

# Education and knowledge

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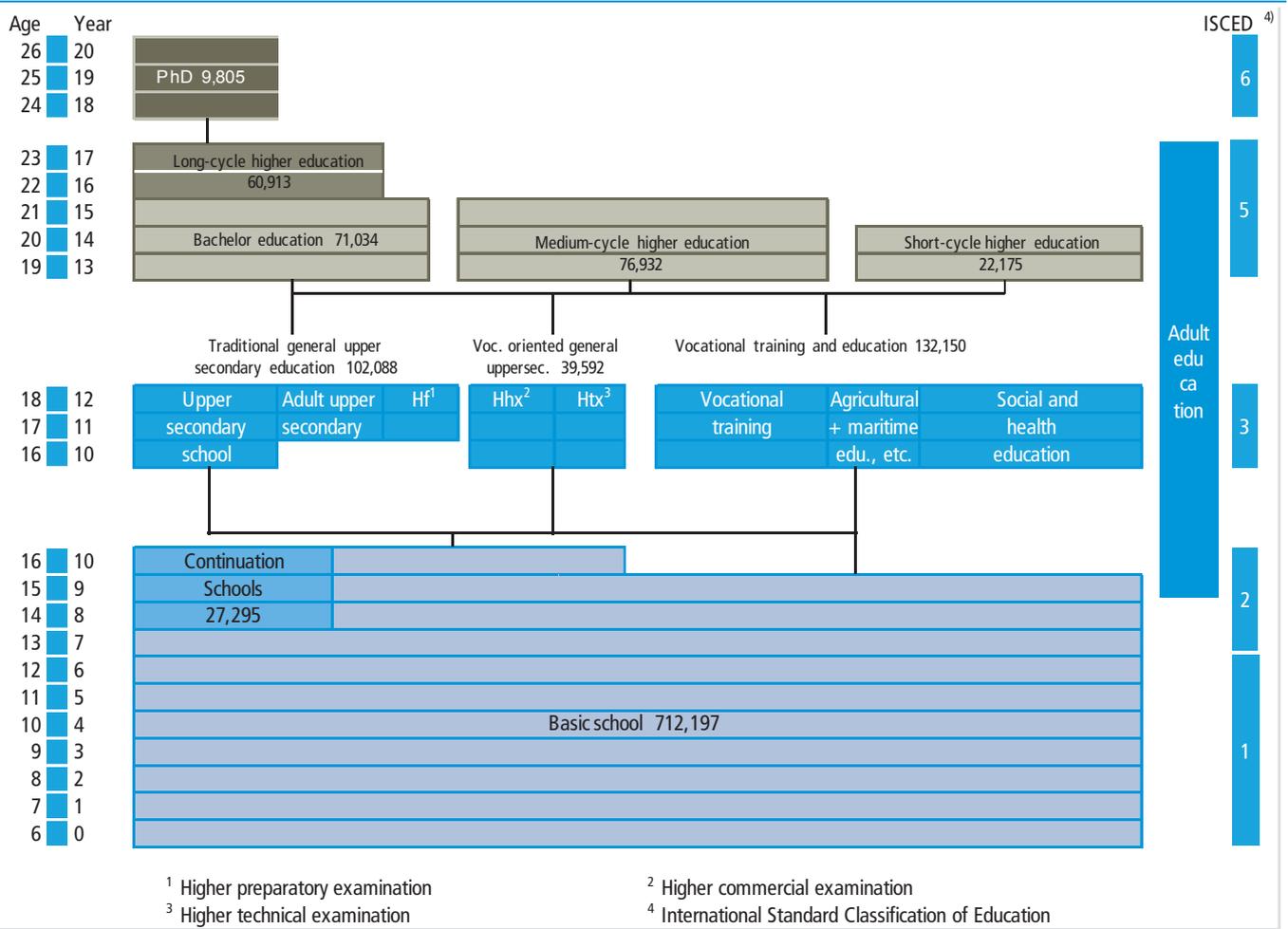


## The Danish education system

The ordinary education system comprehends education ranging from kindergarten to long-cycle higher education and Ph.D. degrees. The figure below gives a picture of how the education system is structured. The scale on the left side shows the minimum amount of years a student has been educated to complete the actual education level. It is also possible to see, the age of a student on a certain educational level - provided that the student has started in pre-school class as a 6-year old, has not had any breaks and has gone through the educational system at the normative time. The scale on the right side shows the different educations' placement in the international education nomenclature ISCED.

Beside the ordinary educational system, there is the educational system for adult. The educational system for adult is distinct from the ordinary system by consisting of short courses and part-time education. Typically this education system consists of isolated courses, which in some cases can be combined into a full qualification equivalent to the qualifications of the ordinary system.

**Figure 1** Number of students in the educational system. 1 October 2011



## Population by level of education

### Increase in the level of education

In 2012, 70 per cent of the 30-69-year-olds had completed education providing them with professional qualifications, defined as vocational or higher education aimed at specific types of jobs. The proportion was 63 per cent in 2002. There is an equal distribution between men than women who have completed education courses providing them with professional qualifications.

### High frequency of vocational education

The highest level of qualifications among the 30-69 age group was most frequently a vocational education. 38 per cent had completed this type of education, while 31 per cent had completed higher education in 2012. Since 2002, the proportions have increased by 0.4 and 6.2 percentage points, respectively.

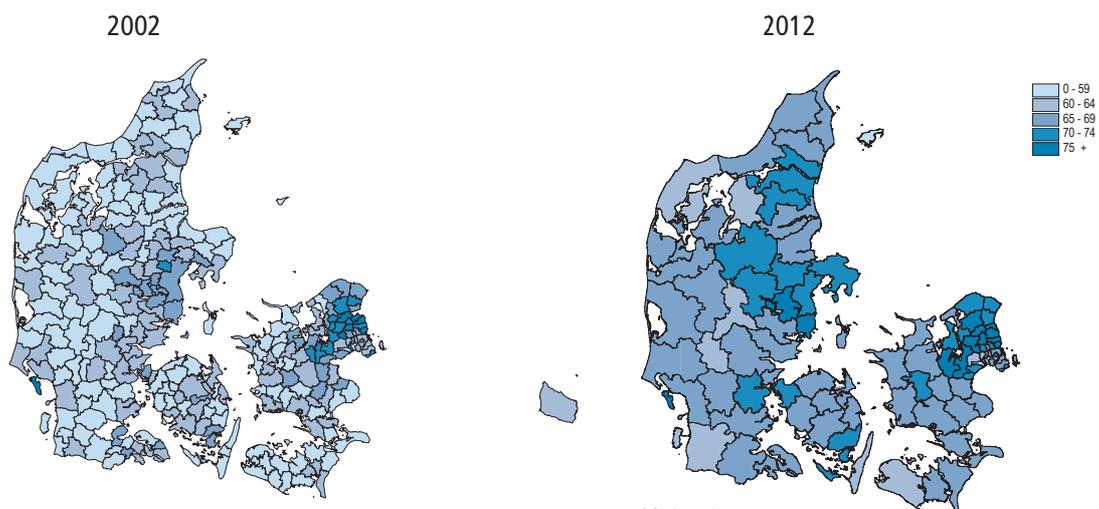
Among the remaining 31 per cent of the 30-69-year-olds of the population, 23 per cent had completed basic school education, 5 per cent general upper secondary education as the highest level of education, while there is no information for the last 3 per cent.

### Regional differences

Regional differences are evident with regard to educational patterns within the Danish population in 2012. There is, however, a trend for the highest proportion completing education courses providing them with professional qualifications to be found around the large cities, with correspondingly lower proportions being evident in the provinces.

Over the recent decade, differences have been sharply evened out as many outlying districts have experienced a higher increase than the major urban areas. Large differences still exist within each region.

