

Research Barometer 2012 - Summary

Research Barometer 2012 presents a broad range of indicators that altogether creates an overview of the quality and range of Danish research. The following summary presents the key indicators and their results.

In the first section of the summary the profile of Danish research is presented in terms of investments, R&D personnel and research output. Secondly, the summary presents key indicators that describe different aspects of Danish research quality. The appendix contains all indicators described in the summary.

1 1. The Danish research profile

The description of the Danish research profile provides a snapshot of the proportions in the Danish research landscape.

The public sector's total expenditure on research and development in 2010 was 17 billion Danish Kroner (DKK). The total cost within the private sector was 38 billion DKK. Due to these investments in R&D, Denmark holds a seventh place among the OECD countries with R&D expenditures of 3 per cent of GDP.

The public sector had 36.000 R&D employees in 2010. Similarly, there were 48.000 persons in the private sector. The number of Ph.D. degrees was in 2010 1.388 which equals to 251 Ph.D. degrees per million capita.

In terms of resources health science is the largest research field in the Danish research landscape both in the private and the public sector. Denmark's focus on health science is also visible in scientific output, where health research has a relative large share of Denmark's production of scientific publications. Other relatively large research areas in terms of production volume are: Immunology, Environmental and Ecology research, Biology and Biochemistry and Molecular biology and Genetics.

In terms of scientific collaboration measured through co-authorships it is evident appears that Denmark most frequently collaborate with Americans, which comes as no surprise since USA is by far the biggest player in terms of the volume of scientific production. Danish researchers also collaborate with other research intensive countries geographically closer to Denmark such as: England, Germany, Sweden and France.

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2. The Quality of Danish research

Quality in research is not easily measured and there is no unambiguous and indisputable definition of research quality. Instead Research Barometer 2012 provides a wide range of indicators that describe different aspects of Danish research quality.

2.1. International competition and research funding

International competition for research funding is one perspective on quality in research since skilled researchers tend to be more successful in achieving research grants.

In the Seventh Framework Programme (FP7) Danish research and innovation have received a total of 601 million euros in funding from FP7's start in 2007 until April 2012. Within COOPERATION – the largest specific programme of FP7 – applications with Danish participants are the most successful of the European countries. Looking at the thematic areas of COOPERATION Denmark is among the five best countries in five out of ten thematic areas: Transport including Aviation, Environment including Climate Research, Space, Food including Agriculture, Fisheries and Biotechnology and Nano Science.

The European Research Council (ERC) supports what has been described as “frontier research”. The ERC allocates its prestigious funds as *Starting Grants* (for researchers at the beginning of their career) and *Advanced Grants* (for experienced researchers). From 2007-2011 Denmark has received 47 Starting Grants and Advanced Grants, making it 12th most winning nation out of the 26 countries receiving grants from ERC. Measuring the number of grants per capita, Denmark comes in sixth.

Looking at funding outside of Europe two major agencies are The National Institute of Health (NHI) and the National Science Foundation (NSF). Danish researchers have successfully achieved funding through NHI for a total amount of 1.2 million dollars in 2011. Denmark holds eighth place out of 25 countries in terms of received funding per capita. Similarly, Danish researchers achieved funding for a total amount of 3.1 million dollars at NSF, which means that Denmark ranks as the second best country in terms of received funding per capita.

2.2. Danish universities at international rankings

Looking at Danish universities in international university rankings one should keep in mind that Denmark has only eight universities of which several are relatively small. Since university rankings often tend to look at larger universities (in terms publication volume etc.) some of the Danish universities are consequently excluded from the evaluations that form the basis of the university rankings. The university rankings are based on different methodologies and data and therefore lead to different results.

Times Higher Education's “World University Ranking” is one of the most renowned university rankings. Three Danish universities, the University of Copenhagen, the technical University of Denmark, and the University of Aarhus appear among the world's best 200.

Another frequently used ranking is Shanghai Jiao Tong University's "Academic Ranking of World Universities" (ARWU). Looking at the 100 best ranked universities in the last 10-year statement period, the overall pattern is stable. In later years, two Danish universities have been among the top 100 best-ranked placing Denmark among a small group of 11 countries that contain at least two of the world's leading universities.

Unlike THE and ARWU, Leiden Ranking only focus on scientific output as an indicator of research qualities at universities worldwide. In the most recent report (2011/2012) it is evident that Denmark shares a 12th place in the top 100 with one university represented. Only 13 countries are represented in the top 100.

The last two university rankings are focussed on economic schools and business schools respectively. Tilburg's ranking of economic schools shows that Denmark has one university in the top 100. In the latest statement of Eduniversal's list of the best business schools Denmark has one university in the top 100. The university, Copenhagen Business School, is nevertheless placed at an impressive third place.

2.3. Research results

Publications and citations are two central indicators of the quantity and quality of scientific output. Publication volume implies research activity and in the last ten years, the three BRIC nations of China, Brazil, and India alongside Korea have had the highest growth rate in terms of scientific publications, thus catching up with the OECD nations. Looking at the production of scientific publications in the last five years, Denmark is the 22nd most productive nation out of 38 countries – the fourth when measuring per capita.

While the number of scientific publications can be viewed as reflecting the productivity of scientists, the number of citations, where scientists in a scientific publication refer to the content of other publications, can be seen as indicator of research excellence and relevance as this has been evaluated by other scientists using the results. Denmark is the third best ranked out of 38 countries in terms of number of citations per publication. This indicates that Danish research has one of the world's highest impacts.

Looking at impact within specific scientific areas it appears that Denmark is above average in 20 out of 22 scientific areas, and Denmark has the highest impact among the Nordic countries in 12 of the 22 scientific areas, which implies that the impact of Danish research is high in a broad range of scientific areas.

With 1.797 EPO (European Patent Office) applications lodged in 2011 by residents of Denmark, Denmark is ranked as number thirteen out of 32 OECD countries in absolute terms. Looking at EPO patents per capita, Denmark is ranked as one of the best countries and holds a fourth place out of 32 countries.

Commercialization of research results is measured as the number of patents, the number of spin-out companies and the number of entered licensing, sale and option agreements. In all these indicators Denmark is placed average or below average among the nine countries who had available data.

2 2. The Danish research profile

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Appendix: Tables and figures from Research Barometer 2012

Table 1.1.2. EU 7th Framework Programme, the specific programme COOPERATION, success rate measured as the number of proposals relative to the total number of grants awarded

Total		Transport including aeronautics	Enviroment including climate	Space	Food including agriculture, fisheries and biotechnology
1	DK 25,6%	DK 31,3%	IS 34,1%	LV 60,0%	BE 28,5%
2	BE 25,3%	CH 30,9%	DK 31,0%	LT 50,0%	NL 27,3%
3	IS 25,2%	SE 30,2%	IE 30,6%	DK 46,2%	CH 27,1%
4	NL 25,1%	BE 29,1%	NO 27,1%	NL 45,3%	DK 26,0%
5	CH 23,8%	NL 28,7%	CH 26,3%	TR 44,0%	IE 25,4%
6	FR 23,3%	LU 28,6%	NL 25,6%	IE 41,7%	CZ 25,1%
7	SE 23,2%	FR 27,9%	LU 25,0%	FI 41,3%	LV 25,0%
8	NO 22,7%	AT 27,8%	BE 24,2%	PT 41,0%	EE 24,7%
9	IE 22,5%	FI 27,4%	FR 23,8%	NO 40,7%	SE 24,5%
10	FI 21,8%	UK 26,2%	AT 23,5%	AT 39,1%	FR 23,9%
11	AT 21,4%	HU 26,1%	SI 23,0%	BE 37,7%	FI 23,9%
12	DE 21,4%	DE 26,1%	LT 22,6%	BG 35,7%	UK 22,7%
13	EE 20,6%	NO 25,8%	DE 22,3%	FR 35,1%	NO 22,6%
14	UK 20,5%	IE 25,0%	SE 22,0%	CH 34,7%	HU 21,9%
15	CZ 19,9%	PL 25,0%	FI 21,6%	SE 34,6%	LT 21,8%
16	LV 19,7%	LT 24,3%	UK 21,1%	DE 32,9%	DE 21,5%
17	ES 19,1%	PT 24,2%	CZ 20,4%	UK 32,7%	AT 21,3%
18	LU 18,9%	ES 23,3%	TR 20,3%	ES 31,4%	IS 20,8%
19	PT 18,8%	IT 22,9%	EE 20,2%	CY 30,8%	TR 20,7%
20	IT 18,7%	CY 22,6%	LV 20,0%	PL 30,8%	SI 20,7%
21	PL 18,5%	SK 22,1%	RO 19,5%	CZ 30,5%	PT 20,6%
22	HU 18,2%	CZ 20,6%	BG 19,5%	EE 30,0%	BG 20,5%
23	IL 17,9%	EE 19,6%	ES 19,1%	SI 29,2%	IT 20,1%
24	LT 17,5%	RO 19,5%	PL 18,1%	RO 26,4%	PL 19,4%
25	SK 17,3%	TR 18,8%	PT 17,3%	HU 25,7%	ES 18,7%
26	SI 17,3%	EL 18,7%	IT 16,7%	EL 25,5%	EL 16,3%
27	MT 16,4%	BG 18,3%	HU 16,4%	IT 24,6%	IL 15,5%
28	TR 16,2%	IL 16,6%	EL 16,3%	IL 24,1%	SK 15,5%
29	EL 15,6%	MT 16,1%	IL 16,1%	LU 20,0%	RO 12,2%
30	BG 15,3%	IS 15,8%	MT 13,5%	SK 9,1%	CY 12,1%
31	RO 14,7%	SI 15,6%	SK 12,4%		MT 10,9%
32	CY 13,6%	LV 14,3%	CY 12,2%		LU 10,0%

