Statistics in focus

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Author

Simona FRANK

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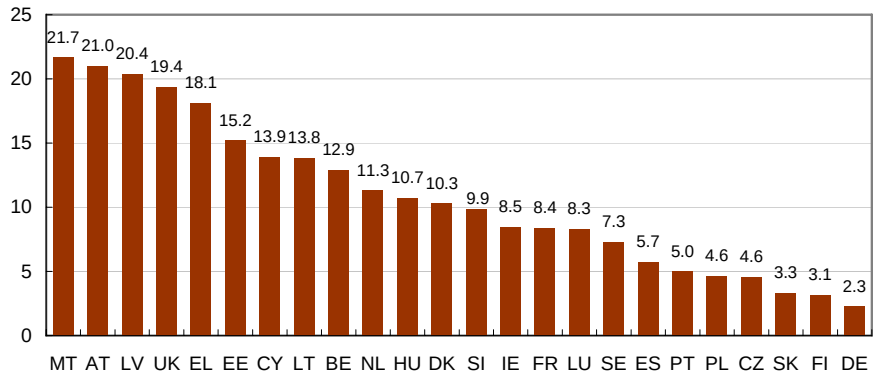
R&D and internationalisation

In small countries a large proportion of R&D is financed from abroad

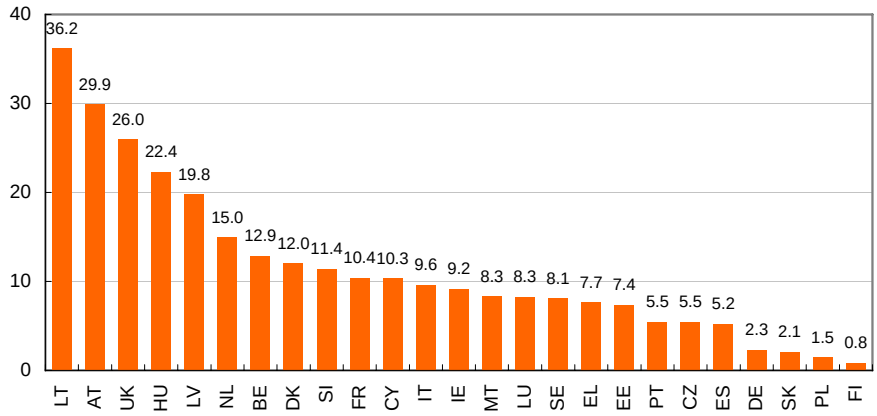
Figure 1: Percentage of gross expenditure on R&D (GERD) financed from abroad, 2003



Exception to reference year: MT: 2002

Source: Eurostat, R&D statistics

Figure 2: Percentage of business expenditure on R&D (BERD) financed from abroad, 2003



Exceptions to reference year: MT, AT: 2002

Source: Eurostat, R&D statistics

Main findings

- In most countries enterprises receive more R&D funds from abroad than other sectors (such as higher education or the government sector).
- In Japan foreign affiliates' share of manufacturing R&D expenditure is very low and the turnover of these foreign affiliates is also very small. In Hungary and Ireland the opposite is the case.
- Greek students like to study at British universities, whereas German universities are the first choice for Polish students studying abroad.
- The top five EU companies in the "Electronics and electrical equipment" sector account for 88% of total R&D investment by the sector.

Internationalisation plays a key role in many economic activities and especially in R&D. The problem at the moment is that internationalisation is not covered very well by official statistics, because many indicators relate to national activities only. Internationalisation of R&D can be measured only within relatively tight limits.

For this reason, this publication tries to shed light on internationalisation of R&D from several directions using some very different indicators. The first indicator is R&D expenditure financed from abroad; the second uses data on the activities of foreign affiliates. Next, an extract from the technology balance of payments is analysed, followed by a closer look at patented co-inventions. The final sections focus on education statistics, in particular students studying abroad, and on large business groups active in R&D.

Figures 1 and 2 try to illustrate to which extent research and development (R&D) is financed by countries other than the home country by showing the percentages of gross R&D expenditure and of business expenditure on R&D financed from abroad in 2003.

In terms of foreign financing of gross expenditure on R&D (GERD), Malta led in 2003 with 21.7% (2002 data), followed by Austria (21.0%) and Latvia (20.4%). At the other end of the scale came Slovakia (3.3%), Finland (3.1%) and Germany (2.3%).