Figure 2 Education providing professional qualifications among 30-69-year-olds in per cent

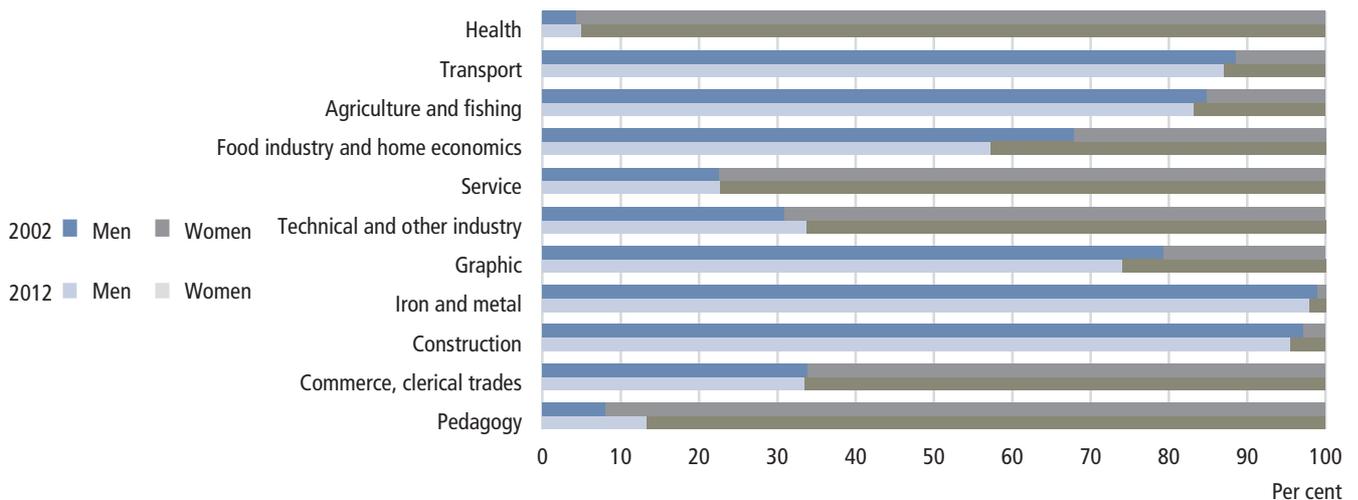


© Danish Geodata Agency

### Sharp divisions in educational patterns between the sexes

Sharp distinctions were observed in the educational patterns for 30-69-year-old men and women with regard to both educational levels and fields. More men than women had completed vocational education or long-cycle higher education in 2012, whereas more women than men had completed medium-cycle higher education in the same year. The difference in long-cycle higher education has become less pronounced during the last ten years, and since 2003 more women than men have finished a Master's degree.

**Figure 3** 30-69-year-olds with vocational education as the highest education completed



www.statbank.dk/hfu1 and krhfu1

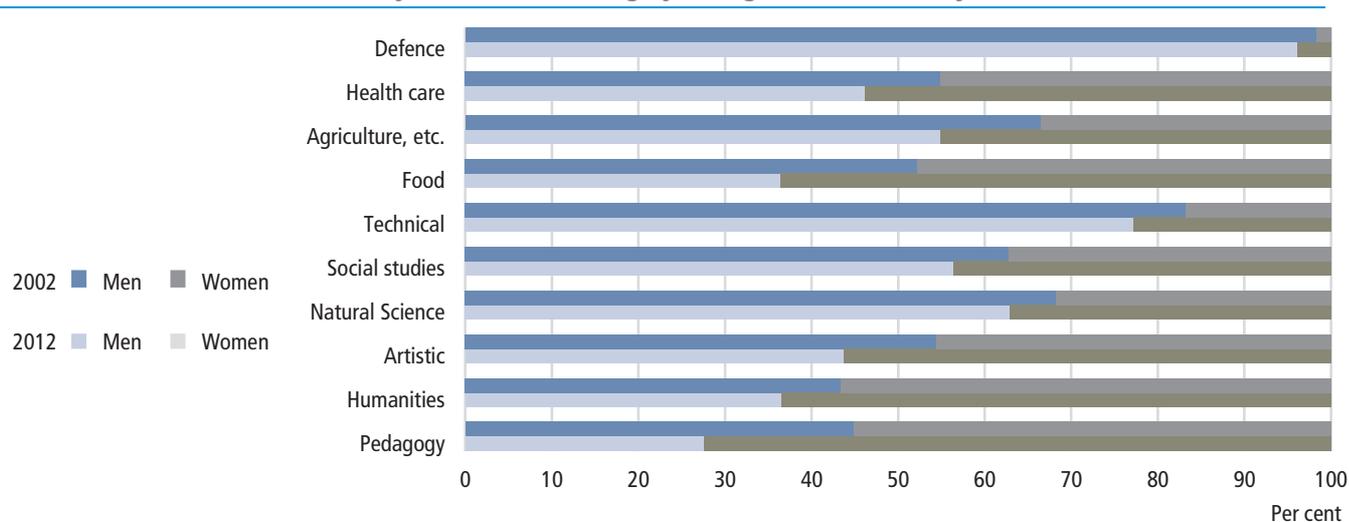
Among the vocational educations, there are major male-dominated disciplines such as iron and metal (e.g. mechanic, blacksmith), construction (e.g. carpenter and electrician), transport, agriculture (e.g. driver and farmer) and the graphic area (e.g. graphical). Commercial and office (e.g. assistant), engineering and industry (e.g. technical designer), pedagogy, service (e.g. hairdressing) and health (e.g. social and health care) is however dominated by women.

### Most medium-cycle courses are dominated by either men or women

As far as medium-cycle education is concerned, four in ten disciplines were sharply dominated by men: These were technical (e.g. building technicians and engineers), agriculture (e.g. forestry and landscape engineers), transport (e.g. marine engineers and shipmasters) and public security education. However, four disciplines (pedagogy, business language, the food sector, and the health sector) are dominated by women. Among the major courses are, for example, school teachers, educationalists and trained nurses.

### Long-cycle higher education is more mixed

As far as long-cycle higher education is concerned, particular two disciplines were dominated by men, whereas the distribution between men and women were more equal in the following disciplines: agriculture, social studies, artistic studies, and medical studies (e.g. physicians).

**Figure 4** 30-69-year-olds with long-cycle higher education by field


www.statbank.dk/hfu1 and krhf1

## Full time education

### Pre-school to 10th

Basic school forms the foundation of the Danish educational system. It begins with pre-school class and leads up to the voluntary 10th school year. In 2011, 712,800 pupils attended basic school. Of these, 66,600 had started in pre-school class, while 177,300 attended 8th to 10th grade, and among these, 27,300 attended continuation schools. The number of pupils in 8th to 10th grade declined in the period up to 1999, but it has subsequently increased by 25 per cent in the whole period from 1999 to 2011.

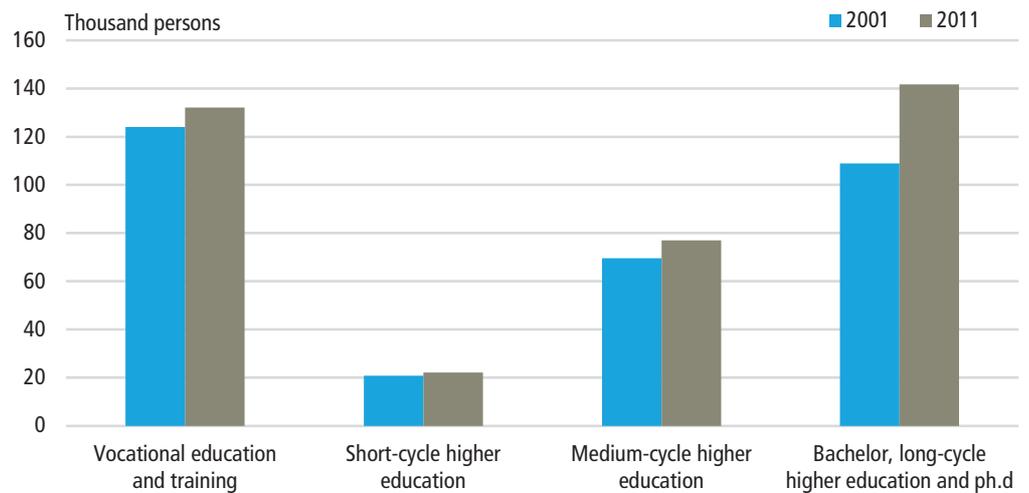
### Social science accounts for the highest number of students

Of the 240,900 students attending higher education, social science, educational teaching and the humanities account for the highest number of students, with 29, 13 and 15 per cent, respectively. Within social science, a large number of students attend education as MSc's (economics and business administration), or study law and economics, whereas pedagogues and school teachers prevail within pedagogy. The humanities mainly comprise languages, history, philosophy and theology.

13 per cent of all students attend technical education, such as engineers or architects, and 7 per cent attend natural science education, comprising mainly physics, mathematics, chemistry and biology. 14 per cent of all students attend health education, such as nurses, doctors and pharmacists.

### More students commence education and training

In 2011, the number of students attending vocational education and training was 132,200, while the total number attending higher education, e.g. police officers, nurses or doctors, including 10,000 research students, reached 240,900. Since 2001, the number of students attending vocational education and training has increased by 6.5 per cent, and by 21 per cent for higher education.

**Figure 5** Students attending education and training providing profess. qualifications

[www.statbank.dk/u11](http://www.statbank.dk/u11) and [u1107](http://www.statbank.dk/u1107)

## Courses and adult education

### Most course participants at adult vocational training centres

Outside the main educational system, there are a number of public-managed courses providing formal qualifications. Adult education courses covering almost all levels of education within the ordinary education system are available.

In the school year 2010-11, more than 1.3 million course participants completed their participation in public-managed adult or supplementary courses, and course participants at adult vocational training constituted 64 per cent of these. Course participants at general courses, i.e. 8th and 9th form and higher preparatory course, constituted 27 per cent, while course participants at further education constituted 9 per cent, respectively.

