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Research and Development

Expenditure on Research and Development in the General Government Sector: 2005-2007

Total expenditure by General Government on R&D in 2007 amounted to €11.3 million, an increase of €0.7 million over the previous year.

The activity of the General Government sector in research and development (R&D) was measured through a survey carried out during the first quarter of 2008. A total of 113 units responded to the survey, of which nine were actively engaged in R&D projects during 2007. As illustrated in Table 1, four of these units were Government departments, while five were Extra Budgetary Units (EBUs).

In 2007, 967 employees were engaged in R&D work within General Government. Of these 940 were engaged in R&D activities on a part-time basis. As Table 4 shows, there was a predominance of men among PhD researchers and technicians, while women were predominant among support staff.

Table 5 shows data on employment by the six major fields of science for the period 2005-2007. The highest employment activity in R&D was observed in the Medical sciences, accounting for 303 employees in 2007. This was followed by the Social Sciences with 260 employees.

Total estimated expenditure by General Government on R&D activities amounted to €11.3 million in 2007, up by 6.7 per cent over 2006 (Table 2). Of this expenditure, 63.5 per cent went to meet labour costs, 33.8 per cent to other recurrent expenditures, while 2.8 per cent was spent on capital projects. In line with past years, during 2007 total R&D expenditure in the General Government sector was highest in the field of Social Sciences, which accounted for 31.8 per cent of total expenditure. As shown in Table 3, virtually all the R&D expenditure in Social Sciences was entailed by the EBUs.

Table 6 classifies expenditure on R&D by source of funds. Similar to the trend observed in previous years, the EBU sub-sector benefited from the broadest inflow of funds for 2007.

In Malta, the Higher Education Sector (HES) is included within the EBU category■

European statistics comparable to data in this News Release are available at:

[EUROSTAT Website/Homepage/Science and Technology/Data](http://europa.europa.eu/portal/page/portal/eurostat/homepage/science_and_technology/data)

- >Science and Technology
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Table 1. Number of government units engaged in R&D activities

	2005	2006	2007
Central Government	1	4	4
EBUs	8	8	5
Local Councils	1	1	0
Total	10	13	9

Table 2. Total expenditure on R&D by type of costs

	2005				2006				2007			
	Central Government	EBUs	Local Councils	Total	Central Government	EBUs	Local Councils	Total	Central Government	EBUs	Local Councils	Total
	%			€ 000s	%			€ 000s	%			€ 000s
Recurrent Expenditure	5.1	90.8	0.0	8,769	6.2	90.2	0.0	10,171	6.6	90.6	0.0	10,948
Labour Costs	4.3	54.1	0.0	5,345	4.2	51.3	0.0	5,858	4.5	59.0	0.0	7,146
Other Recurrent Expenditure	0.8	36.7	0.0	3,424	2.0	38.9	0.0	4,313	2.1	31.6	0.0	3,801
Capital Expenditure	0.3	3.7	0.0	373	0.7	3.0	0.0	383	0.3	2.5	0.0	314
Land and Buildings	0.1	2.1	0.0	204	0.1	1.6	0.0	183	0.1	1.8	0.0	211
Instruments and Equipment	0.2	1.6	0.0	168	0.5	1.4	0.0	200	0.2	0.7	0.0	103
Total Expenditure	5.5	94.5	0.0	9,141	6.8	93.2	0.0	10,554	6.9	93.1	0.0	11,262

Table 3. Total expenditure on R&D by major field of science

		Natural sciences	Engineering and Technology	Medical sciences	Agricultural sciences	Social sciences	Humanities	Not elsewhere classified	Total
		€ 000s							
Central Government	2005	0	0	0	498	0	0	0	498
	2006	2	2	20	678	20	0	0	722
	2007	73	2	11	676	20	0	0	782
EBUs	2005	1,116	1,154	1,594	51	3,385	1,198	144	8,642
	2006	1,560	1,621	1,756	94	3,336	1,297	166	9,831
	2007	1,173	1,669	2,221	69	3,562	1,686	99	10,480
Local Councils	2005	0	0	0	0	0	0	0	0
	2006	1	0	0	0	0	0	0	1
	2007	0	0	0	0	0	0	0	0
Total	2005	1,116	1,154	1,594	550	3,385	1,198	144	9,141
	2006	1,563	1,623	1,776	772	3,356	1,297	166	10,554
	2007	1,247	1,671	2,232	745	3,582	1,686	99	11,262