Turning to R&D expenditure in businesses, the "cross-border" flows of funds were, however, different.

Looking at Figure 2, Lithuania ranked first with 36.2% of business expenditure on R&D (BERD) financed from abroad but came eighth for GERD financed from abroad.

Austria ranked second with 29.9% for BERD and also came second for GERD financed from abroad. The United Kingdom was in third place with 26.0% for BERD and fourth with 19.4% for GERD financed from abroad.

Malta led in Figure 1 (21.6%) but ranked only fourteenth in Figure 2 with 8.3%. At the end of the scale for BERD nearly the same countries are found as in Figure 1, with 2.1% of BERD financed from abroad in Slovakia, 1.5% in Poland and 0.8% in Finland.

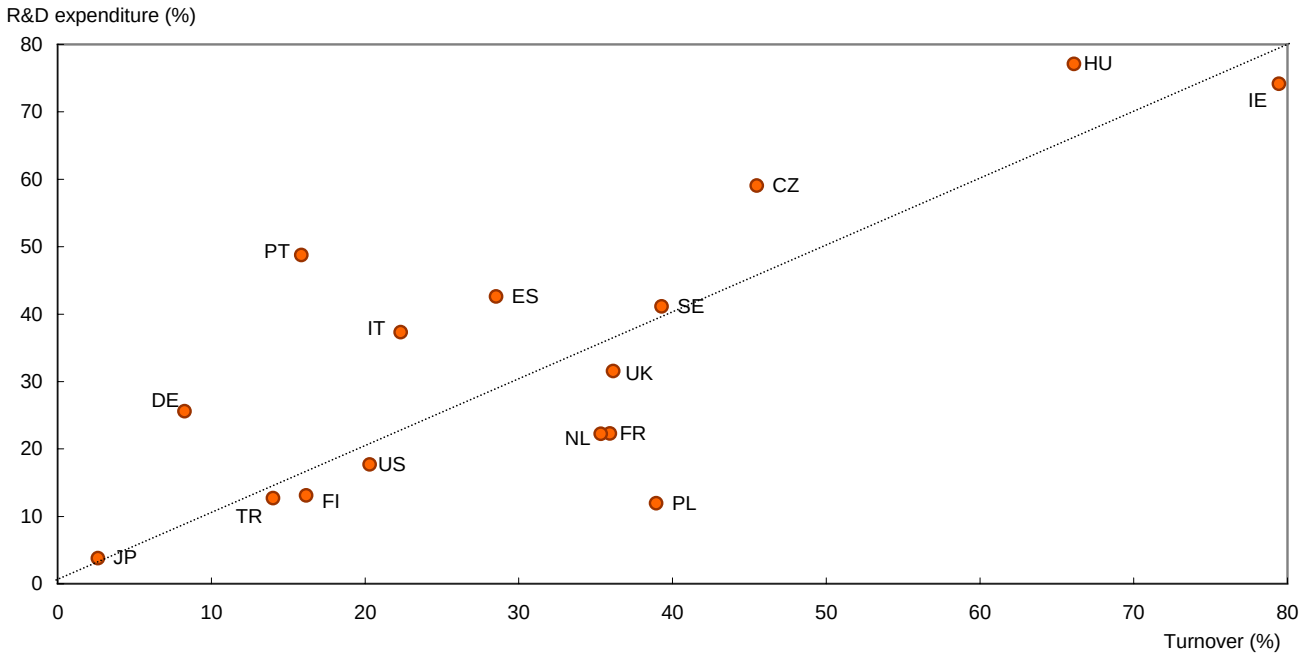
Taking the absolute figures for gross R&D expenditure financed from abroad, the United Kingdom led by far in 2003 with EUR 5.8 billion, followed by France with EUR 2.9 billion and Germany with EUR 1.2 billion.

While in most countries the business enterprise sector (BES) receives the lion's share of R&D funds from abroad (more than 60%), in Poland and Malta this sector receives less than 10%. In Poland and Malta the government sector receives, respectively, 60.3% and 47.6% of the R&D funds from abroad.

In four other countries (Greece, Cyprus, Estonia and Finland) no more than between 12% and 20% of the financing from abroad goes to the BES. In these countries the share of foreign funding of R&D taken by the higher education sector ranges between 40% and 56%.