40 per cent of the course participants had vocational training as highest education completed, 28 per cent had basic school, 8 per cent had general upper secondary school, 9 per cent had unknown education stated, and 16 per cent had completed a higher education.

### 6 out of 10 of the course participants at general courses were women

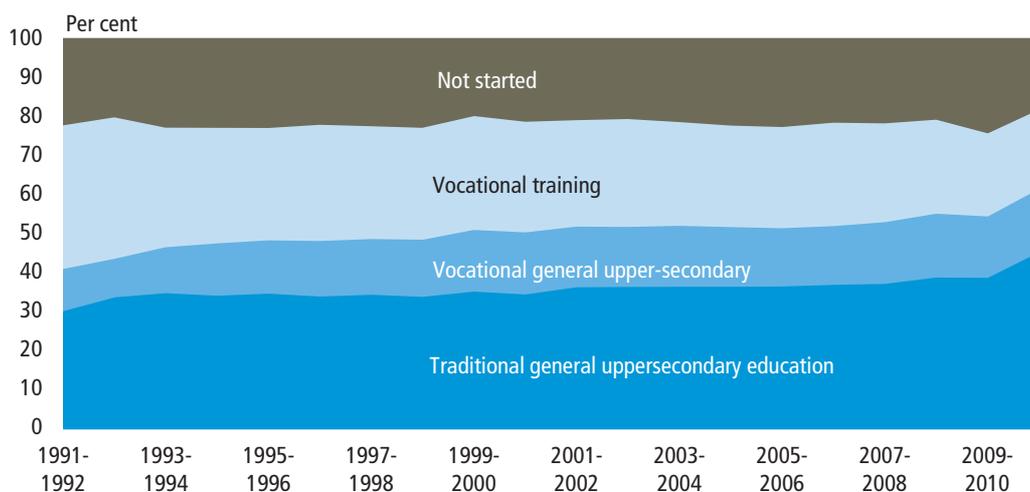
49 per cent of the participants in public courses were women. The proportion of women at the general courses was 59 per cent, while the corresponding figure at the adult vocational training centres was a mere 44 per cent. At the higher education centres, 59 per cent were women.

## Educational performance

### Half of the students commence general upper secondary education immediately after leaving basic school

Of all students leaving school in 2010-11, 82 per cent had commenced further education after a period of three months. 62 per cent had chosen to attend general upper-secondary education or vocational education (general programmes of education at second level, second stage, hhx, htx), while 20 per cent opted for vocational education and training, e.g. carpenters, bricklayers or hairdressers.

**Figure 6** Students three months after leaving basic school



[www.statbank.dk/afgang11](http://www.statbank.dk/afgang11)

41 per cent of the students leaving school in 1991-92 attended traditional general upper-secondary education or vocational general upper-secondary, while 37 per cent opted for vocational education and training within a period of three months after leaving basic school. In the period from 1991-92 to 2010-11 there has been an increase in the proportion of young people choosing an upper-secondary education, while relatively fewer young people choose a vocational education. The proportion of young people who are not enrolled in education three months after leaving primary school are unchanged 21 per cent during the ten year period. However there is a small decrease in 2010-11 to 18 per cent.

22 per cent of students who graduated from traditional general upper-secondary education in 2010-11 continued their education immediately after completing their general upper-secondary education. The corresponding proportion of graduates from 2000-01 was 18 per cent. The proportion of graduates from 2010-11 who continued their education immediately after graduating from vocational general upper-secondary education was 39 per cent.

83 per cent of the graduates from general upper-secondary education or vocational education in 2010-11 who had enrolled for further education three months after their graduation chose higher education.

**Ten years after basic school half of the Danes have profess. qualifications**

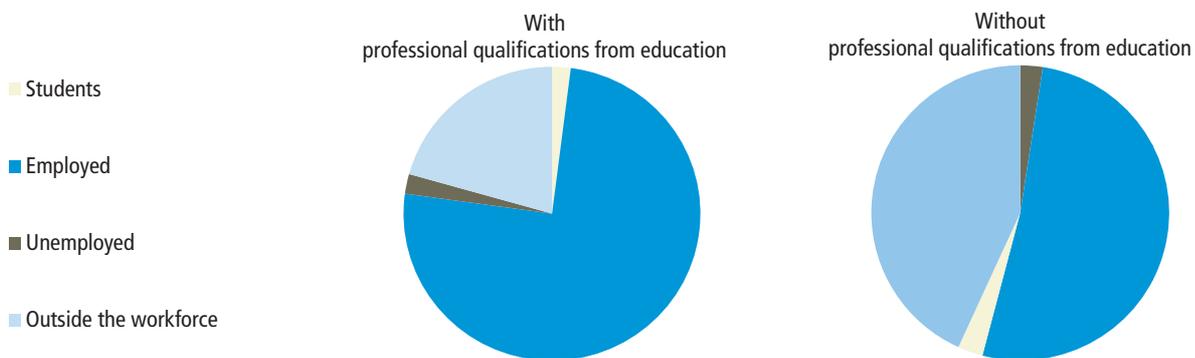
Ten years after leaving basic school in 2000-01, about 47 per cent had completed training providing them with professional qualifications. Of this group, 28 per cent had completed a vocational education course and 20 per cent had completed higher education, while 27 per cent were still studying. The educational remainder – young people who had not attended any educational institution or had completed an education course providing them with professional qualifications ten years after leaving basic school – accounted for 25 per cent of the year 2000-01.

**Education has a significant effect on employment**

In 2011 68 per cent of the 30-69 age group were employed, 2.4 per cent unemployed, 28 per cent outside the workforce and 2 per cent under education. Persons with professional qualifications have a higher employment rate than those without professional qualifications. Higher levels of education can lead to better employment.

Figure 7

The relation to the labour market for the 30-69-year-olds. 1 January 2011



[www.statbank.dk/krhfu2](http://www.statbank.dk/krhfu2)

**Education in an international perspective**

**Level of education in Denmark above OECD average**

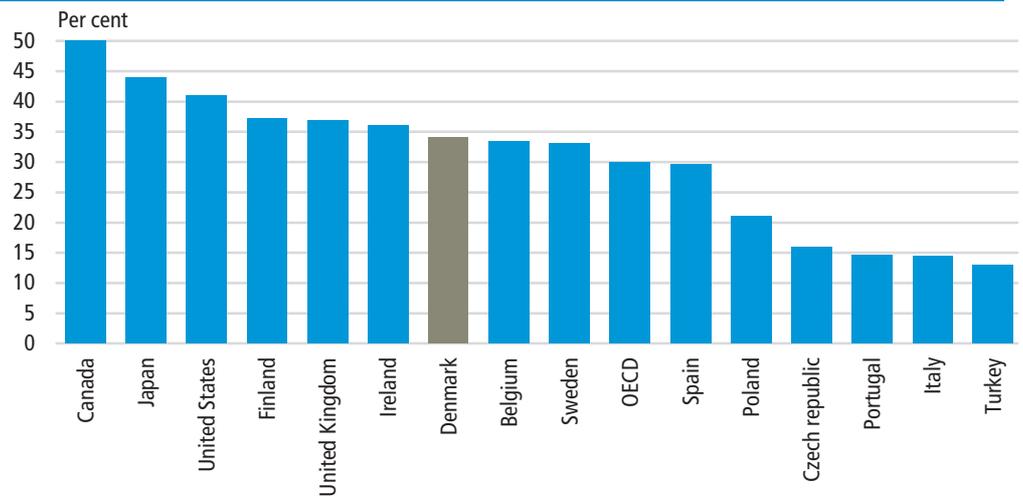
In all OECD countries, an average of 31 per cent of the 25-64-year-olds had completed a higher education in 2010. At 33 per cent, Denmark was among OECD countries above average percentage. The three highest percentages were found in Canada, Japan and the United States, while Turkey, Italy and Portugal accounted for the three lowest percentages.

**Danes proceed through 16,7 years of education**

Children that began primary education in Denmark in 2009 will proceed through an average of 16.7 years of full time education during their lifetime. Ireland, Iceland, Australia, New Zealand and Finland are topping the list, all accounting for 18 years of education or more. Turkey, Mexico and Israel account for the lowest number of years, all lying below 15 years of education. The OECD average was 16.8 years in 2010.



Figure 8 Persons having completed tertiary education in selected OECD countries. 2010



Source: OECD, Education at a glance 2012.

