.9	11.8	11.6	23.3	24.8	4.7	4.9	6.9	7.8
6. Agricultural production and technology	2.7	2.3	5.4	5.6	5.5	5.5	5.1	5.1	4.3	6.6
7. Industrial production and technology	13.3	13.3	17.6	16.7	23.6	19.9	10.0	9.7	13.4	11.2
8. Social structures and relationships	2.7	2.6	2.0	2.4	1.6	1.4	3.7	3.9	5.5	5.2
9. Exploration and exploitation of space	4.5	4.4	7.2	8.4	4.6	7.0	2.8	2.6	5.9	6.7
10. Research financed from general university funds	36.4	36.2	16.1	18.2	24.6	22.0	49.2	48.5	37.1	36.3
11. Non-oriented research	12.3	12.7	23.9	21.6	6.2	6.2	9.4	10.1	11.9	11.4
12. Other research	-	0.0	2.0	2.4	1.2	0.0	4.7	4.4	-	-
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

¹ For EUR 10, see Table III.

4. SPECIAL FEATURES OF GOVERNMENT R&D FINANCING IN EACH MEMBER STATE

4.1. Federal Republic of Germany

4.1.0. Preliminary remark

At the same time as the revised Nomenclature for the analysis and comparison of scientific programmes and budgets (NABS 1983) was first used in 1983, modifications were also made to the methods for representing the Federal Republic of Germany's government financing of R&D, particularly changes in the R&D portions allotted to Federal science institutions. For the first time the modified method can now be applied in its complete form, i. e. including the science institutions of the *Länder*, to the final estimate for 1984.

Since the provisional estimate for 1984 does not yet take into account this change of method (in the *Länder* data), there is an inbuilt discrepancy between the provisional and final estimates. The overall size of the change amounts in the final estimate for 1984 to DM 148 million, which means without the change of method the R&D expenditure would have been barely 0.8% higher than reported, and it therefore has only a slight effect on the total of the Federal Republic's R&D spending. Only in certain specific NABS chapters (and headings) is the effect greater (Chapters 1, 6 and 8), and therefore has to be taken into account in interpretation of the data.

Table VII

Breakdown of final budgets for civil R&D by objectives in 1983 and 1984 (% of total civil R&D)

UK		IRL		DK		GR		EC ¹		NABS objectives
1983	1984	1983	1984	1983	1984	1983	1984	1983	1984	
3.5	3.4	0.6	0.6	1.7	1.7	7.3	6.0	0.3	0.4	1. Exploration and exploitation of the earth
2.8	2.9	6.8	6.9	2.9	2.3	0.9	3.5	0.1	0.2	2. Infrastructure and general planning of land use
2.1	2.4	0.9	1.7	1.2	1.5	3.1	2.5	10.2	9.7	3. Control of environmental pollution
7.4	7.3	4.0	4.7	4.4	3.6	6.2	6.4	1.5	1.8	4. Protection and improvement of human health
11.5	10.2	3.0	1.8	10.1	6.2	2.6	3.4	71.5	71.7	5. Production, distribution and rational utilization of energy
10.3	10.1	30.6	30.2	7.8	8.5	23.9	27.9	1.5	0.7	6. Agricultural production and technology
14.0	14.3	23.3	21.6	16.0	16.7	6.1	6.4	12.6	12.6	7. Industrial production and technology
1.3	1.8	8.0	7.5	2.7	3.7	7.4	7.0	0.8	0.8	8. Social structures and relationships
3.7	3.7	1.3	1.6	3.4	3.3	-	0.5	1.2	1.3	9. Exploration and exploitation of space
30.5	29.7	18.2	20.3	34.8	36.1	30.8	28.1	-	-	10. Research financed from general university funds
10.6	13.6	3.5	3.2	15.0	16.4	11.7	7.6	0.3	0.8	11. Non-oriented research
3.3	0.6	-	-	0.0	-	-	0.7	-	-	12. Other research
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

¹ For EUR 10, see Table III.4.1.1. *Development of R&D spending overall*

According to the final budgets of the Federal Republic and of the Länder, government-financed R&D expenditure in the Federal Republic of Germany in 1984 amounted to DM 19 400 million. Compared with expenditure for financial year 1983 (DM 19 100 million) this amounts to a nominal increase of 1.7%; disregarding the changed R&D portions allotted to the science institutions of the Länder the increase would be 2.4%.

R&D expenditure for 1985 calculated on the basis of the provisional Federal and *Land* budgets – in part supplemented by additional estimates – amounts to DM 20 800 million, 6% higher than the comparable figure for 1984 and as much as 7.4% above the final budget for 1984.

Whereas, therefore, in real terms a slight fall in R&D expenditure was noted in 1984 compared with 1983 (for an estimated 3.4% increase in the R&D price index), which was partly to be attributed to the change of method, again in real terms an increase is to be expected for 1985.

Looking at the development of R&D expenditure on individual groups of research objectives (see Table VIII-1), it is apparent that between 1983 and 1984 (final budgets) only insignificant structural modifications were made (even taking into account the change of method, which has more effect only in the agricultural sector), whereas for 1985 (provisional budgets) there is a slight structural shift away from general university research and towards defence research.

Table VIII-1

Government R&D financing classified by groups of objectives

(%)

Groups of NABS objectives	Final budgets		Provisional budgets	
	1983 ¹	1984	1984 ¹	1985
2-3-4-8 Social and human objectives	10.7	10.8 (10.7)	10.6	10.4
1-5-7-9 Technological objectives	33.2	33.1 (33.1)	32.6	32.8
6 Agriculture	2.4	2.1 (2.5)	2.4	2.0
10 Research financed from general university funds	32.9	32.6 (32.4)	33.0	31.2
11 Non-oriented research	11.1	11.4 (11.4)	11.4	11.5
13 Defence	9.6	10.0 (9.9)	9.8	12.0
Total	100.0	100.0	100.0	100.0

¹ Revised final estimate, therefore slight variations from previous report.

² Figures in brackets show the portions allotted without taking into account the change of method.

The almost unchanged shares of the social and human objectives and of the technological objectives between 1983 and 1985 contrast, however, with differing developments in individual chapters:

As regards the social and human objectives, in the final estimate for 1984 Chapter 8 shows a reduction of funds against 1983 and Chapter 3 an above-average increase which becomes even greater in the provisional estimate for 1985. The 1985 provisional estimate for Chapter 2 expenditure, on the other hand, is down on the corresponding figure for the previous year. The result is a slightly above-average increase in funds for the sector between 1983 and 1984 (final estimate), whilst the comparable values for 1984 and 1985 indicate a below-average increase.

In the technological objectives an above-average increase in expenditure is found in Chapter 1 when comparing the figures for the final estimates for 1983 and 1984; in the 1985 provisional estimate a distinct fall compared with 1984 is to be noted in Chapter 5, together with a far above-average increase in Chapter 7.

The overall result is above-average increases in this sector in both periods.

On the basis of the groups of research objectives, government-financed research expenditure is still concentrated on technological objectives and research financed from general university funds. According to the 1985 provisional budget, 64% of funds go to these two sectors.

4.1.2. R&D expenditure by chapter

In the individual NABS chapters the development of expenditure is as follows:

Chapter 1:

The figures given in the final estimate for budgetary funds for exploration and exploitation of the earth increased more than average (by 8.7%) between 1983 and 1984 (disregarding the change of method the increase would be 20.5%). The increases in expenditure concerned in particular the areas of marine and polar research (headings 1.5 and 1.9 respectively). The key areas of this chapter are headings 1.5 and 1.0.

Chapter 2:

According to the final estimate for 1984 the increase in funds over the 1983 figures was about average (2.0%), but the provisional estimate for 1985 shows a likely 8.1% decline in headings 2.1 and 2.4. As before, the key area of this chapter remains heading 2.4 (transport systems).

Chapter 3:

In this chapter the considerable increase in R&D spending (17.7%) which is revealed by the provisional estimate for 1985 was already preceded in 1984 by an 8% increase over 1983 (final estimate) to the benefit of headings 3.0 and 3.5. General research, accounting for more than half of the total expenditure, is the key area in the sector of the control of environmental pollution.

Chapter 4:

The slightly above-average increase (2.9%) in R&D expenditure for the protection and improvement of human health which is found when the final-estimate figures for 1984 are compared with those for 1983 benefited headings 4.1 and 4.3 in particular.

Chapter 5:

Here expenditure according to the final estimate rose by 1.8% between 1983 and 1984, an average increase. A slight drop in Federal funding was countered by a considerable increase (32.9%) in funds from the Federal *Länder*. The cutbacks of almost 10% shown by the provisional estimate for 1985 mainly affect heading 5.2, the key area of expenditure in the energy research field.

Chapter 6:

Comparison of the figures of both the 1983 and 1984 final estimates and the 1984 and 1985 provisional estimates reveals a fall in spending in the chapter concerning agricultural productivity and technology (13.8% and 13.5% respectively). The drop in the final estimate between 1983 and 1984 is entirely the result of the change in the R&D portions.

Chapter 7:

After stagnation of the final-estimate expenditure between 1983 and 1984 the provisional estimate for 1985 indicates a considerable increase in R&D spending in the area of industrial productivity and technology (27.8% over the provisional estimate for 1984). A substantial proportion of this will go towards increasing economic efficiency and competitiveness (heading 7.1). In headings 7.2 and 7.5 also (in the latter case above all through the promotion of civil aircraft construction) outside increases in expenditure are to be noted. The three headings mentioned accounted for more than two-thirds of 1984 expenditure (final estimate).

Chapter 8:

The 1984 final-estimate figures for R&D expenditure in this chapter fell by 4.1% against the corresponding data for 1983; the area of education and training was most affected (heading 8.1). The reduction was caused in part by the change of method mentioned above. According to the provisional estimate there will in 1985 be a slight increase in expenditure over the comparable figure for 1984.

Chapter 9:

After funding of research on the exploration and exploitation of space decreased slightly (0.8%) in 1984 compared with 1983 (final estimate), comparison of the figures in the provisional estimates for 1984 and 1985 shows a 7.7% increase in expenditure, to the benefit of space research.

Chapter 10:

General university funds, mainly financed from the budgets of the Federal *Länder*, show only a below-average increase according to the data available: 0.7% comparing the final-estimate figures for 1983 and 1984 and 0.1% comparing the provisional-estimate figures for 1984 and 1985.

Chapter 11:

The above-average increase in budgetary funds for this chapter between 1983 and 1984 (final estimate) is largely shared between headings 11.1, 11.3 and 11.4. The key area of expenditure remains heading 11.1. More than one-third of expenditure in the chapter concerning 'non-oriented research' goes into funding the Max-Planck-Gesellschaft. The provisional data for 1985 again reflect this situation.

Chapter 13:

R & D expenditure in the defence sector rose by 5.6% between 1983 and 1984 according to the final-estimate data. According to the provisional budget estimates there is likely to be a further increase in funds in 1985.

4.2. France

Compared to previous years, the 1984 (final) and 1985 (provisional) figures for France have been classified differently under NABS objectives and the defence objective has been re-evaluated.

Firstly, identification of military spending has been improved, leading to a broadening of the basis for evaluation of R & D appropriations for defence: this gives an increase of FF 400 million in 1984 (from FF 20 400 to FF 20 800 million).

Within the basis for evaluation of civil R & D spending, which has remained unchanged, there have been two major redistributions which have an impact on the allocation of appropriations to NABS objectives in 1984 and 1985:

- (i) One 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 10 and 13 in 1983 has been reintegrated in a programme under Chapter 8 in 1984 and 1985.
- (ii) A second amount 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 entered in full under Chapter 10.

The effect of these latter two adjustments in 1984, relative to 1983, is a broadening of the basis for the evaluation of Chapters 8 and 10 and a reduction of the basis for Chapter 11. The other chapters are also affected, but to a far lesser extent.

4.2.1. In 1984, government R & D financing amounted to FF 62 400 million, an increase of 2 000 million or 12.6% over 1983. Thus, nominal growth, which allows for the extension of the basis for evaluating defence spending in 1984, is greater than real growth. Civil R & D spending, the basis of which has remained unchanged, increased by 11.4% in the same year. A comparison of this growth with the rise in the R & D price index over the same period (9.2%) shows an increase of 3.1% in real terms in total R & D budget appropriations and a 2.0% increase in the civil R & D budget. Despite the extension of the basis for evaluating defence spending, the rate of growth in total R & D expenditure nevertheless remains below the real average increase of 3.3% recorded during the period 1975-83.

This trend is likely to be interrupted in 1985 judging from a comparison of the provisional budgets for 1984 and 1985.

4.2.2. An examination by objectives of the annual variations between 1983 and 1984 gives the following breakdown on either side of the increase in R & D prices (9.2%):

Nominal rate of change (1984/1983) (%)

(a) Objectives with a nominal growth equal to or greater than the rise in R & D prices	
8 – Social structures and relationships	.
9 – Exploration and exploitation of space	31
10 – Research financed from general university funds	.
3 – Control of environmental pollution	24
6 – Agricultural productivity and technology	16
13 – Defence	15
Total of objectives	13
5 – Production, distribution and rational utilization of energy	10
(b) Objectives with a nominal growth below the rise in R & D prices	
2 – Infrastructures and general land-use planning	7
7 – Industrial productivity and technology	5
4 – Protection and improvement of human health	4
11 – Non-oriented research	.
1 – Exploration and exploitation of the earth	-6

The dots mark chapters substantially affected by the changes made in the method of classifying French R & D appropriations to the NABS objectives.

The impact on the structure of spending in the broad groups of objectives is shown in Table VIII-2.

Table VIII-2

Government R & D financing classified by groups of objectives

(%)

Groups of NABS objectives	Final budgets		Provisional budgets	
	1983	1984	1984	1985
2-3-4-8 Human and social objectives	9.0	8.9	9.2	10.1
1-5-7-9 Technological objectives	26.4	26.0	27.4	27.0
6 Agriculture	3.6	3.7	4.7	3.5
10 Research financed from general university funds	10.8	12.1	10.3	11.9
11 Non-oriented research	16.2	14.3	16.2	14.4
12 Other civil research	1.3	1.6	1.0	1.7
13 Defence	32.7	33.4	31.3	31.3
Total	100.0	100.0	100.0	100.0

Leaving aside the increase recorded in Chapter 8, which is offset by variations in the other chapters in the first group, this table reflects the quantitative effect of the changes made in the method of classifying R&D budget appropriations to the NABS objectives.

- (i) Re-evaluation of defence in 1984.
- (ii) Increase in the share attributable to research financed from general university funds and reduction in that of non-oriented research.

4.3. Italy

4.3.1. In 1984 government R&D financing totalled LIT 4 359 000 million, an increase of 871 000 million over 1983, giving a nominal growth of 23%. This nominal growth, which is higher than the rise of 11.7% in the R&D price index, corresponds to a real growth of 9.2%. In real terms this is the highest level of growth of all the Member States (leaving out Greece which has problems of comparability of data) and is slightly below the average annual growth of 10.3% over the period 1975-84.

4.3.2. An examination by objectives of the annual variations between 1983 and 1984 gives the following breakdown on either side of the increase in R&D prices (11.7%):

Nominal rate of change (1984/1983) (%)

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

4 - Protection and improvement of human health	152
9 - Exploration and exploitation of space	80
13 - Defence	79
2 - Infrastructures and general land-use planning	79
5 - Production, distribution and rational utilization of energy	27
Total of objectives	23
11 - Non-oriented research	20
6 - Agricultural productivity and technology	20

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

10 – Research financed from general university funds	7
8 – Social structures and relationships	7
1 – Exploration and exploitation of the earth	4
7 – Industrial productivity and technology	1
3 – Control of environmental pollution	– 49

These wide variations in objectives, which are due in part to adjustments of a statistical nature, call for additional explanations.

The substantial variations in objectives 3 (environmental pollution) and 4 (protection and improvement of human health) cancel each other out and stem from a reorganization of research objectives in the National Committee for Research and Development on Nuclear Energy and alternative forms of energy (ENEA).

The substantial increases recorded in objectives 9 (exploration and exploitation of space), 13 (defence) and 2 (infrastructures and general land-use planning) are due to an upswing in multi-annual financing or at least sectoral support, as the following points show.

- (a) The updating of the national space plan approved in 1984 has allowed the funds going to 'exploration and exploitation of space' to be greatly increased (LIT 532 000 million for the period 1984–86).
- (b) The very large increase in the defence objective results from the introduction of a programme on aircraft construction and telecommunications approved on 6 August 1984, which earmarks a total of LIT 996 thousand million to be spread over the years 1983 to 1989.
- (c) In the case of the objective 'infrastructures and general land-use planning', the applied research fund managed by the IMI spent LIT 7 500 million in 1984 on industrial and building research and on the final transport project of the National Research Council (CNR), a field for which funding has more than doubled since 1983.

The main trends are shown in Table VIII-3.

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

Groups of NABS objectives	(%)			
	Final budgets		Provisional budgets	
	1983	1984	1984	1985
2 – 3 – 4 – 8 Human and social objectives	8.6	11.9	8.3	10.7
1 – 5 – 7 – 9 Technological objectives	50.3	48.8	50.1	40.4
6 Agriculture	5.1	5.0	4.7	5.2
10 Research financed from general university funds	23.2	20.2	21.5	23.9
11 Non-oriented research	5.8	5.7	5.5	8.6
12 Other civil research	1.2	0.1	1.1	0.2
13 Defence	5.7	8.3	8.9	11.0
Total	100.0	100.0	100.0	100.0

4.4. The Netherlands

4.4.1. In 1984 government R&D financing in the Netherlands amounted to HFL 3859 million, an increase of 28 million over 1982, giving a nominal growth of under 1%. As the R&D price index increased by only 1% over that period, the Netherlands R&D budget has not grown in real terms in 1984; in other words, after the alteration of the method in 1983 the Netherlands has continued its policy of keeping the increase in the R&D budget in line with the rise in prices.

A comparison of provisional budgets for 1984 and 1985 suggests no likelihood of a reversal of this trend.

4.4.2. The annual variations between 1983 and 1984 give the following breakdown relative to the increase in R&D prices (1%), classified by NABS objectives.

Nominal rate of change (1984/1983) (%)

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

3 – Control of environmental pollution	14
4 – Protection and improvement of human health	11
11 – Non-oriented research	9
13 – Defence	7
8 – Social structures and relationships	5
5 – Production, distribution and rational utilization of energy	4
2 – Infrastructures and general land-use planning	3

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

6 – Agricultural productivity and technology	1
Total of objectives	1
10 – Research financed from general university funds	-1
1 – Exploration and exploitation of the earth	-2
7 – Industrial productivity and technology	-2
9 – Exploration and exploitation of space	-6

The resultant changes in the pattern of spending are summarized in Table VIII-4.

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

Groups of NABS objectives	Final budgets		Provisional budgets	
	1983	1984	1984	1985
2-3-4-8 Human and social objectives	13.1	14.0	14.0	14.0
1-5-7-9 Technological objectives	17.5	17.2	17.2	18.0
6 Agriculture	5.0	5.0	5.0	4.6
10 Research financed from general university funds	47.8	47.0	47.0	46.3
11 Non-oriented research	9.1	9.8	9.8	9.8
12 Other civil research	4.6	3.9	3.9	4.3
13 Defence	2.9	3.1	3.1	3.0
Total	100.0	100.0	100.0	100.0

Apart from the marked increase in the percentage share of objectives related to the environment and public health, R&D spending on the main groups of NABS objectives is seen to be relatively stable.

4.5. Belgium

4.5.1. Budget R&D appropriations amounted to BFR 25 800 million in 1984, 1 400 million or 6% up on 1983. As the R&D price index rose by 7.2% over the same period, research appropriations in fact fell by 1.2% in volume in 1984.

A comparison of provisional budgets for 1984 and 1985 indicates that there is some likelihood of a recovery in real terms.

4.5.2. As Belgian figures for 1984 (final budget) and 1985 (provisional budget) are only approximate, this report will merely present structural data for groups of objectives (see Table VIII-5).

Table VIII-5
Government R&D financing classified by groups of objectives

Groups of NABS objectives	Final budgets		Provisional budgets	
	1983	1984	1984	1985
2-3-4-8 Human and social objectives	18.0	17.5	17.6	16.4
1-5-7-9 Technological objectives	28.5	28.3	28.4	26.4
6 Agriculture	4.3	6.6	6.7	6.2
10 Research financed from general university funds	37.0	36.2	36.5	34.0
11 Non-oriented research	11.9	11.3	11.4	10.7
12 Other civil research	-	-	-	-
13 Defence	0.3	0.2	0.5	6.2
Total	100.0	100.0	100.0	100.0

A comparison of the figures shows that budget expenditure on agricultural R&D was more prominent in 1984 than in earlier years.

4.6. United Kingdom

4.6.1. Total government R&D financing in 1984 amounted to UKL 4 308 million, a nominal increase of 308 million or 7.7% over 1983. Allowing for the increase of 5.9% in the R&D price index over the same period, research appropriations increased by 1.4% in real terms in 1984. Even so, this rate remains below the corresponding average growth level of 2.1% for the period of 1975–84.

A comparison of the provisional budgets for 1984 and 1985 offers little hope of an improvement in this situation.

4.6.2. A calculation by NABS objectives of the variations in R&D budget appropriations between 1983 and 1984 gives the following breakdown on either side of the rise in R&D prices (5.9%):

Nominal rate of change (1984/83) (%)

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

8 – Social structures and relationships	38
11 – Non-oriented research	35
3 – Control of environmental pollution	20
13 – Defence	10
2 – Infrastructures and general land-use planning	9
7 – Industrial productivity and technology	8
Total of objectives	8

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

9 – Exploration and exploitation of space	6
4 – Protection and improvement of human health	5
1 – Exploration and exploitation of the earth	4
6 – Agricultural productivity and technology	2
10 – Research financed from general university funds	2
5 – Production, distribution and rational utilization of energy	2

The impact of these variations on the breakdown of R&D spending is shown in Table VIII-6.

Table VIII-6
Government R&D financing classified by groups of objectives

Groups of NABS objectives	Final budgets		Provisional budgets	
	1983	1984	1984	1985
2–3–4–8 Human and social objectives	6.9	7.1	7.1	6.9
1–5–7–9 Technological objectives	16.1	15.7	17.5	15.0
6 Agriculture	5.2	5.0	5.0	4.8
10 Research financed from general university funds	15.8	14.7	14.6	14.2
11 Non-oriented research	5.4	6.8	5.1	7.1
12 Other civil research	1.7	0.3	1.8	0.3
13 Defence	48.9	50.4	48.4	51.7
Total	100.0	100.0	100.0	100.0

In contrast to the trend observed in earlier years, there has been a continuous decline in the share of technological objectives since 1983. However, this has not affected industrial productivity and technology (see Table 7 in the statistical annex).

Defence appropriations, on the other hand, have seen their share increase and pass the 50% mark again, as in the years prior to 1983.

The relative decline in the share of research financed from general university funds is virtually offset by the increase in the share of non-oriented research, mainly as a result of higher expenditure on engineering science.

4.7. Ireland

4.7.1. In 1984 budget appropriations for R&D amounted to IRL 62.3 million, a nominal increase of 3.4 million or 5.8% over 1983. As this nominal increase was less than the 10.9% rise in R&D prices over the same period, budget appropriations for research in 1984 actually fell by 4.8% in real terms. Despite this decline, the trend in government R&D spending in real terms over the period 1975–84 is still upward (1.1% per year on average).

4.7.2. The variations in government R&D spending between 1983 and 1984 give the following breakdown, by objectives, on either side of the increase in R&D prices (10.9%):

Nominal rate of change (1984/83)	(%)
(a) Objectives with a nominal growth equal to or greater than the rise in R&D prices	
3 – Control of environmental pollution	101
9 – Exploration and exploitation of space	27
4 – Protection and improvement of human health	24
10 – Research financed from general university funds	18
(b) Objectives with a nominal growth below the rise in R&D prices	
1 – Exploration and exploitation of the earth	8
2 – Infrastructures and general land-use planning	7
Total of objectives	6
6 – Agricultural productivity and technology	4
8 – Social structures and relationships	0
7 – Industrial productivity and technology	– 2
11 – Non-oriented research	– 2
5 – Production, distribution and rational utilization of energy	– 36

The impact of these variations on the breakdown of spending is as shown in Table VIII-7.

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

(%)

Groups of NABS objectives	Final budgets		Provisional budgets	
	1983	1984	1984	1985
2-3-4-8 Human and social objectives	19.7	20.7	20.0	19.6
1-5-7-9 Technological objectives	28.2	25.6	29.4	27.7
6 Agriculture	30.6	30.2	29.3	29.2
10 Research financed from general university funds	18.2	20.3	19.0	20.4
11 Non-oriented research	3.4	3.2	2.3	3.1
12 Other civil research	-	-	-	-
13 Defence	-	-	-	-
Total	100.0	100.0	100.0	100.0

Funding of technological objectives, in particular industrial productivity and technology is largely dependent on the extent to which private industry avails of government funds for research and development. The decline in funding in this area between 1983 and 1984 is a reflection therefore of lower allocation to private industry of such funds in 1984 than in 1983. The provisional budget for 1985 is a reflection of the availability of increased funds for industry over the actual allocation to industry in 1984.

4.8. Denmark

4.8.1. In 1984 government R&D financing totalled DKR 3039 million, 396 million up on 1983, giving a nominal growth of 15%. As the R&D price index rose by 6.2% over the same period, government R&D spending increased by 8.7% in real terms. This increase is part of a trend which began in 1983 and stands in marked contrast to the trend observed in previous years.

However, the data for 1984 and 1985 are not directly comparable with those of the previous years, which were based on coefficients adopted in 1979. The data for 1984 and 1985, on the other hand, are based on the revised coefficients adopted in 1982, which causes a slight distortion of the comparisons.

4.8.2. Because of the change in the coefficients used to calculate government R&D spending, which was introduced in 1984, the variations in appropriations by NABS objectives are too small to be significant; this examination will therefore confine itself to the trends in the pattern of R&D spending by main groups of objectives.

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

Groups of NABS objectives	Final budgets		Provisional budgets	
	1983	1984	1984	1985
2-3-4-8 Human and social objectives	11.2	11.1	11.5	11.1
1-5-7-9 Technological objectives	31.2	27.6	30.3	30.8
6 Agriculture	7.8	8.4	7.2	7.7
10 Research financed from general university funds	34.8	35.9	35.1	32.9
11 Non-oriented research	14.9	16.3	15.4	16.8
12 Other civil research	-	-	-	-
13 Defence	0.2	0.7	0.2	0.7
Total	100.0	100.0	100.0	100.0

From these data it appears that only the decline in the share of technological objectives is of any significance, especially since the energy sector is apparently the only sector affected. However, a certain amount of caution should be exercised when drawing conclusions on the basis of these data alone and it should be remembered that R&D appropriations do not include funding of research by public enterprises. It is therefore very difficult to ascertain the real trend in spending on energy research, quite apart from the problems of comparison connected with the use of new coefficients to calculate Danish R&D budget appropriations.