Source: EU Commission's E-CORDA database. All proposals and grants from 2007- april 2012

Table 1.1.2. EU 7th Framework Programme, the specific programme COOPERATION, success rate measured as the number of proposals relative to the total number of grants awarded

Nanoscience, nanotechnologies, materials and production technologies		Social science and humanities			Safety		Health		Energy		Information and communication technology	
EE	44,4%	IS	24,2%	MT	36,4%	IS	36,5%	IS	50,0%	BE	20,2%	
LV	42,9%	MT	17,3%	EE	31,6%	FI	28,5%	LU	37,5%	NL	20,0%	
IL	42,0%	EE	15,3%	NO	25,9%	NL	28,1%	NO	33,1%	SK	19,0%	
DK	40,2%	BE	14,5%	FR	23,0%	SE	27,7%	CH	32,9%	IE	18,9%	
RO	39,7%	FR	14,1%	AT	23,0%	BE	27,5%	EE	32,0%	SE	18,6%	
BE	39,5%	DK	13,7%	DK	23,0%	DK	27,0%	NL	31,9%	FR	18,4%	
CH	39,4%	NO	13,3%	SE	22,9%	NO	26,5%	DK	31,2%	CH	18,3%	
CZ	38,9%	NL	12,9%	IE	22,7%	CH	26,4%	BE	31,1%	AT	18,0%	
HU	38,8%	SE	12,2%	LV	22,6%	FR	26,2%	LV	30,4%	DK	18,0%	
NL	37,9%	AT	11,7%	FI	22,5%	UK	25,2%	FR	29,6%	DE	17,4%	
LT	37,5%	UK	11,5%	NL	21,9%	AT	24,9%	IL	29,2%	FI	16,7%	
FI	37,1%	DE	11,3%	BE	21,8%	IE	24,8%	FI	25,9%	UK	15,6%	
PL	36,9%	LV	11,3%	PL	21,1%	DE	23,8%	LT	25,6%	IT	15,6%	
ES	36,9%	HU	10,9%	IS	20,0%	ES	23,2%	DE	24,3%	CZ	15,3%	
SI	36,6%	SK	10,5%	HU	20,0%	LT	22,8%	UK	24,3%	ES	15,3%	
DE	36,4%	IT	10,2%	DE	19,1%	EE	21,7%	PT	23,1%	IL	15,2%	
MT	36,4%	LU	10,0%	CY	19,0%	SI	20,2%	IE	23,0%	HU	15,2%	
FR	36,3%	IE	9,9%	CZ	19,0%	IT	20,2%	SE	23,0%	PT	15,1%	
SK	36,2%	CY	9,7%	PT	19,0%	IL	20,1%	IT	22,9%	PL	15,1%	
IT	35,7%	FI	9,5%	CH	18,9%	PT	18,5%	ES	21,7%	NO	14,5%	
IE	35,5%	IL	8,7%	LU	18,9%	EL	18,4%	PL	20,6%	LU	14,0%	
NO	35,4%	CZ	8,5%	UK	18,3%	PL	18,3%	CZ	20,2%	EE	13,6%	
EL	35,4%	BG	8,4%	SK	18,2%	CZ	18,2%	AT	19,8%	SI	13,2%	
UK	35,4%	CH	8,3%	LT	17,8%	BG	18,2%	HU	19,6%	EL	13,0%	
SE	34,0%	TR	8,3%	ES	17,6%	HU	18,0%	SI	19,5%	LV	12,2%	
PT	33,8%	ES	7,9%	SI	17,1%	TR	17,5%	SK	19,3%	CY	12,0%	
AT	32,1%	PT	7,4%	IL	16,3%	RO	17,1%	EL	19,2%	BG	12,0%	
TR	32,0%	PL	7,1%	IT	15,5%	LU	16,7%	MT	17,6%	IS	11,8%	
LU	30,0%	EL	7,0%	TR	14,0%	SK	15,2%	CY	17,4%	MT	10,7%	
BG	23,9%	SI	6,9%	EL	13,6%	LV	15,1%	BG	15,2%	TR	10,6%	
CY	21,4%	RO	6,5%	RO	12,7%	CY	10,8%	TR	13,2%	RO	10,1%	
		LT	5,7%	BG	12,5%	MT	7,7%	RO	10,0%	LT	9,9%	

Table 1.1.3. EU 7th Framework Programme, the specific programme COOPERATION, success rate measured as applied amount and granted amount

	Total		Transport including aeronautics		Nanoscience, nanotechnologies, materials and production technologies		Energy		Space	
1	FR	26,8%	DK	40,8%	BE	40,3%	LT	47,7%	FR	59,9%
2	BE	26,0%	FR	36,1%	DK	40,2%	DK	39,4%	DK	50,7%
3	DK	25,6%	DE	33,7%	IL	40,1%	BE	38,3%	NO	50,4%
4	NL	25,2%	FI	31,1%	ES	37,3%	FR	38,0%	NL	49,1%
5	DE	24,4%	SE	31,0%	CH	37,1%	CH	37,2%	BE	47,2%
6	CH	23,3%	CH	30,6%	FR	36,9%	LU	37,0%	UK	44,8%
7	FI	22,2%	BE	30,0%	IE	36,6%	IS	36,7%	CH	44,0%
8	SE	22,2%	EE	27,8%	SE	36,5%	FI	35,1%	PT	42,9%
9	UK	21,7%	UK	27,7%	DE	36,3%	ES	31,7%	FI	41,8%
10	IE	21,1%	AT	27,0%	CZ	35,5%	NO	30,4%	DE	40,2%
11	AT	21,1%	NL	25,7%	EL	35,3%	NL	28,8%	AT	39,4%
12	NO	20,7%	IT	24,4%	FI	34,5%	IE	26,7%	SE	36,9%
13	IS	20,1%	NO	24,1%	NL	34,5%	DE	26,4%	IE	34,6%
14	ES	19,4%	PT	23,3%	UK	34,1%	HU	24,4%	LV	32,6%
15	IT	17,4%	IE	23,1%	NO	34,0%	UK	22,8%	BG	31,4%
16	CZ	16,7%	SI	22,4%	IT	33,9%	IT	22,4%	ES	30,2%
17	PT	16,5%	ES	20,7%	EE	32,7%	EE	21,1%	TR	29,6%
18	IL	16,1%	CZ	18,8%	PL	32,1%	EL	20,5%	MT	29,2%
19	EE	15,4%	LU	17,6%	AT	32,0%	CZ	20,1%	LT	28,5%
20	PL	15,2%	HU	17,4%	PT	30,6%	IL	19,9%	IT	28,2%
21	EL	14,7%	EL	16,8%	RO	30,1%	LV	19,2%	PL	24,8%
22	LT	13,8%	PL	16,5%	HU	28,7%	AT	19,1%	EL	24,1%
23	SI	13,8%	SK	14,6%	MT	28,4%	SE	17,8%	CZ	23,3%
24	SK	13,5%	RO	13,8%	SI	28,2%	PT	17,0%	IS	22,0%
25	HU	12,9%	BG	13,6%	SK	28,0%	PL	15,5%	HU	21,2%
26	LU	12,7%	CY	12,2%	LV	25,7%	BG	12,9%	IL	18,4%
27	LV	11,8%	TR	11,6%	BG	24,3%	SI	11,8%	EE	18,2%
28	BG	11,2%	IL	11,2%	LT	21,5%	CY	10,8%	RO	16,1%
29	CY	9,7%	LV	9,8%	TR	17,2%	SK	8,5%	SI	13,5%
30	RO	9,7%	LT	9,1%	CY	10,9%	MT	8,1%	CY	9,7%
31	TR	9,6%	MT	8,1%	LU	6,8%	TR	6,7%	LU	4,0%
32	MT	8,6%	IS	2,4%	IS	5,8%	RO	3,3%	SK	1,7%

