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KOULUTUS JA TUTKIMUS
EDUCATION AND RESEARCH

RESEARCH AND DEVELOPMENT ACTIVITIES IN FINLAND IN 1983

1,3 % OF GNP FOR RESEARCH AND DEVELOPMENT

R&D expenditure in 1983 was FIM 3 626 million. Its share of GNP was 1,32 %. The corresponding figure for 1981 was 1,19 %, compared with 2,3 % in Sweden, 1,3 % in Norway and 1,1 % in Denmark. It appears from Figure 1 that the proportion of GNP spent on R&D has been increasing steadily in Finland.

8 % REAL ANNUAL INCREASE IN RESEARCH AND DEVELOPMENT EXPENDITURE

The annual growth in R&D financed by the Business enterprise sector was 12 %. The annual growth rate of publicly financed R&D was considerably slower, less than 5 %. Because of this, as appears from Table 1, the proportion of R&D financed by the Business enterprise sector has increased by 4 % from 1981.

OVER 20 200 MAN YEARS DEVOTED TO RESEARCH AND DEVELOPMENT IN 1983

A total of 20 200 R&D man years were devoted to R&D in 1983, which is 12 % more than in 1981. As can be seen from Table 2, almost half of the man years were done in the Business enterprise sector. About 2/3 of the man years devoted to R&D were in the natural sciences and engineering. The shares of medical and agricultural sciences accounted both for about 10 %.

Figure 1 R&D expenditure as a percentage of GNP in 1971-1983

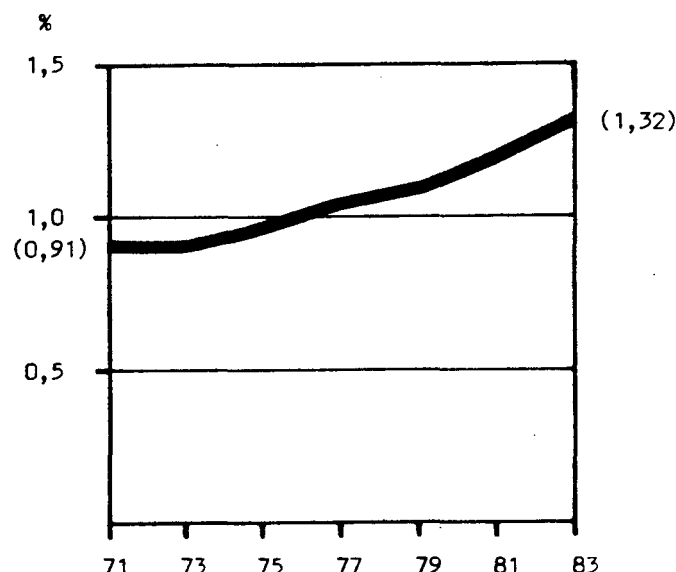


Table 1 The financing of R&D in 1981 and 1983

Source of finance	1981 %	1983 %
Business enterprise sector	52	56
Government sector 1)	46	42
Other	2	2
Total	100	100

1) including conditional loans granted by the Technology Development Centre and the Finnish National Fund for Research and Development

Table 2 R&D man years by field of science in 1983

Field of science	Business enterprise sector	Government sector	Private non-profit sector	Higher education sector	Total
	%	%	%	%	%
Natural sciences	7	16	8	27	15
Engineering	79	37	8	23	53
Medical sciences	6	8	38	22	11
Agricultural sciences	5	25	1	3	10
Social sciences	2	7	37	16	7
Humanities	-	5	8	8	3
Undistributed	1	2	-	1	1
Total	100	100	100	100	100
Total R&D man years	9 660	4 957	118	5 483	20 218

Table 3 R&D activities in 1981 and 1983

Sector	R&D man years			R&D expenditure		
	1981	1983	Change %	1981 FIM million	1983 FIM million	Change in real terms %
	Business enterprise sector	8 367	9 660	+ 15	1 418	2 060
Government sector	4 563	4 957	+ 9	586	764	+ 10
Private non-profit sector	124	118	- 5	14	27	+ 56
Higher education sector	4 950	5 483	+ 11	577	775	+ 13
Total	18 004	20 218	+ 12	2 595	3 626	+ 17

Table 4 The financing of R&D by sector of performance in 1981 and 1983

Sector of performance		Source of finance						Total FIM million
		Business enterprise sector	Conditional public loans	Government sector (excl. general university funds)	General university funds	Private non-profit, abroad	Imputed pension costs	
		FIM million	FIM million	FIM million	FIM million	FIM million	FIM million	
Business enterprise sector	1981	1 278	64	63	-	13	-	1 418
	1983	1 906	64	72	-	18	-	2 060
Government sector	1981	56	-	468	-	15	47	586
	1983	86	-	609	-	13	56	764
Private non-profit sector	1981	1	-	3	-	10	-	14
	1983	1	-	7	-	19	0	27
Higher education sector	1981	12	-	132	367	16	50	577
	1983	22	-	184	486	22	61	775
Total	1981	1 347	64	666	367	54	97	2 595
	1983	2 015	64	872	486	72	117	3 626
Change in real terms %		+ 26	- 16	+ 10	+ 11	+ 12	+ 1	+ 17