Hungary and Ireland are in the lead in terms of the share of R&D expenditure and turnover taken by manufacturing affiliates under foreign control

Figure 3: Share of total manufacturing R&D expenditure and turnover taken by affiliates under foreign control, 2002



Exceptions to reference year: JP, FI, FR, DE, IE, IT, NL, PT, ES, SE: 2001; TR: 2000; UK: 1999; HU: 1998

Source: OECD AFA database, March 2005

Analysing the research activities of foreign affiliates helps to measure the degree of internationalisation of R&D. Figure 3 compares foreign affiliates' shares of total manufacturing R&D expenditure with their shares of total manufacturing turnover.

Due to differences in industrial structures and in R&D intensity in the manufacturing sector, Portugal and Germany, for instance, seem to be more attractive for R&D investment than for production activities whereas for Poland the opposite is the case.

Foreign affiliates' share of industrial R&D ranges from 2.6% in Japan to 79.5% in Ireland. The range for their share of manufacturing turnover starts with 3.8% in Japan and ends at 77.1% in Hungary.

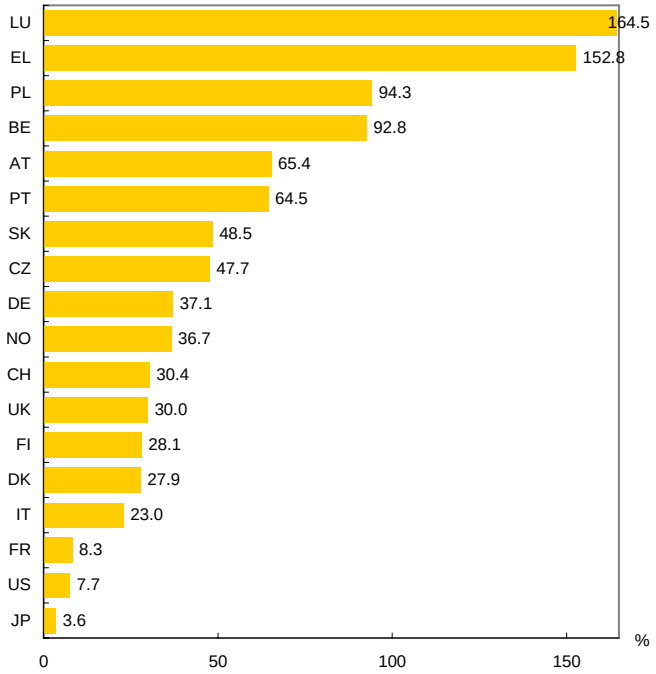
A closer look at foreign affiliates' share of R&D reveals the scale of their R&D effort in relation to that of domestic firms. In small and open economies such as Hungary and Ireland foreign affiliates play a more prominent role in R&D than national firms.

The technology balance of payments (TBP) measures international technology transfer (money paid or received for acquisition and use of patents, licences, trademarks, designs, know-how and closely related technical services, etc.), but, unlike R&D expenditure, these are payments for production-ready technologies. The balance reflects the country's ability to sell its technology abroad on the one hand and its use of foreign technology on the other. A deficit may be the result of increasing imports or declining receipts.

Figure 4 shows payments for imported technologies in relation to gross domestic expenditure on R&D for 2004. These percentages give an indication of the share of imported technology in domestic R&D efforts.

In Luxembourg the ratio of payments for imported technology compared with domestic R&D expenditure is very high at 164.5%. Greece ranks second at 152.8% and Poland third at 94.3%.

Figure 4: Technology balance of payments (TBP): payments as a percentage of GERD, 2004



Exceptions to reference year: FR, IT, PT, UK: 2003; PL: 2002; SK: 2001; CH: 2000; DK, EL: 1999