Source: EU Commission's E-CORDA database. All proposals and grants from 2007- april 2012

Table 1.1.3. EU 7th Framework Programme, the specific programme COOPERATION, success rate measured as applied amount and granted amount

		Health	Enviroment including climate	Food including agriculture, fisheries and biotechnology	Social science and humanities	Information and communcation technology	Safety				
IS	34,9%	NL	29,2%	BE	28,2%	BE	16,0%	DE	20,7%	SK	30,4%
IE	29,1%	NO	28,9%	NL	26,2%	FI	13,5%	BE	20,5%	FR	28,9%
DK	28,3%	IE	28,9%	CH	23,5%	FR	13,0%	NL	20,5%	EE	27,1%
NL	27,3%	DK	28,3%	UK	22,9%	NL	12,1%	FR	19,9%	BE	26,3%
FR	27,0%	CH	25,8%	FR	22,7%	AT	11,6%	AT	19,0%	IS	25,8%
UK	26,7%	IS	24,9%	DK	22,4%	EE	11,5%	CH	17,8%	PL	25,5%
SE	26,2%	SI	23,1%	FI	21,7%	UK	11,5%	SE	17,4%	NO	24,8%
AT	25,2%	FR	23,0%	DE	20,3%	DE	11,3%	IE	16,9%	AT	23,4%
DE	25,0%	DE	23,0%	SE	19,5%	IS	11,2%	UK	16,0%	SE	22,2%
CH	24,7%	UK	22,5%	CZ	18,6%	DK	10,7%	FI	15,9%	NL	22,1%
BE	24,6%	BE	22,0%	IE	18,0%	MT	9,5%	CZ	15,3%	CH	21,7%
LT	24,4%	AT	19,0%	IS	17,5%	HU	9,3%	IL	15,1%	LU	20,5%
FI	24,3%	FI	18,9%	NO	16,8%	SK	9,3%	ES	15,0%	FI	19,5%
NO	23,0%	SE	17,8%	AT	16,8%	SE	9,3%	DK	15,0%	MT	18,2%
ES	22,6%	ES	16,5%	PT	15,7%	NO	8,2%	IT	14,8%	ES	18,0%
IL	16,3%	LT	14,4%	ES	14,6%	IT	8,1%	PT	14,6%	UK	17,9%
IT	16,1%	EE	14,3%	IT	14,4%	LU	8,1%	EL	13,0%	DE	17,5%
PT	13,9%	IT	14,2%	HU	14,3%	EL	7,8%	LV	13,0%	IL	16,6%
EL	13,8%	PT	14,0%	BG	13,5%	CH	6,2%	SK	12,4%	IE	16,0%
EE	13,8%	EL	12,7%	LV	13,1%	LV	6,2%	NO	12,2%	EL	16,0%
PL	13,5%	CZ	12,6%	PL	12,8%	PL	5,9%	SI	12,0%	LV	15,0%
CZ	12,5%	BG	12,6%	EE	12,6%	ES	5,8%	PL	11,9%	PT	14,1%
SK	11,8%	PL	12,5%	SK	11,9%	IE	5,8%	EE	11,8%	IT	14,0%
SI	11,7%	TR	11,3%	EL	11,6%	BG	5,6%	HU	11,6%	CZ	12,4%
BG	11,5%	RO	11,2%	TR	10,9%	TR	5,5%	CY	11,4%	DK	12,4%
TR	10,9%	HU	10,6%	IL	10,5%	IL	5,2%	LU	10,5%	HU	12,3%
RO	9,6%	LU	10,4%	SI	9,7%	PT	4,8%	BG	10,4%	CY	10,5%
HU	9,1%	IL	8,7%	MT	7,5%	CY	4,7%	TR	8,4%	SI	10,1%
LU	7,8%	LV	7,7%	LT	7,3%	CZ	4,5%	RO	8,1%	LT	8,4%
LV	6,2%	CY	7,6%	CY	6,8%	RO	3,7%	MT	7,6%	TR	7,7%
CY	5,0%	SK	7,5%	RO	5,1%	SI	3,5%	IS	6,3%	RO	5,5%
MT	3,4%	MT	3,5%	LU	1,7%	LT	3,4%	LT	5,4%	BG	4,6%

Table 1.1.6. Number and share of ERC-grants in different scientific areas, 2007-2011

	All scientific areas		Social Science and Humanities		Natural Science and Technical Science		Biology science					
	Number	%	Per million capita									
1 UK	540	21,5%	1 CH	1 UK	145	31,1%	1 UK	221	19,3%	1 UK	174	19,4%
2 DE	347	13,8%	2 IL	2 NL	58	12,4%	2 FR	170	14,8%	2 DE	142	15,9%
3 FR	328	13,1%	3 NL	3 FR	51	10,9%	3 DE	163	14,2%	3 FR	107	12,0%
4 NL	192	7,7%	4 SE	4 DE	42	9,0%	4 CH	89	7,8%	4 CH	78	8,7%
5 CH	176	7,0%	5 UK	IT	42	9,0%	5 NL	83	7,2%	5 ES	57	6,4%
6 IT	169	6,7%	6 DK	6 ES	28	6,0%	6 IT	81	7,1%	6 IL	54	6,0%
7 ES	143	5,7%	7 FI	7 BE	21	4,5%	7 IL	67	5,8%	7 NL	51	5,7%
8 IL	134	5,3%	8 BE	8 IL	13	2,8%	8 ES	58	5,1%	8 IT	46	5,1%
9 SE	98	3,9%	9 AT	9 SE	12	2,6%	9 SE	42	3,7%	9 SE	44	4,9%
10 BE	83	3,3%	10 CY	10 CH	9	1,9%	10 BE	35	3,1%	10 AT	27	3,0%
11 AT	62	2,5%	11 FR	NO	9	1,9%	11 AT	27	2,4%	11 BE	27	3,0%
12 DK	47	1,9%	12 NO	12 AT	8	1,7%	12 DK	25	2,2%	12 FI	21	2,3%
13 FI	43	1,7%	13 IE	13 IE	6	1,3%	13 FI	18	1,6%	13 DK	19	2,1%
14 HU	26	1,0%	14 DE	14 FI	4	0,9%	14 EL	15	1,3%	14 PT	11	1,2%
NO	25	1,0%	15 ES	HU	4	0,9%	15 HU	13	1,1%	15 HU	9	1,0%
16 EL	23	0,9%	IS	16 BG	3	0,6%	16 IE	9	0,8%	16 EL	8	0,9%
17 IT	22	0,9%	17 IT	DK	3	0,6%	17 NO	8	0,7%	17 NO	8	0,9%
18 PT	18	0,7%	18 HU	PT	3	0,6%	18 CZ	7	0,6%	18 IE	7	0,8%
19 PL	10	0,4%	19 EL	19 CY	2	0,4%	PL	7	0,6%	19 PL	2	0,2%
20 CZ	8	0,3%	20 PT	20 CZ	1	0,2%	20 PT	4	0,3%	20 CY	1	0,1%
21 CY	5	0,2%	21 EE	PL	1	0,2%	21 CY	2	0,2%	IS	1	0,1%
22 BG	3	0,1%	22 CZ	22 EE	1	0,2%	22 TR	1	0,1%	EE	1	0,1%
EE	2	0,1%	23 SI									
24 IS	1	0,0%	24 BG									
TR	1	0,0%	25 PL									
SI	1	0,0%	26 TR									