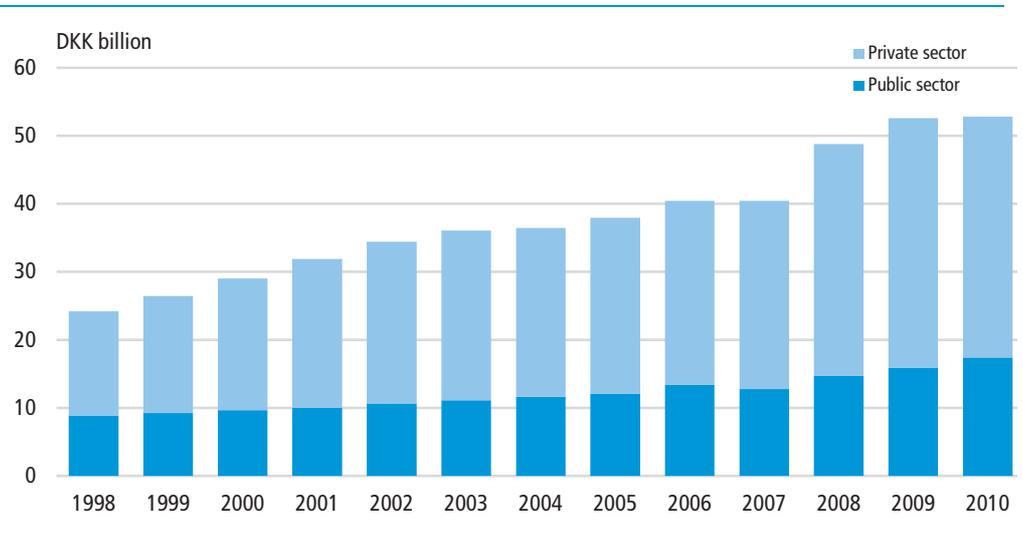
## Research, development and innovation

### The private sector contributes with two thirds of total R&D-expenditure

Research and development as well as innovation activities are important factors for the development of the competitiveness of the firms and, consequently, for economic growth in society. The creation of new knowledge and its subsequent use in the enterprises are important factors for the dynamics and innovation of the business sector by way of introducing new products and production processes.

R&D activities take place both in the private and the public sector. Total Danish R&D expenditure in the public and private sector has more than doubled in the period 1998-2010 and has been estimated at DKK 53 billion in 2010. The private sector's share of total R&D expenditure has been approximately two thirds during the period.

Figure 9 R&D expenditure of the public and private sector



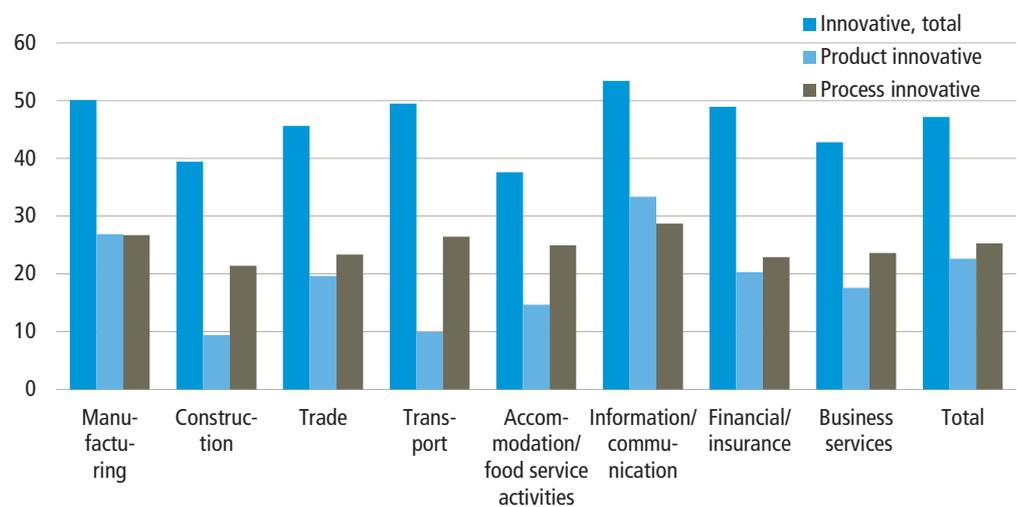


### Manufacturing has the highest R&D expenditure

R&D expenditure is particularly high in manufacturing and total expenditure on own R&D activities reached DKK 18.5 billion in 2010. This amount corresponds to 52 per cent of the private sector's expenditure on R&D.

The remainder of private sectors R&D expenditure is dominated by the industries information and communication, business service, and finance and insurance. Enterprises in information and communication (television and radio, telecommunication and ICT and information services etc.) accounted for R&D expenditure amounting to DKK 5.8 billion (16 per cent) in 2010. Business service accounted for 5.3 DKK billion (16 per cent) and finance and insurance for DKK 3.9 billion or 11 per cent.

**Figure 10** Percentage of innovative enterprises by industry. 2008-2010



### 47 per cent of all enterprises are innovative

The greater majority of Danish enterprises do not carry out research and development activities. Instead, they attempt to increase their competitiveness by introducing new products and production processes, or by introducing new organisational methods or marketing initiatives, i.e. innovation. 47 per cent of the Danish enterprises have introduced innovations during the period 2008-2010.

Innovative enterprises are found primarily among businesses in information and communication and in manufacturing industry where 53 per cent and 50 per cent respectively, innovated during 2008-2010.

The innovation activities of Danish enterprises are characterized by large industrial variation. Enterprises in information and communication have more innovation in products than in processes, whereas enterprises in transport to a larger degree introduce new production processes.

Enterprises in manufacturing industry have the same frequency in product and process innovation (27 per cent). Total innovation expenditure amounted to DKK 44.3 billion in 2010, of which DKK 35.4 billion was used for own R&D. In addition Danish enterprises purchase of R&D-services amounted to DKK 15.8 billion in 2010.



## Information society

### About the information society

An analysis of the information society can be made partly via the supply side in the form of enterprises and employment in the ICT sector and partly via the demand side in the form of the use of information technology by enterprises, the public sector and by individuals.

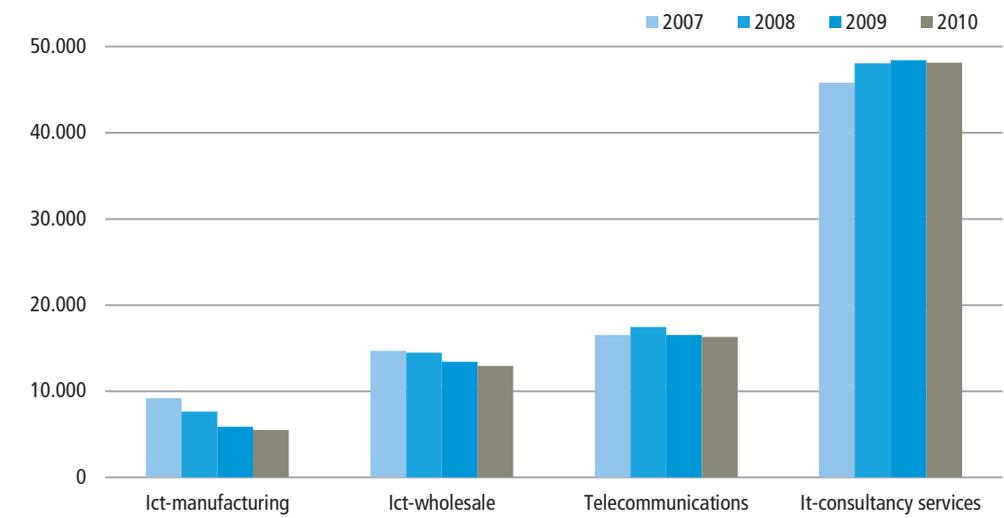
### The ICT sector

The ICT sector comprises enterprises that produce products and services within electronics, ICT, computer software, telecommunications, and other areas primarily based on information technologies. The ICT sector can be divided into ICT manufacturing, ICT wholesale, telecommunications, and ICT consultancy services.

### Fall in employment in ICT manufacturing

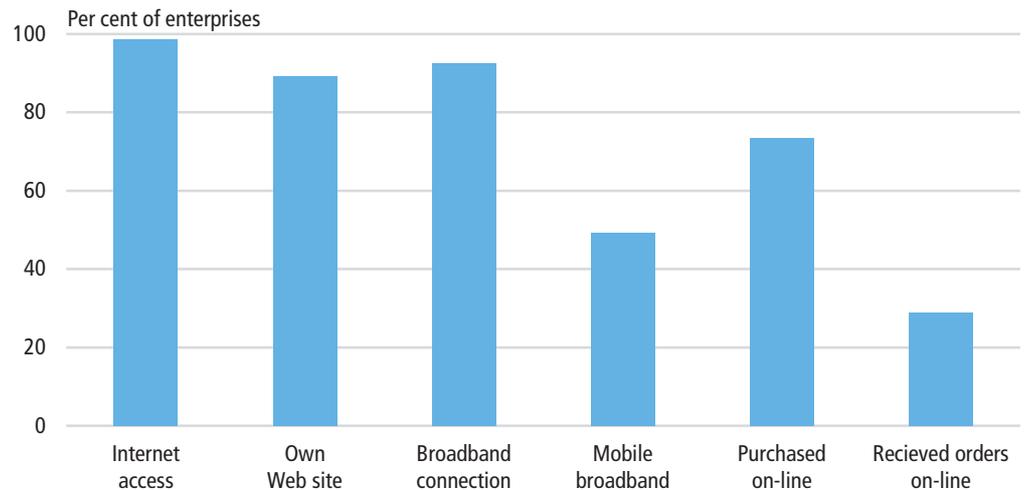
In 2010, the Danish ICT sector employed a total of 82,900 full-time employees, which is a minor decrease of 4 per cent compared to 2007. However, there was a fall in ICT manufacturing of 40 per cent and an increase of 5 per cent in ICT services, consultants, etc. Out of total employment in ICT manufacturing, 58 per cent was employed in ICT services, 20 per cent in telecommunications, 16 per cent in ICT wholesale and 7 per cent in ICT manufacturing.