4.9. Greece

4.9.1. In 1984 government R&D financing was DR 8 908 million, giving a nominal rise of close to 50% over 1983. This very sharp increase is well in excess of the 20% rise in the R&D price index over the same period and is the highest growth recorded since the first survey of government R&D expenditure carried out in 1977.¹ It is mainly due to the establishment in 1982 of a Ministry for Research and Technology which gave an added impetus to R&D. There has indeed been a very large increase in the money going to research centres under the authority of this Ministry. In addition, a policy of encouraging research has been adopted in all government institutions, as the analysis by objectives shows.

4.9.2. The variations in government R&D spending give the following breakdown by objectives, on either side of the increase in the R&D price index (20%):

Nominal rate of change (1984/1983) (%)

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

13 – Defence	
6 – Agricultural productivity and technology	205
5 – Production, distribution and rational utilization of energy	85
2 – Infrastructures and general land-use planning	
7 – Industrial productivity and technology	49
4 – Protection and improvement of human health	47
	Total of objectives 47
8 – Social structures and relationships	34
10 – Research financed from general university funds	30

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

1 – Exploration and exploitation of the earth	17
3 – Control of environmental pollution	14
11 – Non-oriented research	- 8

The main increases are to be found in agriculture, which accounts for more than one quarter of R&D budget appropriations, and energy. Caution should be exercised in interpreting the extremely high increases recorded in objectives 13 (defence) and 2 (infrastructures and general land-use planning) as they are to some extent due to the fact that the 1983 replies were not complete.

The growth in objective 10 (research financed from general university funds), which accounts for one quarter of research expenditure, is due partly to a salary rise for academic staff engaged in research and partly to an increase in their numbers in universities. The coefficients used to calculate the share of research in university activities are the same as in 1983.

Objective 11 (non-oriented research) has in contrast recorded a decline in funding in nominal terms.

The impact on the structure of R&D budget appropriations is summarized in Table VIII-9.

¹ An outline of the procedures used for the R&D survey will be found in Annex 2 (government financing).

Table VIII-9

Government R&D financing classified by groups of objectives

(%)

Groups of NABS objectives	Final budgets		Provisional budgets	
	1983	1984	1984	1985
2-3-4-8 Human and social objectives	17.6	18.8	.	18.7
1-5-7-9 Technological objectives	15.9	15.7	.	17.0
6 Agriculture	23.8	26.9	.	28.0
10 Research financed from general university funds	42.3	27.1	.	25.4
11 Non-oriented research	-	7.3	.	7.3
12 Other civil research	-	0.7	.	0.7
13 Defence	0.4	3.5	.	2.9
Total	100.0	100.0	-	100.0

The provisional data for 1985 show an increase of almost 40% in nominal terms. This is due to improved financing for existing research centres and the financing of five new research centres set up in 1984.

As regards objectives, there is a very high increase in agricultural research, the share of which now exceeds that of general university funds. A nominal rise of almost 50% is also shown for industry. That is mainly due to the establishment of new research centres for chemistry and computing.

5. COMMUNITY AND MULTILATERAL COOPERATION

Government financing for international cooperation in R&D, both under bilateral and multilateral agreements and in the Community framework, exhibits a number of special features that justify a separate analysis.

5.1. Cooperation in the Community framework

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

The money contributed by these institutions to research programmes in 1984 totalled 442 million ECU, 2% of total government spending on civil research and development.

Relying on these data alone, appropriations for cooperation within the framework of the Community institutions look likely to increase by 11.3% in 1985 over 1984 (comparison of provisional budgets), whereas actual appropriations appear to be well below the amount of provisional appropriations committed for that year. This is due primarily to delays by the budgetary authority in releasing an amount of some 83 million ECU which, contrary to the forecasts, was not spent during the financial year. Furthermore, owing to administrative difficulties, the European Parliament did not approve the general budget of the European Communities for 1985 until June of that year instead of at the end of 1984 as would normally have been the case.

Since this delay has affected various NABS objectives, to varying degrees, it is difficult to compare final appropriations from the Community for the last two available years, 1983 and 1984.

On the basis of a comparison of the provisional budgets for 1984 and 1985 alone, the most striking feature of the trends forecast for the coming years appears to be relative decline in the importance of research in the energy sector, primarily to the benefit of industry.

It should also be noted that, in 1984, following the example of the Member States, the Community institutions allocated appropriations to three areas which are the subject of a separate analysis:

- (i) 3.3 million ECU went to research on areas of biotechnology related to human health;
- (ii) 0.2 million ECU to research on information technology, in particular in relation to administrative and corporate management;
- (iii) 1.9 million ECU to R&D for developing countries, particularly in the fields of health and agriculture.

5.2. Multilateral cooperation

A comparison of the data for the various countries relating to multilateral cooperation on R&D becomes distorted as soon as defence is taken into account. There are a number of reasons for this:

- (i) Of the major countries, the Federal Republic of Germany and the United Kingdom devote a far larger proportion of their cooperation appropriations to defence than the other countries: Germany (19%) and the United Kingdom (43%), compared to under 2% for the others, with the exception of France.
- (ii) It is very difficult in the case of certain countries, such as France, to single out cooperation appropriations from the general defence research budget.
- (iii) The nature of defence cooperation varies according to the size of the country: small countries make greater use of multilateral cooperation, while major countries prefer to conclude bilateral agreements.

For these various reasons, it would seem preferable to confine the comparative analysis to the cooperation appropriations spent on civil R&D.

A study of Table X allows the following conclusions to be drawn:

The three major countries allocate a higher proportion of their overall civil R&D budget to international cooperation in the field of civil research than the other countries: France (15%), Germany and UK (10%), Denmark (7%), the Netherlands (5.6%), Ireland (4.8%) and Italy (3.2%).

All countries give priority to two objectives in the field of cooperation: space (European Space Agency programmes) and basic research (Chapters 10 and 11).

Even so, having established these points of similarity, the emphasis of the cooperation varies from one country to another depending on its national policies and the choices made at national level.

Hence, Ireland – for which Table IX provides a complete picture since Ireland does not carry out military R&D – gives priority in the cooperation field to agriculture and industry, just as it does at national level (see Table VII).

A similar situation is found in the Federal Republic of Germany with regard to energy and industry.

The same phenomenon is reflected to a lesser extent in the United Kingdom, where greater priority is attached to the energy and industry sectors from the point of view of cooperation than is the case at national level.

Lastly, the importance placed in the Netherlands on cooperation in the energy field is not reflected at national level.

It will be noted that, in contrast, some countries give priority at national level to sectors such as energy (Italy) and industry (Italy and Denmark), whereas the same does not apply to R&D cooperation.

Table IX
Multilateral cooperation appropriations for civil R&D
1984

NABS objectives	D	F	I	NL	B	UK	IRL	DK	GR
1. Exploration and exploitation of the earth	0.2	2.7	0.2	-	.	0.3	-	-	.
2. Infrastructures and general land-use planning	0.8	1.8	-	0.9	.	0.0	7.0	0.0	.
3. Control of environmental pollution	0.2	0.4	0.1	-	.	0.0	1.9	-	.
4. Protection and improvement of human health	0.2	2.3	1.1	1.4	.	2.3	0.1	-	.
5. Production, distribution and rational utilization of energy	33.1	13.1	1.1	22.8	.	10.0	1.7	0.9	.
6. Agricultural productivity and technology	1.4	6.0	2.6	-	.	2.0	24.3	-	.
7. Industrial productivity and technology	13.7	13.2	0.8	-	.	30.8	13.0	-	.
8. Social structures and relationships	0.4	1.8	0.9	-	.	0.1	5.2	0.2	.
9. Exploration and exploitation of space	30.8	33.9	59.1	19.6	.	32.4	33.3	42.3	.
10. Research financed from general university funds	-	-	-	-	.	-	12.9	-	.
11. Non-oriented research	19.2	24.2	34.1	54.2	.	22.0	0.6	56.6	.
12. Other civil research	-	1.6	-	1.1	.	0.1	-	-	.
Total appropriations for cooperation in civil R&D	100.0	100.0	100.0	100.0	.	100.0	100.0	100.0	.
	{ (%)	{ (%)	{ (%)	{ (%)					
	{ (Million ECU)	{ (Million ECU)	{ (Million ECU)	{ (Million ECU)					
	789	876	173	48	.	357	4.1	26	.
Share of civil R&D cooperation appropriations in total government R&D funding (%)	10.1	14.5	5.6	3.2	.	9.8	4.8	7.0	.

6. ATTEMPTED QUANTITATIVE EVALUATION OF R&D BUDGET APPROPRIATIONS FOR BIOTECHNOLOGY, INFORMATION TECHNOLOGY AND DEVELOPING COUNTRIES

This paragraph deals with research fields which, by their nature, involve a whole range of NABS objectives and are of crucial importance for Europe. The three research fields concerned are: biotechnology, information technology and developing countries.

6.1. Biotechnology

6.1.1. In general, the purpose of biotechnology research is to develop and continually improve the technology necessary for the systematic exploitation of the properties of living beings, as regards both their cellular and molecular structure, to produce goods and services.

Biotechnology is not a scientific discipline in the accepted sense of the word, but rather an interdisciplinary and multisectoral approach to biological systems, which is aimed at resolving the many questions that an advanced industrial society has to face. Biotechnology therefore involves specialists from various quite separate areas of research and has a bearing on various industrial sectors, such as the pharmaceutical and chemical industries, agronomics, the agri-food industry, the environment and so on.

Consequently, the success of R&D in the field of biotechnology depends to a large extent on the base for this multi-disciplinary research and on the degree of coordination of individual research projects. The State therefore has an important role to play which involves far more than just the amounts of public money committed, and this role will have an influence on the method of gather-

ing information on this financing. Depending on whether a genuine programme of research is set up or whether the effort is confined to compiling lists of the research activities related to biotechnology, the statistics will not reflect identical situations.

Where research on biotechnology forms part of a 'mobilizing' programme, as in France, it tends to expand to embrace 'performers' of such research (genetics, microbiology, enzymology, immunology) target-oriented research intended for specific sectors and, naturally, the safe-guarding of the genetic resources without which such research could not continue. This may result in differences in the data, which are due to the integrated approach adopted.

On the other hand, where the approach consists in recording separately the share of activity devoted to biotechnology within each objective and/or research establishment, the statistics are not compiled in the same way for all the objectives and/or establishments. Because of specific factors there may be involuntary omissions or inevitable generalizations in the case of certain objectives or establishments, which may lead to under-estimates and/or over-estimates in the partial data. For example, in Belgium the funds going to biotechnology have either been determined within research topics when their description made this possible or have been included in the overall amount for a more general topic when the dividing line between biotechnology and biology was blurred. As a result the Belgian figures are overinflated and contrast oddly with those for the other countries.

In an approach of this kind, deviations between countries are due not so much to discrepancies in the definitions and concepts used as to differences in the fields covered or units used for recording the data.

In the following assessment an effort will therefore be made to avoid dissociating the data on biotechnology from the various national contexts.

6.1.2. In the *Federal Republic of Germany*, government financing for certain key or subsidized sectors is based on the classification set out in the Federal R&D performance plan. Biotechnology research covers five main areas:

- (i) biochemical engineering and enzyme technology;
- (ii) cell culture and cell fusion technology;
- (iii) genetic engineering;
- (iv) substitute methods for animal experiments; biological safety;
- (v) other and broader activities in biotechnology.

Although the above fields of activity cover practically the entire range of biotechnology research, the corresponding amounts are no more than the lower limit of budget appropriations for this area of research. The statistics do not include spending on biotechnology financed from general university funds and the Max-Planck Institute and, secondly, from the resources of the *Länder*. Efforts are being made to remedy these shortcomings.

The bulk of the spending on biotechnology R&D in the Federal Republic of Germany goes (see Table X-1) to the protection and improvement of human health, to agriculture and to industry (promotion of competitiveness and innovation, research into new materials).

As stressed earlier, the data for France are drawn in the main from the programme for the stimulation of biotechnology research drawn up in 1982. This programme recommends the incorporation of such research into the programmes of research bodies and the setting aside of specific human and financial resources.

The biotechnology research in this programme concerns the study of biological reactions and their application to the following areas:

- (i) growth and production kinetics;
- (ii) stoichiometry and yield;
- (iii) microorganism and cell culture;

- (iv) enzyme engineering;
- (v) bioreactors;
- (vi) extraction and purification;
- (vii) apparatus for monitoring, analysis and chemical synthesis.¹

Table X-1 shows clearly that, in France, the share of total R & D spending going to biotechnology is noticeably larger than in Germany and the United Kingdom for the reasons outlined earlier.

It is also evident that, despite the large amounts for 'other civil research', France – unlike the other countries – does not devote the bulk of its spending on biotechnology to industry (8%), but concentrates on health (37%) and agriculture (29%).

As the *United Kingdom* does not have a R & D budget, it is obliged to collect information on the amounts of government financing allocated to biotechnology research from each individual ministry, body or institute.

The main beneficiaries of this financing are agriculture, followed by industry and, in contrast to the other countries, the energy sector (research on renewable energy sources).

The data for *the Netherlands* are drawn, firstly, from the innovation programme for biotechnology, which has earmarked HFL 82 million for this sector for the period 1983-88. This programme is financed from the budgets for economic affairs, housing and public works, environment and planning, and agriculture and fisheries. The corresponding amount, which is divided into equal annual instalments for the entire duration of the programme, does not include government subsidies to companies for the programmes carried out within those companies and estimated at HFL 10-15 million per year.

To this must be added an estimated amount of HFL 35 million per year which corresponds to the total of the amounts from various ministries.

In *Ireland*, the interpretation of biotechnology is broad enough to cover all the applications of biological sciences aimed at producing goods and services.

The budget appropriations earmarked for biotechnology R & D, classified by NABS objectives, are calculated by examining each government programme for R & D financing and extracting the figures relating to biotechnology.

There were two objectives, however, for which this method could not be used and where the figures had to be estimated:

- (i) Research financed from general university funds:

It is difficult, on the basis of current information, to evaluate with any degree of certainty the share accounted for by biotechnology in the higher education sector. A survey is being conducted, however, in this sector. This should make it possible in future to devise, from the information collected, suitable coefficients for calculating the share of biotechnology in this sector.

- (ii) Subsidies to companies:

It was necessary to estimate the amounts spent on biotechnology R & D in companies. This estimate was based on an analysis of the research and development subsidies granted by the Industrial Development Authority:

¹ For more details see the 'Programme for the stimulation of biotechnology research', Ministry for Research and Industry, 1982. Also the 'Annual report on the status of research and technological development' (Annex to the 1986 Finance Bill).

Table X-1 shows that the budget appropriations for biotechnology are concentrated on agriculture and industry (improvement of competitiveness and innovation).

Greece collected data on the basis of the definition given at the start of 6.1.1. Classification of the figures under the NABS objectives tends to give a distorted picture. The predominance of Chapter 11 (non-oriented research) is rather artificial because the Ministry of Agriculture interpreted the definition restrictively and did not give an amount for biotechnology. With a broader interpretation, a sum of DR 200 million could be put down for biotechnology research under the heading of agriculture, which would completely change the structure of funds going to biotechnology classified by NABS objectives.

6.2. Information technology

6.2.1. A number of comments on the subject of biotechnology are also valid for information technology. Like biotechnology, information technology is not merely multidisciplinary, combining technology, engineering and management techniques for the processing of data; it also opens up a broader area of interaction between computers on the one hand and man and machine on the other, which has social, economic and cultural implications.

The situation observed in each country and the statistics reflecting that situation can differ appreciably from one country to another, depending on the extent to which this area of interaction is identified. However, any discrepancies linked to these differences are completely cancelled out by the fact that the data do not generally take into account research on information technology in the defence sector. Yet, in countries which devote considerable amounts to military R & D, a large proportion of the information technology research is carried out in that sector.¹ Consequently, it is impossible to compare the various Community countries on the basis of the data set out in Table X-2 which merely show government financing for civil R & D.

6.2.2. Leaving aside the fact that the data relate to civil R & D alone, a number of the comments made in relation to biotechnology apply equally to information technology, in so far as the countries use a similar procedure for compiling statistics in the two areas.

Hence, in *Ireland*, the only country not to carry out military research and for which the data in Table X-2 therefore provide a complete picture, there is, as in the case of biotechnology, a broad interpretation of the concept of information technology which takes account of its economic, social and cultural implications.

After the industrial sector which, as in other countries, accounts for the lion's share of budget appropriations for research on non-military information technology, Ireland, like France, allocates a substantial proportion of its information technology budget to research on administrative and corporate management (12%).

Unlike the other countries, *France* and above all the *United Kingdom* place emphasis on non-oriented research with a more general objective: United Kingdom (44%), France (13%).

As in the case of biotechnology, a mobilizing programme for the development of electronics was approved in France in 1982 and its main activities started in 1983. The main aim is to step up overall national research spending, to increase efficiency by improving coordination between public laboratories and to ensure that research results are transferred to industry.

¹ The French situation, which is one of the few about which information is available, should be mentioned by way of example. In 1984, 70% of the government budget for research on information technology was devoted to defence and 26% of total government military R & D financing involved information technology.

The relatively low amount given in Table X-2 for the United Kingdom is of course due to the lack of statistics for R & D on information technology in the defence sector.

In the case of the *Federal Republic of Germany* the limitations with regard to the method of recording data, already mentioned in the context of biotechnology, also apply to information technology. Here too efforts are being made to fill in the missing information for the universities and the Max-Planck Institute as well as the data on funding from the Federal *Länder*, and the German statistics are due to be revised in the near future. It should be noted in this connection that the similarity of the German and French figures in Table X-2 is due not only to an underestimate of the German data but also to the exclusion of military research appropriations for information technology. Funding for such research amounts to 785 Million ECU in France; the figure for the Federal Republic of Germany is definitely lower.

The figures for the *Netherlands*, taken from the plan for the promotion of data processing introduced in 1984, are still well below actual spending.

Finally, the *Greek* figures cover the three fields of computing, microelectronics and telecommunications but they do not include universities on which no survey was made.

6.3. Developing countries

As for biotechnology, there are two possible approaches to research for the benefit of developing countries. Either the research projects specifically concern the developing countries or they are of interest to the developing countries, but their objective is more general.

France is a typical example of the first approach, where most of the research concerning the developing countries is concentrated in two institutes: the Research Office for Overseas Scientific and Technical Development (ORSTOM) and the Study and Research Group for the Development of Tropical Agriculture (GERDAT).

Activities for the benefit of developing countries, like biotechnology, come under a mobilizing programme introduced in 1983. Priority is given to two objectives, health and agriculture, as is shown by Table X-3. Overall, France allocates a considerably higher budget to research for the benefit of the developing countries than do the other countries.

In the other countries, where research relevant to developing countries is not as specific as in France, it is more difficult to identify its share in the many different programmes or institutions concerned. Surveys here come up against difficulties similar to those encountered in respect of biotechnology.

Spending on research relevant to developing countries in the *Federal Republic of Germany* is concentrated mainly on industry, agriculture and in particular energy. The main subjects of research in the last area are renewable energy sources and the rational utilization of energy.

Relative to its overall R & D spending, the *Netherlands* is making the biggest effort in the field of research relevant to developing countries, although it is impossible to identify the fields in which this research is being carried out (see Table X-3).

Lastly, the United Kingdom, which spends roughly the same amount on R & D for developing countries as the Netherlands, concentrates its research exclusively on questions of health, particularly diseases and their treatment.

*
* *

In a general point of view, there might be a possibility of overlapping between R & D in biotechnology and/or information technology and the research related to developing countries. This shows the difficulty in obtaining quantitative statistics for such areas.

Table X-1
Breakdown of the share of R&D budget appropriations going to biotechnology
1984

(%)

NABS objectives	D	F	I	NL		B	UK	IRL	DK	GR	
				1984	1985					1984	1985
1. Exploration and exploitation of the earth	-	-	.	-	-	-	-	-	.	-	-
2. Infrastructures and general land-use planning	-	-	.	-	-	-	-	1.1	.	-	-
3. Control of environmental pollution	6.7	-	.	-	-	0.0	-	1.1	.	1.7	1.0
4. Protection and improvement of human health	38.4	37.4	.	.	.	0.1	5.8	6.8	.	15.2	7.7
5. Production, distribution and rational utilization of energy	-	2.3	.	-	-	-	13.3	-	.	-	-
6. Agricultural productivity and technology	13.4	29.1	.	.	.	37.0	45.3	40.1	.	13.0	18.8
7. Industrial productivity and technology	31.3	8.3	.	.	.	7.3	29.1	48.8	.	14.7	19.7
8. Social structures and relationships	0.6	-	.	-	-	-	-	-	.	-	-
9. Exploration and exploitation of space	-	-	.	-	-	-	-	-	.	-	-
10. Research financed from general university funds	.	0.9	.	.	.	-	-	.	.	-	-
11. Non-oriented research	9.6	13.1	.	.	.	55.6	6.5	2.1	.	53.2	51.6
12. Other civil research	-	8.9	.	-	-	-	-	-	.	2.2	1.2
Total appropriations for cooperation in civil R&D	100.0 { 70	100.0 { 167	.	100.0 { 20	100.0 { 20 ¹	100.0 { 55	100.0 { 40	100.0 { 4.0	.	100.0 { 1.8	100.0 { 3.6
Share of civil R&D cooperation appropriations in total government R&D funding (%)	0.9	2.8	.	1.3	1.3	9.7	1.1	4.6	.	1.9	3.0

¹ Excluding government subsidies to undertakings for programmes carried out within those undertakings (approximately 4 to 6 million ECU per year).

Table X-2
Breakdown of the share of R&D budget appropriations going to information technology (excluding defence)
1984

(%)

NABS objectives	D	F	I	NL		B	UK	IRL	DK	GR	
				1984	1985					1984	1985
1. Exploration and exploitation of the earth	-	-	.	-	-	.	-	2.5	.	-	-
2. Infrastructures and general land-use planning	5.3	-	.	.	.	.	-	-	.	-	-
3. Control of environmental pollution	0.1	-	.	-	-	.	-	-	.	-	-
4. Protection and improvement of human health	-	0.9	.	-	-	.	0.4	-	.	-	-
5. Production, distribution and rational utilization of energy	-	8.2	.	-	-	.	-	-	.	-	-
6. Agricultural productivity and technology	0.1	-	.	.	.	.	-	-	.	-	-
7. Industrial productivity and technology	83.9	63.3	.	.	.	.	55.3	83.5	.	94.3	90.3
8. Social structures and relationships	0.2	11.5	.	.	.	.	-	12.2	.	-	-
9. Exploration and exploitation of space	8.9	-	.	-	-	.	-	-	.	-	-
10. Research financed from general university funds	.	1.8	.	.	.	.	-	.	.	-	-
11. Non-oriented research	1.5	13.3	.	.	.	.	44.3	1.8	.	5.7	9.7
12. Other civil research	-	1.0	.	-	-	.	-	-	.	-	-
Total appropriations for cooperation in civil R&D	100.0 { 335	100.0 { 313	.	100.0 { 13	100.0 { 13	.	100.0 { 110	100.0 { 6.5	.	100.0 { 2.8	100.0 { 5.1
Share of civil R&D cooperation appropriations in total government R&D funding (%)	4.3	5.2	.	0.9	0.9	.	3.0	7.6	.	3.1	4.2

Table X-3

**Breakdown of the share of R&D budget appropriations going to research for the developing countries
1984**

(%)

NABS objectives	D	F	I	NL		B	UK	IRL	DK	GR
				1984	1985					
1. Exploration and exploitation of the earth	1.6	12.3	.	-	-		-	-	.	-
2. Infrastructures and general land-use planning	3.8	5.7	.	-	-		-	-	.	-
3. Control of environmental pollution	1.5	3.1	.	-	-		-	-	.	-
4. Protection and improvement of human health	0.3	16.4	.	-	-		100.0	-	.	-
5. Production, distribution and rational utilization of energy	34.2	6.7	.	-	-		-	-	.	-
6. Agricultural productivity and technology	24.2	31.5	.	-	-		-	-	.	-
7. Industrial productivity and technology	22.0	7.3	.	-	-		-	-	.	-
8. Social structures and relationships	5.6	7.4	.	-	-		-	-	.	-
9. Exploration and exploitation of space	-	-	.	-	-		-	-	.	-
10. Research financed from general university funds	.	0.5	.	-	-		-	-	.	-
11. Non-oriented research	6.8	1.2	.	-	-		-	-	.	-
12. Other civil research	-	7.9	.	.	.		-	-	.	-
Total appropriations for cooperation in civil R&D	100.0	100.0	.	100.0	100.0		100.0	-	.	-
	{ (%)	{	.	39	40		39	-	.	-
	{ (million ECU)	{	.					-	.	-
Share of civil R&D cooperation appropriations in total government R&D funding	0.9	4.2	.	2.3	2.3		1.1	-	.	-
	(%)									

Calculation of the R & D price index

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

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

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

and t and t+n are two years under consideration

ω_i (i = 1, 2, 3) are the weightings

$P_i(t)$ (i = 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
1976/1975	6.2	12.6	19.6	10.2	13.2	15.4	18.9	10.4	20.0
1977/1976	5.4	11.2	19.7	9.0	8.1	12.6	14.2	10.1	18.7
1978/1977	4.7	10.9	14.3	6.4	6.1	11.4	12.4	9.4	19.4
1979/1978	5.5	12.4	17.1	5.7	5.1	15.1	15.4	9.6	21.1
1980/1979	6.6	14.3	21.8	6.0	8.1	19.2	19.0	10.8	18.5
1981/1980	5.4	13.9	21.2	4.5	7.2	13.0	18.9	10.8	23.5
1982/1981	4.3	12.6	16.5	4.0	7.4	6.7	15.7	10.4	24.2
1983/1982	3.3	10.0	15.2	3.1	6.3	6.6	9.8	6.8	20.4
1984/1983	3.4	9.2	11.7	1.0	7.2	5.9	10.9	6.2	20.2
1985/1984 ¹	2.8	6.6	10.1	1.7	6.0	7.1	6.4	4.4	18.6

¹ 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 1979 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 1983, 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 1984, 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 EUR. 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 10, the United States and Japan

The American figures are taken from the following publications: 'Science Resource Studies – Highlights', NSF 85-322 by the National Science Foundation, 'Survey of Current Business' by the US Department of Commerce and 'Economic Forecasts 1985–86, May–June 1985' by DG II.

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 annual 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 1984 and 1985 (see Table 16.2 of the statistical annex).

Figures in constant terms

The figures in current national currencies have been deflated for the period 1975–84 by the R&D price index. For comparison with the year 1985, deflation was based on an estimate of the R&D price index.