Source: <http://erc.europa.eu/project-and-results/statistics>

Table 1.1.9. Grants from the National Institute of Health (USA). Successful OECD, EU and BRIC countries (exclusive USA). 2011

NIH Awards, amount in dollars			NIH Awards, amount in dollars per 1.000 capita		
1	Canada	60.540.788	1	Iceland	6.997
2	Great Britain	16.050.454	2	Canada	1.777
3	Germany	12.537.569	3	Switzerland	1.231
4	Australia	11.284.734	4	Israel	513
5	Switzerland	9.587.637	5	Australia	503
6	France	6.190.322	6	Finland	464
7	Brazil	4.916.092	7	Great Britain	258
8	China	4.138.150	8	Denmark	215
9	Israel	3.810.392	9	Sweden	210
10	India	2.805.885	10	Norway	192
11	Finland	2.494.440	11	Germany	153
12	Iceland	2.259.892	12	New Zealand	142
13	Netherlands	2.023.417	13	Netherlands	122
14	Sweden	1.982.028	14	France	99
15	Italy	1.448.328	15	Latvia	52
16	Japan	1.368.389	16	Ireland	42
17	Denmark	1.188.598	17	Turkey	29
18	Norway	942.840	18	Brazil	25
19	New Zealand	620.456	19	Italy	24
20	Mexico	580.210	20	Belgium	21
21	Korea	386.786	21	Chile	16
22	Spain	363.255	22	Japan	11
23	Chile	267.161	23	Spain	8
24	Belgium	232.518		Korea	8
25	Ireland	187.983	25	Mexico	5
26	Russia	185.239		Hungary	5
27	Latvia	170.977	27	China	3
28	Turkey	50.252	28	India	2
29	Hungary	50.199	29	Russia	1

Source: <http://report.nih.gov/award/index.cfm?ot=&fy=2011&state=Foreign&ic=&fm=&orgid=>

Table 1.1.10. "Active Awards" from the National Science Foundation (USA). Successful OECD, EU and BRIC countries (exclusive USA). 2011

NSF active awards, amount in dollars		
1	France	142.227.959
2	Russia	12.151.399
3	Brazil	5.665.237
4	Germany	4.587.706
5	Denmark	3.061.200
6	Austria	2.650.000
7	Great Britain	1.747.365
8	Canada	1.643.216
9	Switzerland	933.889
10	Sweden	700.000
11	Australia	212.500
12	New Zealand	189.000

NSF active awards, amount per 1.000 capita		
1	France	2.244
2	Denmark	549
3	Austria	314
4	Switzerland	118
5	Russia	86
6	Sweden	74
7	Germany	56
8	Canada	47
9	New Zealand	42
10	Brazil	29
11	Great Britain	28
12	Australia	9

Source: Search on "active awards" September the 6th 2012, <http://www.nsf.gov/awardsearch/>

Table 1.2.1. World's 100 best ranked universities by country according to Shanghai Jiao Tong University's "Academic Ranking of World Universities": 2003-2012

Academic Ranking of World Universities (ARWU)	latest year											
	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	year	
USA	58	51	53	54	54	54	55	55	52	53	1	
Great Britain	9	11	11	11	11	11	11	11	10	9	2	
Australia	2	2	2	2	2	3	3	3	4	5	3	
Japan	5	5	5	6	6	4	5	5	5	4	4	
Canada	4	4	4	4	4	4	4	3	4	4	4	
Switzerland	3	3	3	3	3	3	3	3	4	4	4	
Germany	5	7	5	5	6	6	5	5	6	3	7	
Sweden	3	4	4	4	4	4	3	3	3	3	7	
France	2	4	4	4	4	3	3	3	3	3	7	
Israel	1	1	1	1	1	1	1	1	1	1	3	
Netherlands	3	2	2	2	2	2	2	2	2	2	11	
Denmark*	1	1	1	1	1	1	2	2	2	2	11	
Belgium	1	1	1	1	1	1	1	1	1	2	11	
Finland	1	1	1	1	1	1	1	1	1	1	14	
Norway	1	1	1	1	1	1	1	1	1	1	14	
Russia	1	1	1	1	1	1	1	1	1	1	14	
Italy	1	1	1	1	1	1	1	1	1	1	14	
Austria	1	1	1	1	1	1	1	1	1	1	14	

Danish universities in the top 100 of "Academic Ranking of World Universities" (ARWU), 2003-2012

	2003											
	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012		
University of Copenhagen	65	59	57	56	46	45	43	40	43	44		
University of Aarhus	102-151	101-152	101-502	102-150	102-150	93	97	98	86	86		
	201-250	153-201	153-202	151-200	151-202	152-200	152-200	151-200	151-200	151-200		
Technical University of Denmark	251-300	202-301	203-300	201-300	203-304	303-401	303-401	301-400	201-300	201-300		

Tabel 1.2.2. World's 200 best ranked universities by country according to Times Higher Education. 2010-2012

World University Ranking				
		2010	2011	2012
1	USA	72	75	76
2	Great Britain	29	32	31
3	Netherlands	10	12	12
4	Germany	14	12	11
5	Australia	7	7	8
	Canada	9	9	8
7	France	4	5	7
	Switzerland	6	7	7
9	Japan	5	5	5
	Sweden	6	5	5
11	Belgium	2	3	4
	Hong Kong	4	4	4
	Korea	4	3	4
14	Denmark	3	3	3
	Israel		2	3
16	China	6	3	2
	Singapore	2	2	2
	Ireland	2	2	2
19	Austria	2	1	1
	Finland	1	1	1
	New Zealand	1	1	1
	South Africa	1	1	1
	Taiwan	4	1	1
	Brazil		1	1
	Egypt	1		
	Norway	1	2	
	Spain	2	1	
	Turkey	2		

Danish universitie's ranking according to THE's "World University Ranking", 2010-2012				
		2010	2011	2012
	University of Copenhagen	177	135	130
	University of Aarhus	167	125	116
	Technical University of Denmark	122	178	149

Source: <http://www.timeshighereducation.co.uk/world-university-rankings/>

Table 1.2.4. World's 100 best ranked universities by country according to Leiden Ranking, Center for Science and Technology Studies at Leiden University. Ranking 2011/2012

Leiden Ranking	
2011/2012	
1	USA 64
2	Great Britain 12
3	Netherlands 7
4	Switzerland 6
5	Germany 2
	Turkey 2
7	Korea 1
	Sweden 1
	Denmark 1
	Canada 1
	Italy 1
	Israel 1
	Singapore 1

Number of countries containing universities at top 100	13
From USA or Great Britain	76
From English-speaking countries	77
From the European Union	30
From BRIC countries	0
From Asia*	5

*Turkey and Israel inclusive

Source: <http://www.leidenranking.com/ranking.aspx>

1.2.6. World's 100 best ranked economic schools by country according to Tilburg University. Based on data year 2007-2011

2007-2011		
1	USA	55
2	Great Britain	11
3	Canada	6
4	Netherlands	5
5	Spain	3
	Germany	3
7	Australia	2
	Denmark	2
	France	2
	Israel	2
	Italy	2
	Singapore	2
	Sweden	2
	Switzerland	2
15	Belgium	1
	Hong Kong	1
	China	1
	New Zealand	1
	Total	103*