Figure 11 Full-time employees in the ICT sector



### Use of ICT by enterprises

At the beginning of 2012, nearly all enterprises had access to the Internet and almost nine out of ten enterprises had their own website. Nine out of ten enterprises also had a broadband connection to the Internet (i.e. ADSL or another wire-based connection). Seven out of ten enterprises purchased on-line in 2011. Almost three out of ten enterprises received orders on-line in 2011.

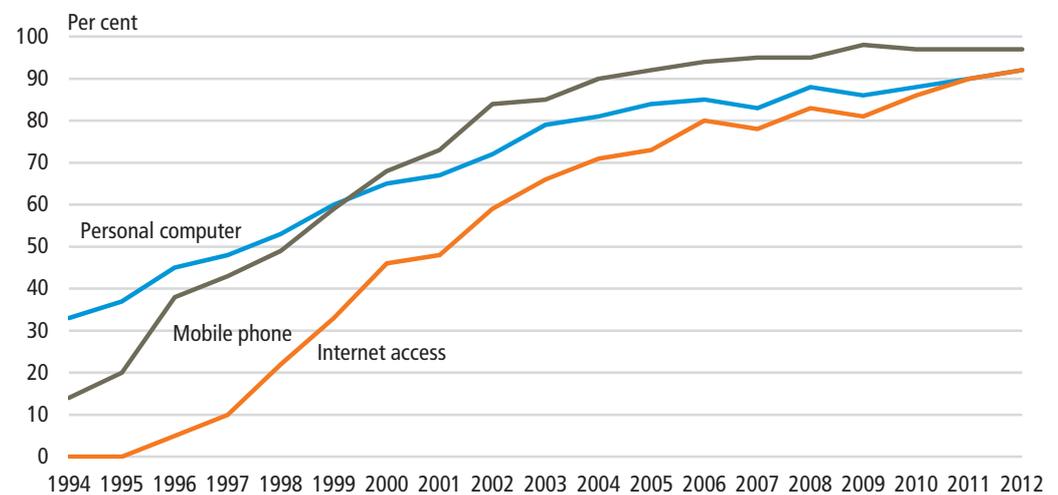

**Figure 12 Use of ICT by enterprises. 2012**


Note: Bredbåndsforbindelse adgangsveje, der er hurtigere end analogt modem eller ISDN.

[www.statbank.dk/vita](http://www.statbank.dk/vita)

### Danes own more and more ICT goods

An increasing number of Danish families have personal computers, access to the Internet and mobile phones. Since 2000, penetration of mobile phones has passed penetration of PC's. In 2012, 97 per cent of Danish families had a mobile phone, compared to 68 per cent in 2000. In 2012, 92 per cent of families had access to a computer at home, compared to 60 per cent in 1999.

**Figure 13 Families' access to ICT goods**


Note: 1 January.

[www.statbank.dk/varforbr](http://www.statbank.dk/varforbr)

### Almost all Danes have now access to the Internet from their home

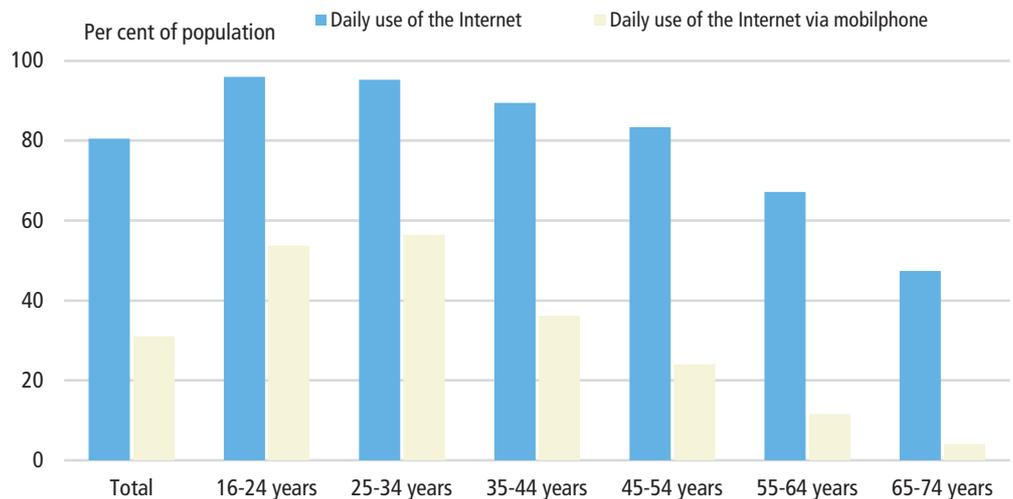
In 2012, 81 per cent of the population accessed the Internet daily or almost daily. However, there are great differences among the age groups. While almost all 16-54-year olds access the Internet every day, only 67 per cent of persons aged 55-64 and 47 per cent of persons aged 65-74 go online every day. The proportion of 75-89-year olds, who access the Internet daily, is as low as 21 per cent



### Use of Internet via a mobile phone is most common among young people

Almost every third Dane accesses the Internet daily via a mobile phone. But there are also great differences among the age groups here, as the use of Internet via a mobile phone is most common among young people. A little over 50 per cent of all 16-34-year olds accesses the Internet via a mobile phone daily, while it is only 12 per cent of the 55-64-year olds and 4 per cent of those aged 65-74 years.

**Figure 14** Access to the Internet at home. 2012

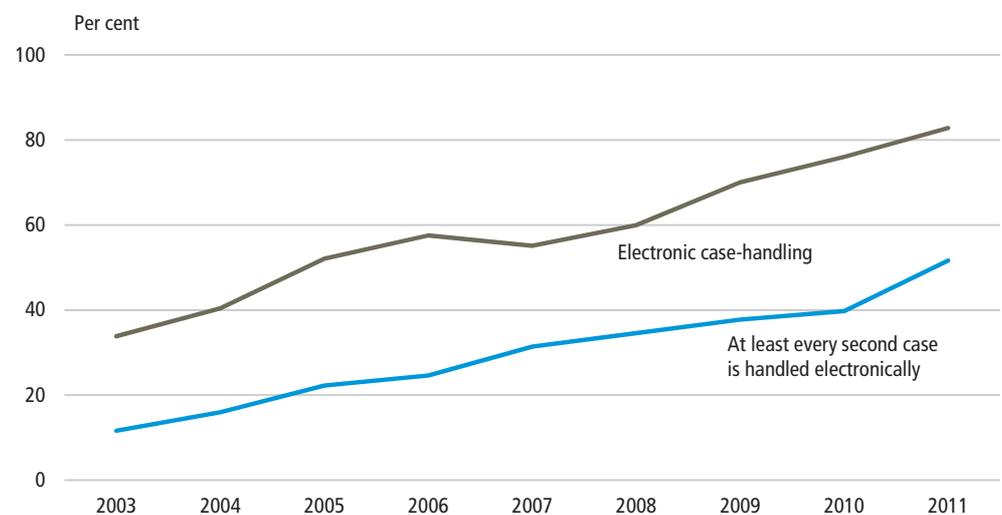


[www.statbank.dk/bebrit03](http://www.statbank.dk/bebrit03)

### Electronic case and document management

During recent years public authorities are to an increasing extent making use of electronic case and document management. In 2011, 83 per cent of the public authorities used a system for electronic case management, while this was true of 76 per cent of the public authorities in 2010. Among all public authorities 52 per cent stated that at least every second case is managed without the involvement of papers – this an increase from 40 per cent in 2010. The introduction of electronic case management does not imply that all cases are managed in a paperless way.