Statistical data

Statistical data

Symbols and abbreviations

EUA/UCE
GDP/PIB
Mio/mio
Mrd/mia
p
-
0 (0.0)

Statistical unit of account (based on central market rates)
Gross domestic product (GDP)
Million
Thousand million
Provisional
Data not available
Nil
Less than half on 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)

Country	Year	Value	Unit
Algeria	1980	10.0	Mrd/mia
Algeria	1981	10.0	Mrd/mia
Algeria	1982	10.0	Mrd/mia
Algeria	1983	10.0	Mrd/mia
Algeria	1984	10.0	Mrd/mia
Algeria	1985	10.0	Mrd/mia
Algeria	1986	10.0	Mrd/mia
Algeria	1987	10.0	Mrd/mia
Algeria	1988	10.0	Mrd/mia
Algeria	1989	10.0	Mrd/mia
Algeria	1990	10.0	Mrd/mia
Algeria	1991	10.0	Mrd/mia
Algeria	1992	10.0	Mrd/mia
Algeria	1993	10.0	Mrd/mia
Algeria	1994	10.0	Mrd/mia
Algeria	1995	10.0	Mrd/mia
Algeria	1996	10.0	Mrd/mia
Algeria	1997	10.0	Mrd/mia
Algeria	1998	10.0	Mrd/mia
Algeria	1999	10.0	Mrd/mia
Algeria	2000	10.0	Mrd/mia
Algeria	2001	10.0	Mrd/mia
Algeria	2002	10.0	Mrd/mia
Algeria	2003	10.0	Mrd/mia
Algeria	2004	10.0	Mrd/mia
Algeria	2005	10.0	Mrd/mia
Algeria	2006	10.0	Mrd/mia
Algeria	2007	10.0	Mrd/mia
Algeria	2008	10.0	Mrd/mia
Algeria	2009	10.0	Mrd/mia
Algeria	2010	10.0	Mrd/mia
Algeria	2011	10.0	Mrd/mia
Algeria	2012	10.0	Mrd/mia
Algeria	2013	10.0	Mrd/mia
Algeria	2014	10.0	Mrd/mia
Algeria	2015	10.0	Mrd/mia
Algeria	2016	10.0	Mrd/mia
Algeria	2017	10.0	Mrd/mia
Algeria	2018	10.0	Mrd/mia
Algeria	2019	10.0	Mrd/mia
Algeria	2020	10.0	Mrd/mia
Algeria	2021	10.0	Mrd/mia
Algeria	2022	10.0	Mrd/mia
Algeria	2023	10.0	Mrd/mia
Algeria	2024	10.0	Mrd/mia
Algeria	2025	10.0	Mrd/mia
Algeria	2026	10.0	Mrd/mia
Algeria	2027	10.0	Mrd/mia
Algeria	2028	10.0	Mrd/mia
Algeria	2029	10.0	Mrd/mia
Algeria	2030	10.0	Mrd/mia
Algeria	2031	10.0	Mrd/mia
Algeria	2032	10.0	Mrd/mia
Algeria	2033	10.0	Mrd/mia
Algeria	2034	10.0	Mrd/mia
Algeria	2035	10.0	Mrd/mia
Algeria	2036	10.0	Mrd/mia
Algeria	2037	10.0	Mrd/mia
Algeria	2038	10.0	Mrd/mia
Algeria	2039	10.0	Mrd/mia
Algeria	2040	10.0	Mrd/mia
Algeria	2041	10.0	Mrd/mia
Algeria	2042	10.0	Mrd/mia
Algeria	2043	10.0	Mrd/mia
Algeria	2044	10.0	Mrd/mia
Algeria	2045	10.0	Mrd/mia
Algeria	2046	10.0	Mrd/mia
Algeria	2047	10.0	Mrd/mia
Algeria	2048	10.0	Mrd/mia
Algeria	2049	10.0	Mrd/mia
Algeria	2050	10.0	Mrd/mia
Algeria	2051	10.0	Mrd/mia
Algeria	2052	10.0	Mrd/mia
Algeria	2053	10.0	Mrd/mia
Algeria	2054	10.0	Mrd/mia
Algeria	2055	10.0	Mrd/mia
Algeria	2056	10.0	Mrd/mia
Algeria	2057	10.0	Mrd/mia
Algeria	2058	10.0	Mrd/mia
Algeria	2059	10.0	Mrd/mia
Algeria	2060	10.0	Mrd/mia
Algeria	2061	10.0	Mrd/mia
Algeria	2062	10.0	Mrd/mia
Algeria	2063	10.0	Mrd/mia
Algeria	2064	10.0	Mrd/mia
Algeria	2065	10.0	Mrd/mia
Algeria	2066	10.0	Mrd/mia
Algeria	2067	10.0	Mrd/mia
Algeria	2068	10.0	Mrd/mia
Algeria	2069	10.0	Mrd/mia
Algeria	2070	10.0	Mrd/mia
Algeria	2071	10.0	Mrd/mia
Algeria	2072	10.0	Mrd/mia
Algeria	2073	10.0	Mrd/mia
Algeria	2074	10.0	Mrd/mia
Algeria	2075	10.0	Mrd/mia
Algeria	2076	10.0	Mrd/mia
Algeria	2077	10.0	Mrd/mia
Algeria	2078	10.0	Mrd/mia
Algeria	2079	10.0	Mrd/mia
Algeria	2080	10.0	Mrd/mia
Algeria	2081	10.0	Mrd/mia
Algeria	2082	10.0	Mrd/mia
Algeria	2083	10.0	Mrd/mia
Algeria	2084	10.0	Mrd/mia
Algeria	2085	10.0	Mrd/mia
Algeria	2086	10.0	Mrd/mia
Algeria	2087	10.0	Mrd/mia
Algeria	2088	10.0	Mrd/mia
Algeria	2089	10.0	Mrd/mia
Algeria	2090	10.0	Mrd/mia
Algeria	2091	10.0	Mrd/mia
Algeria	2092	10.0	Mrd/mia
Algeria	2093	10.0	Mrd/mia
Algeria	2094	10.0	Mrd/mia
Algeria	2095	10.0	Mrd/mia
Algeria	2096	10.0	Mrd/mia
Algeria	2097	10.0	Mrd/mia
Algeria	2098	10.0	Mrd/mia
Algeria	2099	10.0	Mrd/mia
Algeria	2100	10.0	Mrd/mia

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

1975	12 738,3	16 925,0	453,2	2 019,7	16 567,3	1 325,4	16,1	1 273,0	:	11 500,9	127,3	
1976	13 057,4	18 032,0	584,8	2 364,2	19 752,0	1 637,8	20,4	1 456,5	:	12 780,9	147,0	
1977	12 799,5	19 933,0	713,5	2 525,7	20 611,9	1 661,2	25,4	1 580,6	1 667,9	13 353,9	209,4	
1978	14 247,8	22 530,5	856,1	2 782,8	17 064,0	1 702,9	29,0	1 603,9	1 900,9	14 606,1	242,6	
1979	15 838,6	26 477,0	1 051,1	2 883,8	18 834,1	2 026,3	38,0	1 684,1	2 697,3	16 769,5	237,7	
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	26 600,7	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	25 847,9	4 307,8	62,3	3 038,9	8 907,7	31 071,1	442,1	
d) 1984	19 675,0	63 970,0	4 358,6	3 858,5	25 847,9	4 394,6	61,8	2 821,1	:	31 183,6	776,1	
1985	20 847,8	67 460,0	4 809,2	3 882,1	28 422,6	4 605,2	66,4	3 391,7	12 345,3	33 262,4	864,5	
MEAN TREND PER YEAR TENDANCE ANN. MOYENNE	1975-1984	4,8	15,6	29,5	7,5	5,1	14,0	16,2	10,2	:	11,7	14,8
EXPECTED CHANGE (IN %) ACCROISSEMENT EN %	1985-1984	6,0	5,5	10,3	0,6	10,0	4,8	7,4	20,2	:	6,7	11,4

FINANCING OF CIVIL R&D

CREDITS POUR LA RECHERCHE CIVIL

1975	11 333,3	11 875,0	438,0	1 949,6	16 453,3	710,3	16,1	1 263,9	:	8 947,5	127,3	
1976	11 566,9	12 432,0	558,5	2 287,6	19 635,2	856,9	20,4	1 445,3	:	9 888,9	147,0	
1977	11 203,3	13 833,0	681,6	2 447,6	20 544,3	834,1	25,4	1 568,2	1 615,3	10 333,4	209,4	
1978	12 516,0	15 030,5	819,5	2 697,6	17 013,6	825,7	29,0	1 596,4	1 819,4	11 231,7	242,6	
1979	13 990,9	17 127,0	1 018,3	2 795,3	18 757,3	943,1	38,0	1 680,0	2 600,3	12 688,6	237,7	
1980	15 316,2	19 750,0	1 508,0	3 008,0	21 040,5	1 133,5	41,2	1 692,9	2 888,3	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	20 022,4	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	25 788,4	2 138,5	62,3	3 016,8	8 599,9	23 164,8	442,1	
d) 1984	17 738,3	43 130,0	3 971,4	3 738,5	25 787,0	2 225,9	61,8	2 814,3	:	23 318,9	776,1	
1985	18 338,9	46 360,0	4 281,4	3 764,8	28 361,4	2 226,4	66,4	3 369,3	11 985,2	24 554,8	864,5	
MEAN TREND PER YEAR TENDANCE ANN. MOYENNE	1975-1984	4,9	14,9	28,8	7,5	5,1	13,0	16,2	10,1	:	11,1	14,8
EXPECTED CHANGE (IN %) ACCROISSEMENT EN %	1985-1984	3,4	7,5	7,8	0,7	10,0	0,0	7,4	19,7	:	5,3	11,4

R&D FINANCING

CREDITS POUR LA R&D

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

^ BR ^	^ DEUTSCH- ^	^ FRANCE ^	^ ITALIA ^	^ NEDER- ^	^ BELGIQUE ^	^ UNITED ^	^ IRELAND ^	^ DANMARK ^	^ GRECE ^	^ EUR-10 ^	^ COMMUN. ^
^ LAND ^	^ LAND ^	^ ^	^ ^	^ LAND ^	^ /BELGIE ^	^ KINGDOM ^	^ ^	^ ^	^ ^	^ ^	^ EUROP ^

TOTAL FINANCING OF R&D

CREDITS TOTAUX DE R&D

1975	4 177,3	3 181,8	559,8	644,3	363,6	2 366,7	28,7	178,7	:	11 500,9	127,3	
1976	4 637,8	3 373,7	628,7	800,0	457,6	2 634,8	32,8	215,4	:	12 780,9	147,0	
1977	4 833,1	3 555,6	708,7	902,0	504,2	2 541,2	38,8	230,5	39,7	13 353,9	209,4	
1978	5 574,1	3 925,3	792,6	1 010,4	426,0	2 564,9	43,7	228,5	40,6	14 606,1	242,6	
1979	6 308,0	4 541,9	923,2	1 049,2	468,9	3 134,8	56,8	233,6	53,1	16 769,5	237,7	
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	2 269,7	1 306,7	555,7	6 583,6	73,5	272,1	76,8	26 600,7	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	568,8	7 293,7	85,8	373,0	100,8	31 071,1	442,1	
p) 1984	8 829,8	9 323,1	3 145,6	1 535,9	566,5	7 353,2	84,9	344,7	:	31 183,6	776,1	
1985	9 321,3	9 875,3	3 365,9	1 538,7	631,5	7 885,3	92,6	424,3	127,6	33 262,4	864,5	
MEAN TREND PER YEAR TENDANCE ANN. MOYENNE	1975-1984	8,5	12,4	22,1	10,1	5,1	13,3	12,9	8,5	:	11,7	14,8
EXPECTED CHANGE (IN %) ACCROISSEMENT EN %	1985-1984	5,6	5,9	7,0	0,2	11,5	7,2	9,0	23,1	:	6,7	11,4

FINANCING OF CIVIL R&D

CREDITS POUR LA RECHERCHE CIVIL

1975	3 716,6	2 232,5	541,1	621,9	361,1	1 268,3	28,7	177,4	:	8 947,5	127,3	
1976	4 108,4	2 326,0	600,4	774,1	454,9	1 378,6	32,8	213,7	:	9 888,9	147,0	
1977	4 230,3	2 467,5	677,0	874,1	502,5	1 275,9	38,8	228,7	38,4	10 333,4	209,4	
1978	4 896,6	2 618,6	758,6	979,5	424,7	1 243,6	43,7	227,4	38,9	11 231,7	242,6	
1979	5 572,1	2 938,0	894,5	1 017,0	467,0	1 459,0	56,8	233,0	51,2	12 688,6	237,7	
1980	6 067,7	3 365,2	1 268,1	1 089,7	518,3	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	2 161,7	1 266,9	552,9	3 446,4	73,5	271,4	76,8	20 022,4	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	567,5	3 620,7	85,8	370,3	97,4	23 164,8	442,1	
p) 1984	7 960,6	6 285,9	2 866,1	1 488,1	565,1	3 724,4	84,9	343,9	:	23 318,9	776,1	
1985	8 199,5	6 786,5	2 996,6	1 492,2	630,1	3 812,1	92,6	421,5	123,9	24 554,8	864,5	
MEAN TREND PER YEAR TENDANCE ANN. MOYENNE	1975-1984	8,6	11,7	21,4	10,1	5,2	12,4	12,9	8,5	:	11,1	14,8
EXPECTED CHANGE (IN %) ACCROISSEMENT EN %	1985-1984	3,0	8,0	4,6	0,3	11,5	2,4	9,0	22,6	:	5,3	11,4

R&D FINANCING

CREDITS POUR LA R&D

IN MIO EUA AT VALUES AND EXCHANGE RATES 1975

EN MIO UCE A PRIX ET TAUX DE CHANGE DE 1975

/ BR /	/	/	/	/	/	/	/	/	/	/	/	/	/
/DEUTSCH- /	FRANCE /	ITALIA /	NEDER- /	BELGIQUE /	UNITED /	IRELAND /	DANMARK /	GRECE /	EUR-10 /	COMMUN. /			
/ LAND /	/	/	/ LAND /	/BELGIE /	KINGDOM /	/	/	/	/	EUROP /			

TOTAL FINANCING OF R&D

CREDITS TOTAUX DE R&D

1975	4 177,3	3 181,9	557,8	644,3	363,6	2 366,7	28,7	178,7	:	11 501,0
1976	4 031,0	3 010,8	604,0	684,6	383,0	2 533,9	30,7	185,2	:	11 463,1
1977	3 749,9	2 993,4	615,7	671,1	369,6	2 282,4	33,4	182,5	:	29,3 | 10 927,3
1978	3 985,8	3 051,6	646,1	694,7	288,3	2 099,8	33,9	169,3	:	28,0 | 10 997,6
1979	4 200,0	3 191,8	677,3	681,3	302,6	2 171,3	38,5	162,3	:	32,8 | 11 457,8
1980	4 239,5	3 281,0	819,8	692,0	313,5	2 227,6	35,1	147,7	:	31,6 | 11 787,9
1981	4 186,2	3 783,6	1 136,3	696,5	310,5	2 638,5	31,5	155,7	:	35,3 | 12 974,2
1982	4 367,4	3 882,3	1 123,3	700,4	320,7	2 752,7	31,4	157,9	:	33,6 | 13 369,7
1983	4 180,6	4 142,5	1 231,2	762,1	296,1	2 798,7	33,3	176,1	:	33,7 | 13 654,3
1984	4 109,3	4 271,5	1 355,6	760,3	292,6	2 845,9	31,7	190,8	:	41,2 | 13 898,9
n) 1984	4 171,0	4 246,8	1 251,5	765,8	296,1	3 018,6	32,7	177,9	:	13 960,2
1985	4 299,0	4 203,1	1 254,1	757,8	307,2	2 953,9	33,0	204,9	:	49,4 | 14 062,3
MEAN TREND 1975-1984 PER YEAR TENDANCE ANN. MOYENNE	-0,2	3,3	10,3	1,9	-2,4	2,1	1,1	0,7	:	2,1
EXPECTED 1985-1984 CHANGE (IN %) ACCROISSEMENT EN %	3,1	-1,0	0,2	-1,0	3,8	-2,1	0,9	15,2	:	0,7

FINANCING OF CIVIL R&D

CREDITS POUR LA RECHERCHE CIVIL

1975	3 716,6	2 232,4	541,1	621,9	361,1	1 268,3	28,7	177,4	:	8 947,5
1976	3 572,0	2 076,7	577,0	662,5	381,1	1 325,8	30,7	183,8	:	8 809,5
1977	3 284,0	2 078,7	588,4	650,6	368,8	1 146,6	33,4	181,1	:	30,6 | 8 362,4
1978	3 503,6	2 037,8	618,9	673,8	287,8	1 019,3	34,0	168,6	:	30,2 | 8 374,0
1979	3 712,7	2 066,9	656,8	660,7	301,7	1 011,9	38,6	161,9	:	36,6 | 8 647,8
1980	3 812,1	2 085,9	798,4	670,6	313,1	1 020,8	35,2	147,3	:	35,3 | 8 918,7
1981	3 818,1	2 331,5	1 064,0	676,0	310,1	1 267,3	31,5	155,3	:	41,1 | 9 694,9
1982	3 994,8	2 508,3	1 069,9	679,1	319,0	1 441,0	31,4	157,5	:	33,6 | 10 234,7
1983	3 778,9	2 789,1	1 160,9	739,7	295,3	1 423,6	33,3	175,7	:	33,6 | 10 430,0
1984	3 699,3	2 844,4	1 242,8	736,6	292,0	1 412,8	31,7	189,4	:	39,8 | 10 488,7
n) 1984	3 760,4	2 863,3	1 140,3	742,0	295,4	1 528,9	32,7	177,5	:	10 564,2
1985	3 781,6	2 888,4	1 116,4	734,9	306,6	1 428,1	33,0	203,5	:	47,9 | 10 563,3
MEAN TREND 1975-1984 PER YEAR TENDANCE ANN. MOYENNE	-0,1	2,7	9,7	1,9	-2,3	1,2	1,1	0,7	:	1,8
EXPECTED 1985-1984 CHANGE (IN %) ACCROISSEMENT EN %	0,6	0,9	-2,1	-1,0	3,8	-6,6	0,9	14,7	:	-0,0

R&D FINANCING IN CONTEXT OF OTHER ECONOMIC AGGREGATES

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

GOVERNMENT R&D FINANCING PER HEAD		!BR	!	!	!	!BELGIQUE!	UNITED !	!	!	!	!
CREDITS PUBLICS DE R&D PAR HABITANT		!DEUTSCHLND!	FRANCE !	ITALIA !	NEDERLND!	/BELGIE !	KINGDOM!	IRELAND!	DANMARK!	GRECE !	EUR-10 !
	1975	67.6	60.3	10.0	47.2	37.1	42.2	9.2	35.3	0.0	43.1
EUA CURRENT	1976	75.4	63.8	11.2	58.1	46.6	47.0	10.4	42.5	0.0	47.8
PRICES AND	1977	78.7	67.0	12.6	65.1	51.3	45.4	12.2	45.3	4.3	49.8
EXCHANGE RATES	1978	90.9	73.7	14.0	72.5	43.3	45.9	13.2	44.8	4.3	54.3
UCE PRIX ET	1979	102.8	84.9	16.2	74.7	47.6	56.0	16.9	45.7	5.6	62.2
TAUX DE CHANGE	1980	109.7	98.7	22.8	79.5	52.7	73.9	17.9	42.3	5.4	72.0
COURANTS	1981	114.4	125.3	36.1	82.6	55.0	107.0	18.5	48.9	7.1	88.4
	1982	131.8	134.8	40.0	91.3	56.4	116.3	21.1	53.2	7.7	97.8
	1983	136.9	149.7	49.3	105.1	54.5	120.9	23.5	63.5	7.9	105.7
	1984	141.8	165.9	59.8	106.0	57.8	129.7	24.3	73.0	10.2	114.5
	1975	67.6	60.3	10.0	47.2	37.1	42.2	9.2	35.3	0.0	43.1
EUA PRICES	1976	65.5	56.9	10.8	49.7	39.0	45.2	9.7	36.5	0.0	42.8
AND EXCHANGE	1977	61.1	56.4	10.9	48.4	37.6	40.8	10.5	35.9	3.2	40.8
RATES 1975	1978	65.0	57.3	11.4	49.8	29.3	37.6	10.2	33.2	3.0	40.9
UCE PRIX ET	1979	68.4	59.7	11.9	48.5	30.7	38.8	11.4	31.7	3.5	42.5
TAUX DE CHANGE	1980	68.9	61.1	14.4	48.9	31.8	39.8	10.3	28.8	3.3	43.6
1975	1981	67.9	70.1	19.9	48.9	31.5	47.1	9.2	30.4	3.6	47.9
	1982	70.9	71.3	19.8	49.0	32.5	48.6	9.0	30.9	3.4	49.2
	1983	68.1	75.8	21.7	53.0	30.0	49.6	9.5	34.4	3.4	50.2
	1984	67.2	78.1	24.1	52.7	29.7	50.6	9.0	37.3	4.2	51.2
	1975	4.37	5.50	1.40	3.15	2.23	2.86	0.94	1.76	:	3.58
IN % OF	1976	4.28	5.15	1.40	3.13	2.27	3.20	1.02	1.83	:	3.55
TOTAL BUDGET	1977	3.98	5.11	1.33	3.10	2.08	2.81	1.09	1.79	:	3.33
EN % DU	1978	4.05	5.03	1.03	2.95	1.75	2.64	1.01	1.64	:	3.14
BUDGET TOTAL	1979	4.17	5.10	1.15	2.86	1.78	2.63	1.09	1.52	0.74	3.19
	1980	4.16	5.26	1.25	2.82	1.56	2.61	0.85	1.36	0.75	3.13
	1981	4.06	5.62	1.60	2.34	1.41	3.18	0.74	1.36	0.65	3.27
	1982	4.24	5.59	1.32	2.26	1.43	3.08	0.71	1.31	0.59	3.16
	1983	4.02	5.96	1.42	2.48	1.35	3.16	0.80	1.43	0.55	3.18
	1984	4.08	6.20	1.58	2.38	1.36	3.20	0.77	1.63	0.66	3.26
	1975	1.23	1.17	0.36	0.96	0.73	1.27	0.44	0.58	0.00	1.02
IN % OF GROSS	1976	1.16	1.07	0.37	0.98	0.77	1.32	0.45	0.57	0.00	0.99
DOMESTIC PRODUCT	1977	1.07	1.06	0.38	0.97	0.74	1.16	0.47	0.56	0.17	0.93
EN % DU	1978	1.11	1.06	0.39	0.99	0.57	1.04	0.46	0.51	0.16	0.92
PRODUIT INTERIEUR	1979	1.13	1.09	0.39	0.96	0.59	1.07	0.53	0.48	0.19	0.94
BRUT	1980	1.14	1.13	0.47	0.97	0.62	1.11	0.49	0.45	0.17	0.97
	1981	1.15	1.32	0.65	0.93	0.63	1.34	0.42	0.48	0.21	1.09
	1982	1.21	1.32	0.64	0.93	0.65	1.33	0.39	0.47	0.20	1.10
	1983	1.15	1.40	0.71	1.02	0.60	1.33	0.41	0.51	0.20	1.11
	1984	1.12	1.45	0.77	0.98	0.59	1.35	0.39	0.54	0.24	1.12
	MEAN TREND PER YEAR										
TENDANCE ANNUELLE MOYENNE	TOTAL BUDGET	5.6	14.1	27.8	10.9	11.0	12.6	18.7	11.0	:	12.8
	BUDGET TOTAL										
	GROSS	6.0	12.9	19.2	7.3	7.6	13.2	17.8	11.2	20.8	10.6
	DOMESTIC PRODUCT										
	PRODUIT INTERIEUR										
	BRUT										

TAB. 5

R & D FINANCING BY CHAPTERS OF NABS

IN NATIONAL CURRENCIES AND AT CURRENT VALUES

OBJECTIVES NABS	!	! DEUTSCH-!	!	!	!	! BELGIQUE !	! UNITED !	
	!	! LAND BR !	! FRANCE !	! ITALIA !	! NEDERLAND !	! /BELGIE !	! KINGDOM !	
	!	! 1000 DM !	! 1000 FF !	! MIO LIT !	! 1000 FL !	! 1000 FB !	! 1000 PSTE !	
1983	!	!	!	!	!	!	!	
1. EXPLORATION AND EXPLOITATION OF THE EARTH	!	0100 !	356368 !	974000 !	64806 !	23350 !	613540 !	70780 !
2. INFRASTRUCTURE AND GENERAL PLANNING OF LAND-USE	!	0200 !	425724 !	1797000 !	39645 !	172114 !	715525 !	57581 !
3. CONTROL OF ENVIRONMENTAL POLLUTION	!	0300 !	535450 !	190000 !	77918 !	107719 !	512678 !	42372 !
4. PROTECTION AND IMPROVEMENT OF HUMAN HEALTH	!	0400 !	608355 !	2290000 !	152845 !	85645 !	1835492 !	149939 !
5. PRODUCTION, DISTRIBUTION AND RAT. UTILIZATION OF ENERGY	!	0500 !	2899253 !	4397000 !	832166 !	173319 !	1666834 !	214114 !
6. AGRICULTURAL PRODUCTION AND TECHNOLOGY	!	0600 !	462314 !	2003000 !	194702 !	190283 !	1052461 !	209949 !
7. INDUSTRIAL PRODUCTION AND TECHNOLOGY	!	0700 !	2318534 !	6570000 !	840788 !	370888 !	3260433 !	283952 !
8. SOCIAL STRUCTURES AND RELATIONSHIPS	!	0800 !	472314 !	743000 !	56338 !	137686 !	1331190 !	27153 !
9. EXPLORATION AND EXPLOITATION OF SPACE	!	0900 !	768515 !	2674000 !	165475 !	103332 !	1424245 !	74732 !
10. RESEARCH FINANCED FROM GEN. UNIV. FUNDS (GUF)	!	1000 !	6287660 !	6000000 !	876086 !	1829400 !	9021687 !	620000 !
11. NON-ORIENTED RESEARCH	!	1100 !	2117545 !	8897000 !	219469 !	348159 !	2895344 !	216565 !
12. OTHER CIVIL RESEARCH	!	1200 !	8870 !	745000 !	46135 !	175909 !	:	67342 !
13. DEFENCE	!	1300 !	1834536 !	18100000 !	215966 !	112670 !	67166 !	1965278 !
TOTAL EXPENDITURE	!	9900 !	19095424 !	55400000 !	3782336 !	3830474 !	24396592 !	3999757 !
1984	!	!	!	!	!	!	!	
1. EXPLORATION AND EXPLOITATION OF THE EARTH	!	0100 !	387441 !	920000 !	67129 !	22935 !	661706 !	73790 !
2. INFRASTRUCTURE AND GENERAL PLANNING OF LAND-USE	!	0200 !	434129 !	1920000 !	71019 !	176929 !	659679 !	62817 !
3. CONTROL OF ENVIRONMENTAL POLLUTION	!	0300 !	578319 !	235000 !	39466 !	123307 !	555730 !	50761 !
4. PROTECTION AND IMPROVEMENT OF HUMAN HEALTH	!	0400 !	626322 !	2390000 !	385459 !	94858 !	1954101 !	156777 !
5. PRODUCTION, DISTRIBUTION AND RAT. UTILIZATION OF ENERGY	!	0500 !	2951481 !	4825000 !	1058623 !	181003 !	2013551 !	218569 !
6. AGRICULTURAL PRODUCTION AND TECHNOLOGY	!	0600 !	398644 !	2325000 !	233282 !	192095 !	1711131 !	214816 !
7. INDUSTRIAL PRODUCTION AND TECHNOLOGY	!	0700 !	2327612 !	6920000 !	848386 !	362267 !	2894964 !	306906 !
8. SOCIAL STRUCTURES AND RELATIONSHIPS	!	0800 !	452756 !	995000 !	60143 !	144893 !	1328582 !	37490 !
9. EXPLORATION AND EXPLOITATION OF SPACE	!	0900 !	762096 !	3495000 !	297831 !	97524 !	1718885 !	79063 !
10. RESEARCH FINANCED FROM GEN. UNIV. FUNDS (GUF)	!	1000 !	6329445 !	7570000 !	938135 !	1814000 !	9354355 !	634000 !
11. NON-ORIENTED RESEARCH	!	1100 !	2219273 !	8950000 !	263499 !	377737 !	2938906 !	291430 !
12. OTHER CIVIL RESEARCH	!	1200 !	9318 !	990000 !	3361 !	150914 !	:	12067 !
13. DEFENCE	!	1300 !	1936733 !	20840000 !	387195 !	120011 !	59450 !	2169344 !
TOTAL EXPENDITURE	!	9900 !	19413568 !	62374000 !	4653528 !	3858473 !	25847888 !	4307830 !