*Six universities are placed as number 98 and therefore sum exceeds 100

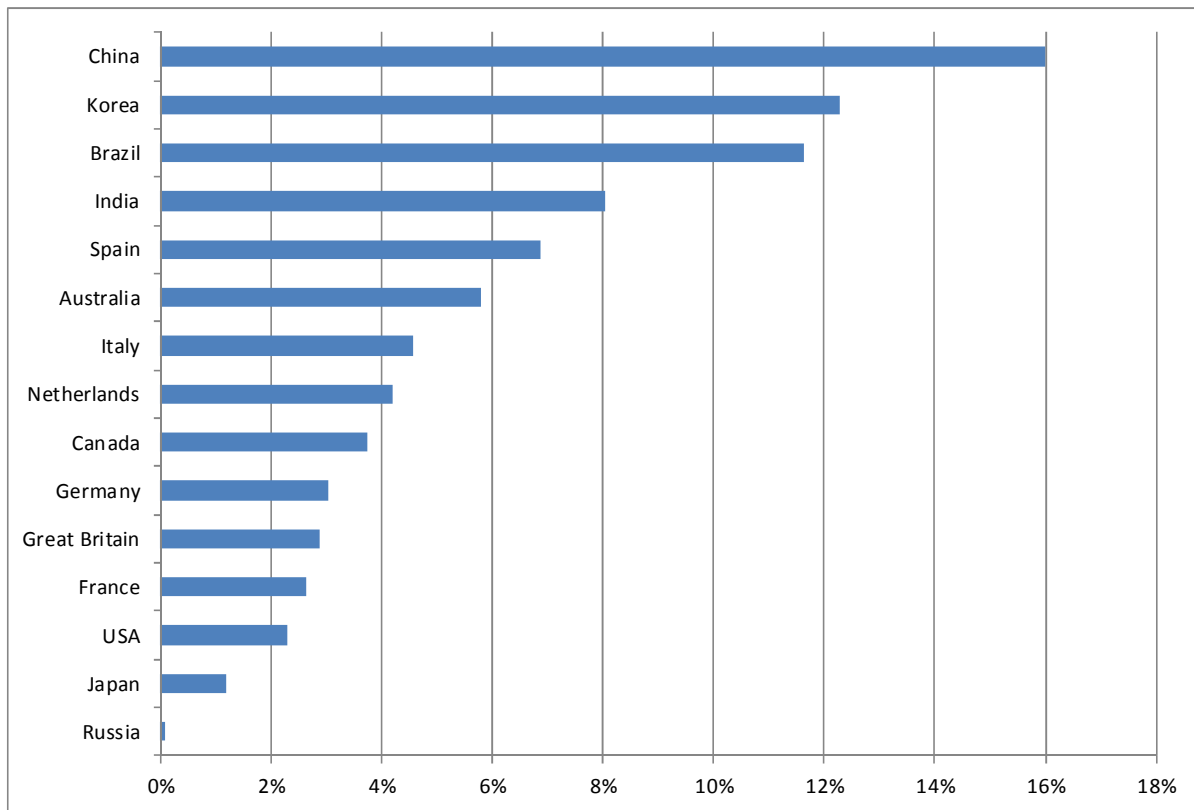
Source: <https://econtop.uvt.nl/rankinglist.php>

Table 1.2.7. World's 20 best ranked business schools according to Eduniversal's Official Selection of Business Schools. 2011

		2011
1	Harvard Business School	USA
2	London Business School	Great Britain
3	Copenhagen Business School	Denmark
4	INSEAD	France
5	Yale School Of Management	USA
6	Erasmus University - Rotterdam School Of Management	Netherlands
7	McGill University - Desautels Faculty of Management	Canada
8	Stanford University - Graduate School Of Business	USA
9	HEC Paris	France
10	Wirtschaftsuniversität Wien - Vienna University Of Economics & Business	Austria
11	University Of Cambridge - Judge Business School	USA
12	MIT - Massachusetts Institute of Technology Sloan School Of Management	USA
13	IMD - International Institute for Management Development	Switzerland
14	SDA Bocconi School of Management	Italy
15	ESADE Business School	Spain
16	Stockholm School of Economics	Sweden
17	Columbia University - Columbia Business School	USA
18	University Of Oxford - Said Business School	Great Britain
19	University Of Warwick - Warwick Business School	Great Britain
20	Duke University - The Fuqua School Of Business	USA

Source: <http://www.eduniversal-ranking.com/business-school-university-ranking-5palms.html>

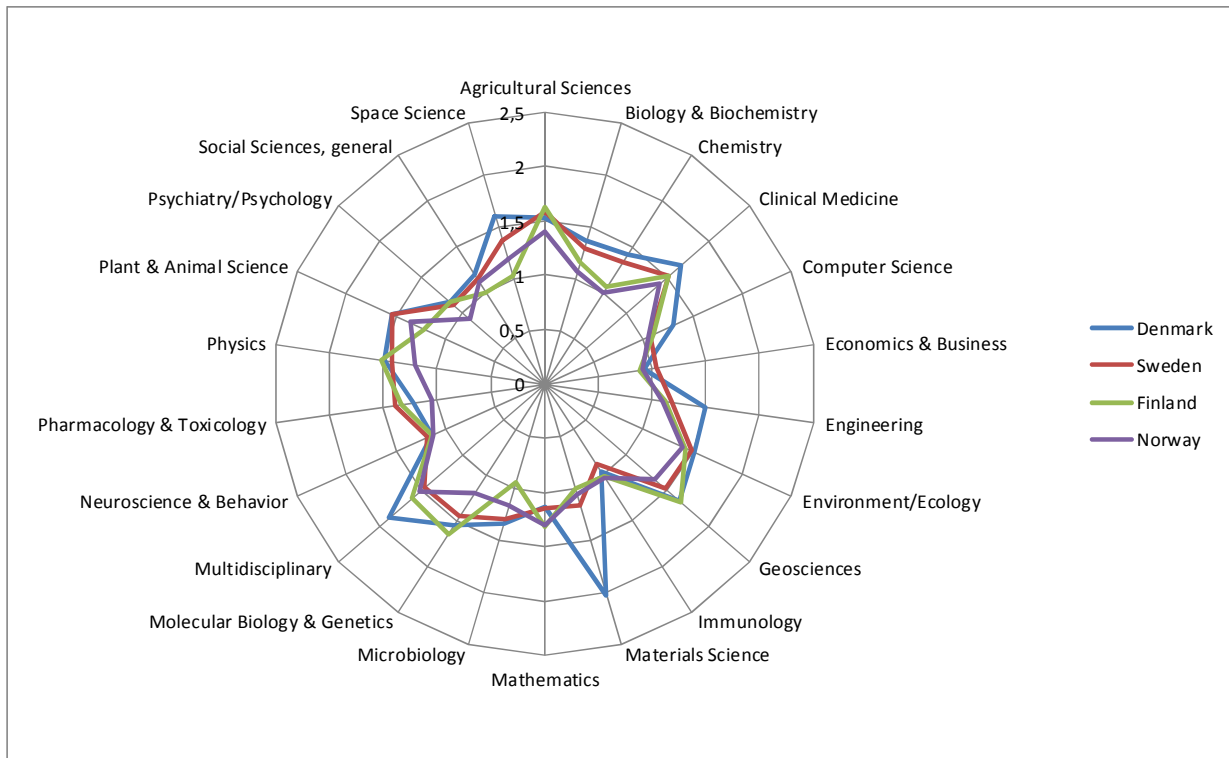
Figure 1.3.1. Average annual growth in publications for the 15 most publication productive countries. Publication years 1997-2011



Source: Thomson Reuters' NSI, Standard Version 2011.

*The database NSI expands year after year with new journals. A part of the countries' growth in publications can therefore be caused by the expansion of the database. However, another argument have been made that the countries' publication productions is growing faster than what is indexed in the database, and therefore the actual annual growth exceeds what the database portrays.

Figur 1.3.2. Publication's impact measured as the relative number of citations per publication. The Nordic countries*. Based on publication and citation years 2007-2011



*Iceland is excluded because the number of articles is considered to be too low to present a reliable picture of the impact.
 Source: Thomson Reuters' NSI, Standard Version 2011.