Table 4. General Government employment in R&D

	Central Government			EBUs			Local Councils			Total		
	2005	2006	2007	2005	2006	2007	2005	2006	2007	2005	2006	2007
Total	18	24	28	921	965	939	1	2	-	940	991	967
Men	16	19	21	602	637	625	1	1	-	619	657	646
Women	2	5	7	319	328	314	-	1	-	321	334	321
Full-time	17	18	19	18	16	8	-	-	-	35	34	27
Men	15	16	17	9	8	2	-	-	-	24	24	19
Women	2	2	2	9	8	6	-	-	-	11	10	8
Part-Time	1	6	9	903	949	931	1	2	-	905	957	940
Men	1	3	4	593	629	623	1	1	-	595	633	627
Women	-	3	5	310	320	308	-	1	-	310	324	313
PhD Researchers												
Total	1	3	2	405	427	435	1	1	-	407	431	437
Men	1	3	2	343	359	360	1	1	-	345	363	362
Women	-	-	-	62	68	75	-	-	-	62	68	75
Full-time	1	2	1	-	-	-	-	-	-	1	2	1
Men	1	2	1	-	-	-	-	-	-	1	2	1
Women	-	-	-	-	-	-	-	-	-	-	-	-
Part-Time	-	1	1	405	427	435	1	1	-	406	429	436
Men	-	1	1	343	359	360	1	1	-	344	361	361
Women	-	-	-	62	68	75	-	-	-	62	68	75
Non PhD Researchers												
Total	2	8	12	301	318	282	-	1	-	303	327	294
Men	1	3	5	168	181	171	-	-	-	169	184	176
Women	1	5	7	133	137	111	-	1	-	134	143	118
Full-time	1	3	4	8	12	7	-	-	-	9	15	11
Men	-	1	2	4	5	1	-	-	-	4	6	3
Women	1	2	2	4	7	6	-	-	-	5	9	8
Part-Time	1	5	8	293	306	275	-	1	-	294	312	283
Men	1	2	3	164	176	170	-	-	-	165	178	173
Women	-	3	5	129	130	105	-	1	-	129	134	110
Technicians												
Total	13	13	14	71	78	71	-	-	-	84	91	85
Men	13	13	14	62	67	62	-	-	-	75	80	76
Women	-	-	-	9	11	9	-	-	-	9	11	9
Full-time	13	13	14	3	3	1	-	-	-	16	16	15
Men	13	13	14	3	3	1	-	-	-	16	16	15
Women	-	-	-	-	-	-	-	-	-	-	-	-
Part-Time	-	-	-	68	75	70	-	-	-	68	75	70
Men	-	-	-	59	64	61	-	-	-	59	64	61
Women	-	-	-	9	11	9	-	-	-	9	11	9
Support Staff												
Total	2	-	-	144	142	151	-	-	-	146	142	151
Men	1	-	-	29	30	32	-	-	-	30	30	32
Women	1	-	-	115	112	119	-	-	-	116	112	119
Full-time	2	-	-	7	1	-	-	-	-	9	1	-
Men	1	-	-	2	-	-	-	-	-	3	-	-
Women	1	-	-	5	1	-	-	-	-	6	1	-
Part-Time	-	-	-	137	141	151	-	-	-	137	141	151
Men	-	-	-	27	30	32	-	-	-	27	30	32
Women	-	-	-	110	111	119	-	-	-	110	111	119

Table 5. General Government R&D employment by major field of science

		Natural sciences	Engineering and Technology	Medical sciences	Agricultural sciences	Social sciences	Humanities	Not elsewhere classified	Total
Central Government	2005	-	-	-	18	-	-	-	18
	2006	2	-	1	18	2	-	1	24
	2007	2	-	1	23	1	-	1	28
EBUs	2005	103	108	290	6	269	122	23	921
	2006	115	121	305	6	271	131	16	965
	2007	84	143	302	13	259	132	6	939
Local Councils	2005	1	-	-	-	-	-	-	1
	2006	-	-	-	-	-	2	-	2
	2007	-	-	-	-	-	-	-	-
Total	2005	104	108	290	24	269	122	23	940
	2006	117	121	306	24	273	133	17	991
	2007	86	143	303	36	260	132	7	967

Table 6. Source of funds of R&D expenditure

Sources of Funds	Central Government			EBUs			Local Councils			Total		
	2005	2006	2007	2005	2006	2007	2005	2006	2007	2005	2006	2007
	€ 000s											
Local Funds	359	332	291	6,777	7,886	7,997	0	1	0	7,136	8,218	8,288
Own Funds	23	290	257	5,568	74	113	0	1	0	5,592	365	371
Business Enterprise	16	5	4	8	0	0	0	0	0	24	5	4
Direct Government	319	37	30	1,073	608	445	0	0	0	1,393	645	475
Higher Education	0	0	0	104	7,204	7,438	0	0	0	104	7,204	7,438
Private Non-Profit	0	0	0	23	0	0	0	0	0	23	0	0
Foreign Funds	140	391	491	1,865	1,945	2,483	0	0	0	2,005	2,336	2,974
Foreign Business Enterprises	0	0	0	53	0	0	0	0	0	53	0	0
Other National Governments	0	0	0	0	0	0	0	0	0	0	0	0
Higher Education	0	0	0	616	636	478	0	0	0	616	636	478
Private Non-Profit	0	0	0	12	0	0	0	0	0	12	0	0
European Commission	116	321	489	767	1,240	1,628	0	0	0	883	1,560	2,117
International Organisations	23	70	2	418	69	377	0	0	0	441	139	379
Total	498	722	782	8,642	9,831	10,480	0	1	0	9,141	10,554	11,262