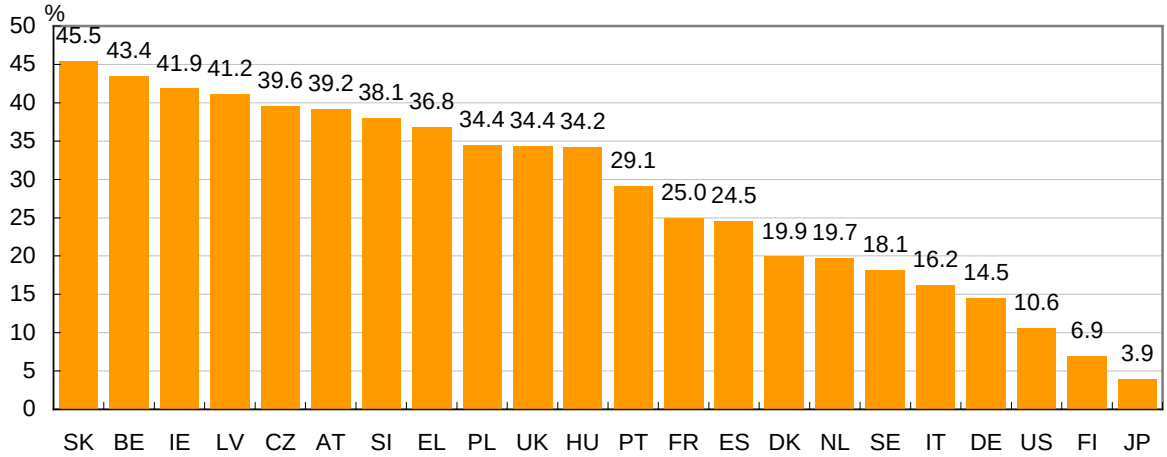
Source: OECD, Main science and technology indicators, June 2006

At the other end of the scale on less than 10%, come France (8.3%), the United States (7.7%) and Japan (3.6%).

The TBP has several limitations for international comparisons. Data may be distorted due to incompatible national sources, inappropriate samples, different methodology for the four main categories of TBP operation, etc.

Small countries are more involved in foreign co-inventions

Figure 5: Patent applications to the EPO with foreign co-inventors by country as a percentage of the total in selected countries with more than ten patent applications, 2002 (priority year)



Source: Eurostat, Patent statistics

Another way to measure internationalisation of R&D is to look at foreign involvement in patenting activities (see Figure 5). The graph shows the percentage of patent applications to the European Patent Office (EPO) involving inventors from more than one country.

Inventors resident in small countries are more inclined to lodge patent applications jointly with co-inventors from other countries. Nearly half of the patent applications from Slovakia (45.5%) are submitted in collaboration with inventors from other countries. Slovakia is followed by Belgium with 43.4% and Ireland with 41.9%. Large countries or countries with a high number of patent applications per million inhabitants, such as the Scandinavian countries or the Netherlands, apply for most of their EPO patents without a foreign co-inventor. In other words, most of their patents are "home made".

Only 3.9% of Japanese patent applications involve foreign co-inventors. In Finland the figure is slightly higher with 6.9%, and in the United States 10.6% of the patent applications to the EPO involve a foreign co-inventor.

In all new Member States shown in Figure 5 the percentage of patent applications to the EPO involving foreign co-inventors is 30% or higher.

The United Kingdom hosts the largest number of students from other EU countries

Table 6: Foreign EU students in tertiary education (ISCED 5-6) hosted v. national students enrolled at universities in other EU countries, 2004

	National students enrolled at universities of other EU-countries	Foreign EU students hosted	Gap between both groups
BE	9 235	25 032	15 797
CZ	5 375	8 637	3 262
DK	4 121	3 940	-181
DE	39 871	74 300	34 429
EE	2 261	461	-1 800
EL	42 167	11 648	-30 519
ES	20 860	9 649	-11 211
FR	38 330	36 086	-2 244
IE	16 264	4 456	-11 808
IT	30 620	12 981	-17 639
CY	16 615	439	-16 176
LV	1 936	709	-1 227
LT	4 081	256	-3 825
LU	6 545	0	-6 545
HU	6 271	4 154	-2 117
MT	678	59	-619
NL	9 436	11 087	1 651
AT	10 042	19 991	9 949
PL	25 094	1 523	-23 571
PT	10 518	2 574	-7 944
SI	2 105	108	-1 997
SK	14 517	615	-13 902
FI	8 447	2 605	-5 842
SE	7 402	16 099	8 697
UK	10 773	96 155	85 382

Source: Eurostat, Education statistics

After analysing the financial aspects of internationalisation of R&D it is interesting to take a look at the potential future researchers and their mobility as well.

Table 6 shows the numbers of foreign EU students in tertiary education (ISCED 5-6) hosted in each country and of students from the same country enrolled at universities in other EU countries and the gap between the two groups. This table paints a picture of well developed student mobility. Some countries are hosting a large number of students from other EU countries.

The United Kingdom is by far the leading host country for EU students. In 2004 British universities hosted close to nine times the number of British students enrolled at universities in other EU countries.