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
						1983
357!	44597!	443239!	503756!	1319!	0100 !	1. EXPLORATION ET EXPLOITATION DU MILIEU TERRESTRE
3997!	75982!	53391!	679566!	251!	0200 !	2. INFRASTRUCTURES ET AMENAGEMENT DES ESPACES
512!	31164!	191585!	454532!	46939!	0300 !	3. POLLUTION DE L'ENVIRONNEMENT (LUTTE ET PREVENTION)
2352!	117531!	372388!	1071466!	7134!	0400 !	4. PROTECTION ET PROMOTION DE LA SANTE HUMAINE
1784!	267005!	155562!	3049835!	330689!	0500 !	5. PRODUCT.,DISTRIBUT. ET UTILIS. RATIONNELLE DE L'ENERGIE
18006!	204856!	1441765!	1168330!	7131!	0600 !	6. PRODUCTIVITE ET TECHNOLOGIE DE L'AGRICULTURE
13728!	422497!	366931!	3391839!	58467!	0700 !	7. PRODUCTIVITE ET TECHNOLOGIE INDUSTRIELLES
4693!	70519!	449612!	510304!	3735!	0800 !	8. VIE EN SOCIETE (STRUCTURES ET RELATIONS)
791!	88876!	:	1067402!	5641!	0900 !	9. EXPLORATION ET EXPLOITATION DE L'ESPACE
10702!	918524!	1861476!	6431936!	-	1000 !	10. RECHERCHE FINANCEE PAR FONDS GENERAUX DES UNIVERSITES
2015!	394395!	707990!	3039479!	1280!	1100 !	11. RECHERCHES NON ORIENTEES
-	255!	:	332197!	-	1200 !	12. RECHERCHES NON VENTILEES
-	6299!	23786!	7036097!	-	1300 !	13. DEFENSE
58937!	2642500!	6067725!	28739664!	462587!	9900 !	TOTAL DES CREDITS
						1984
384!	50564!	520699!	516805!	1784!	0100 !	1. EXPLORATION ET EXPLOITATION DU MILIEU TERRESTRE
4283!	69923!	301903!	733681!	693!	0200 !	2. INFRASTRUCTURES ET AMENAGEMENT DES ESPACES
1027!	46649!	218572!	477819!	42724!	0300 !	3. POLLUTION DE L'ENVIRONNEMENT (LUTTE ET PREVENTION)
2928!	107640!	549158!	1276184!	8194!	0400 !	4. PROTECTION ET PROMOTION DE LA SANTE HUMAINE
1146!	186017!	287943!	3301015!	317133!	0500 !	5. PRODUCT.,DISTRIBUT. ET UTILIS. RATIONNELLE DE L'ENERGIE
18791!	255020!	2399882!	1247182!	3052!	0600 !	6. PRODUCTIVITE ET TECHNOLOGIE DE L'AGRICULTURE
13434!	503112!	547272!	3474533!	55654!	0700 !	7. PRODUCTIVITE ET TECHNOLOGIE INDUSTRIELLES
4686!	112970!	602677!	567906!	3488!	0800 !	8. VIE EN SOCIETE (STRUCTURES ET RELATIONS)
1007!	100327!	45445!	1289272!	5987!	0900 !	9. EXPLORATION ET EXPLOITATION DE L'ESPACE
12649!	1090306!	2412728!	6785525!	-	1000 !	10. RECHERCHE FINANCEE PAR FONDS GENERAUX DES UNIVERSITES
1967!	494270!	651072!	3263325!	3418!	1100 !	11. RECHERCHES NON ORIENTEES
-	:	62552!	231612!	-	1200 !	12. RECHERCHES NON VENTILEES
-	22144!	307806!	7906402!	-	1300 !	13. DEFENSE
62302!	3038942!	8907709!	31071136!	442128!	9900 !	TOTAL DES CREDITS

TAB. 5

R & D FINANCING BY CHAPTERS OF NABS

IN NATIONAL CURRENCIES AND AT CURRENT VALUES

OBJECTIVES NABS	!	!	!	!	!	!	!	
	!	DEUTSCH-!	FRANCE !	ITALIA !	NEDERLAND!	BELGIQUE !	UNITED !	
	!	LAND BR !	1000 FF !	MIO LIT !	1000 FL !	/BELGIE !	KINGDOM !	
	!	1000 DM !	1000 FF !	MIO LIT !	1000 FL !	1000 FB !	1000 PSTE!	
1985	!	!	!	!	!	!	!	
1. EXPLORATION AND EXPLOITATION OF THE EARTH	!	0100 !	440414!	990000!	71882!	23525!	681997!	77498!
2. INFRASTRUCTURE AND GENERAL PLANNING OF LAND-USE	!	0200 !	402641!	2100000!	59766!	183159!	676669!	58605!
3. CONTROL OF ENVIRONMENTAL POLLUTION	!	0300 !	654694!	320000!	49725!	119844!	572771!	53837!
4. PROTECTION AND IMPROVEMENT OF HUMAN HEALTH	!	0400 !	636931!	2680000!	341232!	94134!	2014022!	162164!
5. PRODUCTION, DISTRIBUTION AND RAT. UTILIZATION OF ENERGY	!	0500 !	2659345!	5280000!	1074423!	175336!	2075295!	213028!
6. AGRICULTURAL PRODUCTION AND TECHNOLOGY	!	0600 !	416759!	2390000!	250375!	178428!	1763601!	222428!
7. INDUSTRIAL PRODUCTION AND TECHNOLOGY	!	0700 !	2915483!	8190000!	423997!	402222!	2983736!	336325!
8. SOCIAL STRUCTURES AND RELATIONSHIPS	!	0800 !	470111!	1730000!	62784!	145707!	1369321!	44827!
9. EXPLORATION AND EXPLOITATION OF SPACE	!	0900 !	820462!	3805000!	372730!	99006!	1771593!	66224!
10. RESEARCH FINANCED FROM GEN. UNIV. FUNDS (GUF)	!	1000 !	6507966!	8040000!	1151877!	1795800!	9651853!	651000!
11. NON-ORIENTED RESEARCH	!	1100 !	2397196!	9715000!	413734!	381703!	3029024!	327547!
12. OTHER CIVIL RESEARCH	!	1200 !	16929!	1120000!	8896!	165924!	1771500!	12868!
13. DEFENCE	!	1300 !	2508905!	21100000!	527759!	117327!	61273!	2378862!
TOTAL EXPENDITURE	!	9900 !	20847824!	67460000!	4809180!	3882117!	28422640!	4605213!

TAB. 6

R & D FINANCING BY CHAPTERS OF NABS

IN 1000 EUA, AT CURRENT VALUES AND EXCHANGE RATES

OBJECTIVES NABS	!	! DEUTSCH-!	!	!	!	!BELGIQUE !	! UNITED !
	!	! LAND BR !	! FRANCE !	! ITALIA !	! NEDERLAND !	! /BELGIE !	! KINGDOM !
1983	!	!	!	!	!	!	!
1. EXPLORATION AND EXPLOITATION OF THE EARTH	! 0100 !	! 156954! !	! 143853! !	! 48007! !	! 9203! !	! 13503! !	! 120577! !
2. INFRASTRUCTURE AND GENERAL PLANNING OF LAND-USE	! 0200 !	! 187501! !	! 265404! !	! 29368! !	! 67836! !	! 15747! !	! 98092! !
3. CONTROL OF ENVIRONMENTAL POLLUTION	! 0300 !	! 235827! !	! 28062! !	! 57720! !	! 42456! !	! 11283! !	! 72182! !
4. PROTECTION AND IMPROVEMENT OF HUMAN HEALTH	! 0400 !	! 267937! !	! 338217! !	! 113225! !	! 33756! !	! 40396! !	! 255427! !
5. PRODUCTION, DISTRIBUTION AND RAT. UTILIZATION OF ENERGY	! 0500 !	! 1276912! !	! 649406! !	! 616452! !	! 68311! !	! 36684! !	! 364752! !
6. AGRICULTURAL PRODUCTION AND TECHNOLOGY	! 0600 !	! 203616! !	! 295829! !	! 144231! !	! 74997! !	! 23163! !	! 357656! !
7. INDUSTRIAL PRODUCTION AND TECHNOLOGY	! 0700 !	! 1021147! !	! 970343! !	! 622839! !	! 146180! !	! 71756! !	! 483724! !
8. SOCIAL STRUCTURES AND RELATIONSHIPS	! 0800 !	! 208020! !	! 109736! !	! 41734! !	! 54267! !	! 29297! !	! 46256! !
9. EXPLORATION AND EXPLOITATION OF SPACE	! 0900 !	! 338475! !	! 394931! !	! 122581! !	! 40727! !	! 31345! !	! 127309! !
10. RESEARCH FINANCED FROM GEN. UNIV. FUNDS (GUF)	! 1000 !	! 2769261! !	! 886158! !	! 648987! !	! 721031! !	! 198549! !	! 1056194! !
11. NON-ORIENTED RESEARCH	! 1100 !	! 932626! !	! 1314024! !	! 162578! !	! 137222! !	! 63721! !	! 368927! !
12. OTHER CIVIL RESEARCH	! 1200 !	! 3907! !	! 110031! !	! 34176! !	! 69332! !	! :	! 114720! !
13. DEFENCE	! 1300 !	! 807981! !	! 2673242! !	! 159983! !	! 44407! !	! 1478! !	! 3347929! !
TOTAL EXPENDITURE	! 9900 !	! 8410158! !	! 8182191! !	! 2801878! !	! 1509723! !	! 536920! !	! 6813745! !
1984	!	!	!	!	!	!	!
1. EXPLORATION AND EXPLOITATION OF THE EARTH	! 0100 !	! 173111! !	! 133883! !	! 48595! !	! 9089! !	! 14562! !	! 124935! !
2. INFRASTRUCTURE AND GENERAL PLANNING OF LAND-USE	! 0200 !	! 193971! !	! 279408! !	! 51411! !	! 70117! !	! 14517! !	! 106357! !
3. CONTROL OF ENVIRONMENTAL POLLUTION	! 0300 !	! 258396! !	! 34198! !	! 28570! !	! 48867! !	! 12229! !	! 85944! !
4. PROTECTION AND IMPROVEMENT OF HUMAN HEALTH	! 0400 !	! 279844! !	! 347805! !	! 279038! !	! 37592! !	! 43002! !	! 265442! !
5. PRODUCTION, DISTRIBUTION AND RAT. UTILIZATION OF ENERGY	! 0500 !	! 1318736! !	! 702158! !	! 766348! !	! 71731! !	! 44310! !	! 370063! !
6. AGRICULTURAL PRODUCTION AND TECHNOLOGY	! 0600 !	! 178116! !	! 338346! !	! 168875! !	! 76127! !	! 37655! !	! 363709! !
7. INDUSTRIAL PRODUCTION AND TECHNOLOGY	! 0700 !	! 1039989! !	! 1007033! !	! 614155! !	! 143566! !	! 63707! !	! 519628! !
8. SOCIAL STRUCTURES AND RELATIONSHIPS	! 0800 !	! 202294! !	! 144797! !	! 43538! !	! 57421! !	! 29237! !	! 63475! !
9. EXPLORATION AND EXPLOITATION OF SPACE	! 0900 !	! 340508! !	! 508610! !	! 215603! !	! 38649! !	! 37826! !	! 133863! !
10. RESEARCH FINANCED FROM GEN. UNIV. FUNDS (GUF)	! 1000 !	! 2828027! !	! 1101624! !	! 679125! !	! 718888! !	! 205852! !	! 1073437! !
11. NON-ORIENTED RESEARCH	! 1100 !	! 991582! !	! 1302448! !	! 190750! !	! 149697! !	! 64674! !	! 493426! !
12. OTHER CIVIL RESEARCH	! 1200 !	! 4163! !	! 144070! !	! 2433! !	! 59807! !	! :	! 20431! !
13. DEFENCE	! 1300 !	! 865342! !	! 3032740! !	! 280294! !	! 47560! !	! 1308! !	! 3672957! !
TOTAL EXPENDITURE	! 9900 !	! 8674078! !	! 9077119! !	! 3368735! !	! 1529112! !	! 568809! !	! 7293669! !

CREDITS DE R & D PAR CHAPITRES NABS

EN 1000 UCE, A PRIX ET TAUX DE CHANGE COURANTS

IRELAND	DANMARK	GRECE	EUR 10	EC/CE		OBJECTIFS NABS
						1983
499	5484	5676	503756	1319	0100	1. EXPLORATION ET EXPLOITATION DU MILIEU TERRESTRE
5591	9344	684	679566	251	0200	2. INFRASTRUCTURES ET AMENAGEMENT DES ESPACES
716	3832	2453	454532	46939	0300	3. POLLUTION DE L'ENVIRONNEMENT (LUTTE ET PREVENTION)
3290	14453	4769	1071466	7134	0400	4. PROTECTION ET PROMOTION DE LA SANTE HUMAINE
2495	32834	1992	3049835	330689	0500	5. PRODUCT.,DISTRIBUT. ET UTILIS. RATIONNELLE DE L'ENERGIE
25185	25192	18463	1168330	7131	0600	6. PRODUCTIVITE ET TECHNOLOGIE DE L'AGRICULTURE
19201	51956	4699	3391839	58467	0700	7. PRODUCTIVITE ET TECHNOLOGIE INDUSTRIELLES
6564	8672	5758	510304	3735	0800	8. VIE EN SOCIETE (STRUCTURES ET RELATIONS)
1106	10929	.	1067402	5641	0900	9. EXPLORATION ET EXPLOITATION DE L'ESPACE
14969	112954	23838	6431936		1000	10. RECHERCHE FINANCEE PAR FONDS GENERAUX DES UNIVERSITES
2818	48500	9067	3039479	1280	1100	11. RECHERCHES NON ORIENTEES
-	31	-	332197	-	1200	12. RECHERCHES NON VENTILEES
-	775	305	7036097	-	1300	13. DEFENSE
82435	324956	77703	28739664	462587	9900	TOTAL DES CREDITS
						1984
529	6207	5894	516805	1784	0100	1. EXPLORATION ET EXPLOITATION DU MILIEU TERRESTRE
5900	8583	3418	733681	693	0200	2. INFRASTRUCTURES ET AMENAGEMENT DES ESPACES
1415	5726	2474	477819	42724	0300	3. POLLUTION DE L'ENVIRONNEMENT (LUTTE ET PREVENTION)
4033	13213	6216	1276184	8194	0400	4. PROTECTION ET PROMOTION DE LA SANTE HUMAINE
1579	22834	3260	3301015	317133	0500	5. PRODUCT.,DISTRIBUT. ET UTILIS. RATIONNELLE DE L'ENERGIE
25885	31304	27167	1247182	3052	0600	6. PRODUCTIVITE ET TECHNOLOGIE DE L'AGRICULTURE
18506	61758	6195	3474533	55654	0700	7. PRODUCTIVITE ET TECHNOLOGIE INDUSTRIELLES
6455	13867	6822	567906	3488	0800	8. VIE EN SOCIETE (STRUCTURES ET RELATIONS)
1387	12315	514	1289272	5987	0900	9. EXPLORATION ET EXPLOITATION DE L'ESPACE
17424	133837	27312	6785525	-	1000	10. RECHERCHE FINANCEE PAR FONDS GENERAUX DES UNIVERSITES
2710	60673	7370	3263325	3418	1100	11. RECHERCHES NON ORIENTEES
-	:	708	231612	-	1200	12. RECHERCHES NON VENTILEES
-	2718	3484	7906402	-	1300	13. DEFENSE
85822	373036	100835	31071136	442128	9900	TOTAL DES CREDITS

TAB. 6

R & D FINANCING BY CHAPTERS OF NABS

IN 1000 EUA, AT CURRENT VALUES AND EXCHANGE RATES

OBJECTIVES NABS	!	!	!	!	!	!	!	
	!	DEUTSCH-!	FRANCE !	ITALIA !	NEDERLAND!	BELGIQUE !	UNITED !	
	!	LAND BR !	FRANCE !	ITALIA !	NEDERLAND!	/BELGIE !	KINGDOM !	
1985	!	!	!	!	!	!	!	
1. EXPLORATION AND EXPLOITATION OF THE EARTH	!	0100 !	196914!	144923!	50310!	9324!	15153!	132697!
2. INFRASTRUCTURE AND GENERAL PLANNING OF LAND-USE	!	0200 !	180025!	307413!	41830!	72594!	15034!	100347!
3. CONTROL OF ENVIRONMENTAL POLLUTION	!	0300 !	292721!	46844!	34803!	47499!	12726!	92183!
4. PROTECTION AND IMPROVEMENT OF HUMAN HEALTH	!	0400 !	284779!	392317!	238828!	37309!	44748!	277667!
5. PRODUCTION, DISTRIBUTION AND RAT. UTILIZATION OF ENERGY	!	0500 !	1189022!	772923!	751989!	69493!	46109!	364759!
6. AGRICULTURAL PRODUCTION AND TECHNOLOGY	!	0600 !	186338!	349865!	175237!	70719!	39184!	380854!
7. INDUSTRIAL PRODUCTION AND TECHNOLOGY	!	0700 !	1303544!	1198909!	296755!	159418!	66293!	575876!
8. SOCIAL STRUCTURES AND RELATIONSHIPS	!	0800 !	210192!	253249!	43943!	57750!	30424!	76755!
9. EXPLORATION AND EXPLOITATION OF SPACE	!	0900 !	366838!	557002!	260874!	39240!	39361!	113393!
10. RESEARCH FINANCED FROM GEN. UNIV. FUNDS (GUF)	!	1000 !	2909782!	1176951!	806199!	711754!	214445!	1114680!
11. NON-ORIENTED RESEARCH	!	1100 !	1071812!	1422149!	289572!	151286!	67299!	560845!
12. OTHER CIVIL RESEARCH	!	1200 !	7569!	163953!	6226!	65763!	39359!	22033!
13. DEFENCE	!	1300 !	1121758!	3088765!	369379!	46502!	1361!	4073228!
TOTAL EXPENDITURE	!	9900 !	9321290!	9875265!	3365944!	1538653!	631494!	7885318!

CREDITS DE R & D PAR CHAPITRES NABS

EN 1000 UCE , A PRIX ET TAUX DE CHANGE COURANTS

IRELAND	DANMARK	GRECE	EUR 10	EC/CE		OBJECTIFS NABS
						1985
821	6367	7424	563932	6090	0100	1. EXPLORATION ET EXPLOITATION DU MILIEU TERRESTRE
6076	9509	4000	736828	10200	0200	2. INFRASTRUCTURES ET AMENAGEMENT DES ESPACES
1474	6491	3537	538278	27440	0300	3. POLLUTION DE L'ENVIRONNEMENT (LUTTE ET PREVENTION)
4099	14379	7990	1302114	40581	0400	4. PROTECTION ET PROMOTION DE LA SANTÉ HUMAINE
1785	19960	3367	3219404	403256	0500	5. PRODUCT.,DISTRIBUT. ET UTILIS. RATIONNELLE DE L'ENERGIE
27031	32726	35779	1297730	28422	0600	6. PRODUCTIVITE ET TECHNOLOGIE DE L'AGRICULTURE
21606	90554	10350	3723303	320600	0700	7. PRODUCTIVITE ET TECHNOLOGIE INDUSTRIELLES
6517	16852	8329	704011	6148	0800	8. VIE EN SOCIETE (STRUCTURES ET RELATIONS)
1395	13724	528	1392352	5642	0900	9. EXPLORATION ET EXPLOITATION DE L'ESPACE
18899	139548	32433	7124688		1000	10. RECHERCHE FINANCEE PAR FONDS GENERAUX DES UNIVERSITES
2849	71356	9273	3646438	16100	1100	11. RECHERCHES NON ORIENTEES
-	:	904	305809	-	1200	12. RECHERCHES NON VENTILEES
-	2801	3722	8707513	-	1300	13. DEFENSE
92552	424268	127638	33262352	864478	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
1983							
1. EXPLORATION AND EXPLOITATION OF THE EARTH	0100	1,9	1,8	1,7	0,6	2,5	1,8
2. INFRASTRUCTURE AND GENERAL PLANNING OF LAND-USE	0200	2,2	3,2	1,0	4,5	2,9	1,4
3. CONTROL OF ENVIRONMENTAL POLLUTION	0300	2,8	0,3	2,1	2,8	2,1	1,1
4. PROTECTION AND IMPROVEMENT OF HUMAN HEALTH	0400	3,2	4,1	4,0	2,2	7,5	3,7
5. PRODUCTION, DISTRIBUTION AND RAT. UTILIZATION OF ENERGY	0500	15,2	7,9	22,0	4,5	6,8	5,4
6. AGRICULTURAL PRODUCTION AND TECHNOLOGY	0600	2,4	3,6	5,1	5,0	4,3	5,2
7. INDUSTRIAL PRODUCTION AND TECHNOLOGY	0700	12,1	11,9	22,2	9,7	13,4	7,1
8. SOCIAL STRUCTURES AND RELATIONSHIPS	0800	2,5	1,3	1,5	3,6	5,5	0,7
9. EXPLORATION AND EXPLOITATION OF SPACE	0900	4,0	4,8	4,4	2,7	5,8	1,9
10. RESEARCH FINANCED FROM GEN. UNIV. FUNDS (GUF)	1000	32,9	10,8	23,2	47,8	37,0	15,5
11. NON-ORIENTED RESEARCH	1100	11,1	16,1	5,8	9,1	11,9	5,4
12. OTHER CIVIL RESEARCH	1200	0,0	1,3	1,2	4,6	:	1,7
13. DEFENCE	1300	9,6	32,7	5,7	2,9	0,3	49,1
TOTAL EXPENDITURE	9900	100,0	100,0	100,0	100,0	100,0	100,0
1984							
1. EXPLORATION AND EXPLOITATION OF THE EARTH	0100	2,0	1,5	1,4	0,6	2,6	1,7
2. INFRASTRUCTURE AND GENERAL PLANNING OF LAND-USE	0200	2,2	3,1	1,5	4,6	2,6	1,5
3. CONTROL OF ENVIRONMENTAL POLLUTION	0300	3,0	0,4	0,8	3,2	2,2	1,2
4. PROTECTION AND IMPROVEMENT OF HUMAN HEALTH	0400	3,2	3,8	8,3	2,5	7,6	3,6
5. PRODUCTION, DISTRIBUTION AND RAT. UTILIZATION OF ENERGY	0500	15,2	7,7	22,7	4,7	7,8	5,1
6. AGRICULTURAL PRODUCTION AND TECHNOLOGY	0600	2,1	3,7	5,0	5,0	6,6	5,0
7. INDUSTRIAL PRODUCTION AND TECHNOLOGY	0700	12,0	11,1	18,2	9,4	11,2	7,1
8. SOCIAL STRUCTURES AND RELATIONSHIPS	0800	2,3	1,6	1,3	3,8	5,1	0,9
9. EXPLORATION AND EXPLOITATION OF SPACE	0900	3,9	5,6	6,4	2,5	6,7	1,8
10. RESEARCH FINANCED FROM GEN. UNIV. FUNDS (GUF)	1000	32,6	12,1	20,2	47,0	36,2	14,7
11. NON-ORIENTED RESEARCH	1100	11,4	14,3	5,7	9,8	11,4	6,8
12. OTHER CIVIL RESEARCH	1200	0,0	1,6	0,1	3,9	:	0,3
13. DEFENCE	1300	10,0	33,4	8,3	3,1	0,2	50,4
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
						1983
0,6	1,7	7,3	1,8	0,3	0100	1. EXPLORATION ET EXPLOITATION DU MILIEU TERRESTRE
6,8	2,9	0,9	2,4	0,1	0200	2. INFRASTRUCTURES ET AMENAGEMENT DES ESPACES
0,9	1,2	3,2	1,6	10,1	0300	3. POLLUTION DE L'ENVIRONNEMENT (LUTTE ET PREVENTION)
4,0	4,4	6,1	3,7	1,5	0400	4. PROTECTION ET PROMOTION DE LA SANTE HUMAINE
3,0	10,1	2,6	10,6	71,5	0500	5. PRODUCT.,DISTRIBUT. ET UTILIS. RATIONNELLE DE L'ENERGIE
30,6	7,8	23,8	4,1	1,5	0600	6. PRODUCTIVITE ET TECHNOLOGIE DE L'AGRICULTURE
23,3	16,0	6,0	11,8	12,6	0700	7. PRODUCTIVITE ET TECHNOLOGIE INDUSTRIELLES
8,0	2,7	7,4	1,8	0,8	0800	8. VIE EN SOCIETE (STRUCTURES ET RELATIONS)
1,3	3,4	:	3,7	1,2	0900	9. EXPLORATION ET EXPLOITATION DE L'ESPACE
18,2	34,8	30,7	22,4	-	1000	10. RECHERCHE FINANCEE PAR FONDS GENERAUX DES UNIVERSITES
3,4	14,9	11,7	10,6	0,3	1100	11. RECHERCHES NON ORIENTEES
-	0,0	:	1,2	-	1200	12. RECHERCHES NON VENTILEES
-	0,2	0,4	24,5	-	1300	13. DEFENSE
100,0	100,0	100,0	100,0	100,0	9900	TOTAL DES CREDITS
						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	2,4	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	4,1	1,9	0400	4. PROTECTION ET PROMOTION DE LA SANTE HUMAINE
1,8	6,1	3,2	10,6	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	11,2	12,6	0700	7. PRODUCTIVITE ET TECHNOLOGIE INDUSTRIELLES
7,5	3,7	6,8	1,8	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	21,8	-	1000	10. RECHERCHE FINANCEE PAR FONDS GENERAUX DES UNIVERSITES
3,2	16,3	7,3	10,5	0,8	1100	11. RECHERCHES NON ORIENTEES
-	:	0,7	0,7	-	1200	12. RECHERCHES NON VENTILEES
-	0,7	3,5	25,4	-	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 !	UNITE !	KINGDOM !
	!	!	!	!	!	!	!	!	!
	!	!	!	!	!	!	!	!	!
1985	!	!	!	!	!	!	!	!	!
1. EXPLORATION AND EXPLOITATION OF THE EARTH	!	0100 !	2,1 !	1,5 !	1,5 !	0,6 !	2,4 !	1,7 !	!
2. INFRASTRUCTURE AND GENERAL PLANNING OF LAND-USE	!	0200 !	1,9 !	3,1 !	1,2 !	4,7 !	2,4 !	1,3 !	!
3. CONTROL OF ENVIRONMENTAL POLLUTION	!	0300 !	3,1 !	0,5 !	1,0 !	3,1 !	2,0 !	1,2 !	!
4. PROTECTION AND IMPROVEMENT OF HUMAN HEALTH	!	0400 !	3,1 !	4,0 !	7,1 !	2,4 !	7,1 !	3,5 !	!
5. PRODUCTION, DISTRIBUTION AND RAT. UTILIZATION OF ENERGY	!	0500 !	12,8 !	7,8 !	22,3 !	4,5 !	7,3 !	4,6 !	!
6. AGRICULTURAL PRODUCTION AND TECHNOLOGY	!	0600 !	2,0 !	3,5 !	5,2 !	4,6 !	6,2 !	4,8 !	!
7. INDUSTRIAL PRODUCTION AND TECHNOLOGY	!	0700 !	14,0 !	12,1 !	8,8 !	10,4 !	10,5 !	7,3 !	!
8. SOCIAL STRUCTURES AND RELATIONSHIPS	!	0800 !	2,3 !	2,6 !	1,3 !	3,8 !	4,8 !	1,0 !	!
9. EXPLORATION AND EXPLOITATION OF SPACE	!	0900 !	3,9 !	5,6 !	7,8 !	2,6 !	6,2 !	1,4 !	!
10. RESEARCH FINANCED FROM GEN. UNIV. FUNDS (GUF)	!	1000 !	31,2 !	11,9 !	24,0 !	46,3 !	34,0 !	14,1 !	!
11. NON-ORIENTED RESEARCH	!	1100 !	11,5 !	14,4 !	8,6 !	9,8 !	10,7 !	7,1 !	!
12. OTHER CIVIL RESEARCH	!	1200 !	0,1 !	1,7 !	0,2 !	4,3 !	6,2 !	0,3 !	!
13. DEFENCE	!	1300 !	12,0 !	31,3 !	11,0 !	3,0 !	0,2 !	51,7 !	!
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 TOTAUX