Methodological Notes

Research and Development is defined as creative work undertaken on a systematic basis to increase the stock of knowledge, including knowledge of man, culture and society, and the use of this stock of knowledge to devise new applications.

An annual questionnaire was compiled and sent to all units making up the general government sector, out of which 113 responded. The 178 units surveyed comprise all the Central Government Ministries and Departments (GDs), Extra Budgetary Units (EBUs), as well as the Local Councils (LCs).

From the population of 178 units, the overall response rate was of 64.61 per cent. The highest rate of response was observed from the Central Government sub-sector, with a rate of 78.33 per cent. The response rate of the Extra Budgetary Units sub-sector stood at 72.00 per cent, while returns from the Local Councils made up a response rate of 47.06 per cent.

Fields of Science and Technology and their sub-fields. The source of these definitions is the Frascati Manual, 2002 edition

1. Natural Sciences

- 1.1 Mathematical and computer sciences [mathematics and other allied fields: computer sciences and other allied subjects (software development only, hardware development should be classified in the engineering fields)]
- 1.2 Physical sciences (astronomy and space sciences physics, other allied subjects)
- 1.3 Chemical sciences (chemistry, other allied subjects)
- 1.4 Earth and related environmental sciences (geology, geophysics, mineralogy, physical geography and other geosciences, meteorology and other atmospheric sciences including climatic research, oceanography, vulcanology, palaeoecology, other allied sciences)
- 1.5 Biological sciences (biology, botany, bacteriology, microbiology, zoology, entomology, genetics, biochemistry, biophysics, other allied sciences, excluding clinical and veterinary sciences)

2. Engineering and Technology

- 2.1 Civil engineering (architecture engineering, building science and engineering, construction engineering, municipal and structural engineering and other allied subjects)
- 2.2 Electrical engineering, electronics [electrical engineering, electronics, communication engineering and systems, computer engineering (hardware only) and other allied subjects]
- 2.3 Other engineering sciences (such as chemical, aeronautical and space, mechanical, metallurgical and materials engineering, and their specialised subdivisions; forest products; applied sciences such as geodesy, industrial chemistry, etc.; the science and technology of food production; specialised technologies of interdisciplinary fields, e.g. systems analysis, metallurgy, mining, textile technology and other allied subjects)

3. Medical Sciences

- 3.1 Basic medicine (anatomy, cytology, physiology, genetics, pharmacology, toxicology, immunology and immuno-haematology, clinical chemistry, clinical microbiology, pathology)
- 3.2 Clinical medicine (anesthesiology, paediatrics, obstetrics and gynaecology, internal medicine, surgery, dentistry, neurology, psychiatry, radiology, therapeutics, otorhinolaryngology, ophthalmology)
- 3.3 Health sciences (public health services, social medicine, hygiene, nursing, epidemiology)

4. Agricultural Sciences

- 4.1 Agriculture, forestry, fisheries and allied sciences (agronomy, animal husbandry, fisheries, forestry, horticulture, other allied subjects)
- 4.2 Veterinary Services

5. Social Services

- 5.1 Psychology
- 5.2 Economics
- 5.3 Educational sciences (education and training and other allied subjects)
- 5.4 Other social sciences [anthropology (social and cultural) and ethnology, demography (human, economic and social), town and country planning, management, law, linguistics, political sciences, sociology, organisation and methods, miscellaneous social sciences and interdisciplinary and historical S&T activities relating to subjects in this group. Physical anthropology, physical geography and psychophysiology should normally be classified with the natural sciences]

6. Humanities

- 6.1 History (history, prehistory and history, together with auxiliary historical disciplines such as archaeology, numismatics, palaeography, genealogy, etc.)
- 6.2 Languages and literature (ancient and modern)
- 6.3 Other humanities [philosophy (including the history of science and technology), arts history of art, art criticism, painting, sculpture, musicology, dramatic art excluding artistic "research" of any kind, religion, theology, other fields and subjects pertaining to the humanities, methodological, historical and other S&T activities relating to the subjects in this group]

Revision Policy

The data in this release may be revised after the next survey.