Greece is the other extreme. The number of Greek students enrolled in another EU country is nearly four times the number of foreign students hosted at Greek universities.

Luxembourg is an exceptional case, because the University of Luxembourg was not created until 2003. In general, countries with a large deficit are small and/or new Member States.

Table 7 shows more detailed absolute figures for each Member State. In absolute terms the United Kingdom is by far the leading host country followed by Germany and France. Concerning the number of students enrolled abroad, Greece ranks first followed by Germany and France. In Belgium more than half of the hosted students are French citizens (13 370 students). Other nationalities well represented among the foreign students in Belgium are the Netherlands (3 078 students), Italy (2 740) and Luxembourg (1 465). The top destination for Belgian citizens studying abroad is France (2 841 students), the second the United Kingdom (2 418) and the third the Netherlands (1 974).

Large countries generally have greater capacity to host foreign students. Most students speak English, so there is often no language barrier to studying in the United Kingdom. Language is also no obstacle in many other cases, where the same language is spoken in both the host country and the student's country of origin, e.g. Greece and Cyprus, Austria and Germany, etc.

As for the favourite host country, students from most of the "old" Member States plus Malta and Cyprus prefer to study in the United Kingdom. Greek students lead by far with 22 828, followed by Irish (14 713) and German students (12 096). Conversely, students from the eight

other new Member States choose Germany if they decide to study abroad. Among the foreign students in Germany the Polish (15 417) lead by a long way. They are followed by Italian (8 111) and Greek students (7 577).

Table 7: Foreign students in tertiary education according to the ISCED 97 classification, breakdown by EU-25 host countries and citizenship, number of students, 2004

Host country \ Citizenship of the student	BE	CZ	DK	DE	EE	EL	ES	FR	IE	IT	CY	LV	LT	LU	HU	MT	NL	AT	PL	PT	SI	SK	FI	SE	UK	EU-25
BE		71	41	519	18	581	1 272	13 370	59	2 740	14	24	34	1 465	95	1	3 078	46	381	760	15	59	73	46	270	25 032
CZ	2		3	84	2	133	4	9	12	5	111	6	3	0	17	0	7	10	133	41	23	7 723	6	38	265	8 637
DK	23	24		767	103	42	159	177	50	124	1	106	258	1	53	3	108	33	352	41	7	12	131	915	450	3 940
DE	1 021	2 483	697		728	7 577	6 014	6 678	486	8 111	214	916	1 701	2 071	3 097	50	1 876	6 924	15 417	1 922	628	1 640	1 056	839	2 154	74 300
EE	3	0	1	13		0	4	5	0	16	0	142	0	0	3	0	3	2	0	0	0	0	253	14	2	461
EL	15	6	2	98	2		8	5	0	18	11 404	4	5	4	4	2	5	4	35	0	0	3	3	7	14	11 648
ES	295	69	56	1 467	143	132		1 666	87	1 822	7	11	21	12	68	76	207	192	470	1 875	33	60	79	208	593	9 649
FR	2 841	662	312	6 698	107	2 288	3 928		522	4 686	187	145	229	1 709	536	21	616	495	3 270	2 701	77	438	332	675	2 611	36 086
IE	74	26	18	639	7	45	275	601		147	21	5	14	11	15	3	67	43	85	24	2	10	97	62	2 165	4 456
IT	174	152	66	1 350	28	7 159	416	819	18		100	40	67	25	184	39	102	208	1 002	87	326	148	95	129	247	12 981
CY	1	5	0	6	1	322	0	10	0	6		4	2	0	2	0	0	3	4	0	1	2	2	2	66	439
LV	1	4	2	34	96	0	0	5	1	5	1		538	0	0	0	1	0	5	0	0	1	5	4	6	709
LT	2	3	9	26	4	-	14	10	2	26	-	49		-	-	-	-	11	67	6	-	-	10	13	4	256
LU	:	:	:	:	:	:	:	:	:	:	:	:	:		:	:	:	:	:	:	:	:	:	:	:	0
HU	2	15	1	766	12	170	36	46	8	24	273	3	9	0		0	6	32	109	5	35	2 447	30	97	28	4 154
MT	2	0	1	5	1	6	0	4	2	2	8	4	0	0	0		3	2	2	1	0	4	2	0	10	59
NL	1 974	55	89	5 555	10	196	690	387	69	372	1	21	33	18	93	2		154	322	159	10	45	129	113	590	11 087
AT	72	500	69	6 116	24	235	334	420	34	6 240	22	31	47	334	1 344	1	120		1 357	48	619	1 515	139	184	186	19 991
PL	5	208	8	182	15	32	17	32	6	18	13	59	543	0	69	0	4	27		10	5	119	12	117	22	1 523
PT	77	0	4	309	1	13	490	1 173	11	158	0	0	6	56	7	0	51	18	66		9	6	14	15	90	2 574
SI	1	1	0	5	1	1	2	0	0	72	0	1	0	0	5	0	0	5	3	1		8	0	1	1	108
SK	0	443	0	3	0	83	3	2	0	0	19	1	0	0	17	1	0	3	24	0	5		2	4	5	615
FI	22	46	49	274	576	44	102	132	32	98	1	36	87	2	103	2	71	40	126	20	8	22		540	172	2 605
SE	210	243	1 031	2 859	279	282	987	1 484	152	715	10	142	274	4	188	1	638	482	900	168	37	97	4 094		822	16 099
UK	2 418	359	1 662	12 096	103	22 826	6 105	11 295	14 713	5 215	4 208	186	210	833	371	476	2 473	1 308	964	2 649	265	158	1 883	3 379		96 155
EU-25	9 235	5 375	4 121	39 871	2 261	42 167	20 860	38 330	16 264	30 620	16 615	1 936	4 081	6 545	6 271	678	9 436	10 042	25 094	10 518	2 105	14 517	8 447	7 402	10 773	