IRELAND	DANMARK	GRECE	EUR 10	EC/CE		OBJECTIFS NABS
						1985
0,9	1,5	5,8	1,7	0,7	0100	1. EXPLORATION ET EXPLOITATION DU MILIEU TERRESTRE
6,6	2,2	3,1	2,2	1,2	0200	2. INFRASTRUCTURES ET AMENAGEMENT DES ESPACES
1,6	1,5	2,8	1,6	3,2	0300	3. POLLUTION DE L'ENVIRONNEMENT (LUTTE ET PREVENTION)
4,4	3,4	6,3	3,9	4,7	0400	4. PROTECTION ET PROMOTION DE LA SANTÉ HUMAINE
1,9	4,7	2,6	9,7	46,6	0500	5. PRODUCT. ,DISTRIBUT. ET UTILIS. RATIONNELLE DE L'ENERGIE
29,2	7,7	28,0	3,9	3,3	0600	6. PRODUCTIVITE ET TECHNOLOGIE DE L'AGRICULTURE
23,3	21,3	8,1	11,2	37,1	0700	7. PRODUCTIVITE ET TECHNOLOGIE INDUSTRIELLES
7,0	4,0	6,5	2,1	0,7	0800	8. VIE EN SOCIETE (STRUCTURES ET RELATIONS)
1,5	3,2	0,4	4,2	0,7	0900	9. EXPLORATION ET EXPLOITATION DE L'ESPACE
20,4	32,9	25,4	21,4	-	1000	10. RECHERCHE FINANCEE PAR FONDS GENERAUX DES UNIVERSITES
3,1	16,8	7,3	11,0	1,9	1100	11. RECHERCHES NON ORIENTEES
-	:	0,7	0,9	-	1200	12. RECHERCHES NON VENTILEES
-	0,7	2,9	26,2	-	1300	13. DEFENSE
100,0	100,0	100,0	100,0	100,0	9900	TOTAL DES CREDITS

TAB. 8

R & D FINANCING BY CHAPTERS OF NABS

IN % OF FINANCING OF CIVIL R&D

OBJECTIVES NABS	DEUTSCH- LAND BR	FRANCE	ITALIA	NEDERLAND	BELGIQUE /BELGIE	UNITED KINGDOM	
1983							
1. EXPLORATION AND EXPLOITATION OF THE EARTH	0100	2,1	2,6	1,8	0,6	2,5	3,5
2. INFRASTRUCTURE AND GENERAL PLANNING OF LAND-USE	0200	2,5	4,8	1,1	4,6	2,9	2,8
3. CONTROL OF ENVIRONMENTAL POLLUTION	0300	3,1	0,5	2,2	2,9	2,1	2,1
4. PROTECTION AND IMPROVEMENT OF HUMAN HEALTH	0400	3,5	6,1	4,3	2,3	7,5	7,4
5. PRODUCTION, DISTRIBUTION AND RAT. UTILIZATION OF ENERGY	0500	16,8	11,8	23,3	4,7	6,9	10,5
6. AGRICULTURAL PRODUCTION AND TECHNOLOGY	0600	2,7	5,4	5,5	5,1	4,3	10,3
7. INDUSTRIAL PRODUCTION AND TECHNOLOGY	0700	13,4	17,6	23,6	10,0	13,4	14,0
8. SOCIAL STRUCTURES AND RELATIONSHIPS	0800	2,7	2,0	1,6	3,7	5,5	1,3
9. EXPLORATION AND EXPLOITATION OF SPACE	0900	4,5	7,2	4,6	2,8	5,9	3,7
10. RESEARCH FINANCED FROM GEN. UNIV. FUNDS (GUF)	1000	36,4	16,1	24,6	49,2	37,1	30,5
11. NON-ORIENTED RESEARCH	1100	12,3	23,9	6,2	9,4	11,9	10,6
12. OTHER CIVIL RESEARCH	1200	0,1	2,0	1,3	4,7	:	3,3
TOTAL EXPENDITURE	9900	100,0	100,0	100,0	100,0	100,0	100,0
1984							
1. EXPLORATION AND EXPLOITATION OF THE EARTH	0100	2,2	2,2	1,6	0,6	2,6	3,5
2. INFRASTRUCTURE AND GENERAL PLANNING OF LAND-USE	0200	2,5	4,6	1,7	4,7	2,6	2,9
3. CONTROL OF ENVIRONMENTAL POLLUTION	0300	3,3	0,6	0,9	3,3	2,2	2,4
4. PROTECTION AND IMPROVEMENT OF HUMAN HEALTH	0400	3,6	5,8	9,0	2,5	7,6	7,3
5. PRODUCTION, DISTRIBUTION AND RAT. UTILIZATION OF ENERGY	0500	16,9	11,6	24,8	4,8	7,8	10,2
6. AGRICULTURAL PRODUCTION AND TECHNOLOGY	0600	2,3	5,6	5,5	5,1	6,6	10,0
7. INDUSTRIAL PRODUCTION AND TECHNOLOGY	0700	13,3	16,7	19,9	9,7	11,2	14,4
8. SOCIAL STRUCTURES AND RELATIONSHIPS	0800	2,6	2,4	1,4	3,9	5,2	1,8
9. EXPLORATION AND EXPLOITATION OF SPACE	0900	4,4	8,4	7,0	2,6	6,7	3,7
10. RESEARCH FINANCED FROM GEN. UNIV. FUNDS (GUF)	1000	36,2	18,2	22,0	48,5	36,3	29,6
11. NON-ORIENTED RESEARCH	1100	12,7	21,5	6,2	10,1	11,4	13,6
12. OTHER CIVIL RESEARCH	1200	0,1	2,4	0,1	4,0	:	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
1983						
0,6	1,7	7,3	2,3	0,3	0100	1. EXPLORATION ET EXPLOITATION DU MILIEU TERRESTRE
6,8	2,9	0,9	3,1	0,1	0200	2. INFRASTRUCTURES ET AMENAGEMENT DES ESPACES
0,9	1,2	3,2	2,1	10,1	0300	3. POLLUTION DE L'ENVIRONNEMENT (LUTTE ET PREVENTION)
4,0	4,5	6,2	4,9	1,5	0400	4. PROTECTION ET PROMOTION DE LA SANTE HUMAINE
3,0	10,1	2,6	14,1	71,5	0500	5. PRODUCT.,DISTRIBUT. ET UTILIS. RATIONNELLE DE L'ENERGIE
30,6	7,8	23,9	5,4	1,5	0600	6. PRODUCTIVITE ET TECHNOLOGIE DE L'AGRICULTURE
23,3	16,0	6,1	15,6	12,6	0700	7. PRODUCTIVITE ET TECHNOLOGIE INDUSTRIELLES
8,0	2,7	7,4	2,4	0,8	0800	8. VIE EN SOCIETE (STRUCTURES ET RELATIONS)
1,3	3,4	:	4,9	1,2	0900	9. EXPLORATION ET EXPLOITATION DE L'ESPACE
18,2	34,8	30,8	29,6	-	1000	10. RECHERCHE FINANCEE PAR FONDS GENERAUX DES UNIVERSITES
3,4	15,0	11,7	14,0	0,3	1100	11. RECHERCHES NON ORIENTEES
-	0,0	:	1,5	-	1200	12. RECHERCHES NON VENTILEES
100,0	100,0	100,0	100,0	100,0	9900	TOTAL DES CREDITS
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	3,2	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	5,5	1,9	0400	4. PROTECTION ET PROMOTION DE LA SANTE HUMAINE
1,8	6,2	3,3	14,3	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	15,0	12,6	0700	7. PRODUCTIVITE ET TECHNOLOGIE INDUSTRIELLES
7,5	3,7	7,0	2,5	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	29,3	-	1000	10. RECHERCHE FINANCEE PAR FONDS GENERAUX DES UNIVERSITES
3,2	16,4	7,6	14,1	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

TAB. 8

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

OBJECTIVES NABS		! DEUTSCH-! ! LAND BR !	! FRANCE !	! ITALIA !	! NEDERLAND! ! /BELGIE !	! BELGIQUE ! ! /BELGIE !	! UNITED ! ! KINGDOM !
1985							
1. EXPLORATION AND EXPLOITATION OF THE EARTH	! 0100 !	! 2,4 !	! 2,1 !	! 1,7 !	! 0,6 !	! 2,4 !	! 3,5 !
2. INFRASTRUCTURE AND GENERAL PLANNING OF LAND-USE	! 0200 !	! 2,2 !	! 4,5 !	! 1,4 !	! 4,9 !	! 2,4 !	! 2,6 !
3. CONTROL OF ENVIRONMENTAL POLLUTION	! 0300 !	! 3,6 !	! 0,7 !	! 1,2 !	! 3,2 !	! 2,0 !	! 2,4 !
4. PROTECTION AND IMPROVEMENT OF HUMAN HEALTH	! 0400 !	! 3,5 !	! 5,8 !	! 8,0 !	! 2,5 !	! 7,1 !	! 7,3 !
5. PRODUCTION, DISTRIBUTION AND RAT. UTILIZATION OF ENERGY	! 0500 !	! 14,5 !	! 11,4 !	! 25,1 !	! 4,7 !	! 7,3 !	! 9,6 !
6. AGRICULTURAL PRODUCTION AND TECHNOLOGY	! 0600 !	! 2,3 !	! 5,2 !	! 5,9 !	! 4,7 !	! 6,2 !	! 10,0 !
7. INDUSTRIAL PRODUCTION AND TECHNOLOGY	! 0700 !	! 15,9 !	! 17,7 !	! 9,9 !	! 10,7 !	! 10,5 !	! 15,1 !
8. SOCIAL STRUCTURES AND RELATIONSHIPS	! 0800 !	! 2,6 !	! 3,7 !	! 1,5 !	! 3,9 !	! 4,8 !	! 2,0 !
9. EXPLORATION AND EXPLOITATION OF SPACE	! 0900 !	! 4,5 !	! 8,2 !	! 8,7 !	! 2,6 !	! 6,2 !	! 2,9 !
10. RESEARCH FINANCED FROM GEN. UNIV. FUNDS (GUF)	! 1000 !	! 35,5 !	! 17,3 !	! 26,9 !	! 47,7 !	! 34,0 !	! 29,2 !
11. NON-ORIENTED RESEARCH	! 1100 !	! 13,1 !	! 21,0 !	! 9,7 !	! 10,1 !	! 10,7 !	! 14,7 !
12. OTHER CIVIL RESEARCH	! 1200 !	! 0,1 !	! 2,4 !	! 0,2 !	! 4,4 !	! 6,2 !	! 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
						1985
0,9	1,5	6,0	2,3	0,7	0100	1. EXPLORATION ET EXPLOITATION DU MILIEU TERRESTRE
6,6	2,3	3,2	3,0	1,2	0200	2. INFRASTRUCTURES ET AMENAGEMENT DES ESPACES
1,6	1,5	2,9	2,2	3,2	0300	3. POLLUTION DE L'ENVIRONNEMENT (LUTTE ET PREVENTION)
4,4	3,4	6,4	5,3	4,7	0400	4. PROTECTION ET PROMOTION DE LA SANTÉ HUMAINE
1,9	4,7	2,7	13,1	46,6	0500	5. PRODUCT.,DISTRIBUT. ET UTILIS. RATIONNELLE DE L'ENERGIE
29,2	7,8	28,9	5,3	3,3	0600	6. PRODUCTIVITE ET TECHNOLOGIE DE L'AGRICULTURE
23,3	21,5	8,4	15,2	37,1	0700	7. PRODUCTIVITE ET TECHNOLOGIE INDUSTRIELLES
7,0	4,0	6,7	2,9	0,7	0800	8. VIE EN SOCIÉTÉ (STRUCTURES ET RELATIONS)
1,5	3,3	0,4	5,7	0,7	0900	9. EXPLORATION ET EXPLOITATION DE L'ESPACE
20,4	33,1	26,2	29,0	-	1000	10. RECHERCHE FINANCEE PAR FONDS GENERAUX DES UNIVERSITES
3,1	16,9	7,5	14,9	1,9	1100	11. RECHERCHES NON ORIENTEES
-	:	0,7	1,2	-	1200	12. RECHERCHES NON VENTILEES
100,0	100,0	100,0	100,0	100,0	9900	TOTAL DES CREDITS

TAB. 9

R & D FINANCING BY CHAPTERS OF NABS

IN EUA PER HEAD AT CURRENT VALUES AND CURRENT EXCHANGE RATES

OBJECTIVES NABS	!	!	!	!	!	!	!	!	!
	!	DEUTSCH-!	!	!	!	!	BELGIQUE!	!	UNITED!
	!	LAND BR!	FRANCE!	ITALIA!	NEDERLAND!	/BELGIE!	KINGDOM!	!	!
1983	!	!	!	!	!	!	!	!	!
1. EXPLORATION AND EXPLOITATION OF THE EARTH	0100	2,6	2,6	0,8	0,6	1,4	2,1		
2. INFRASTRUCTURE AND GENERAL PLANNING OF LAND-USE	0200	3,1	4,9	0,5	4,7	1,6	1,7		
3. CONTROL OF ENVIRONMENTAL POLLUTION	0300	3,8	0,5	1,0	3,0	1,1	1,3		
4. PROTECTION AND IMPROVEMENT OF HUMAN HEALTH	0400	4,4	6,2	2,0	2,3	4,1	4,5		
5. PRODUCTION, DISTRIBUTION AND RAT. UTILIZATION OF ENERGY	0500	20,8	11,9	10,8	4,8	3,7	6,5		
6. AGRICULTURAL PRODUCTION AND TECHNOLOGY	0600	3,3	5,4	2,5	5,2	2,4	6,3		
7. INDUSTRIAL PRODUCTION AND TECHNOLOGY	0700	16,6	17,8	11,0	10,2	7,3	8,6		
8. SOCIAL STRUCTURES AND RELATIONSHIPS	0800	3,4	2,0	0,7	3,8	3,0	0,8		
9. EXPLORATION AND EXPLOITATION OF SPACE	0900	5,5	7,2	2,2	2,8	3,2	2,3		
10. RESEARCH FINANCED FROM GEN. UNIV. FUNDS (GUF)	1000	45,1	16,2	11,4	50,2	20,1	18,7		
11. NON-ORIENTED RESEARCH	1100	15,2	24,0	2,9	9,6	6,5	6,5		
12. OTHER CIVIL RESEARCH	1200	0,1	2,0	0,6	4,8	:	2,0		
13. DEFENCE	1300	13,2	48,9	2,8	3,1	0,1	59,4		
TOTAL EXPENDITURE	9900	136,9	149,7	49,3	105,1	54,5	120,9		
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		

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

IRELAND	DANMARK	GRECE	EUR 10	EC/CE	OBJECTIFS NABS
1983					
0,1	8,7	0,6	1,9	0100	1. EXPLORATION ET EXPLOITATION DU MILIEU TERRESTRE
1,1	14,9	0,1	2,5	0200	2. INFRASTRUCTURES ET AMENAGEMENT DES ESPACES
0,1	6,1	0,2	1,7	0300	3. POLLUTION DE L'ENVIRONNEMENT (LUTTE ET PREVENTION)
0,7	23,0	0,5	3,9	0400	4. PROTECTION ET PROMOTION DE LA SANTE HUMAINE
0,5	52,2	0,2	11,2	0500	5. PRODUCT.,DISTRIBUT. ET UTILIS. RATIONNELLE DE L'ENERGIE
5,1	40,1	1,9	4,3	0600	6. PRODUCTIVITE ET TECHNOLOGIE DE L'AGRICULTURE
3,9	82,6	0,5	12,5	0700	7. PRODUCTIVITE ET TECHNOLOGIE INDUSTRIELLES
1,3	13,8	0,6	1,9	0800	8. VIE EN SOCIETE (STRUCTURES ET RELATIONS)
0,2	17,4	:	3,9	0900	9. EXPLORATION ET EXPLOITATION DE L'ESPACE
3,1	179,6	2,4	23,6	1000	10. RECHERCHE FINANCEE PAR FONDS GENERAUX DES UNIVERSITES
0,6	77,1	0,9	11,2	1100	11. RECHERCHES NON ORIENTEES
-	0,0	:	1,2	1200	12. RECHERCHES NON VENTILEES
-	1,2	0,0	25,9	1300	13. DEFENSE
23,5	63,5	7,9	105,7	9900	TOTAL DES CREDITS
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

TAB. 10

R & D FINANCING BY CHAPTERS OF NABS

PER 10,000 UNITS OF GDP

OBJECTIVES NABS	!	!	DEUTSCH-!	!	!	!	BELGIQUE !	!	UNITED !	!
	!	!	LAND BR !	!	FRANCE !	!	NEDERLAND !	!	/BELGIE !	!
	!	!		!		!		!	KINGDOM !	!
1983	!	!	!	!	!	!	!	!	!	!
1. EXPLORATION AND EXPLOITATION OF THE EARTH	!	0100 !	2,1 !	!	2,5 !	!	1,2 !	!	0,6 !	!
2. INFRASTRUCTURE AND GENERAL PLANNING OF LAND-USE	!	0200 !	2,6 !	!	4,5 !	!	0,7 !	!	4,6 !	!
3. CONTROL OF ENVIRONMENTAL POLLUTION	!	0300 !	3,2 !	!	0,5 !	!	1,5 !	!	2,9 !	!
4. PROTECTION AND IMPROVEMENT OF HUMAN HEALTH	!	0400 !	3,6 !	!	5,8 !	!	2,9 !	!	2,3 !	!
5. PRODUCTION, DISTRIBUTION AND RAT. UTILIZATION OF ENERGY	!	0500 !	17,4 !	!	11,1 !	!	15,5 !	!	4,6 !	!
6. AGRICULTURAL PRODUCTION AND TECHNOLOGY	!	0600 !	2,8 !	!	5,1 !	!	3,6 !	!	5,1 !	!
7. INDUSTRIAL PRODUCTION AND TECHNOLOGY	!	0700 !	13,9 !	!	16,6 !	!	15,7 !	!	9,8 !	!
8. SOCIAL STRUCTURES AND RELATIONSHIPS	!	0800 !	2,8 !	!	1,9 !	!	1,1 !	!	3,7 !	!
9. EXPLORATION AND EXPLOITATION OF SPACE	!	0900 !	4,6 !	!	6,8 !	!	3,1 !	!	2,7 !	!
10. RESEARCH FINANCED FROM GEN. UNIV. FUNDS (GUF)	!	1000 !	37,7 !	!	15,2 !	!	16,3 !	!	48,6 !	!
11. NON-ORIENTED RESEARCH	!	1100 !	12,7 !	!	22,5 !	!	4,1 !	!	9,2 !	!
12. OTHER CIVIL RESEARCH	!	1200 !	0,1 !	!	1,9 !	!	0,9 !	!	4,7 !	!
13. DEFENCE	!	1300 !	11,0 !	!	45,7 !	!	4,0 !	!	3,0 !	!
TOTAL EXPENDITURE	!	9900 !	114,5 !	!	140,0 !	!	70,6 !	!	101,7 !	!
1984	!	!	!	!	!	!	!	!	!	!
1. EXPLORATION AND EXPLOITATION OF THE EARTH	!	0100 !	2,2 !	!	2,1 !	!	1,1 !	!	0,6 !	!
2. INFRASTRUCTURE AND GENERAL PLANNING OF LAND-USE	!	0200 !	2,5 !	!	4,5 !	!	1,2 !	!	4,5 !	!
3. CONTROL OF ENVIRONMENTAL POLLUTION	!	0300 !	3,3 !	!	0,5 !	!	0,6 !	!	3,1 !	!
4. PROTECTION AND IMPROVEMENT OF HUMAN HEALTH	!	0400 !	3,6 !	!	5,5 !	!	6,3 !	!	2,4 !	!
5. PRODUCTION, DISTRIBUTION AND RAT. UTILIZATION OF ENERGY	!	0500 !	17,0 !	!	11,2 !	!	17,4 !	!	4,6 !	!
6. AGRICULTURAL PRODUCTION AND TECHNOLOGY	!	0600 !	2,3 !	!	5,4 !	!	3,8 !	!	4,9 !	!
7. INDUSTRIAL PRODUCTION AND TECHNOLOGY	!	0700 !	13,4 !	!	16,0 !	!	14,0 !	!	9,2 !	!
8. SOCIAL STRUCTURES AND RELATIONSHIPS	!	0800 !	2,6 !	!	2,3 !	!	1,0 !	!	3,7 !	!
9. EXPLORATION AND EXPLOITATION OF SPACE	!	0900 !	4,4 !	!	8,1 !	!	4,9 !	!	2,5 !	!
10. RESEARCH FINANCED FROM GEN. UNIV. FUNDS (GUF)	!	1000 !	36,4 !	!	17,6 !	!	15,5 !	!	46,0 !	!
11. NON-ORIENTED RESEARCH	!	1100 !	12,7 !	!	20,8 !	!	4,3 !	!	9,6 !	!
12. OTHER CIVIL RESEARCH	!	1200 !	0,1 !	!	2,3 !	!	0,1 !	!	3,8 !	!
13. DEFENCE	!	1300 !	11,1 !	!	48,3 !	!	6,4 !	!	3,0 !	!
TOTAL EXPENDITURE	!	9900 !	111,5 !	!	144,6 !	!	76,6 !	!	97,9 !	!

CREDITS DE R & D PAR CHAPITRES NABS

PAR 10,000 UNITS DE PIB

IRELAND	DANMARK	GRECE	EUR 10	EC/CE		OBJECTIFS NABS
1983						
0,2	0,9	1,5	1,9		0100	1. EXPLORATION ET EXPLOITATION DU MILIEU TERRESTRE
2,8	1,5	0,2	2,6		0200	2. INFRASTRUCTURES ET AMENAGEMENT DES ESPACES
0,4	0,6	0,6	1,8		0300	3. POLLUTION DE L'ENVIRONNEMENT (LUTTE ET PREVENTION)
1,6	2,3	1,2	4,1		0400	4. PROTECTION ET PROMOTION DE LA SANTE HUMAINE
1,2	5,2	0,5	11,8		0500	5. PRODUCT.,DISTRIBUT. ET UTILIS. RATIONNELLE DE L'ENERGIE
12,5	4,0	4,7	4,5		0600	6. PRODUCTIVITE ET TECHNOLOGIE DE L'AGRICULTURE
9,5	8,2	1,2	13,1		0700	7. PRODUCTIVITE ET TECHNOLOGIE INDUSTRIELLES
3,2	1,4	1,5	2,0		0800	8. VIE EN SOCIETE (STRUCTURES ET RELATIONS)
0,5	1,7	:	4,1		0900	9. EXPLORATION ET EXPLOITATION DE L'ESPACE
7,4	17,8	6,1	24,8		1000	10. RECHERCHE FINANCEE PAR FONDS GENERAUX DES UNIVERSITES
1,4	7,7	2,3	11,7		1100	11. RECHERCHES NON ORIENTEES
-	0,0	:	1,3		1200	12. RECHERCHES NON VENTILEES
-	0,1	0,1	27,2		1300	13. DEFENSE
40,8	51,3	20,0	111,0		9900	TOTAL DES CREDITS
1984						
0,2	0,9	1,4	1,9		0100	1. EXPLORATION ET EXPLOITATION DU MILIEU TERRESTRE
2,7	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
11,7	4,5	6,5	4,5		0600	6. PRODUCTIVITE ET TECHNOLOGIE DE L'AGRICULTURE
8,4	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
7,9	19,2	6,6	24,5		1000	10. RECHERCHE FINANCEE PAR FONDS GENERAUX DES UNIVERSITES
1,2	8,7	1,8	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
38,9	53,5	24,2	112,1		9900	TOTAL DES CREDITS