Table 1.3.1. Number of scientific publications by country according to National Science Indicators (NSI), OECD and BRIC countries. Publication years 2007-2011

Number of articles (latest five years)		
1	USA	1.647.892
2	China	622.601
3	Great Britain	445.052
4	Germany	430.083
5	Japan	380.938
6	France	309.103
7	Canada	263.421
8	Italy	248.396
9	Spain	211.110
10	India	195.247
11	Australia	185.671
12	Korea	185.129
13	Brazil	147.202
14	Netherlands	145.938
15	Russia	137.706
16	Switzerland	106.856
17	Turkey	103.198
18	Sweden	96.439
19	Poland	91.949
20	Belgium	80.623
21	Israel	58.210
22	Denmark	56.350
23	Austria	55.175
24	Greece	51.320
25	Finland	48.407
26	Mexico	45.571
27	Norway	44.634
28	Czech Republic	42.259
29	Portugal	41.890
30	New Zealand	34.028
31	Ireland	30.176
32	Hungary	27.337
33	Chile	22.151
34	Slovenia	15.472
35	Slovakia	13.937
36	Estonia	5.932
37	Iceland	3.460
38	Luxembourg	2.213

Publications per million capita		
1	Switzerland	13.554
2	Iceland	10.517
3	Sweden	10.173
4	Denmark	10.106
5	Finland	8.920
6	Norway	8.868
7	Netherlands	8.705
8	Australia	8.068
9	Israel	7.665
10	Slovenia	7.656
11	New Zealand	7.624
12	Canada	7.545
13	Belgium	7.318
14	Great Britain	7.057
15	Ireland	6.602
16	Austria	6.530
17	Germany	5.270
18	USA	5.236
19	France	4.877
20	Greece	4.581
21	Spain	4.554
22	Estonia	4.427
23	Luxembourg	4.305
24	Italy	4.079
25	Czech Republic	4.004
26	Portugal	3.924
27	Korea	3.778
28	Japan	2.992
29	Hungary	2.744
30	Slovakia	2.556
31	Poland	2.443
32	Turkey	1.378
33	Chile	1.273
34	Russia	970
35	Brazil	749
36	China	460
37	Mexico	397
38	India	160

Source: Thomson Reuters' NSI, Standard Version 2011.

Table 1.3.2. Number of citations by country according to National Science Indicators (NSI), OECD and BRIC countries. Citations 2007-2011

Number of citations			Citations per publication		
1	USA	11.898.197	1	Iceland	9,02
2	Great Britain	3.190.477	2	Switzerland	8,38
3	Germany	2.898.207	3	Denmark	7,87
4	China	2.293.315	4	Netherlands	7,70
5	France	1.924.176	5	USA	7,22
6	Japan	1.887.145	6	Great Britain	7,17
7	Canada	1.692.137	7	Sweden	7,15
8	Italy	1.505.859	8	Belgium	7,07
9	Spain	1.148.956	9	Germany	6,74
10	Netherlands	1.123.131	10	Finland	6,66
11	Australia	1.108.989	11	Austria	6,50
12	Switzerland	895.987	12	Canada	6,42
13	Korea	702.343	13	Ireland	6,31
14	Sweden	689.378	14	France	6,23
15	India	606.691	15	Italy	6,06
16	Belgium	570.213		Israel	6,06
17	Brazil	456.072	17	Norway	5,97
18	Denmark	443.315	18	Australia	5,97
19	Austria	358.589	19	Spain	5,44
20	Israel	352.852	20	New Zealand	5,43
21	Russia	335.608	21	Estonia	5,18
22	Finland	322.237	22	Hungary	5,16
23	Poland	313.252	23	Portugal	4,99
24	Turkey	275.224	24	Japan	4,95
25	Norway	266.683	25	Greece	4,78
26	Greece	245.288	26	Luxembourg	4,63
27	Portugal	209.005	27	Czech Republic	4,52
28	Czech Republic	190.878	28	Chile	4,37
29	Ireland	190.435	29	Slovenia	3,81
30	New Zealand	184.832	30	Korea	3,79
31	Mexico	165.770	31	China	3,68
32	Hungary	141.110	32	Mexico	3,64
33	Chile	96.766	33	Slovakia	3,58
34	Slovenia	58.992	34	Poland	3,41
35	Slovakia	49.863	35	India	3,11
36	Iceland	31.195	36	Brazil	3,10
37	Estonia	30.726	37	Turkey	2,67
38	Luxembourg	10.244	38	Russia	2,44

Source: Thomson Reuters' NSI, Standard Version 2011.

Table 1.3.9. Submitted EPO applications. All OECD countries. 2011

Number of submitted EPO applications		Number of submitted EPO applications per 1000 capita			
1	USA	34.993	1	Switzerland	0,82
2	Germany	26.234	2	Sweden	0,38
3	Japan	20.568	3	Netherlands	0,34
4	France	9.633	4	Denmark	0,32
5	Switzerland	6.409		Germany	0,32
6	Netherlands	5.611	6	Finland	0,29
7	Korea	4.889	7	Austria	0,21
8	Great Britain	4.765	8	Belgium	0,18
9	Italy	3.982	9	Japan	0,16
10	Sweden	3.610	10	France	0,15
11	Canada	2.348	11	Iceland	0,14
12	Belgium	1.994		Israel	0,14
13	Denmark	1.797	13	Ireland	0,13
14	Austria	1.733	14	USA	0,11
15	Finland	1.571	15	Korea	0,10
16	Spain	1.417	16	Norway	0,09
17	Israel	1.051	17	Great Britain	0,08
18	Australia	837	18	Canada	0,07
19	Ireland	595		Italy	0,07
20	Norway	463	20	Slovenia	0,06
21	Turkey	373	21	New Zealand	0,04
22	Poland	254		Australia	0,04
23	New Zealand	168	23	Spain	0,03
24	Czech Republic	164	24	Czech Republic	0,02
25	Slovenia	131	25	Hungary	0,01
26	Hungary	97		Slovakia	0,01
27	Portugal	77		Portugal	0,01
28	Greece	76		Greece	0,01
29	Mexico	70		Poland	0,01
30	Iceland	46		Turkey	0,01
31	Slovakia	45	31	Chile	0,00
32	Chile	29		Mexico	0,00

Source: Danish Patent and Trademark Office

Table 1.3.10. Commercialization of research results in the public sector: Public research institutions number of licensing, sale and option agreements relative to the public expenditures on R&D (per billion current PPP dollars). 2012 or latest year*.

Entered into licensing, sale and option agreements		
1	Great Britain	204,1
2	Ireland	87,9
3	Australia	74,1
4	Switzerland	65,3
5	Canada	58,2
6	USA	52,5
7	Denmark	49,9
8	Spain	36,8
9	Italy	9,0

Table 1.3.10. Commercialization of research results in the public sector in latest year*: patents applications filed from public research institutions relative to public expenditures on R&D (per billion current PPP dollars)

Patents applications filed		
1	Great Britain	189,8
2	Australia	164,4
3	USA	119,3
4	Spain	106,2
5	Ireland	95,4
6	Denmark	79,7
7	Switzerland	74,6
8	Canada	73,6
9	Italy	39,0

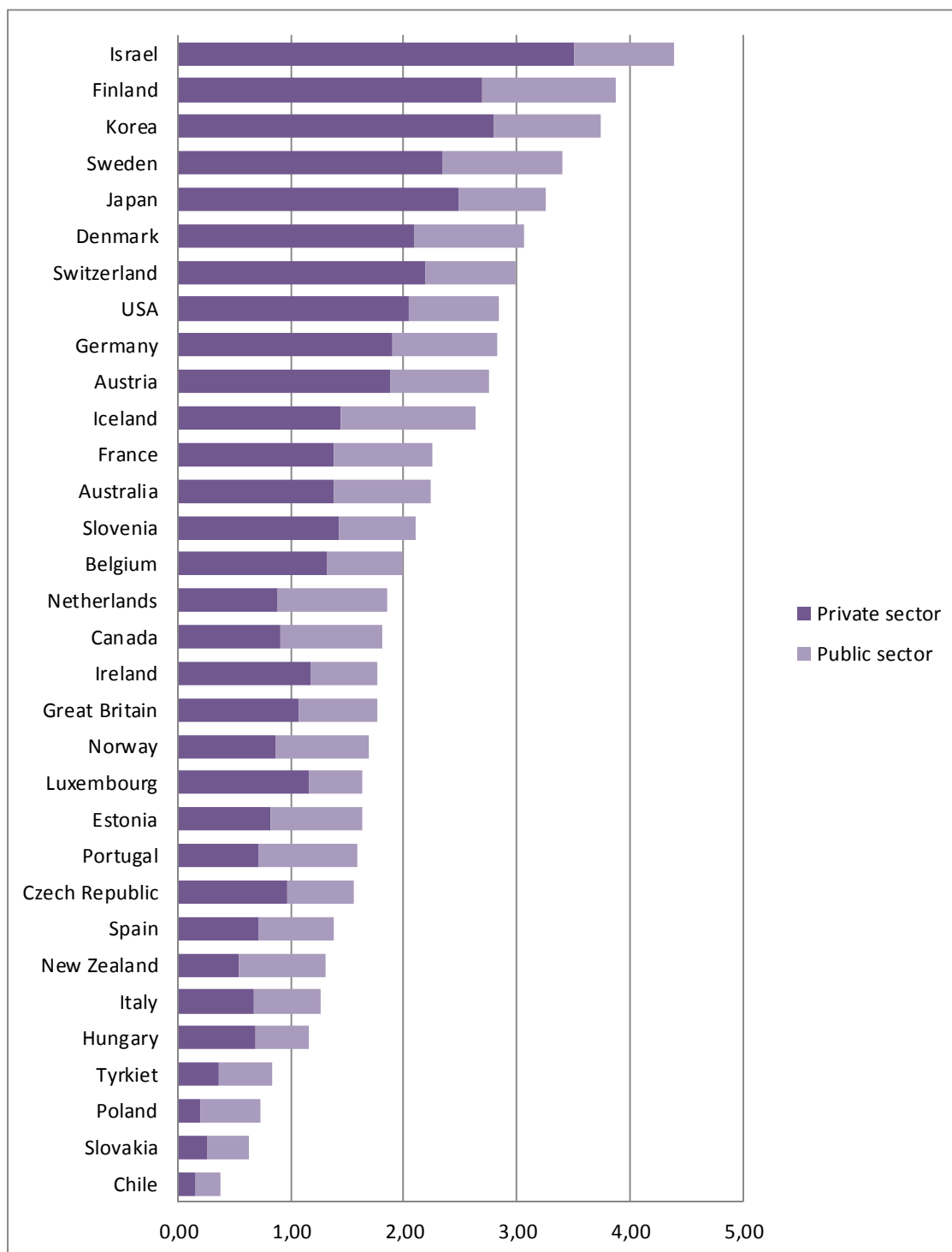
Table 1.3.10. Commercialization of research results in the public sector in latest year*: Number of spin-out companies for public research institutions relative to the public expenditures on R&D (per billion current PPP dollars)