**Figure 15** Authorities with electronic case handling



Note: Electronic case management is a system underpinning the case history between caseworkers



Table 138 Educational institutions. 2011

	Number of institutions	Students		Total
		Men	Women	
<b>Total</b>	<b>2 938</b>	<b>606 558</b>	<b>617 763</b>	<b>1 224 321</b>
<b>General schools</b>	<b>2 672</b>	<b>406 397</b>	<b>407 917</b>	<b>814 314</b>
Basic schools, public	1 704	301 316	281 218	582 534
Basic schools, private	536	50 512	52 215	102 727
Continuation schools	261	13 477	13 444	26 921
Upper-secondary schools	171	41 092	61 040	102 132
<b>Vocational institutions of education</b>	<b>266</b>	<b>200 161</b>	<b>209 846</b>	<b>410 007</b>
Social and Health schools	45	5 443	35 000	40 443
Schools of Teacher training and Education science	25	8 935	23 428	32 363
Transport and Navigation schools	9	887	64	951
Institutions of education within Police and Defence	6	1 656	352	2 008
Academies of Fine art and Music, Library schools etc.	27	2 489	3 238	5 727
Institutions of education within Agriculture and Food science	14	3 280	1 065	4 345
Colleges of Social work	6	1 088	3 760	4 848
Engineering colleges and schools of Architecture	11	6 245	2 082	8 327
Universities	8	65 154	75 918	141 072
University colleges	6	3 749	2 497	6 246
Business academies	9	12 626	8 817	21 443
Other vocational institutions of education	100	88 609	53 625	142 234

Note: The number of institutions is the legal entities.

[www.statbank.dk/u11](http://www.statbank.dk/u11)

Table 139 Students in the educational system. 2011

1.10.2010 -30.09.2011	Students 2010	Entrance	Graduates <sup>1</sup>	Did not complete education	Students 2011
<b>Total</b>	<b>1 215 112</b>	<b>388 052</b>	<b>209 815</b>	<b>161 610</b>	<b>1 231 739</b>
Pre-school class	•	•	•	•	•
Basic school/preparatory	722 535	164 782	85 396	84 871	717 050
General upper-secondary education	134 036	58 732	41 178	9 910	141 680
Vocational education and training	134 282	73 669	31 983	43 818	132 150
Short-cycle higher education	20 573	11 436	6 344	3 490	22 175
Medium-cycle higher education	71 154	27 646	14 924	6 944	76 932
Bachelor	66 362	27 319	14 097	8 550	71 034
Long-cycle higher education	66 170	24 468	15 893	4 027	70 718
<b>Men, total</b>	<b>602 916</b>	<b>192 984</b>	<b>99 341</b>	<b>85 261</b>	<b>611 301</b>
Pre-school class	•	•	•	•	•
Basic school/preparatory	370 355	84 231	42 806	43 451	368 330
General upper-secondary education	62 197	27 832	18 589	5 292	66 148
Vocational education and training	74 166	39 740	16 247	25 146	72 513
Short-cycle higher education	11 203	6 265	3 234	2 031	12 204
Medium-cycle higher education	24 893	10 693	4 862	3 041	27 684
Bachelor	30 547	13 074	6 289	4 266	33 066
Long-cycle higher education	29 555	11 149	7 314	2 034	31 356
<b>Women, total</b>	<b>612 196</b>	<b>195 068</b>	<b>110 474</b>	<b>76 349</b>	<b>620 438</b>
Pre-school class	•	•	•	•	•
Basic school/preparatory	352 180	80 551	42 590	41 420	348 720
General upper-secondary education	71 839	30 900	22 589	4 618	75 532
Vocational education and training	60 116	33 929	15 736	18 672	59 637
Short-cycle higher education	9 370	5 171	3 110	1 459	9 971
Medium-cycle higher education	46 261	16 953	10 062	3 903	49 248
Bachelor	35 815	14 245	7 808	4 284	37 968
Long-cycle higher education	36 615	13 319	8 579	1 993	39 362

<sup>1</sup> Entrance of pupils to basic school comprises entrance of pupils to 1st to 6th class and to 7th and 10th class.

[www.statbank.dk/u1107, u2107, u3107 and u4107](http://www.statbank.dk/u1107, u2107, u3107 and u4107)

**Table 140** Students by national origin. 2011

	Basic school/ preparatory	General upper- secondary school	Vocational education and training	Short- cycle higher education	Medium- cycle higher education	Bachelor	Long-cycle higher education/ ph.d	Total
	per cent							
<b>Men and women, total</b>	<b>58</b>	<b>12</b>	<b>11</b>	<b>2</b>	<b>6</b>	<b>6</b>	<b>6</b>	<b>1 231 739</b>
Of whom: immigrants and descendants	53	10	11	4	8	6	9	138 714
Western countries	31	6	8	9	13	11	23	31 849
Non western countries	60	11	11	2	6	5	5	106 861
<b>Men, total</b>	<b>60</b>	<b>11</b>	<b>12</b>	<b>2</b>	<b>5</b>	<b>5</b>	<b>5</b>	<b>611 301</b>
Of whom: immigrants and descendants	56	10	10	4	6	5	8	67 261
Western countries	34	5	9	9	12	9	21	14 905
Non western countries	62	11	10	3	5	4	5	52 356
<b>Women, total</b>	<b>56</b>	<b>12</b>	<b>10</b>	<b>2</b>	<b>8</b>	<b>6</b>	<b>6</b>	<b>620 438</b>
Of whom: immigrants and descendants	50	10	11	4	9	7	10	71 453
Western countries	29	6	8	8	13	12	24	16 944
Non western countries	57	11	12	2	7	5	5	54 505

www.statbank.dk/u13

**Table 141** Students enrolled in general education

	Entrance of students 01.10.10–30.09.11		Graduates 01.10.10–30.09.11		Disrupted educations		Students 01.10.11 <sup>1</sup>	
	Men	Women	Men	Women	Men	Women	Men	Women
<b>Total</b>	<b>112 063</b>	<b>111 451</b>	<b>61 395</b>	<b>65 179</b>	<b>85 261</b>	<b>76 349</b>	<b>434 478</b>	<b>424 252</b>
Pre-school class	•	•	•	•	•	•	•	•
Basic school/preparatory	84 231	80 551	42 806	42 590	43 451	41 420	368 330	348 720
Upper-secondary school	13 192	20 072	8 961	14 524	1 940	2 550	33 480	51 661
Higher preparatory examination	4 098	5 116	2 332	3 364	927	937	7 027	8 897
Adult upper secondary school	234	320	146	218	114	112	379	470
Entrance course to higher education	41	135	20	93	5	24	41	133
Higher commercial examination	5 469	3 935	3 836	3 471	998	729	14 472	11 162
Higher technical examination	3 734	1 155	2 586	835	858	183	9 924	3 077
Entrance examination to engineers	1 064	167	708	84	450	83	825	132

<sup>1</sup> The newest number of students is equal to the old number of students plus the entrance of students minus those who either graduates or leaves without examination.

www.statbank.dk/u1107, u2107 and u3107

**Table 142** Students in upper-secondary education. 2011

	Completed educations			Average mark		
	Men	Women	Total	Men	Women	Total
<b>Total</b>	<b>18 589</b>	<b>22 589</b>	<b>41 178</b>	•	•	•
Upper-secondary school	8 961	14 524	23 485	6.7	7.1	6.9
Higher preparatory examination	2 332	3 364	5 696	6.2	6.1	6.1
Adult upper-secondary school	146	218	364	6.7	6.8	6.8
Entrance course to higher education	20	93	113	•	•	•
Higher commercial examination	3 836	3 471	7 307	5.9	6.3	6.1
Higher technical examination	2 586	835	3 421	6.4	7.1	6.6
Entrance examination to engineers	708	84	792	•	•	•