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

1984

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	387441	920000	67129	22935	661706	73790
1.0	GENERAL RESEARCH	0188	92452	:	9950	-	:	63097
1.1	MINERAL, OIL AND NATURAL GAS PROSPECTING	0110	43962	:	18117	-	:	805
1.2	EXPLORATION AND EXPLOITATION OF THE SEA-BED	0120	20595	:	2220	-	:	260
1.3	EARTH'S CRUST AND MANTLE EXCLUDING SEA-BED	0130	2228	:	11259	1532	:	569
1.4	HYDROLOGY	0140	14396	:	10971	870	:	871
1.5	SEA AND OCEANS	0150	99094	:	9013	17924	:	1898
1.6	ATMOSPHERE	0160	41378	:	4582	2610	:	6273
1.9	OTHER RESEARCH ON THE EXPLOR. AND EXPLOITATION OF THE EARTH	0190	73336	:	1017	-	:	17
2.	INFRASTRUCTURE AND GENERAL PLANNING OF LAND-USE	0200	434129	1920000	71019	176929	659679	62817
2.0	GENERAL RESEARCH	0288	14930	:	276	-	:	276
2.1	GENERAL PLANNING OF LAND-USE	0210	84068	:	3504	48898	:	5386
2.2	CONSTRUCTION AND PLANNING OF BUILDINGS	0220	22722	:	11111	39520	:	17387
2.3	CIVIL ENGINEERING	0230	61602	:	612	33279	:	17385
2.4	TRANSPORT SYSTEMS	0240	177595	:	27671	39452	:	18972
2.5	TELECOMMUNICATIONS SYSTEMS	0250	40251	:	13914	240	:	693
2.6	WATER SUPPLY	0260	32961	:	13886	15540	:	2718
2.9	OTHER RESEARCH ON THE INFRASTR. AND GENERAL PLANNING LAND-USE	0290	-	:	45	-	:	-
3.	CONTROL OF ENVIRONMENTAL POLLUTION	0300	578319	235000	39466	123307	555730	50761
3.0	GENERAL RESEARCH	0388	326937	:	10916	65369	:	1182
3.1	WATER POLLUTION	0310	57779	:	11398	8250	:	5097
3.2	ATMOSPHERIC POLLUTION	0320	47527	:	1364	25429	:	5438
3.3	SOIL AND SUBSTRATUM POLLUTION	0330	16166	:	1070	3460	:	87
3.4	NOISE AND VIBRATION	0340	17870	:	1354	6228	:	2244
3.5	RADIOACTIVE POLLUTION	0350	76205	:	12488	3702	:	33938
3.6	THERMAL POLLUTION	0360	-	:	-	-	:	844
3.7	POLLUTION BY SOLID WASTE MAT.	0370	35835	:	-	10869	:	1931
3.9	OTHER SCIENT. RESEARCH ON THE POLLUTION OF THE ENVIRONMENT	0390	-	:	876	-	:	-
4.	PROTECTION AND IMPROVEMENT OF HUMAN HEALTH	0400	626322	2390000	385459	94858	1954101	156777
4.0	GENERAL RESEARCH	0488	121543	:	203798	54044	:	137418
4.1	MEDICAL RESEARCH, HOSPITAL TREATMENT, SURGERY	0410	230011	:	50466	16918	:	1605
4.2	PREVENTIVE MEDICINE	0420	11035	:	18811	-	:	261
4.3	BIOMEDICAL ENGINEERING AND MEDICINES	0430	79142	:	94060	9263	:	2910
4.4	OCCUPATIONAL MEDICINE	0440	35274	:	2114	-	:	3339
4.5	NUTRITION AND FOOD HYGIENE	0450	33339	:	6728	10454	:	5878
4.6	DRUG ABUSE AND ADDICTION	0460	8000	:	5044	850	:	29
4.7	SOCIAL MEDICINE	0470	14485	:	2194	360	:	144
4.8	HOSPITAL STRUCTURE AND ORGANISATION OF MEDICAL CARE	0480	70009	:	2228	2970	:	1521
4.9	OTHER MEDICAL RESEARCH	0490	23484	:	16	-	:	3672
5.	PRODUCTION, DISTRIBUTION AND RAT. UTILIZATION OF ENERGY	0500	2951481	4825000	1058623	181003	2013551	218569
5.0	GENERAL RESEARCH	0588	295658	:	9017	79927	:	433
5.1	FOSSIL FUELS AND THEIR DERIVATIVES	0510	404807	:	7671	19927	:	5747
5.2	NUCLEAR FISSION	0520	1762479	:	594478	60618	:	155940
5.3	NUCLEAR FUSION	0530	169901	:	77700	8933	:	20700
5.4	RENEWABLE ENERGY SOURCES	0540	124499	:	160925	6904	:	15271
5.5	RATIONAL UTILIZAT. OF ENERGY	0550	194137	:	91212	1964	:	8216
5.9	OTHER RES. ON PROD.,DISTRIB. AND RAT. UTILIZAT. OF ENERGY	0590	-	:	117620	2749	:	12262

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

1984

IRELAND	DANMARK	GRECE	EUR-10	EC/CE		OBJECTIFS NABS
1000 ISTR	1000 DMR	1000 DRA	1000 UCE	1000 UCE		
384	50564	520699	516805	1784	0100	1. EXPLORATION ET EXPLOITATION DU MILIEU TERRESTRE
-	:	:	:	-	0188	1.0 RECHERCHES A CARACT. GENERAL
-	:	:	:	-	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
384	:	:	:	1784	0160	1.6 ATMOSPHERE
-	:	:	:	-	0190	1.9 AUTRES RECHER. CONC. EXPLORAT. ET EXPLOITAT. MILIEU TERREST.
4283	69923	301903	733681	693	0200	2. INFRASTRUCTURES ET AMENAGEMENT DES ESPACES
525	:	:	:	-	0288	2.0 RECHERCHES A CARACT. GENERAL
2153	:	:	:	-	0210	2.1 AMENAGEMENT GENERAL DU TERRITOIRE
935	:	:	:	-	0220	2.2 CONSTRUCTION ET AMENAGEMENT DE L'HABITAT
-	:	:	:	-	0230	2.3 GENIE CIVIL
680	:	:	:	693	0240	2.4 SYSTEMES DE TRANSPORT
-	:	:	:	-	0250	2.5 SYST. DE TELECOMMUNICATIONS
-	:	:	:	-	0260	2.6 APPROVISIONNEMENT EN EAU
-	:	:	:	-	0290	2.9 AUTRES RECHER. CONC. INFRASTR. ET AMENAGEMENT DES ESPACES
1027	46649	218572	477819	42724	0300	3. POLLUTION DE L'ENVIRONNEMENT (LUTTE ET PREVENTION)
156	:	:	:	8391	0388	3.0 RECHERCHES A CARACT. GENERAL
729	:	:	:	217	0310	3.1 POLLUTION DE L'EAU
45	:	:	:	3903	0320	3.2 POLLUTION DE L'ATMOSPHERE
-	:	:	:	108	0330	3.3 POLLUTION DU SOL ET DU SOUS-SOL
54	:	:	:	-	0340	3.4 BRUIT ET VIBRATIONS
-	:	:	:	14447	0350	3.5 NUISANCES RADIOACTIVES
-	:	:	:	-	0360	3.6 POLLUTION THERMIQUE
43	:	:	:	15658	0370	3.7 POLLUTION PAR DECHETS SOLIDES
-	:	:	:	-	0390	3.9 AUTRES RECHER. CONC. POLLUTION DE L'ENVIRONNEMENT
2928	107640	549158	1276184	8194	0400	4. PROTECTION ET PROMOTION DE LA SANTE HUMAINE
-	:	:	:	-	0488	4.0 RECHERCHES A CARACT. GENERAL
2540	:	:	:	2977	0410	4.1 RECHERCHES MED., TRAITEMENT HOSPITALIER, CHIRURGIE
388	:	:	:	2750	0420	4.2 MEDECINE PREVENTIVE
-	:	:	:	-	0430	4.3 GENIE BIOMED. ET MEDICAMENTS
-	:	:	:	2467	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
1146	186017	287943	3301015	317133	0500	5. PRODUCT., DISTRIBUT. ET UTILIS. RATIONNELLE DE L'ENERGIE
-	:	:	:	4082	0588	5.0 RECHERCHES A CARACT. GENERAL
53	:	:	:	21000	0510	5.1 COMBUSTIBLES FOSSILES ET DERIVES
-	:	:	:	103914	0520	5.2 FISSION NUCLEAIRE
-	:	:	:	167565	0530	5.3 FUSION NUCLEAIRE
334	:	:	:	20037	0540	5.4 SOURCES D'ENERGIE RENOUVELAB.
759	:	:	:	-	0550	5.5 UTILISATION RATIONNELLE DE L'ENERGIE
-	:	:	:	536	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

1984

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	398644	2325000	233282	192095	1711131	214816
6.0 GENERAL RESEARCH	0688	72832	:	18791	122301	:	12489
6.1 ANIMAL PRODUCTS	0610	38140	:	21901	8516	:	57639
6.2 FISHING AND FISH-FARMING	0620	40319	:	6570	5499	:	20566
6.3 VETERINARY MEDICINE	0630	8923	:	5324	9915	:	9234
6.4 CROPS	0640	124140	:	54801	39354	:	96056
6.5 FORESTRY AND TIMBER PRODUCT.	0650	45185	:	29665	5731	:	6759
6.6 FOOD TECHNOLOGY	0660	50271	:	8063	779	:	11716
6.9 OTHER RES. ON AGRICULTURAL PRODUCTION AND TECHNOLOGY	0690	18834	:	88617		:	357
7. INDUSTRIAL PRODUCTION AND TECHNOLOGY	0700	2327612	6920000	848386	362267	2894964	306906
7.0 GENERAL RESEARCH	0788	299634	:	144445	68009	:	36697
7.1 INCREASING ECON. EFFICIENCY AND COMPETITIVENESS	0710	602530	:	5097	232781	:	2250
7.2 MANUFACT. AND PROCESSING TECH. AND MATERIALS RESEARCH	0720	451927	:	15964	-	:	29935
7.3 EXTRACT. AND PROCESSING OF NON ENERGY MIN. AND DERIVED PROD.	0730	70270	:	15332	-	:	1585
7.4 PRODUCTS OF CHEMICAL INDUSTRY	0740	17601	:	137838	-	:	3079
7.4a PETROCHEMICAL AND COAL BY-PRODUCTS	0741	8600	:	21932	-	:	619
7.4b PHARMACEUTICAL PRODUCTS	0742		:	87841	-	:	-
7.5 MANUFACT. OF MOTOR VEHICLES A. OTHER MEANS OF TRANSPORT	0750	518526	:	96895	50040	:	129454
7.5a AEROSPACE EQUIPMENT MANUFACT. AND REPAIRING	0751	410753	:	54404	-	:	114837
7.5b MANUFACTURE OF MOTOR VEHICLES AND PARTS	0752	-	:	867	-	:	12567
7.5c MANUFACTURE OF RAILWAY AND TRAMWAY EQUIPMENT	0753	-	:	-	-	:	20
7.5d SHIPBUILDING AND REPAIRING	0754	29673	:	10818	-	:	2030
7.6 MANUF. OF OFFICE MACHINERY AND DATA-PROCESSING EQUIPMENT	0760	130080	:	72024	-	:	29811
7.7 ELECTRICAL AND ELECTRONIC ENGINEERING	0770	217244	:	90001	-	:	51528
7.7a ELECTRICAL ENGINEERING	0771	217244	:	26981	-	:	2858
7.7b TELECOMMUNICATIONS EQUIPMENT	0772		:	38386	-	:	6571
7.8 MECHAN. A. INSTRUMENT ENGIN. AND OTHER METAL INDUSTRIES	0780	3000	:	203340	-	:	5900
7.8a MECHANICAL ENGINEERING	0781	-	:	-	-	:	3417
7.8b MANUF. MED. AND SURGICAL EQUIP AND ORTHOPAEDIC APPLIANCES	0782	-	:	-	-	:	81
7.9 OTHER MANUFACTURING INDUST.	0790	16800	:	67450	11437	:	16667
7.9a FOOD, DRINK AND TOBACCO IND.	0791	160	:	24660	-	:	5809
7.9b TEXTILE INDUSTRY	0792	930	:	2267	-	:	-
7.9c RECYCLING OF WASTE	0793	15710	:		-	:	588
8. SOCIAL STRUCTURES AND RELATIONSHIPS	0800	452756	995000	60143	144893	1328582	37490
8.0 GENERAL RESEARCH	0888	92426	:	15655	35116	:	4188
8.1 EDUC., TRAINING, RECURRENT EDUCATION AND RETRAINING	0810	166245	:	7781	40037	:	22022
8.2 CULTURAL ACTIVITIES	0820	29090	:	17481	33337	:	805
8.3 MANAGEMENT OF BUSINESSES AND INSTITUTIONS	0830	16321	:	16338	8835	:	926
8.4 IMPROVEMENT OF WORKING COND.	0840	53014	:	1080	-	:	263
8.5 SOCIAL SECURITY SYSTEM	0850	45130	:	1655	5374	:	695
8.6 POLITICAL STRUCTURE OF SOC.	0860	36192	:	-	10938	:	140
8.7 SOCIAL CHANGE, SOC. PROCESSES AND SOCIAL CONFLICTS	0870	13407	:	103	1833	:	5495
8.9 OTHER RESEARCH WITH REGARD TO SOCIETY	0890	931	:	50	9423	:	2956
9. EXPLORATION AND EXPLOITATION OF SPACE	0900	762096	3495000	297831	97524	1718885	79063

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

1984

						OBJECTIFS NABS	
IRELAND 1000 ISTR	DANMARK 1000 DMR	GRECE 1000 DRA	EUR-10 1000 UCE	EC/CE 1000 UCE			
18791	255020	2399882	1247182	3052	0600	6.	PRODUCTIVITE ET TECHNOLOGIE DE L'AGRICULTURE
1926	:	:	:	3052	0688	6.0	RECHERCHES A CARACT. GENERAL
8802	:	:	:	-	0610	6.1	PRODUITS ANIMAUX
2464	:	:	:	-	0620	6.2	PECHE ET PISCICULTURE
535	:	:	:	-	0630	6.3	MEDECINE VETERINAIRE
4153	:	:	:	-	0640	6.4	PRODUITS VEGETAUX
911	:	:	:	-	0650	6.5	SYLVICULTURE ET INDUSTRIE DU BOIS
-	:	:	:	-	0660	6.6	TECHNOLOGIE AGRO-ALIMENTAIRE
-	:	:	:	-	0690	6.9	AUT. RECHER. CONC. PRODUCTIV. ET TECHNOLOGIE DE L'AGRICUL.
13434	503112	547272	3474533	55654	0700	7.	PRODUCTIVITE ET TECHNOLOGIE INDUSTRIELLES
1491	:	:	:	-	0788	7.0	RECHERCHES A CARACT. GENERAL
6075	:	:	:	-	0710	7.1	ACCROISS. DE L'EFFICACITE ET COMPETITIVITE DE L'INDUSTRIE
431	:	:	:	9027	0720	7.2	TECHNIQ. FABRICAT., ENGINEERING ET RECHER. SUR LES MATERIAUX
139	:	:	:	24059	0730	7.3	EXTRACT. ET TRANSFORM. MINER. NON ENERGET. ET PROD. DERIVES
7	:	:	:	-	0740	7.4	PRODUITS DE L'INDUST. CHIMIQ.
-	:	:	:	-	0741	7.4a	PRODUITS DE LA PETROCHIMIE ET DE LA CARBOCHIMIE
7	:	:	:	-	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
-	:	:	:	-	0760	7.6	CONSTR. MACH. BUR. ET DE MACH. ET INSTAL. TRAIT. INFORMAT.
1788	:	:	:	13002	0770	7.7	MATERIEL ELECTRIQUE ET ELECTRONIQUE
7	:	:	:	-	0771	7.7a	CONSTRUCTION ELECTRIQUE
1781	:	:	:	13002	0772	7.7b	MATERIEL DE TELECOMMUNICAT.
665	:	:	:	-	0780	7.8	AUT. INDUS. TRANSFORM. METAUX ET MECANIQUE DE PRECISION
27	:	:	:	-	0781	7.8a	CONSTRUCTION DE MACHINES
-	:	:	:	-	0782	7.8b	FABRIC. MATER. MED.-CHIRURGIC. ET APPAREILS ORTHOPEDIQUES
2838	:	:	:	6206	0790	7.9	AUT. INDUSTRIES MANUFACTUR.
2628	:	:	:	4063	0791	7.9a	INDUSTRIE PRODUITS ALIMENT., BOISSONS ET DU TABAC
210	:	:	:	1110	0792	7.9b	INDUSTRIE TEXTILE
-	:	:	:	1032	0793	7.9c	RECYCLAGE DES DECHETS
4686	112970	602677	567906	3488	0800	8.	VIE EN SOCIETE (STRUCTURES ET RELATIONS)
1196	:	:	:	-	0888	8.0	RECHERCHES A CARACT. GENERAL
536	:	:	:	-	0810	8.1	ENSEIGNEMENT, FORMATION, PERFECTIONNEMENT ET RECYCLAGE
-	:	:	:	195	0820	8.2	CULTURE
1225	:	:	:	567	0830	8.3	GESTION D'ENTREPRISES ET D'ADMINISTRATIONS
80	:	:	:	2065	0840	8.4	AMELIORATION DES CONDITIONS DE TRAVAIL
1301	:	:	:	-	0850	8.5	ACTION SOCIALE
-	:	:	:	231	0860	8.6	STRUCTURE POLITIQUE DE LA SOCIETE
260	:	:	:	429	0870	8.7	CHANGEMENT SOCIAL, PROCESSUS SOCIAUX, CONFLITS SOCIAUX
88	:	:	:	-	0890	8.9	AUTRES RECHERCHES CONCERNANT LA VIE EN SOCIETE
1007	100327	45445	1289272	5987	0900	9.	EXPLORATION ET EXPLOITATION DE L'ESPACE

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

1984

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	108396	:	148360	3527	:	6345
9.1 SCIENTIFIC EXPLORATION OF SPACE	0910	228700	:	39567	23548	:	14785
9.2 APPLIED RESEARCH PROGRAMMES	0920	168400	:	79121	-	:	52810
9.3 LAUNCH SYSTEMS	0930	138100	:	29667	-	:	3838
9.4 SPACE LABORATORIES AND SPACE TRAVEL	0940	118500	:		70499	:	1285
9.9 OTHER RES. ON EXPLORATION AND EXPLOITATION OF SPACE	0990	-	:	1116	-	:	-
10. RESEARCH FINANCED FROM GEN. UNIV. FUNDS (GUF)	1000	6329445	7570000	938135	1814000	9354355	634000
10.0 MULTI-DISCIPLINARY RESEARCH	1088	-	:		98300	:	634000
10.1 MATHEMATICS AND NAT. SCIENCES	1010	1982077	:	267280	376900	:	-
10.2 ENGINEERING SCIENCES	1020	1285896	:	142597	328800	:	-
10.3 MEDICAL SCIENCES	1030	1681420	:	215302	442800	:	-
10.4 AGRICULTURAL SCIENCES	1040	150174	:	88185	117500	:	-
10.5 SOCIAL SCIENCE AND HUMANITIES	1050	1229878	:	215771	449700	:	-
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	2219273	8950000	263499	377737	2938906	291430
11.0 MULTI-DISCIPLINARY RESEARCH	1188	335588	:	6622	37386	:	726
11.1 MATHEMATICS AND NAT. SCIENCES	1110	1514560	:	232468	288441	:	197453
11.2 ENGINEERING SCIENCES	1120	69585	:	7489	780	:	74998
11.3 MEDICAL SCIENCES	1130	140620	:	4809	20413	:	-
11.4 AGRICULTURAL SCIENCES	1140	28050	:	8199		:	
11.5 SOC. SCIENCES AND HUMANITIES	1150	130870	:	3912	30716	:	18253
12. OTHER CIVIL RESEARCH	1200	9318	990000	3361	150914	-	12067
13. DEFENCE	1300	1936733	20840000	387195	120011	59450	2169344
TOTAL EXPENDITURE	9900	19413568	62374992	4653528	3858473	25847888	4307830

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

1984

					OBJECTIFS NABS	
IRELAND 1000 ISTR	DANMARK 1000 DMR	GRECE 1000 DRA	EUR-10 1000 UCE	EC/CE 1000 UCE		
1002	:	:	:	-	0988	9.0 RECHERCHES A CARACT. GENERAL
-	:	:	:	-	0910	9.1 EXPLORATION SCIENTIFIQUE DE L'ESPACE
5	:	:	:	5987	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
12649	1090306	2412728	6785525	-	1000	10. RECHERCHE FINANCEE PAR FONDS GENERAUX DES UNIVERSITES
-	:	:	:	-	1088	10.0 RECHERCHE INTERDISCIPLINAIRE
4344	348058	:	:	-	1010	10.1 MATHEMATIQUES ET SCIENC. NAT.
2116	147697	:	:	-	1020	10.2 SCIENCES DE L'INGENIEUR
1226	208873	:	:	-	1030	10.3 SCIENCES MEDICALES
1510	38226	:	:	-	1040	10.4 SCIENCES AGRICOLES
3453	347452	:	:	-	1050	10.5 SCIENCES SOCIALES ET HUMAINES
:	23708	:	:	-	1001	X10.1 EXPLORATION ET EXPLOITATION DU MILIEU TERRESTRE
:	34990	:	:	-	1002	X10.2 INFRASTRUCTURES ET AMENAGEMENT DES ESPACES
:	21892	:	:	-	1003	X10.3 POLLUTION DE L'ENVIRONNEMENT (LUTTE ET PREVENTION)
:	113231	:	:	-	1004	X10.4 PROTECTION ET PROMOTION DE LA SANTE HUMAINE
:	42365	:	:	-	1005	X10.5 PRODUCT.,DISTRIBUT. ET UTILIS. RATIONNELLE DE L'ENERGIE
:	38668	:	:	-	1006	X10.6 PRODUCTIVITE ET TECHNOLOGIE DE L'AGRICULTURE
:	52996	:	:	-	1007	X10.7 PRODUCTIVITE ET TECHNOLOGIE INDUSTRIELLES
:	213435	:	:	-	1008	X10.8 VIE EN SOCIETE (STRUCTURES ET RELATIONS)
:	5469	:	:	-	1009	X10.9 EXPLORATION ET EXPLOITATION DE L'ESPACE
:	-	:	:	-	1011	X10.0 AUTRES RECHERCHES CIVILES
1967	494270	651072	3263325	3418	1100	11. RECHERCHES NON ORIENTEES
:	:	:	:		1188	11.0 RECHERCHE MULTIDISCIPLINAIRE
1655	:	:	:	3418	1110	11.1 SCIENCES MATHEMATIQUES ET SCIENCES NATURELLES
239	:	:	:	-	1120	11.2 SCIENCES DE L'INGENIEUR
:	:	:	:	-	1130	11.3 SCIENCES MEDICALES
56	:	:	:	-	1140	11.4 SCIENCES AGRICOLES
17	:	:	:	-	1150	11.5 SCIENCES SOCIALES ET HUMAINES
-	-	62552	231612	-	1200	12. RECHERCHES NON VENTILEES
-	22144	307806	7906402	-	1300	13. DEFENSE
62302	3038942	8907709	31071136	442128	9900	TOTAL DES CREDITS

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

1984

OBJECTIVES NABS		DEUTSCH- LAND BR	FRANCE	ITALIA	NEDERLAND	BELGIQUE /BELGIE	UNITED KINGDOM
1. EXPLORATION AND EXPLOITATION OF THE EARTH	0100	173111	133883	48595	9089	14562	124935
1.0 GENERAL RESEARCH	0188	41308	:	7203	-	:	106831
1.1 MINERAL, OIL AND NATURAL GAS PROSPECTING	0110	19642	:	13115	-	:	1363
1.2 EXPLORATION AND EXPLOITATION OF THE SEA-BED	0120	9202	:	1607	-	:	440
1.3 EARTH'S CRUST AND MANTLE EXCLUDING SEA-BED	0130	995	:	8151	607	:	963
1.4 HYDROLOGY	0140	6432	:	7942	345	:	1475
1.5 SEA AND OCEANS	0150	44276	:	6525	7103	:	3214
1.6 ATMOSPHERE	0160	18488	:	3317	1034	:	10621
1.9 OTHER RESEARCH ON THE EXPLOR. AND EXPLOITATION OF THE EARTH	0190	32767	:	736	-	:	29
2. INFRASTRUCTURE AND GENERAL PLANNING OF LAND-USE	0200	193971	279408	51411	70117	14517	106357
2.0 GENERAL RESEARCH	0288	6671	:	200	-	:	467
2.1 GENERAL PLANNING OF LAND-USE	0210	37562	:	2537	19378	:	9119
2.2 CONSTRUCTION AND PLANNING OF BUILDINGS	0220	10152	:	8043	15662	:	29438
2.3 CIVIL ENGINEERING	0230	27524	:	443	13188	:	29435
2.4 TRANSPORT SYSTEMS	0240	79350	:	20031	15635	:	32122
2.5 TELECOMMUNICATIONS SYSTEMS	0250	17984	:	10072	95	:	1173
2.6 WATER SUPPLY	0260	14727	:	10052	6159	:	4602
2.9 OTHER RESEARCH ON THE INFRASTR. AND GENERAL PLANNING LAND-USE	0290	-	:	33	-	:	-
3. CONTROL OF ENVIRONMENTAL POLLUTION	0300	258396	34198	28570	48867	12229	85944
3.0 GENERAL RESEARCH	0388	146077	:	7902	25906	:	2001
3.1 WATER POLLUTION	0310	25816	:	8251	3269	:	8630
3.2 ATMOSPHERIC POLLUTION	0320	21235	:	987	10078	:	9207
3.3 SOIL AND SUBSTRATUM POLLUTION	0330	7223	:	775	1371	:	147
3.4 NOISE AND VIBRATION	0340	7984	:	980	2468	:	3799
3.5 RADIOACTIVE POLLUTION	0350	34049	:	9040	1467	:	57461
3.6 THERMAL POLLUTION	0360	-	:	-	-	:	1429
3.7 POLLUTION BY SOLID WASTE MAT.	0370	16011	:	-	4307	:	3269
3.9 OTHER SCIENT. RESEARCH ON THE POLLUTION OF THE ENVIRONMENT	0390	-	:	634	-	:	-
4. PROTECTION AND IMPROVEMENT OF HUMAN HEALTH	0400	279844	347805	279038	37592	43002	265442
4.0 GENERAL RESEARCH	0488	54306	:	147531	21418	:	232665
4.1 MEDICAL RESEARCH, HOSPITAL TREATMENT, SURGERY	0410	102770	:	36533	6705	:	2717
4.2 PREVENTIVE MEDICINE	0420	4930	:	13617	-	:	442
4.3 BIOMEDICAL ENGINEERING AND MEDICINES	0430	35361	:	68091	3671	:	4927
4.4 OCCUPATIONAL MEDICINE	0440	15761	:	1530	-	:	5653
4.5 NUTRITION AND FOOD HYGIENE	0450	14896	:	4870	4143	:	9952
4.6 DRUG ABUSE AND ADDICTION	0460	3574	:	3651	337	:	49
4.7 SOCIAL MEDICINE	0470	6472	:	1588	143	:	244
4.8 HOSPITAL STRUCTURE AND ORGANISATION OF MEDICAL CARE	0480	31280	:	1613	1177	:	2575
4.9 OTHER MEDICAL RESEARCH	0490	10493	:	12	-	:	6217
5. PRODUCTION, DISTRIBUTION AND RAT. UTILIZATION OF ENERGY	0500	1318736	702158	766348	71731	44310	370063
5.0 GENERAL RESEARCH	0588	132101	:	6527	31675	:	733
5.1 FOSSIL FUELS AND THEIR DERIVATIVES	0510	180870	:	5553	7897	:	9730
5.2 NUCLEAR FISSION	0520	787484	:	430349	24023	:	264025
5.3 NUCLEAR FUSION	0530	75913	:	56248	3540	:	35048
5.4 RENEWABLE ENERGY SOURCES	0540	55627	:	116495	2736	:	25856
5.5 RATIONAL UTILIZAT. OF ENERGY	0550	86741	:	66029	778	:	13911