Spin-out companies		
1	Ireland	29,0
2	Spain	19,3
3	Great Britain	17,3
4	Italy	16,7
5	Switzerland	14,7
6	USA	5,9
7	Canada	4,1
8	Australia	3,9
9	Denmark	3,7

Source: The Danish Agency for Science, Technology and Innovation's "Kommercialseringsstatistik 2012", national reports from the eight countries and OECD

*Data year: DNK: 2011, ESP: 2011, IRL: 2010, ITA: 2010, CHE: 2010, GBR: 2009, CAN: 2009, USA: 2009, AUS: 2009

Figure 2.1.1. R&D expenditures as share of GDP. All OECD countries*. 2010 or latest year**



* Data not available for Greece and Mexico

**AUS: 2008, CHL: 2008, IS: 2008, CHE: 2008, BEL: 2009, USA: 2009, NZL: 2009

Source: OECD's Science, Technology and R&D Statistics and Statistics Denmark

Table 2.1.1. Public sector's R&D expenditure in different scientific areas by country, 2010 or latest year**

Natural Science		Technical Science		Health Science		Agricultural Science		Social Science		Humanities							
1	Czech Reput	45.4%	1	Korea	57.4%	1	Singapore	31.7%	1	Argentina	20.6%	1	Luxembourg	25.3%	1	Slovenia	11.9%
2	Estonia	42.8%	2	Russia	43.7%	2	Denmark	30.1%	2	Chile	18.8%	2	Norway	20.8%	2	Hungary	11.6%
3	Hungary	37.3%	3	Iceland	42.8%	3	Norway	29.1%	3	Iceland	17.5%	3	Finland	19.2%	3	Estonia	11.4%
4	Germany	37.0%	4	Taiwan	42.7%	4	Australia	28.7%	4	Slovakia	13.2%	4	Portugal	18.6%	4	Italy	10.9%
5	Russia	35.8%	5	Singapore	41.6%	5	Turkey	28.4%	5	Hungary	11.8%	5	Italy	18.5%	5	Austria	10.7%
6	Slovenia	35.2%	6	Rumania	37.6%	6	Netherlands	27.2%	6	Ireland	10.4%	6	South Africa	18.3%	6	Germany	10.5%
7	Poland	32.5%	7	Japan	35.3%	7	Austria	27.1%	7	Belgium	9.9%	7	Ireland	18.1%	7	Portugal	10.1%
8	Australia	31.7%	8	Belgium	31.6%	8	Luxembourg	24.5%	8	Taiwan	9.9%	8	Turkey	17.9%	8	Poland	10.1%
9	Italy	31.2%	9	Slovakia	30.9%	9	Belgium	22.4%	9	South Africa	9.8%	9	Netherlands	17.6%	9	Spain	9.7%
10	Chile	30.0%	10	Poland	29.4%	10	Spain	22.2%	10	Spain	9.1%	10	Denmark	16.7%	10	Turkey	9.3%
11	Ireland	29.2%	11	Portugal	26.7%	11	Italy	19.7%	11	Japan	9.0%	11	Spain	16.5%	11	Rumania	9.0%
13	Slovakia	29.2%	11	Slovenia	26.7%	12	Finland	19.6%	12	Denmark	8.8%	12	Slovenia	15.4%	12	Denmark	8.3%
13	Austria	27.4%	13	Finland	26.4%	13	Japan	19.6%	13	Australia	8.7%	13	Hungary	14.6%	13	Iceland	8.1%
14	South Africa	26.9%	14	Spain	24.2%	14	Taiwan	19.2%	14	Poland	8.0%	14	Chile	14.5%	14	Czech Reput	8.0%
15	Rumania	25.7%	15	Germany	22.9%	15	South Africa	18.7%	15	Turkey	7.8%	15	Australia	13.9%	15	Norway	7.7%
16	Portugal	24.9%	16	Argentina	22.8%	16	Germany	17.9%	16	Finland	7.7%	16	Austria	13.7%	16	Ireland	7.1%
17	Luxembourg	23.5%	17	Turkey	22.0%	17	Estonia	17.6%	17	Norway	7.6%	17	Belgium	12.2%	17	Slovakia	7.0%
18	Argentina	21.8%	18	Czech Reput	21.9%	18	Ireland	16.6%	18	Korea	7.5%	18	Slovakia	12.0%	18	South Africa	6.8%
19	Denmark	21.6%	19	Netherlands	21.5%	19	Portugal	14.2%	19	Netherlands	6.7%	19	Argentina	11.6%	19	Belgium	6.8%
21	Finland	21.6%	20	Luxembourg	21.1%	20	Argentina	13.8%	20	Estonia	6.7%	20	Rumania	9.2%	20	Argentina	6.5%
21	Netherlands	20.5%	21	South Africa	19.4%	21	Chile	13.2%	21	Czech Reput	6.1%	21	Poland	9.0%	21	Netherlands	6.5%
22	Norway	19.7%	22	Chile	19.1%	22	Rumania	12.9%	22	Austria	5.7%	22	Korea	9.0%	22	Finland	5.6%
23	Japan	18.8%	23	Ireland	18.6%	23	Iceland	11.3%	23	Rumania	5.6%	23	Iceland	8.5%	23	Luxembourg	5.4%
24	Spain	18.3%	24	Austria	15.3%	24	Czech Reput	11.2%	24	Portugal	5.5%	24	Estonia	7.9%	24	Chile	4.3%
25	Belgium	18.0%	25	Norway	15.1%	26	Hungary	11.2%	25	Italy	4.6%	25	Czech Reput	7.4%	25	Taiwan	4.2%
26	Taiwan	16.8%	26	Italy	14.8%	26	Poland	11.0%	26	Germany	4.5%	26	Taiwan	7.2%	26	Australia	3.7%
27	Turkey	14.5%	27	Denmark	14.4%	27	Korea	10.0%	27	Russia	3.8%	27	Germany	7.2%	27	Russia	3.3%
28	Singapore	13.6%	28	Estonia	13.6%	28	Slovenia	8.3%	28	Slovenia	2.6%	28	Russia	5.4%	28	Korea	2.8%
29	Korea	13.3%	29	Hungary	13.5%	29	Russia	8.0%	29	Singapore	0.6%	29	Japan**	-	29	Japan**	-
30	Iceland	11.8%	30	Australia	13.3%	30	Slovakia	7.7%	30	Luxembourg	0.0%	30	Singapore**	-	30	Singapore**	-