Source: Eurostat, Education statistics

Apart from hosting capacity and language, exchange programmes, special cooperation projects between universities and the distance from the home country may be other factors that influence the choice of host country when studying abroad.

When considering the nationality most represented amongst foreign students in each Member State, the result is somewhat different. In this context, vicinity plays an important role. In Ireland, for instance, nearly half of all foreign students come from the United Kingdom. In Latvia more than two thirds of the foreign students are Lithuanian.

Universities in some countries are perhaps an easier option because there are fewer or no legal or administrative barriers for foreign students.

Citizenship of researchers

Only limited data on the citizenship of researchers are currently available to Eurostat. For 2004, a breakdown by citizenship is available for Estonia, Hungary, Malta and Slovakia for the government and higher education sectors.

Table 8: Foreign citizenship of researchers by sector in selected countries as a percentage of total, 2004

	Estonia	Hungary	Malta	Slovenia
Government sector	0.8	1.4	0.0	0.8
Higher education sector	1.4	1.8	0.8	1.0

The percentages of researchers of a nationality other than that of the host country are very small.

In the government sector 1.4% of Hungarian researchers hold a foreign nationality, whereas in Malta all government researchers are Maltese.

In the higher education sector the percentages of foreign researchers are slightly higher with 1.8% in Hungary and 0.8% in Malta.

Hungary shows the highest values for foreign researchers and Malta the lowest; the figures for Estonia and Slovakia are always in between.

EU companies: DaimlerChrysler is the world leader in R&D investment

Table 9: Top five EU and non-EU companies in the five largest sectors by R&D investment, 2004