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

1984

IRELAND	DANMARK	GRECE	EUR 10	EC/CE		OBJECTIFS NABS
529	6207	5894	516805	1784	0100	1. EXPLORATION ET EXPLOITATION DU MILIEU TERRESTRE
-	:	:	:	-	0188	1.0 RECHERCHES A CARACT. GENERAL
-	:	:	:	-	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
529	:	:	:	1784	0160	1.6 ATMOSPHERE
-	:	:	:	-	0190	1.9 AUTRES RECHER. CONC. EXPLORAT. ET EXPLOITAT. MILIEU TERREST.
5900	8583	3418	733681	693	0200	2. INFRASTRUCTURES ET AMENAGEMENT DES ESPACES
723	:	:	:	-	0288	2.0 RECHERCHES A CARACT. GENERAL
2966	:	:	:	-	0210	2.1 AMENAGEMENT GENERAL DU TERRITOIRE
1288	:	:	:	-	0220	2.2 CONSTRUCTION ET AMENAGEMENT DE L'HABITAT
-	:	:	:	-	0230	2.3 GENIE CIVIL
937	:	:	:	693	0240	2.4 SYSTEMES DE TRANSPORT
-	:	:	:	-	0250	2.5 SYST. DE TELECOMMUNICATIONS
-	:	:	:	-	0260	2.6 APPROVISIONNEMENT EN EAU
-	:	:	:	-	0290	2.9 AUTRES RECHER. CONC. INFRASTR. ET AMENAGEMENT DES ESPACES
1415	5726	2474	477819	42724	0300	3. POLLUTION DE L'ENVIRONNEMENT (LUTTE ET PREVENTION)
215	:	:	:	8391	0388	3.0 RECHERCHES A CARACT. GENERAL
1004	:	:	:	217	0310	3.1 POLLUTION DE L'EAU
62	:	:	:	3903	0320	3.2 POLLUTION DE L'ATMOSPHERE
-	:	:	:	108	0330	3.3 POLLUTION DU SOL ET DU SOUS-SOL
74	:	:	:	-	0340	3.4 BRUIT ET VIBRATIONS
-	:	:	:	14447	0350	3.5 NUISANCES RADIOACTIVES
-	:	:	:	-	0360	3.6 POLLUTION THERMIQUE
59	:	:	:	15658	0370	3.7 POLLUTION PAR DECHETS SOLIDES
-	:	:	:	-	0390	3.9 AUTRES RECHER. CONC. POLLUTION DE L'ENVIRONNEMENT
4033	13213	6217	1276184	8194	0400	4. PROTECTION ET PROMOTION DE LA SANTE HUMAINE
-	:	:	:	-	0488	4.0 RECHERCHES A CARACT. GENERAL
3499	:	:	:	2977	0410	4.1 RECHERCHES MED., TRAITEMENT HOSPITALIER, CHIRURGIE
534	:	:	:	2750	0420	4.2 MEDECINE PREVENTIVE
-	:	:	:	-	0430	4.3 GENIE BIOMED. ET MEDICAMENTS
-	:	:	:	2467	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
1579	22834	3260	3301015	317133	0500	5. PRODUCT., DISTRIBUT. ET UTILIS. RATIONNELLE DE L'ENERGIE
-	:	:	:	4082	0588	5.0 RECHERCHES A CARACT. GENERAL
73	:	:	:	21000	0510	5.1 COMBUSTIBLES FOSSILES ET DERIVES
-	:	:	:	103914	0520	5.2 FISSION NUCLEAIRE
-	:	:	:	167565	0530	5.3 FUSION NUCLEAIRE
460	:	:	:	20037	0540	5.4 SOURCES D'ENERGIE RENOUVELAB.
1046	:	:	:	-	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

1984

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	-	:	85146	1089	:	20761
6. AGRICULTURAL PRODUCTION AND TECHNOLOGY	0600	178116	338346	168875	76127	37655	363709
6.0 GENERAL RESEARCH	0688	32542	:	13603	48468	:	21145
6.1 ANIMAL PRODUCTS	0610	17041	:	15854	3375	:	97590
6.2 FISHING AND FISH-FARMING	0620	18015	:	4756	2179	:	34821
6.3 VETERINARY MEDICINE	0630	3987	:	3854	3929	:	15634
6.4 CROPS	0640	55466	:	39671	15596	:	162634
6.5 FORESTRY AND TIMBER PRODUCT.	0650	20189	:	21475	2271	:	11444
6.6 FOOD TECHNOLOGY	0660	22461	:	5837	309	:	19837
6.9 OTHER RES. ON AGRICULTURAL PRODUCTION AND TECHNOLOGY	0690	8415	:	64151	-	:	604
7. INDUSTRIAL PRODUCTION AND TECHNOLOGY	0700	1039989	1007033	614155	143566	63707	519628
7.0 GENERAL RESEARCH	0788	133878	:	104565	26952	:	62132
7.1 INCREASING ECON. EFFICIENCY AND COMPETITIVENESS	0710	269213	:	3690	92251	:	3810
7.2 MANUFACT. AND PROCESSING TECH. AND MATERIALS RESEARCH	0720	201923	:	11556	-	:	50684
7.3 EXTRACT. AND PROCESSING OF NON ENERGY MIN. AND DERIVED PROD.	0730	31397	:	11099	-	:	2684
7.4 PRODUCTS OF CHEMICAL INDUSTRY	0740	7864	:	99782	-	:	5213
7.4a PETROCHEMICAL AND COAL BY- PRODUCTS	0741	3843	:	15877	-	:	1048
7.4b PHARMACEUTICAL PRODUCTS	0742	-	:	63589	-	:	-
7.5 MANUFACT. OF MOTOR VEHICLES A. OTHER MEANS OF TRANSPORT	0750	231680	:	70143	19831	:	219181
7.5a AEROSPACE EQUIPMENT MANUFACT. AND REPAIRING	0751	183526	:	39384	-	:	194433
7.5b MANUFACTURE OF MOTOR VEHICLES AND PARTS	0752	-	:	628	-	:	21277
7.5c MANUFACTURE OF RAILWAY AND TRAMWAY EQUIPMENT	0753	-	:	-	-	:	34
7.5d SHIPBUILDING AND REPAIRING	0754	13258	:	7831	-	:	3437
7.6 MANUF. OF OFFICE MACHINERY AND DATA-PROCESSING EQUIPMENT	0760	58120	:	52139	-	:	50474
7.7 ELECTRICAL AND ELECTRONIC ENGINEERING	0770	97066	:	65153	-	:	87243
7.7a ELECTRICAL ENGINEERING	0771	97066	:	19532	-	:	4839
7.7b TELECOMMUNICATIONS EQUIPMENT	0772	-	:	27788	-	:	11125
7.8 MECHAN. A. INSTRUMENT ENGIN. AND OTHER METAL INDUSTRIES	0780	1340	:	147200	-	:	9989
7.8a MECHANICAL ENGINEERING	0781	-	:	-	-	:	5785
7.8b MANUF. MED. AND SURGICAL EQUIP AND ORTHOPAEDIC APPLIANCES	0782	-	:	-	-	:	137
7.9 OTHER MANUFACTURING INDUST.	0790	7506	:	48828	4532	:	28219
7.9a FOOD, DRINK AND TOBACCO IND.	0791	71	:	17852	-	:	9835
7.9b TEXTILE INDUSTRY	0792	416	:	1641	-	:	-
7.9c RECYCLING OF WASTE	0793	7019	:	-	-	:	996
8. SOCIAL STRUCTURES AND RELATIONSHIPS	0800	202294	144797	43538	57421	29237	63475
8.0 GENERAL RESEARCH	0888	41296	:	11333	13916	:	7091
8.1 EDUC., TRAINING, RECURRENT EDUCATION AND RETRAINING	0810	74279	:	5633	15867	:	37286
8.2 CULTURAL ACTIVITIES	0820	12998	:	12655	13211	:	1363
8.3 MANAGEMENT OF BUSINESSES AND INSTITUTIONS	0830	7292	:	11827	3501	:	1568
8.4 IMPROVEMENT OF WORKING COND.	0840	23687	:	782	-	:	445
8.5 SOCIAL SECURITY SYSTEM	0850	20164	:	1198	2130	:	1177
8.6 POLITICAL STRUCTURE OF SOC.	0860	16171	:	-	4335	:	237

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

1984

IRELAND	DANMARK	GRECE	EUR 10	EC/CE		OBJECTIFS NABS
-	:	:	:	536	0590	5.9 AUT. RECHER. CONC. PRODUCTION, DISTRIB. ET UTIL. RAT. ENERG.
25885	31304	27167	1247182	3052	0600	6. PRODUCTIVITE ET TECHNOLOGIE DE L'AGRICULTURE
2653	:	:	:	3052	0688	6.0 RECHERCHES A CARACT. GENERAL
12125	:	:	:	-	0610	6.1 PRODUITS ANIMAUX
3394	:	:	:	-	0620	6.2 PECHE ET PISCICULTURE
737	:	:	:	-	0630	6.3 MEDECINE VETERINAIRE
5721	:	:	:	-	0640	6.4 PRODUITS VEGETAUX
1255	:	:	:	-	0650	6.5 SYLVICULTURE ET INDUSTRIE DU BOIS
-	:	:	:	-	0660	6.6 TECHNOLOGIE AGRO-ALIMENTAIRE
-	:	:	:	-	0690	6.9 AUT. RECHER. CONC. PRODUCTIV. ET TECHNOLOGIE DE L'AGRICUL.
18506	61758	6195	3474533	55654	0700	7. PRODUCTIVITE ET TECHNOLOGIE INDUSTRIELLES
2054	:	:	:	-	0788	7.0 RECHERCHES A CARACT. GENERAL
8368	:	:	:	-	0710	7.1 ACCROISS. DE L'EFFICACITE ET COMPETITIVITE DE L'INDUSTRIE
594	:	:	:	9027	0720	7.2 TECHNIQ. FABRICAT., ENGINEERING ET RECHER. SUR LES MATERIAUX
191	:	:	:	24059	0730	7.3 EXTRACT. ET TRANSFORM. MINER. NON ENERGET. ET PROD. DERIVES
10	:	:	:	-	0740	7.4 PRODUITS DE L'INDUST. CHIMIQ.
-	:	:	:	-	0741	7.4a PRODUITS DE LA PETROCHIMIE ET DE LA CARBOCHIMIE
10	:	:	:	-	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
-	:	:	:	-	0760	7.6 CONSTR. MACH. BUR. ET DE MACH. ET INSTAL. TRAIT. INFORMAT.
2463	:	:	:	13002	0770	7.7 MATERIEL ELECTRIQUE ET ELECTRONIQUE
10	:	:	:	-	0771	7.7a CONSTRUCTION ELECTRIQUE
2453	:	:	:	13002	0772	7.7b MATERIEL DE TELECOMMUNICAT.
916	:	:	:	-	0780	7.8 AUT. INDUS. TRANSFORM. METAUX ET MECANIQUE DE PRECISION
37	:	:	:	-	0781	7.8a CONSTRUCTION DE MACHINES
-	:	:	:	-	0782	7.8b FABRIC. MATER. MED.-CHIRURGIC. ET APPAREILS ORTHOPEDIQUES
3909	:	:	:	6206	0790	7.9 AUT. INDUSTRIES MANUFACTUR.
3620	:	:	:	4063	0791	7.9a INDUSTRIE PRODUITS ALIMENT., BOISSONS ET DU TABAC
289	:	:	:	1110	0792	7.9b INDUSTRIE TEXTILE
-	:	:	:	1032	0793	7.9c RECYCLAGE DES DECHETS
6455	13867	6822	567906	3488	0800	8. VIE EN SOCIETE (STRUCTURES ET RELATIONS)
1648	:	:	:	-	0888	8.0 RECHERCHES A CARACT. GENERAL
738	:	:	:	-	0810	8.1 ENSEIGNEMENT, FORMATION, PERFECTIONNEMENT ET RECYCLAGE
-	:	:	:	195	0820	8.2 CULTURE
1687	:	:	:	567	0830	8.3 GESTION D'ENTREPRISES ET D'ADMINISTRATIONS
110	:	:	:	2065	0840	8.4 AMELIORATION DES CONDITIONS DE TRAVAIL
1792	:	:	:	-	0850	8.5 ACTION SOCIALE
-	:	:	:	231	0860	8.6 STRUCTURE POLITIQUE DE LA SOCIETE

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

1984

OBJECTIVES NABS		DEUTSCH- LAND BR	FRANCE	ITALIA	NEDERLAND	BELGIQUE /BELGIE	UNITED KINGDOM
8.7 SOCIAL CHANGE, SOC. PROCESSES AND SOCIAL CONFLICTS	0870	5990	:	75	726	:	9304
8.9 OTHER RESEARCH WITH REGARD TO SOCIETY	0890	416	:	36	3734	:	5005
9. EXPLORATION AND EXPLOITATION OF SPACE	0900	340508	508610	215603	38649	37826	133863
9.0 GENERAL RESEARCH	0988	48432	:	107399	1398	:	10743
9.1 SCIENTIFIC EXPLORATION OF SPACE	0910	102184	:	28643	9332	:	25033
9.2 APPLIED RESEARCH PROGRAMMES	0920	75242	:	57276	-	:	89414
9.3 LAUNCH SYSTEMS	0930	61704	:	21476	-	:	6498
9.4 SPACE LABORATORIES AND SPACE TRAVEL	0940	52946	:		27939	:	2176
9.9 OTHER RES. ON EXPLORATION AND EXPLOITATION OF SPACE	0990	-	:	808	-	:	-
10. RESEARCH FINANCED FROM GEN. UNIV. FUNDS (GUF)	1000	2828027	1101624	679125	718888	205852	1073437
10.0 MULTI-DISCIPLINARY RESEARCH	1088	-	:	-	38956	:	1073437
10.1 MATHEMATICS AND NAT. SCIENCES	1010	885602	:	193487	149365	:	-
10.2 ENGINEERING SCIENCES	1020	574545	:	103227	130303	:	-
10.3 MEDICAL SCIENCES	1030	751267	:	155859	175482	:	-
10.4 AGRICULTURAL SCIENCES	1040	67098	:	63838	46565	:	-
10.5 SOCIAL SCIENCE AND HUMANITIES	1050	549516	:	156199	178216	:	-
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	991582	1302448	190750	149697	64674	493426
11.0 MULTI-DISCIPLINARY RESEARCH	1188	149942	:	4794	14816	:	1229
11.1 MATHEMATICS AND NAT. SCIENCES	1110	676713	:	168286	114309	:	334311
11.2 ENGINEERING SCIENCES	1120	31091	:	5421	309	:	126981
11.3 MEDICAL SCIENCES	1130	62830	:	3481	8090	:	-
11.4 AGRICULTURAL SCIENCES	1140	12533	:	5935	-	:	-
11.5 SOC. SCIENCES AND HUMANITIES	1150	58473	:	2832	12173	:	30905
12. OTHER CIVIL RESEARCH	1200	4163	144070	2433	59807		20431
13. DEFENCE	1300	865342	3032740	280294	47560	1308	3672957
TOTAL EXPENDITURE	9900	8674078	9077119	3368735	1529112	568809	7293669

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

1984

IRELAND	DANMARK	GRECE	EUR 10	EC/CE		OBJECTIFS NABS
358	:	:	:	429	0870	8.7 CHANGEMENT SOCIAL, PROCESSUS SOCIAUX, CONFLITS SOCIAUX
121	:	:	:	-	0890	8.9 AUTRES RECHERCHES CONCERNANT LA VIE EN SOCIETE
1387	12315	514	1289272	5987	0900	9. EXPLORATION ET EXPLOITATION DE L'ESPACE
1380	:	:	:	-	0988	9.0 RECHERCHES A CARACT. GENERAL
-	:	:	:	-	0910	9.1 EXPLORATION SCIENTIFIQUE DE L'ESPACE
7	:	:	:	5987	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
17424	133837	27312	6785525	-	1000	10. RECHERCHE FINANCEE PAR FONDS GENERAUX DES UNIVERSITES
		:	:	-	1088	10.0 RECHERCHE INTERDISCIPLINAIRE
5984	42725	:	:	-	1010	10.1 MATHEMATIQUES ET SCIENC. NAT.
2915	18130	:	:	-	1020	10.2 SCIENCES DE L'INGENIEUR
1689	25640	:	:	-	1030	10.3 SCIENCES MEDICALES
2080	4692	:	:	-	1040	10.4 SCIENCES AGRICOLES
4757	42650	:	:	-	1050	10.5 SCIENCES SOCIALES ET HUMAINES
:	2910	:	:	-	1001	X10.1 EXPLORATION ET EXPLOITATION DU MILIEU TERRESTRE
:	4295	:	:	-	1002	X10.2 INFRASTRUCTURES ET AMENAGEMENT DES ESPACES
:	2687	:	:	-	1003	X10.3 POLLUTION DE L'ENVIRONNEMENT (LUTTE ET PREVENTION)
:	13899	:	:	-	1004	X10.4 PROTECTION ET PROMOTION DE LA SANTE HUMAINE
:	5200	:	:	-	1005	X10.5 PRODUCT. ,DISTRIBUT. ET UTILIS. RATIONNELLE DE L'ENERGIE
:	4747	:	:	-	1006	X10.6 PRODUCTIVITE ET TECHNOLOGIE DE L'AGRICULTURE
:	6505	:	:	-	1007	X10.7 PRODUCTIVITE ET TECHNOLOGIE INDUSTRIELLES
:	26200	:	:	-	1008	X10.8 VIE EN SOCIETE (STRUCTURES ET RELATIONS)
:	671	:	:	-	1009	X10.9 EXPLORATION ET EXPLOITATION DE L'ESPACE
:		:	:	-	1011	X10.0 AUTRES RECHERCHES CIVILES
2710	60673	7370	3263325	3418	1100	11. RECHERCHES NON ORIENTEES
-	:	:	:		1188	11.0 RECHERCHE MULTIDISCIPLINAIRE
2280	:	:	:	3418	1110	11.1 SCIENCES MATHEMATIQUES ET SCIENCES NATURELLES
329	:	:	:	-	1120	11.2 SCIENCES DE L'INGENIEUR
-	:	:	:	-	1130	11.3 SCIENCES MEDICALES
77	:	:	:	-	1140	11.4 SCIENCES AGRICOLES
23	:	:	:	-	1150	11.5 SCIENCES SOCIALES ET HUMAINES
-	-	708	231612	-	1200	12. RECHERCHES NON VENTILEES
-	2718	3484	7906402	-	1300	13. DEFENSE
85822	373036	100835	31071136	442128	9900	TOTAL DES CREDITS

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

1984

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	23,9	:	14,8	-	:	85,5
1.1 MINERAL, OIL AND NATURAL GAS PROSPECTING	0110	11,3	:	27,0	-	:	1,1
1.2 EXPLORATION AND EXPLOITATION OF THE SEA-BED	0120	5,3	:	3,3	-	:	0,4
1.3 EARTH'S CRUST AND MANTLE EXCLUDING SEA-BED	0130	0,6	:	16,8	6,7	:	0,8
1.4 HYDROLOGY	0140	3,7	:	16,3	3,8	:	1,2
1.5 SEA AND OCEANS	0150	25,6	:	13,4	78,2	:	2,6
1.6 ATMOSPHERE	0160	10,7	:	6,8	11,4	:	8,5
1.9 OTHER RESEARCH ON THE EXPLOR. AND EXPLOITATION OF THE EARTH	0190	18,9	:	1,5	0,0	:	-
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	3,4	:	0,4	-	:	0,4
2.1 GENERAL PLANNING OF LAND-USE	0210	19,4	:	4,9	27,6	:	8,6
2.2 CONSTRUCTION AND PLANNING OF BUILDINGS	0220	5,2	:	15,6	22,3	:	27,7
2.3 CIVIL ENGINEERING	0230	14,2	:	0,9	18,8	:	27,7
2.4 TRANSPORT SYSTEMS	0240	40,9	:	39,0	22,3	:	30,2
2.5 TELECOMMUNICATIONS SYSTEMS	0250	9,3	:	19,6	0,1	:	1,1
2.6 WATER SUPPLY	0260	7,6	:	19,6	8,8	:	4,3
2.9 OTHER RESEARCH ON THE INFRASTR. AND GENERAL PLANNING LAND-USE	0290	-	:	0,1	-	:	-
3. CONTROL OF ENVIRONMENTAL POLLUTION	0300	100,0	100,0	100,0	100,0	100,0	100,0
3.0 GENERAL RESEARCH	0388	56,5	:	27,7	53,0	:	2,3
3.1 WATER POLLUTION	0310	10,0	:	28,9	6,7	:	10,0
3.2 ATMOSPHERIC POLLUTION	0320	8,2	:	3,5	20,6	:	10,7
3.3 SOIL AND SUBSTRATUM POLLUTION	0330	2,8	:	2,7	2,8	:	0,2
3.4 NOISE AND VIBRATION	0340	3,1	:	3,4	5,1	:	4,4
3.5 RADIOACTIVE POLLUTION	0350	13,2	:	31,6	3,0	:	66,9
3.6 THERMAL POLLUTION	0360	-	:	-	0,0	:	1,7
3.7 POLLUTION BY SOLID WASTE MAT.	0370	6,2	:	-	8,8	:	3,8
3.9 OTHER SCIENT. RESEARCH ON THE POLLUTION OF THE ENVIRONMENT	0390	-	:	2,2	-	:	-
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	:	52,9	57,0	:	87,7
4.1 MEDICAL RESEARCH, HOSPITAL TREATMENT, SURGERY	0410	36,7	:	13,1	17,8	:	1,0
4.2 PREVENTIVE MEDICINE	0420	1,8	:	4,9	0,0	:	0,2
4.3 BIOMEDICAL ENGINEERING AND MEDICINES	0430	12,6	:	24,4	9,8	:	1,9
4.4 OCCUPATIONAL MEDICINE	0440	5,6	:	0,5	-	:	2,1
4.5 NUTRITION AND FOOD HYGIENE	0450	5,3	:	1,7	11,0	:	3,7
4.6 DRUG ABUSE AND ADDICTION	0460	1,3	:	1,3	0,9	:	-
4.7 SOCIAL MEDICINE	0470	2,3	:	0,6	0,4	:	0,1
4.8 HOSPITAL STRUCTURE AND ORGANISATION OF MEDICAL CARE	0480	11,2	:	0,6	3,1	:	1,0
4.9 OTHER MEDICAL RESEARCH	0490	3,7	:	-	-	:	2,3
5. PRODUCTION, DISTRIBUTION AND RAT. UTILIZATION OF ENERGY	0500	100,0	100,0	100,0	100,0	100,0	100,0
5.0 GENERAL RESEARCH	0588	10,0	:	0,9	44,2	:	0,2
5.1 FOSSIL FUELS AND THEIR DERIVATIVES	0510	13,7	:	0,7	11,0	:	2,6
5.2 NUCLEAR FISSION	0520	59,7	:	56,2	33,5	:	71,3
5.3 NUCLEAR FUSION	0530	5,8	:	7,3	4,9	:	9,5
5.4 RENEWABLE ENERGY SOURCES	0540	4,2	:	15,2	3,8	:	7,0
5.5 RATIONAL UTILIZAT. OF ENERGY	0550	6,6	:	8,6	1,1	:	3,8

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

1984

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
-	:	:	:	-	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
100,0	:	:	:	100,0	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
12,3	:	:	:	-	0288	2.0 RECHERCHES A CARACT. GENERAL
50,3	:	:	:	-	0210	2.1 AMENAGEMENT GENERAL DU TERRITOIRE
21,8	:	:	:	-	0220	2.2 CONSTRUCTION ET AMENAGEMENT DE L'HABITAT
-	:	:	:	-	0230	2.3 GENIE CIVIL
15,9	:	:	:	100,0	0240	2.4 SYSTEMES DE TRANSPORT
-	:	:	:	-	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)
15,2	:	:	:	19,6	0388	3.0 RECHERCHES A CARACT. GENERAL
71,0	:	:	:	0,5	0310	3.1 POLLUTION DE L'EAU
4,4	:	:	:	9,1	0320	3.2 POLLUTION DE L'ATMOSPHERE
-	:	:	:	0,3	0330	3.3 POLLUTION DU SOL ET DU SOUS-SOL
5,3	:	:	:	-	0340	3.4 BRUIT ET VIBRATIONS
-	:	:	:	33,8	0350	3.5 NUISANCES RADIOACTIVES
-	:	:	:	-	0360	3.6 POLLUTION THERMIQUE
4,2	:	:	:	36,6	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
86,7	:	:	:	36,3	0410	4.1 RECHERCHES MED., TRAITEMENT HOSPITALIER, CHIRURGIE
13,3	:	:	:	33,6	0420	4.2 MEDECINE PREVENTIVE
-	:	:	:	-	0430	4.3 GENIE BIOMED. ET MEDICAMENTS
-	:	:	:	30,1	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
-	:	:	:	1,3	0588	5.0 RECHERCHES A CARACT. GENERAL
4,6	:	:	:	6,6	0510	5.1 COMBUSTIBLES FOSSILES ET DERIVES
-	:	:	:	32,8	0520	5.2 FISSION NUCLEAIRE
-	:	:	:	52,8	0530	5.3 FUSION NUCLEAIRE
29,1	:	:	:	6,3	0540	5.4 SOURCES D'ENERGIE RENOUVELAB.
66,2	:	:	:	-	0550	5.5 UTILISATION RATIONNELLE DE L'ENERGIE

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

1984

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	-	:	11,1	1,5	:	5,6
6. AGRICULTURAL PRODUCTION AND TECHNOLOGY	0600	100,0	100,0	100,0	100,0	100,0	100,0
6.0 GENERAL RESEARCH	0688	18,3	:	8,1	63,7	:	5,8
6.1 ANIMAL PRODUCTS	0610	9,6	:	9,4	4,4	:	26,8
6.2 FISHING AND FISH-FARMING	0620	10,1	:	2,8	2,9	:	9,6
6.3 VETERINARY MEDICINE	0630	2,2	:	2,3	5,2	:	4,3
6.4 CROPS	0640	31,1	:	23,5	20,5	:	44,7
6.5 FORESTRY AND TIMBER PRODUCT.	0650	11,3	:	12,7	3,0	:	3,1
6.6 FOOD TECHNOLOGY	0660	12,6	:	3,5	0,4	:	5,5
6.9 OTHER RES. ON AGRICULTURAL PRODUCTION AND TECHNOLOGY	0690	4,7	:	38,0	-	:	0,2
7. INDUSTRIAL PRODUCTION AND TECHNOLOGY	0700	100,0	100,0	100,0	100,0	100,0	100,0
7.0 GENERAL RESEARCH	0788	12,9	:	17,0	18,8	:	12,0
7.1 INCREASING ECON. EFFICIENCY AND COMPETITIVENESS	0710	25,9	:	0,6	64,3	:	0,7
7.2 MANUFACT. AND PROCESSING TECH. AND MATERIALS RESEARCH	0720	19,4	:	1,9	-	:	9,8
7.3 EXTRACT. AND PROCESSING OF NON ENERGY MIN. AND DERIVED PROD.	0730	3,0	:	1,8	-	:	0,5
7.4 PRODUCTS OF CHEMICAL INDUSTRY	0740	0,8	:	16,2	-	:	1,0
7.4a PETROCHEMICAL AND COAL BY- PRODUCTS	0741	0,4	:	2,6	-	:	0,2
7.4b PHARMACEUTICAL PRODUCTS	0742	-	:	10,4	-	:	-
7.5 MANUFACT. OF MOTOR VEHICLES A. OTHER MEANS OF TRANSPORT	0750	22,3	:	11,4	13,8	:	42,2
7.5a AEROSPACE EQUIPMENT MANUFACT. AND REPAIRING	0751	17,6	:	6,4	-	:	37,4
7.5b MANUFACTURE OF MOTOR VEHICLES AND PARTS	0752	-	:	0,1	-	:	4,1
7.5c MANUFACTURE OF RAILWAY AND TRAMWAY EQUIPMENT	0753	-	:	-	-	:	-
7.5d SHIPBUILDING AND REPAIRING	0754	1,3	:	1,3	-	:	0,7
7.6 MANUF. OF OFFICE MACHINERY AND DATA-PROCESSING EQUIPMENT	0760	5,6	:	8,5	-	:	9,7
7.7 ELECTRICAL AND ELECTRONIC ENGINEERING	0770	9,3	:	10,6	-	:	16,8
7.7a ELECTRICAL ENGINEERING	0771	9,3	:	3,2	-	:	0,9
7.7b TELECOMMUNICATIONS EQUIPMENT	0772	-	:	4,5	-	:	2,1
7.8 MECHAN. A. INSTRUMENT ENGIN. AND OTHER METAL INDUSTRIES	0780	0,1	:	24,0	-	:	1,9
7.8a MECHANICAL ENGINEERING	0781	-	:	-	-	:	1,1
7.8b MANUF. MED. AND SURGICAL EQUIP AND ORTHOPAEDIC APPLIANCES	0782	-	:	-	-	:	-
7.9 OTHER MANUFACTURING INDUST.	0790	0,7	:	8,0	3,2	:	5,4
7.9a FOOD, DRINK AND TOBACCO IND.	0791	-	:	2,9	-	:	1,9
7.9b TEXTILE INDUSTRY	0792	-	:	0,3	-	:	-
7.9c RECYCLING OF WASTE	0793	0,7	:	-	-	:	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	20,4	:	26,0	24,2	:	11,2
8.1 EDUC., TRAINING, RECURRENT EDUCATION AND RETRAINING	0810	36,7	:	12,9	27,6	:	58,7
8.2 CULTURAL ACTIVITIES	0820	6,4	:	29,1	23,0	:	2,1
8.3 MANAGEMENT OF BUSINESSES AND INSTITUTIONS	0830	3,6	:	27,2	6,1	:	2,5
8.4 IMPROVEMENT OF WORKING COND.	0840	11,7	:	1,8	-	:	0,7
8.5 SOCIAL SECURITY SYSTEM	0850	10,0	:	2,8	3,7	:	1,9
8.6 POLITICAL STRUCTURE OF SOC.	0860	8,0	:	-	7,5	:	0,4