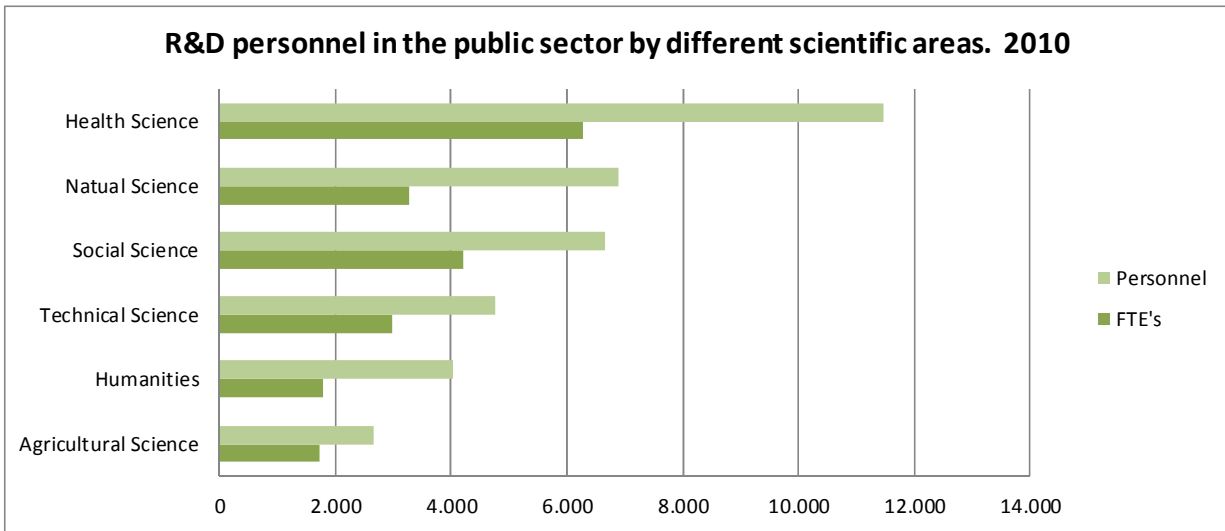
*FIN:2009, GER: 2009, HUN:2009, ISL:2007, IRE: 2009, ITA: 2009, JPN: 2009, LUX: 2009, NLD: 2009, NOR: 2009, POL:2009, PRT: 2009, SLO: 2009, ESP: 2009, AR: 2007, ROU: 2009, SGP: 2009,

ZAF: 2008, TWN: 2009

**Japan and Singapore have not available data for Humanities and Social Science

Source: OECD and Statistics Denmark

Figure 2.2.1. R&D personnel in the Danish public sector by different scientific areas. 2010



Source: Statistics Denmark

Table 2.2.4. The scientific areas' share of Ph.D. degrees (OECD's ISCED 6 category) in an international comparison. 2010 or latest year*

Technical Science			Natural Science			Health Science		
1	Sweden	25%	1	Iceland	53%	1	Norway	37%
2	Denmark	24%	2	France	47%	2	Sweden	32%
	Belgium	24%	3	Estonia	39%	3	Netherlands	31%
4	Japan	22%	4	Norway	36%		Denmark	31%
	Bulgaria	22%		Ireland	36%	5	Japan	30%
	Rumania	22%	6	Slovenia	33%		Germany	30%
7	Finland	21%	7	Hungary	31%	7	Switzerland	26%
	Letvia	21%	8	Czech Republic	30%	8	Greece	24%
9	Czech Republic	20%		Great Britain	30%	9	Belgium	22%
	Slovenia	20%	10	Germany	29%	10	USA	20%
	Lithuania	20%	11	Spain	28%	11	Poland	19%
	Slovakia	20%	12	Switzerland	27%		Iceland	19%
13	Greece	19%	13	Austria	24%		Croatia	19%
	Netherlands	19%	14	Sweden	23%		Finland	19%
15	Austria	18%		USA	23%	15	Great Britain	17%
16	Poland	17%		Croatia	23%	16	Ireland	15%
	Iceland	17%	17	Belgium	22%		Hungary	15%
18	Croatia	16%		Greece	22%	18	Slovakia	14%
19	Spain	15%	19	Lithuania	21%		Lithuania	14%
	Ireland	15%	20	Denmark	19%	20	Rumania	13%
	Turkey	15%		Finland	19%		Estonia	13%
	Great Britain	15%	22	Turkey	18%	22	Spain	12%
23	Estonia	14%	23	Netherlands	17%		Turkey	12%
	Portugal	14%		Poland	17%		Letvia	12%
25	France	12%	25	Slovakia	16%	25	Bulgaria	9%
	Switzerland	12%	26	Japan	15%		Czech Republic	9%
27	USA	11%		Portugal	15%		Portugal	9%
28	Germany	10%		Bulgaria	15%	28	Austria	8%
29	Hungary	8%		Letvia	15%	29	Slovenia	7%
30	Norway	0%	30	Rumania	9%	30	France	3%

*Data year for Poland and France is 2009.

** Two smaller categories "Services" and "Unknown" are not included, and therefore some of the countries share do not sum to 100 %.

Source: Eurostat, <http://epp.eurostat.ec.europa.eu/portal/page/portal/education/data/database>

Table 2.2.4. The scientific areas' share of Ph.D. degrees (OECD's ISCED 6 category) in an international comparison, 2010 or latest year*

Humanities			Social Science		Agricultural Science			
1	Poland	26%	1	Lithuania	29%	1	Rumania	12%
2	Hungary	25%	2	Austria	28%	2	Greece	8%
3	USA	24%		Portugal	28%		Turkey	8%
	Portugal	24%	4	Letvia	27%		Letvia	8%
	Turkey	24%	5	Bulgaria	22%	5	Japan	7%
	Bulgaria	24%	6	Turkey	21%		Hungary	7%
7	Rumania	22%		France	21%	7	Netherlands	6%
8	Slovakia	20%	8	Slovakia	20%		Croatia	6%
9	Croatia	18%		Great Britain	20%		Czech Republic	6%
	Finland	18%		Rumania	20%		Poland	6%
11	Great Britain	17%	11	Finland	19%	11	Denmark	5%
12	France	16%		Netherlands	19%		Belgium	5%
	Austria	16%		Spain	19%		Slovakia	5%
	Estonia	16%		Switzerland	19%	14	Switzerland	4%
	Letvia	16%	15	USA	18%		Lithuania	4%
	Czech Republic	16%	16	Croatia	17%		Austria	4%
	Greece	16%	17	Slovenia	16%		Slovenia	4%
	Slovenia	16%		Belgium	16%	18	Estonia	3%
19	Ireland	15%		Germany	16%		Germany	3%
20	Spain	14%	20	Hungary	14%		Spain	3%
21	Lithuania	13%		Czech Republic	14%		Bulgaria	3%
22	Japan	12%	22	Poland	13%		Ireland	3%
23	Denmark	11%	23	Estonia	12%		Iceland	3%
	Germany	11%	24	Greece	11%	24	Finland	2%
	Belgium	11%		Ireland	11%		Sweden	2%
26	Switzerland	9%	26	Sweden	10%		Portugal	2%
27	Sweden	8%		Japan	10%	27	USA	1%
	Norway	8%		Denmark	10%		Norway	1%
	Netherlands	8%	29	Norway	9%		Great Britain	1%
30	Iceland	6%	30	Iceland	3%	30	France	0%

Table 2.3.2. International collaboration measured as the share of Danish articles with international co-authorships. Only top 30 are shown. 2011

Co-authorship in per cent		
1	USA	30,1
2	England	21,1
3	Germany	21,0
4	Sweden	16,6
5	France	12,8
6	Netherlands	11,9
7	Italy	11,2
8	Spain	10,4
9	Norway	10,1
10	Australia	8,7
11	Canada	8,5
12	Switzerland	7,0
13	China	6,2
14	Belgium	6,0
	Finland	6,0
16	Scotland	4,7
17	Austria	4,4
18	Poland	4,3
19	Japan	4,2
20	Greece	3,2
	Portugal	3,2
22	Brazil	2,7
23	Russia	2,6
24	Czech Republic	2,5
25	Hungary	2,4
26	Israel	2,3
27	Ireland	2,0
	South Africa	2,0
29	Chile	1,6
30	Turkey	1,6

Source: Web of Science, October 22nd 2012