	EU			Non-EU	
A. Automobiles and parts					
1	DaimlerChrysler	EUR 5.7 bn	1	Ford Motor	EUR 5.4 bn
2	Volkswagen	EUR 4.2 bn	2	Toyota Motor	EUR 5.4 bn
3	Robert Bosch	EUR 2.9 bn	3	General Motors	EUR 4.8 bn
4	BMW	EUR 2.8 bn	4	Honda Motor	EUR 3.4 bn
5	Peugeot PSA	EUR 2.1 bn	5	Nissan Motor	EUR 2.5 bn
	Top 5 as a percentage of total sector R&D = 70%			*Top 5 as a percentage of total sector R&D = 64%*	
B. Pharmaceuticals and biotechnology					
1	GlaxoSmithKline	EUR 4.0 bn	1	Pfizer	EUR 5.7 bn
2	Sanofi-Aventis	EUR 4.0 bn	2	Johnson & Johnson	EUR 3.8 bn
3	AstraZeneca	EUR 2.8 bn	3	Roche	EUR 3.3 bn
4	Boehringer Ingelheim	EUR 1.2 bn	4	Novartis	EUR 3.1 bn
5	Schering	EUR 0.9 bn	5	Merck	EUR 3.0 bn
	Top 5 as a percentage of total sector R&D = 74%			*Top 5 as a percentage of total sector R&D = 48%*	
C. IT Hardware					
1	Nokia	EUR 3.8 bn	1	Intel	EUR 3.5 bn
2	Ericsson	EUR 2.4 bn	2	Hitachi	EUR 2.8 bn
3	Alcatel	EUR 1.6 bn	3	Hewlett-Packard	EUR 2.6 bn
4	Infineon Technologies	EUR 1.2 bn	4	Toshiba	EUR 2.4 bn
5	ASML	EUR 0.3 bn	5	Cisco Systems	EUR 2.3 bn
	Top 5 as a percentage of total sector R&D = 86%			*Top 5 as a percentage of total sector R&D = 29%*	
D. Electronics and electrical equipment					
1	Siemens	EUR 5.1 bn	1	Matsushita Electric	EUR 4.4 bn
2	Philips Electronics	EUR 2.5 bn	2	Sony	EUR 3.6 bn
3	Schneider	EUR 0.5 bn	3	Samsung	EUR 3.5 bn
4	Alstom	EUR 0.3 bn	4	Canon	EUR 2.0 bn
5	Thomson	EUR 0.3 bn	5	LG Electronics	EUR 1.1 bn
	Top 5 as a percentage of total sector R&D = 88%			*Top 5 as a percentage of total sector R&D = 58%*	
E. Software and computer services					
1	SAP	EUR 1.0 bn	1	Microsoft	EUR 4.6 bn
2	Dassault Systems	EUR 0.2 bn	2	IBM	EUR 4.2 bn
3	Misys	EUR 0.1 bn	3	Oracle	EUR 1.1 bn
4	Business Objects	EUR 0.1 bn	4	Computer Associates	EUR 0.6 bn
5	Infogrames Entertainment	EUR 0.1 bn	5	Eletronic Arts	EUR 0.5 bn
	Top 5 as a percentage of total sector R&D = 53%			*Top 5 as a percentage of total sector R&D = 62%*	

Source: The 2005 EU industrial R&D investment scoreboard

Table 9 is based on data from the 2005 EU industrial R&D investment scoreboard. The scoreboard compares R&D investment data from 700 EU companies with those from the same number of non-EU companies. The table takes the five largest industrial sectors considered and, for each sector, the top five companies in both groups (EU and non-EU). R&D investment is measured at enterprise group level, i.e. the R&D is often distributed over many EU and non-EU countries without knowing where the R&D is performed.

In all five sectors the concentration of R&D investment calculated as a percentage of total R&D in the sector concerned is higher among EU than among non-EU companies. For the EU, the shares of total R&D investment taken by the top five companies in each sector range between 55% and 88%. This is in contrast to non-EU companies, where these figures vary between 29% and 64%. The concentration of R&D investment in the hands of the top five companies is highest in the IT hardware sector, where the top five EU companies generated 86% of total R&D and the top five non-EU companies invested only 29% of the R&D expenditure. The concentration of R&D investment also depends on the distribution of these economic activities over the world.

DaimlerChrysler is the world leader in R&D investment with EUR 5 658 million followed by Pfizer with EUR 5 653 million. DaimlerChrysler leads in the "Automobiles and parts" sector and is also the leader amongst the EU companies. Pfizer leads in the "Pharmaceuticals and biotechnology" sector and also ranks first among the non-EU companies (see Table 10).

R&D investment by the top five EU companies in the "Automobiles and parts" sector is nearly as high as investment by the top five non-EU enterprise "group". The amounts invested by each of the five EU companies are close to each of those of the non-EU companies.

In the "Software and computer services" sector R&D investment by EU companies is much smaller than investment by non-EU companies. Investment by the leading company in this sector (Microsoft) is more than four times higher than that of the European leader (SAP).

Table 10: Top ten world companies by R&D investment, 2004

	Company	R&D investment (EUR million)
1	DaimlerChrysler (DE)	5 658
2	Pfizer (US)	5 653
3	Ford Motor (US)	5 444
4	Toyota Motor (JP)	5 422
5	Siemens (DE)	5 063
6	General Motor (US)	4 782
7	Microsoft (US)	4 550
8	Matsushita Electric (JP)	4 419
9	IBM (US)	4 167
10	Volkswagen (DE)	4 164

Source: Eurostat based on the 2005 EU industrial R&D investment scoreboard

The world top 50 companies by R&D investment (available from the scoreboard) lists 18 EU companies compared with 17 from the United States and 12 from Japan. The remaining three companies are Swiss and South Korean.