www.statbank.dk/u3107



Table 143 Students in higher education

	Entrance of students 01.10.10–30.09.11		Graduates 01.10.10–30.09.11		Disrupted educations		Students <sup>1</sup> 01.10.11	
	Men	Women	Men	Women	Men	Women	Men	Women
<b>Total</b>	<b>41 181</b>	<b>49 688</b>	<b>21 699</b>	<b>29 559</b>	<b>5 437</b>	<b>6 775</b>	<b>104 310</b>	<b>136 549</b>
<b>Short-cycle higher education</b>	<b>6 265</b>	<b>5 171</b>	<b>3 234</b>	<b>3 110</b>	<b>2 031</b>	<b>1 459</b>	<b>12 204</b>	<b>9 971</b>
Educational	5	26	•	16	1	13	8	88
Communication and applied language	884	616	425	332	325	192	1 625	1 095
The artistic	16	37	10	14	•	7	56	88
Social sciences	3 339	2 729	1 525	1 427	1 174	864	6 130	4 904
Technical	1 390	1 196	664	833	393	270	2 594	2 332
Food industry and home economics	76	86	55	67	19	19	141	170
Agriculture and fishing	124	121	74	103	23	31	203	242
Transport, etc.	200	65	105	34	63	15	286	106
Health care	39	236	11	181	8	36	83	632
Public security	192	59	365	103	25	12	1 078	314
<b>Medium-cycle higher education</b>	<b>10 693</b>	<b>16 953</b>	<b>4 862</b>	<b>10 062</b>	<b>3 041</b>	<b>3 903</b>	<b>27 684</b>	<b>49 248</b>
Educational	2 932	6 309	1 321	4 011	1 003	1 568	8 318	20 000
Communication and applied language	242	283	129	141	49	70	775	803
The artistic	161	533	128	225	12	27	517	1 302
Social sciences	1 366	2 603	394	1 118	287	508	2 516	6 217
Technical	3 774	1 086	1 811	593	1 048	268	10 132	2 825
Food industry and home economics	121	603	38	422	40	179	294	1 927
Transport, etc.	805	46	401	16	190	11	1 943	88
Health care	851	5 346	374	3 477	295	1 241	2 314	15 893
Public security	115	11	102	4	16	2	398	28
<b>Bachelor</b>	<b>13 074</b>	<b>14 245</b>	<b>6 289</b>	<b>7 808</b>	<b>4 266</b>	<b>4 284</b>	<b>33 066</b>	<b>37 968</b>
The humanities	2 846	4 931	1 173	2 508	1 184	1 762	7 485	13 303
The artistic	159	98	114	74	27	16	459	335
Natural sciences	2 467	1 504	1 006	749	934	573	6 098	3 847
Social sciences	5 041	5 048	2 625	2 839	1 483	1 329	12 357	13 122
Technical	1 643	792	870	456	418	206	4 100	2 073
Food industry and home economics	26	68	12	55	10	20	60	195
Agriculture and fishing	113	371	56	273	45	106	289	897
Health care	779	1 433	433	854	165	272	2 218	4 196
<b>Long-cycle higher education</b>	<b>9 773</b>	<b>12 110</b>	<b>6 479</b>	<b>7 889</b>	<b>1 911</b>	<b>1 883</b>	<b>26 354</b>	<b>34 559</b>
The humanities	184	764	83	368	34	127	909	3 114
The artistic	1 511	2 978	954	1 816	419	687	4 589	8 905
Natural sciences	136	158	134	178	28	41	488	671
Social sciences	1 482	1 100	952	664	303	140	3 300	2 520
The humanities	3 832	4 573	2 404	2 914	774	670	10 649	12 480
Technical	1 831	820	1 220	553	275	86	4 289	1 969
Food industry and home economics	29	137	18	68	1	8	72	314
Agriculture and fishing	146	371	107	228	52	58	374	892
Health care	526	1 201	498	1 088	25	66	1 578	3 686
Public security	96	8	109	12	•	•	106	8
<b>PhD-Degree</b>	<b>1 376</b>	<b>1 209</b>	<b>835</b>	<b>690</b>	<b>123</b>	<b>110</b>	<b>5 002</b>	<b>4 803</b>
The humanities and theology	95	124	78	77	10	24	457	595
The artistic	18	29	11	11	•	3	57	86
Natural sciences	336	193	138	120	23	13	1 065	659
Social sciences	134	164	92	87	26	20	633	647
Technical	407	185	270	109	39	23	1 421	661
Food industry and home economics	74	121	60	68	7	4	339	558
Health care	312	393	186	218	18	23	1 030	1 597

<sup>1</sup> The newest number of students is equal to the old number of students plus the entrance of students minus those who either graduates or leaves without examination.


**Table 144** Participants in courses of adult and supplementary education. 2010/2011

	Highest completed level of education								
	Basic school	General upper secondary education	Vocational education and training	Short-cycle higher education	Medium-cycle higher education	Bachelor	Long-cycle higher education	Not stated	Total
Public courses									
<b>Total<sup>1</sup></b>	<b>376 544</b>	<b>102 819</b>	<b>535 865</b>	<b>62 922</b>	<b>101 864</b>	<b>13 441</b>	<b>36 608</b>	<b>115 588</b>	<b>1 345 651</b>
<b>Participants in general and preparatory courses</b>	<b>171 490</b>	<b>33 076</b>	<b>54 805</b>	<b>5 607</b>	<b>12 045</b>	<b>3 059</b>	<b>6 516</b>	<b>79 156</b>	<b>365 754</b>
Basic school	110 785	8 032	36 889	3 049	7 357	1 068	2 676	44 218	214 074
Of which: General adult education	107 432	7 004	35 605	2 670	6 834	847	2 273	15 175	177 840
Danish lessons by language centres	3 353	1 028	1 284	379	523	221	403	29 043	36 234
Preparatory education	2 849	4 201	1 127	851	1 190	1 431	2 235	30 988	44 872
Of which: General and vocational courses	2 250	3 641	533	61	301	74	54	1 994	8 908
Danish lessons by language centres	599	560	594	790	889	1 357	2 181	28 994	35 964
Upper secondary education	57 811	20 772	16 687	1 697	3 493	557	1 604	3 948	106 569
Of which: Higher prep. courses	57 101	7 294	16 130	1 375	3 203	372	1 498	3 065	90 038
Entrance courses to long-cycle higher education	710	13 478	557	322	290	185	106	883	16 531
Vocational education at second level	45	71	102	10	5	3	1	2	239
<b>Participants in vocational courses</b>	<b>205 054</b>	<b>69 743</b>	<b>481 060</b>	<b>57 315</b>	<b>89 819</b>	<b>10 382</b>	<b>30 092</b>	<b>36 432</b>	<b>979 897</b>
Vocational training and main courses	2 956	1 229	5 606	717	8 412	355	1 140	683	21 098
Supplementary education of semi-skilled and skilled manual workers	197 681	57 301	451 958	43 509	38 693	6 124	12 316	30 581	838 163
Of which: Manufact. and metal produc.	28 154	4 893	71 884	5 177	3 533	492	1 657	5 658	121 448
Distributive trade, administration, communication and management	57 274	32 299	172 527	22 287	18 269	4 042	7 334	8 069	322 101
Service sector	18 276	3 926	20 364	1 519	2 059	222	569	3 715	50 650
Construction, manufacturing	13 598	1 505	26 487	1 362	1 203	67	251	2 145	46 618
Dairy industry and agriculture	6 149	542	15 931	1 156	629	66	360	542	25 375
Kitchens, hotels, restaurants, baker's shops and meat industry	9 091	3 055	10 780	1 085	1 882	214	390	1 843	28 340
Transport sector	34 924	5 339	45 970	5 809	2 492	383	772	4 591	100 280
Educational, social and health services	10 784	1 747	46 699	1 276	5 828	220	340	1 354	68 248
Other courses	19 431	3 995	41 316	3 838	2 798	418	643	2 664	75 103
Short-cycle higher education	2 118	3 466	12 176	5 188	3 347	927	2 815	912	30 949
Medium-cycle higher education	2 110	6 711	10 750	7 099	33 794	1 876	7 766	1 984	72 090
Bachelor	28	257	72	148	304	248	295	175	1 527
Long-cycle higher education	161	779	498	654	5 269	852	5 760	2 097	16 070

<sup>1</sup> Includes only courses which are publicly financed and supervised.


**Table 145** Educational level three years after leaving basic school. 2011

	Year of leaving school							
	2001	2002	2003	2004	2005	2006	2007	2008
<b>Graduation class, total</b>	<b>57 221</b>	<b>56 842</b>	<b>59 539</b>	<b>60 964</b>	<b>64 585</b>	<b>67 866</b>	<b>67 207</b>	<b>69 518</b>
<b>Total number receiving education three years after</b>	<b>24 278</b>	<b>22 488</b>	<b>23 360</b>	<b>23 131</b>	<b>24 284</b>	<b>27 737</b>	<b>24 918</b>	<b>29 682</b>
Preparatory education	86	78	84	119	173	373	372	513
General upper secondary school	2 855	2 787	2 786	2 480	3 260	4 025	0	4 144
Vocational upper secondary school	3 453	1 905	1 909	1 700	1 835	2 108	1 812	1 978
Vocational basic education	3 139	2 931	3 002	2 703	2 727	3 582	3 903	3 687
Vocational education	11 245	10 976	11 463	11 303	11 824	12 455	12 609	12 101
Short-cycle higher education	532	631	600	680	657	814	919	1 027
Medium-cycle higher education	995	1 083	1 139	1 314	1 321	1 682	2 030	2 200
Bachelor	1 913	2 089	2 369	2 829	2 481	2 694	3 268	4 029
Long-cycle higher education	60	8	8	3	6	4	5	3

[www.statbank.dk/afgang11](http://www.statbank.dk/afgang11)
**Table 146** Educational level three years after leaving general upper sec. education. 2011