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

1984

IRELAND	DANMARK	GRECE	EUR 10	EC/CE		OBJECTIFS NABS
-	:	:	:	0,2	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
10,2	:	:	:	100,0	0688	6.0 RECHERCHES A CARACT. GENERAL
46,8	:	:	:	-	0610	6.1 PRODUITS ANIMAUX
13,1	:	:	:	-	0620	6.2 PECHE ET PISCICULTURE
2,8	:	:	:	-	0630	6.3 MEDECINE VETERINAIRE
22,1	:	:	:	-	0640	6.4 PRODUITS VEGETAUX
4,8	:	:	:	-	0650	6.5 SYLVICULTURE ET INDUSTRIE DU BOIS
-	:	:	:	-	0660	6.6 TECHNOLOGIE AGRO-ALIMENTAIRE
-	:	:	:	-	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
11,1	:	:	:	-	0788	7.0 RECHERCHES A CARACT. GENERAL
45,2	:	:	:	-	0710	7.1 ACCROISS. DE L'EFFICACITE ET COMPETITIVITE DE L'INDUSTRIE
3,2	:	:	:	16,2	0720	7.2 TECHNIQ. FABRICAT., ENGINEERING ET RECHER. SUR LES MATERIAUX
1,0	:	:	:	43,2	0730	7.3 EXTRACT. ET TRANSFORM. MINER. NON ENERGET. ET PROD. DERIVES
0,1	:	:	:	-	0740	7.4 PRODUITS DE L'INDUST. CHIMIQ.
0,0	:	:	:	-	0741	7.4a PRODUITS DE LA PETROCHIMIE ET DE LA CARBOCHIMIE
0,1	:	:	:	-	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
-	:	:	:	-	0760	7.6 CONSTR. MACH. BUR. ET DE MACH. ET INSTAL. TRAIT. INFORMAT.
13,3	:	:	:	23,4	0770	7.7 MATERIEL ELECTRIQUE ET ELECTRONIQUE
0,1	:	:	:	-	0771	7.7a CONSTRUCTION ELECTRIQUE
13,3	:	:	:	23,4	0772	7.7b MATERIEL DE TELECOMMUNICAT.
5,0	:	:	:	-	0780	7.8 AUT. INDUS. TRANSFORM. METAUX ET MECANIQUE DE PRECISION
0,2	:	:	:	-	0781	7.8a CONSTRUCTION DE MACHINES
-	:	:	:	-	0782	7.8b FABRIC. MATER. MED.-CHIRURGIC. ET APPAREILS ORTHOPEDIQUES
21,1	:	:	:	11,2	0790	7.9 AUT. INDUSTRIES MANUFACTUR.
19,6	:	:	:	7,3	0791	7.9a INDUSTRIE PRODUITS ALIMENT., BOISSONS ET DU TABAC
1,6	:	:	:	2,0	0792	7.9b INDUSTRIE TEXTILE
-	:	:	:	1,9	0793	7.9c RECYCLAGE DES DECHETS
100,0	100,0	100,0	100,0	100,0	0800	8. VIE EN SOCIETE (STRUCTURES ET RELATIONS)
25,5	:	:	:	-	0888	8.0 RECHERCHES A CARACT. GENERAL
11,4	:	:	:	-	0810	8.1 ENSEIGNEMENT, FORMATION, PERFECTIONNEMENT ET RECYCLAGE
-	:	:	:	5,6	0820	8.2 CULTURE
26,1	:	:	:	16,3	0830	8.3 GESTION D'ENTREPRISES ET D'ADMINISTRATIONS
1,7	:	:	:	59,2	0840	8.4 AMELIORATION DES CONDITIONS DE TRAVAIL
27,8	:	:	:	-	0850	8.5 ACTION SOCIALE
-	:	:	:	6,6	0860	8.6 STRUCTURE POLITIQUE DE LA SOCIETE

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

1984

OBJECTIVES NABS		DEUTSCH- LAND BR	FRANCE	ITALIA	NEDERLAND	BELGIQUE /BELGIE	UNITED KINGDOM
8.7 SOCIAL CHANGE, SOC. PROCESSES AND SOCIAL CONFLICTS	0870	3,0	:	0,2	1,3	:	14,7
8.9 OTHER RESEARCH WITH REGARD TO SOCIETY	0890	0,2	:	0,1	6,5	:	7,9
9. EXPLORATION AND EXPLOITATION OF SPACE	0900	100,0	100,0	100,0	100,0	100,0	100,0
9.0 GENERAL RESEARCH	0988	14,2	:	49,8	3,6	:	8,0
9.1 SCIENTIFIC EXPLORATION OF SPACE	0910	30,0	:	13,3	24,1	:	18,7
9.2 APPLIED RESEARCH PROGRAMMES	0920	22,1	:	26,6	-	:	66,8
9.3 LAUNCH SYSTEMS	0930	18,1	:	10,0	-	:	4,9
9.4 SPACE LABORATORIES AND SPACE TRAVEL	0940	15,5	:	0,0	72,3	:	1,6
9.9 OTHER RES. ON EXPLORATION AND EXPLOITATION OF SPACE	0990	-	:	0,4	-	:	-
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	1088	-	:	-	5,4	:	100,0
10.1 MATHEMATICS AND NAT. SCIENCES	1010	31,3	:	28,5	20,8	:	-
10.2 ENGINEERING SCIENCES	1020	20,3	:	15,2	18,1	:	-
10.3 MEDICAL SCIENCES	1030	26,6	:	22,9	24,4	:	-
10.4 AGRICULTURAL SCIENCES	1040	2,4	:	9,4	6,5	:	-
10.5 SOCIAL SCIENCE AND HUMANITIES	1050	19,4	:	23,0	24,8	:	-
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	1188	15,1	:	2,5	9,9	:	0,2
11.1 MATHEMATICS AND NAT. SCIENCES	1110	68,2	:	88,2	76,4	:	67,8
11.2 ENGINEERING SCIENCES	1120	3,1	:	2,8	0,2	:	25,7
11.3 MEDICAL SCIENCES	1130	6,3	:	1,8	5,4	:	-
11.4 AGRICULTURAL SCIENCES	1140	1,3	:	3,1	-	:	-
11.5 SOC. SCIENCES AND HUMANITIES	1150	5,9	:	1,5	8,1	:	6,3
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

1984

IRELAND	DANMARK	GRECE	EUR 10	EC/CE		OBJECTIFS NABS
5,5	:	:	:	12,3	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
99,5	:	:	:	-	0988	9.0 RECHERCHES A CARACT. GENERAL
-	:	:	:	-	0910	9.1 EXPLORATION SCIENTIFIQUE DE L'ESPACE
0,5	:	:	:	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
-	:	:	:	-	1088	10.0 RECHERCHE INTERDISCIPLINAIRE
34,3	31,9	:	:	-	1010	10.1 MATHEMATIQUES ET SCIENC. NAT.
16,7	13,5	:	:	-	1020	10.2 SCIENCES DE L'INGENIEUR
9,7	19,2	:	:	-	1030	10.3 SCIENCES MEDICALES
11,9	3,5	:	:	-	1040	10.4 SCIENCES AGRICOLES
27,3	31,9	:	:	-	1050	10.5 SCIENCES SOCIALES ET HUMAINES
-	2,2	:	:	-	1001	X10.1 EXPLORATION ET EXPLOITATION DU MILIEU TERRESTRE
-	3,2	:	:	-	1002	X10.2 INFRASTRUCTURES ET AMENAGEMENT DES ESPACES
-	2,0	:	:	-	1003	X10.3 POLLUTION DE L'ENVIRONNEMENT (LUTTE ET PREVENTION)
-	10,4	:	:	-	1004	X10.4 PROTECTION ET PROMOTION DE LA SANTE HUMAINE
-	3,9	:	:	-	1005	X10.5 PRODUCT.,DISTRIBUT. ET UTILIS. RATIONNELLE DE L'ENERGIE
-	3,5	:	:	-	1006	X10.6 PRODUCTIVITE ET TECHNOLOGIE DE L'AGRICULTURE
-	4,9	:	:	-	1007	X10.7 PRODUCTIVITE ET TECHNOLOGIE INDUSTRIELLES
-	19,6	:	:	-	1008	X10.8 VIE EN SOCIETE (STRUCTURES ET RELATIONS)
-	0,5	:	:	-	1009	X10.9 EXPLORATION ET EXPLOITATION DE L'ESPACE
-	-	:	:	-	1011	X10.0 AUTRES RECHERCHES CIVILES
100,0	100,0	100,0	100,0	100,0	1100	11. RECHERCHES NON ORIENTEES
-	:	:	:	-	1188	11.0 RECHERCHE MULTIDISCIPLINAIRE
84,1	:	:	:	-	1110	11.1 SCIENCES MATHEMATIQUES ET SCIENCES NATURELLES
12,2	:	:	:	-	1120	11.2 SCIENCES DE L'INGENIEUR
-	:	:	:	-	1130	11.3 SCIENCES MEDICALES
2,8	:	:	:	-	1140	11.4 SCIENCES AGRICOLES
0,9	:	:	:	-	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-!	!	!	!	! BELGIQUE !	! UNITED !
	!	! LAND BR !	! FRANCE !	! ITALIA !	! NEDERLAND !	! /BELGIE !	! KINGDOM !
1983	!	!	!	!	!	!	!
1. EXPLORATION AND EXPLOITATION OF THE EARTH	! 0100 !	! 8900 !	! 145000 !	! 301 !	! - !	! 20075 !	! - !
2. INFRASTRUCTURE AND GENERAL PLANNING OF LAND-USE	! 0200 !	! 15000 !	! 50000 !	! - !	! 1383 !	! 61111 !	! 89 !
3. CONTROL OF ENVIRONMENTAL POLLUTION	! 0300 !	! 2700 !	! 21000 !	! 119 !	! - !	! 48468 !	! !
4. PROTECTION AND IMPROVEMENT OF HUMAN HEALTH	! 0400 !	! 5200 !	! 98000 !	! 2229 !	! 1651 !	! 97863 !	! 3885 !
5. PRODUCTION, DISTRIBUTION AND RAT. UTILIZATION OF ENERGY	! 0500 !	! 614900 !	! 794000 !	! 2600 !	! 27568 !	! 161780 !	! 24121 !
6. AGRICULTURAL PRODUCTION AND TECHNOLOGY	! 0600 !	! 25600 !	! 325000 !	! 5809 !	! - !	! 186461 !	! 4023 !
7. INDUSTRIAL PRODUCTION AND TECHNOLOGY	! 0700 !	! 239300 !	! 750000 !	! 1713 !	! - !	! 6605 !	! 733 !
8. SOCIAL STRUCTURES AND RELATIONSHIPS	! 0800 !	! 7900 !	! 100000 !	! 2128 !	! - !	! 159580 !	! 147 !
9. EXPLORATION AND EXPLOITATION OF SPACE	! 0900 !	! 551700 !	! 1460000 !	! 85000 !	! 21515 !	! 1227125 !	! 63528 !
10. RESEARCH FINANCED FROM GEN. UNIV. FUNDS (GUF)	! 1000 !	! - !	! - !	! - !	! - !	! - !	! - !
11. NON-ORIENTED RESEARCH	! 1100 !	! 306800 !	! 1240000 !	! 72234 !	! 59124 !	! 749428 !	! 39554 !
12. OTHER CIVIL RESEARCH	! 1200 !	! - !	! 97000 !	! - !	! 1385 !	! - !	! - !
13. DEFENCE	! 1300 !	! 575100 !	! - !	! - !	! 1824 !	! 365 !	! 184527 !
TOTAL EXPENDITURE	! 9900 !	! 2353100 !	! 5080000 !	! 172133 !	! 114450 !	! 2718861 !	! 320607 !
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 !

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
					1983
-	-	:	:	-	0100 1. EXPLORATION ET EXPLOITATION DU MILIEU TERRESTRE
153	-	:	:	-	0200 2. INFRASTRUCTURES ET AMENAGEMENT DES ESPACES
41	-	:	:	-	0300 3. POLLUTION DE L'ENVIRONNEMENT (LUTTE ET PREVENTION)
3	-	:	:	-	0400 4. PROTECTION ET PROMOTION DE LA SANTÉ HUMAINE
135	2180	:	:	-	0500 5. PRODUCT.,DISTRIBUT. ET UTILIS. RATIONNELLE DE L'ENERGIE
1012	-	:	:	-	0600 6. PRODUCTIVITE ET TECHNOLOGIE DE L'AGRICULTURE
169	-	:	:	-	0700 7. PRODUCTIVITE ET TECHNOLOGIE INDUSTRIELLES
247	347	:	:	-	0800 8. VIE EN SOCIÉTÉ (STRUCTURES ET RELATIONS)
774	86770	:	:	-	0900 9. EXPLORATION ET EXPLOITATION DE L'ESPACE
-	-	:	:	-	1000 10. RECHERCHE FINANCEE PAR FONDS GENERAUX DES UNIVERSITES
12	109449	:	:	-	1100 11. RECHERCHES NON ORIENTÉES
-	-	:	:	-	1200 12. RECHERCHES NON VENTILEES
-	-	:	:	-	1300 13. DEFENSE
2546	198744	:	:	-	9900 TOTAL DES CREDITS
					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 SOCIÉTÉ (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 ORIENTÉES
-	-	:	:	-	1200 12. RECHERCHES NON VENTILEES
-	-	:	:	-	1300 13. DEFENSE
3008	208321	:	:	-	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-!	!	!	!	!BELGIQUE !	! UNITED !	!
	!	! LAND BR !	! FRANCE !	! ITALIA !	! NEDERLAND !	! /BELGIE !	! KINGDOM !	!
1983	!	!	!	!	!	!	!	!
1. EXPLORATION AND EXPLOITATION OF THE EARTH	! 0100 !	! 3920 !	! 21415 !	! 223 !	! - !	! 442 !	! - !	!
2. INFRASTRUCTURE AND GENERAL PLANNING OF LAND-USE	! 0200 !	! 6606 !	! 7385 !	!	! 545 !	! 1345 !	! 152 !	!
3. CONTROL OF ENVIRONMENTAL POLLUTION	! 0300 !	! 1189 !	! 3102 !	! 88 !	! - !	! 1067 !	! - !	!
4. PROTECTION AND IMPROVEMENT OF HUMAN HEALTH	! 0400 !	! 2290 !	! 14474 !	! 1651 !	! 651 !	! 2154 !	! 6618 !	!
5. PRODUCTION, DISTRIBUTION AND RAT. UTILIZATION OF ENERGY	! 0500 !	! 270819 !	! 117268 !	! 1926 !	! 10866 !	! 3560 !	! 41091 !	!
6. AGRICULTURAL PRODUCTION AND TECHNOLOGY	! 0600 !	! 11275 !	! 48000 !	! 4303 !	! - !	! 4104 !	! 6853 !	!
7. INDUSTRIAL PRODUCTION AND TECHNOLOGY	! 0700 !	! 105394 !	! 110770 !	! 1269 !	! - !	! 145 !	! 1249 !	!
8. SOCIAL STRUCTURES AND RELATIONSHIPS	! 0800 !	! 3479 !	! 14769 !	! 1576 !	! - !	! 3512 !	! 250 !	!
9. EXPLORATION AND EXPLOITATION OF SPACE	! 0900 !	! 242984 !	! 215632 !	! 62966 !	! 8480 !	! 27007 !	! 108222 !	!
10. RESEARCH FINANCED FROM GEN. UNIV. FUNDS (GUF)	! 1000 !	! - !	! - !	! - !	! - !	! - !	! - !	!
11. NON-ORIENTED RESEARCH	! 1100 !	! 135123 !	! 183139 !	! 53510 !	! 23303 !	! 16493 !	! 67382 !	!
12. OTHER CIVIL RESEARCH	! 1200 !	! - !	! 14326 !	! - !	! 546 !	! - !	! - !	!
13. DEFENCE	! 1300 !	! 253290 !	! - !	! - !	! 719 !	! 8 !	! 314349 !	!
TOTAL EXPENDITURE	! 9900 !	! 1036371 !	! 750280 !	! 127513 !	! 45109 !	! 59837 !	! 546167 !	!
1984	!	!	!	!	!	!	!	!
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 !	! 25807 !	! :	! 78283 !	!
12. OTHER CIVIL RESEARCH	! 1200 !	! - !	! 14261 !	! - !	! 548 !	! :	! 449 !	!
13. DEFENCE	! 1300 !	! 186005 !	! - !	! - !	! 737 !	! :	! 265254 !	!
TOTAL EXPENDITURE	! 9900 !	! 975062 !	! 876497 !	! 173090 !	! 48335 !	! :	! 621967 !	!

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
						1985
-	-	:	:	-	0100	1. EXPLORATION ET EXPLOITATION DU MILIEU TERRESTRE
301	6	:	:	-	0200	2. INFRASTRUCTURES ET AMENAGEMENT DES ESPACES
82	-	:	:	-	0300	3. POLLUTION DE L'ENVIRONNEMENT (LUTTE ET PREVENTION)
6	-	:	:	-	0400	4. PROTECTION ET PROMOTION DE LA SANTÉ HUMAINE
78	353	:	:	-	0500	5. PRODUCT.,DISTRIBUT. ET UTILIS. RATIONNELLE DE L'ENERGIE
1052	-	:	:	-	0600	6. PRODUCTIVITE ET TECHNOLOGIE DE L'AGRICULTURE
754	-	:	:	-	0700	7. PRODUCTIVITE ET TECHNOLOGIE INDUSTRIELLES
216	44	:	:	-	0800	8. VIE EN SOCIETE (STRUCTURES ET RELATIONS)
1395	12127	:	:	-	0900	9. EXPLORATION ET EXPLOITATION DE L'ESPACE
2533	-	:	:	-	1000	10. RECHERCHE FINANCEE PAR FONDS GENERAUX DES UNIVERSITES
-	14414	:	:	-	1100	11. RECHERCHES NON ORIENTEES
-	-	:	:	-	1200	12. RECHERCHES NON VENTILEES
+	-	:	:	-	1300	13. DEFENSE
6416	26945	:	:	-	9900	TOTAL DES CREDITS

OTHER BASIC DATA

DONNEES DE REFERENCE

	DEUTSCH- LAND (BR)	FRANCE	ITALIA	NEDERLAND	BELGIQUE /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
1975	291 400	308 000	32 423	64 100	744 000	46 405	1 714	72 500		321,4
1976	305 000	350 300	41 841	75 500	870 100	51 248	2 007	79 400		360,0
1977	321 500	390 000	53 560	81 500	992 000	59 182	2 326	88 500		401,5
1978	352 100	448 100	83 348	94 400	973 000	64 507	2 875	97 600		464,9
1979	380 000	519 000	91 500	101 000	1060 000	77 090	3 487	111 100	366 100	526,1
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	119 000	7 100	169 900	838 500	840,9
1983	474 600	929 300	265 672	154 700	1809 900	126 600	7 367	184 600	1096 000	903,4
1984	476 300	1005 800	294 433	162 400	1904 300	134 500	8 047	186 000	1357 900	952,3
1985										
MEAN TREND PER YEAR 1975-1984 TEND. ANN. MOYENNE	5,6	14,1	27,8	10,9	11,0	12,6	18,7	11,0		12,8

	MRD DM	MRD FF	MRD LIT	MIO FL	MRD FB	MIO £	MIO £	MIO DKR	MIO DRA	MRD EUA/UCE
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					
1975	1034,03	1452,32	125 378	209 420	2271,08	104 143	3 676	217 835	672,16	1123,55
1976	1122,82	1677,97	156 657	240 170	2571,06	124 027	4 509	255 229	824,93	1286,72
1977	1200,49	1880,53	190 083	261 410	2779,62	142 693	5 361	283 319	963,73	1429,64
1978	1289,28	2133,50	222 369	281 670	2982,50	163 609	6 271	314 113	1157,67	1584,05
1979	1400,16	2430,62	268 868	299 010	3175,01	189 280	7 221	348 431	1421,80	1778,33
1980	1496,77	2749,03	330 707	319 642	3384,55	223 540	8 441	378 744	1777,60	2002,97
1981	1543,94	3094,42	398 125	350 540	3530,30	247 719	10 376	414 109	2033,85	2201,61
1982	1600,32	3569,33	471 389	367 750	3849,49	276 417	12 989	467 299	2531,71	2420,43
1983	1667,48	3957,04	535 904	376 720	4095,00	300 228	14 452	515 399	3040,73	2588,40
1984	1741,00	4313,00	607 179	394 000	4386,00	319 000	16 027	568 000	3676,00	2771,25
1985										
MEAN TREND PER YEAR 1975-1984 TEND. ANN. MOYENNE	6,0	12,9	19,2	7,3	7,6	13,2	17,8	11,2	20,8	10,6

	* 1000									
	POPULATION					POPULATION				
1975	61 829	52 748	55 830	13 660	9 801	56 042	3 127	5 060	9 047	267 144
1976	61 531	52 921	56 169	13 773	9 818	56 001	3 162	5 073	9 167	267 615
1977	61 400	53 084	56 462	13 856	9 830	55 967	3 192	5 089	9 269	268 149
1978	61 327	53 277	56 714	13 942	9 840	55 902	3 314	5 104	9 360	268 780
1979	61 359	53 477	56 914	14 039	9 848	55 946	3 368	5 117	9 449	269 517
1980	61 566	53 714	57 070	14 150	9 859	56 010	3 401	5 123	9 599	270 492
1981	61 682	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	271 983
1984	61 181	54 713	56 344	14 422	9 849	56 256	3 533	5 112	9 910	271 320
1985										

TAB. 16/2

DEUTSCH- LAND (BR)	FRANCE	ITALIA	NEDERLAND	BELGIQUE/ BELGIË	UNITED KINGDOM	IRELAND	DANMARK	GRECE
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INDEX OF R & D PRICES

INDICE DES PRIX R & D

1975	100,00	100,00	100,00	100,00	100,00	100,00	100,00	100,00	100,00
1976	106,23	112,59	119,59	110,16	113,19	115,41	118,89	110,40	119,97
1977	111,93	125,19	143,16	120,04	122,37	129,97	135,77	121,58	142,36
1978	117,23	138,80	163,68	127,77	129,88	144,81	152,64	132,97	169,95
1979	123,67	155,95	191,68	135,03	136,60	166,64	176,17	145,72	205,79
1980	131,86	178,20	233,51	143,18	147,67	198,56	209,62	161,39	243,77
1981	138,98	202,88	282,97	149,60	158,27	224,39	249,22	178,76	300,94
1982	144,96	228,50	329,52	155,55	170,03	239,35	288,24	197,31	373,88
1983	149,79	251,42	379,47	160,33	180,80	255,19	316,45	210,64	450,15
1984	154,93	274,52	424,04	161,89	193,83	270,29	351,02	223,62	540,89

EXCHANGE RATES

1 EUA/UCE

TAUX DE CHANGE

	DM	FF	LIT	FL	FB	£	£	DKR	DR
1975	3.04939	5.31923	809.545	3.13490	45.5690	0.560026	0.560026	7.12266	39.9947
1976	2.81545	5.34486	930.150	2.95515	43.1654	0.621578	0.621578	6.76176	40.8842
1977	2.64831	5.60607	1006.785	2.80010	40.8826	0.653701	0.653701	6.85567	42.0353
1978	2.55607	5.73983	1080.216	2.75409	40.0611	0.663910	0.663888	7.01946	46.7829
1979	2.51087	5.82945	1138.498	2.74864	40.1651	0.666392	0.669482	7.20911	50.7738
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
1984-3	2.22826	6.86146	1385.620	2.51226	45.6313	0.597645	0.728055	8.18346	88.6917
1985-3	2.23658	6.83117	1428.770	2.52306	45.0079	0.584022	0.717068	7.99418	96.7198

DATA ON USA

DONNEES SUR LES USA

	Mrd \$ (current)		Mrd \$ (1975)		Mrd ECU total	% total/GDP	Mrd \$ GDP	Implicit index prices	Exchange rates: 1 EUA =
	total	civil	total	civil					
1975	19.0	9.3	19.0	9.3	15.3	1.23	1542.2	100.0	1.24077
1976	20.8	10.4	19.6	9.8	18.6	1.22	1709.9	105.9	1.11805
1977	23.5	11.6	20.9	10.3	20.6	1.23	1907.5	112.0	1.14112
1978	26.0	13.0	21.6	10.8	20.4	1.21	2145.7	120.3	1.27410
1979	28.2	14.4	21.6	11.0	20.6	1.18	2388.4	130.5	1.37065
1980	28.7	13.8	20.0	9.6	20.6	1.10	2606.6	143.0	1.39233
1981	33.7	15.3	21.6	9.8	30.2	1.15	2934.9	155.7	1.11645
1982	36.1	14.0	21.6	8.4	36.8	1.19	3045.3	166.5	0.97971
1983	38.8	13.8	22.2	7.9	43.6	1.18	3275.7	174.0	0.89022
1984	44.2	14.9	24.5	8.2	56.0	1.22	3625.0*	179.8*	0.78926
1985	50.5*	16.1*	27.0	8.6
Mean trend per year	1975-84	9.8	5.4	2.8	- 1.3		10.0		

* Estimate

* Estimation

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