➢ ESSENTIAL INFORMATION – METHODOLOGICAL NOTES

1. R&D expenditure

Gross expenditure on R&D (GERD) is total intramural expenditure on R&D performed on the national territory during a given period. It includes R&D performed within a country and funded from abroad but excludes payments made abroad for R&D.

R&D expenditure data are compiled in accordance with the guidelines laid down in the proposed standard practice for surveys of research and experimental development — Frascati Manual, OECD, 2002.

R&D expenditure is broken down by the following sectors of performance: business enterprise (BES), government (GOV), higher education (HES) and private non-profit (PNP). It is further broken down into five sources of funds: BES, GOV, HES, PNP and abroad.

Sources: Eurostat, R&D statistics

2. Foreign affiliates

Foreign affiliates statistics (FATS) measure the commercial presence abroad of service suppliers through affiliates in foreign markets and, therefore, are closely related to statistics on foreign direct investment.

Data on the activities of majority-owned foreign affiliates in the compiling economy are usually referred to as inward FATS, and those relating to majority-owned foreign affiliates from the compiling economy that are established abroad are referred to as outward FATS.

FATS cover a range of variables that comprise some, or all, of the following: sales (turnover) and/or output, employment, value added, exports and imports of goods and services, number of enterprises, etc.

Source: OECD

3. Technology balance of payments (TBP)

The technology balance of payments (TBP) registers the commercial transactions related to international technology and know-how transfers. It consists of money paid or received for the use of patents, licences, know-how, trademarks, patterns, designs, technical services (including technical assistance) and for industrial research and development (R&D) carried out abroad, etc. The coverage may vary from country to country and the TBP data should be considered as only partial measures of international technology flows.

Source: OECD

4. Patents – Foreign co-inventions

Percentage of patents with at least one foreign co-inventor: share of indicator "number of patents invented by a resident of country x with at least one foreign inventor from country y" in total patents invented by resident(s) of country x (inventor).

Source: Eurostat, Patent statistics

5. Education: Foreign students

The main source of data are the joint UIS (UNESCO Institute of Statistics)/OECD/Eurostat-Education statistics (UOE) questionnaires on education statistics, which are collected via national statistical offices and Ministries of Education and constitute the core database on education. Data on regional enrolments and foreign language learning are also collected by Eurostat. Countries provide data, taken from administrative records, based on commonly agreed definitions.

http://forum.europa.eu.int/Public/irc/dsis/edtcs/library?l=/public/unesco_collection

The International Standard Classification of Education (ISCED) is the basis for international education statistics. A full description of ISCED-97 is available on the site:

http://forum.europa.eu.int/Public/irc/dsis/edtcs/library?l=/public/measuring_lifelong/classifications/isced97_levels

and a full description of ISCED-97 fields of education and training on the site:

http://forum.europa.eu.int/Public/irc/dsis/edtcs/library?l=/public/measuring_lifelong/classifications/isced97_fields .

Foreign students are measured by nationality. The numbers of foreign students could therefore be overestimated in countries where permanently resident second-generation migrants with foreign nationalities make up a large group of students. The indicators presented in this issue of Statistics in Focus concern the sub-set of foreign students who can be considered to be internationally mobile students.

Source: Eurostat, Education statistics

6. Monitoring industrial research: the 2005 EU industrial R&D investment scoreboard

The 2005 EU industrial R&D investment scoreboard has been produced by the European Commission's Directorate-General for Research. The scoreboard compares the R&D investment performance of 700 EU companies with that of 700 non-EU companies.

Both the analysis – Volume I – and the company data – Volume II – are available on-line from http://eu-iriscoreboard.jtc.es/index.htm .

Symbols

:	not available
b	break in series
c	confidential
e	estimated value
i	more information in explanatory notes
p	provisional value

The data presented in this publication reflect the data available in Eurostat's reference database in July 2006.

Further information:

Data:

EUROSTAT Website/Home page/Science and technology/Data

Science and technology

Research and development

Statistics on research and development

Journalists can contact the media support service:

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L - 2920 Luxembourg

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Fax (352) 4301 35349

E-mail: eurostat-mediasupport@ec.europa.eu

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This publication has been done in collaboration with Gesina DIERICKX.