	Year of leaving school							
	2001	2002	2003	2004	2005	2006	2007	2008
<b>Graduation class, total</b>	<b>19 907</b>	<b>20 308</b>	<b>19 439</b>	<b>19 987</b>	<b>20 818</b>	<b>22 467</b>	<b>22 700</b>	<b>23 469</b>
<b>Total number receiving education</b>	<b>15 205</b>	<b>15 539</b>	<b>14 987</b>	<b>15 521</b>	<b>16 226</b>	<b>17 494</b>	<b>18 230</b>	<b>19 459</b>
Preparatory education	9	11	9	8	4	8	11	5
General upper secondary school	•	•	•	•	•	3	4	10
Vocational upper secondary school	157	15	9	12	10	15	10	5
Vocational basic education	300	329	270	247	190	242	199	223
Vocational education	1 070	1 198	1 066	1 064	1 099	999	862	797
Short-cycle higher education	750	823	803	784	785	983	960	958
Medium-cycle higher education	5 298	5 436	5 059	5 271	5 539	6 025	6 403	6 834
Bachelor	6 184	6 591	7 031	7 580	8 011	8 519	8 859	9 840
Long-cycle higher education	1 437	1 136	740	555	588	700	922	787

[www.statbank.dk/afgang21](http://www.statbank.dk/afgang21)

**Table 147** Highest general education completed by population. 2012

Age on 1 January 2012	1 -6 grade or unknown	7 -10 grade	Upper- secondary school, higher preparatory examination, adult upper-secondary school	Higher commercial education, higher tech. education, and entrance examination for technical colleges	Total
<b>Total</b>	<b>223 959</b>	<b>2 482 071</b>	<b>940 618</b>	<b>319 191</b>	<b>3 965 839</b>
15 -24 years	37 014	486 070	134 227	49 289	706 600
25 -29 years	41 700	128 599	98 880	47 011	316 190
30 -39 years	53 159	322 945	227 974	111 958	716 036
40 -49 years	39 753	469 794	223 843	81 385	814 775
50 -59 years	35 062	499 488	163 429	23 541	721 520
60 -69 years	17 271	575 175	92 265	6 007	690 718
<b>Men</b>	<b>113 520</b>	<b>1 329 093</b>	<b>386 047</b>	<b>164 866</b>	<b>1 993 526</b>
15 -24 years	17 536	265 232	49 939	28 379	361 086
25 -29 years	20 415	78 085	35 897	25 030	159 427
30 -39 years	27 251	191 343	85 197	54 635	358 426
40 -49 years	21 041	261 795	91 194	38 145	412 175
50 -59 years	19 057	253 561	74 699	14 260	361 577
60 -69 years	8 220	279 077	49 121	4 417	340 835
<b>Women</b>	<b>110 439</b>	<b>1 152 978</b>	<b>554 571</b>	<b>154 325</b>	<b>1 972 313</b>
15 -24 years	19 478	220 838	84 288	20 910	345 514
25 -29 years	21 285	50 514	62 983	21 981	156 763
30 -39 years	25 908	131 602	142 777	57 323	357 610
40 -49 years	18 712	207 999	132 649	43 240	402 600
50 -59 years	16 005	245 927	88 730	9 281	359 943
60 -69 years	9 051	296 098	43 144	1 590	349 883

[www.statbank.dk/krhfu1](http://www.statbank.dk/krhfu1)

**Table 148** Highest education completed analysed by age and sex. 2012

Age on 1 Jan. 2012	Basic school or not known	General upper-secondary education	Vocational education and training	Short-cycle higher education	Medium-cycle higher education	Bachelor	Long-cycle higher education/ ph.d.	Unknown	Total
	per cent								
<b>Total</b>	<b>22.6</b>	<b>4.8</b>	<b>38.2</b>	<b>5.1</b>	<b>16.0</b>	<b>1.3</b>	<b>9.0</b>	<b>3.0</b>	<b>2 943 049</b>
30 -39 years	15.6	6.4	33.8	6.3	16.5	2.6	13.4	5.4	716 036
40 -49 years	19.2	6.0	39.9	5.8	15.5	1.6	9.3	2.6	814 775
50 -59 years	25.9	4.2	38.1	4.7	16.9	0.5	7.3	2.4	721 520
60 -69 years	30.4	2.3	41.0	3.7	15.0	0.3	5.8	1.6	690 718
<b>Men</b>	<b>22.3</b>	<b>4.9</b>	<b>41.6</b>	<b>5.9</b>	<b>11.0</b>	<b>1.2</b>	<b>9.8</b>	<b>3.4</b>	<b>1 473 013</b>
30 -39 years	17.8	6.5	37.3	7.0	10.1	2.4	12.9	5.9	358 426
40 -49 years	21.2	5.6	41.8	6.8	10.5	1.2	9.7	3.0	412 175
50 -59 years	24.2	4.6	42.9	5.3	11.0	0.6	8.6	2.8	361 577
60 -69 years	26.2	2.7	44.3	4.2	12.5	0.3	8.0	1.7	340 835
<b>Women</b>	<b>22.9</b>	<b>4.6</b>	<b>34.9</b>	<b>4.4</b>	<b>20.9</b>	<b>1.4</b>	<b>8.2</b>	<b>2.6</b>	<b>1 470 036</b>
30 -39 years	13.3	6.3	30.3	5.6	22.8	2.9	14.0	4.9	357 610
40 -49 years	17.1	6.4	38.0	4.7	20.6	2.1	9.0	2.2	402 600
50 -59 years	27.7	3.7	33.2	4.1	23.0	0.4	5.9	2.0	359 943
60 -69 years	34.4	1.9	37.7	3.1	17.4	0.2	3.8	1.5	349 883

[www.statbank.dk/krhfu1](http://www.statbank.dk/krhfu1)


**Table 149 Highest education completed analysed by region. 2012**

30-69 year-olds Place of residence on 1 Jan. 2012	Basic school or not known	General upper- secondary education	Vocational education and training	Short-cycle higher education	Medium- cycle higher education	Bachelor	Long-cycle higher education/ ph.d.	Unknown	Total
<b>Denmark, total</b>	<b>664 658</b>	<b>140 887</b>	<b>1 125 335</b>	<b>151 344</b>	<b>469 931</b>	<b>37 775</b>	<b>264 973</b>	<b>88 146</b>	<b>2 943 049</b>
Region Hovedstaden	167 498	61 315	280 155	47 153	148 871	18 364	140 424	36 554	900 334
København	50 329	23 316	64 306	12 960	45 654	8 823	54 692	17 183	277 263
Frederiksberg	6 656	4 288	11 335	2 614	9 296	1 638	13 608	2 442	51 877
Region Sjælland	111 456	17 571	192 984	22 807	66 859	3 517	24 419	9 899	449 512
Region Syddanmark	157 791	23 345	262 598	32 301	101 755	5 904	32 938	17 051	633 683
Region Midtjylland	148 503	28 374	261 548	35 285	107 246	7 416	50 223	16 717	655 312
Region Nordjylland	79 410	10 282	128 050	13 798	45 200	2 574	16 969	7 925	304 208

[www.statbank.dk/krhf1](http://www.statbank.dk/krhf1)
**Table 150 Highest completed education, by labour market. 2011**

30-69 year-olds	Students	Non-students			Total
		Employed	Unem- ployed	Not in the labour force	
<b>Total</b>	<b>64 016</b>	<b>1 993 986</b>	<b>69 586</b>	<b>817 496</b>	<b>2 945 084</b>
Basic school/not known	12 414	371 594	21 141	361 070	766 219
General upper-secondary education	9 588	96 790	3 566	30 502	140 446
Vocational education and training	17 246	801 521	28 851	283 094	1 130 712
Higher education	24 768	724 081	16 028	142 830	907 707
<b>Men</b>	<b>25 266</b>	<b>1 045 164</b>	<b>41 450</b>	<b>363 214</b>	<b>1 475 094</b>
Basic school/not known	5 000	211 376	13 190	151 867	381 433
General upper-secondary education	4 269	51 439	1 976	14 497	72 181
Vocational education and training	6 131	452 470	18 439	138 657	615 697
Higher education	9 866	329 879	7 845	58 193	405 783
<b>Women</b>	<b>38 750</b>	<b>948 822</b>	<b>28 136</b>	<b>454 282</b>	<b>1 469 990</b>
Basic school/not known	7 414	160 218	7 951	209 203	384 786
General upper-secondary education	5 319	45 351	1 590	16 005	68 265
Vocational education and training	11 115	349 051	10 412	144 437	515 015
Higher education	14 902	394 202	8 183	84 637	501 924

[www.statbank.dk/krhf2](http://www.statbank.dk/krhf2)



Table 151		Expenses for Research & Development (R&D)					
	2004	2005	2006	2007	2008	2009	
	DKK mio. in current prices						
<b>Total R&amp;D expenses</b>	<b>36 451</b>	<b>37 958</b>	<b>40 424</b>	<b>40 433</b>	<b>48 787</b>	<b>52 611</b>	
The public sector	11 663	12 050	13 366	12 788	14 707	15 897	
The private sector	24 788	25 908	27 058	27 645	34 080	36 714	
	per cent						
<b>R&amp;D-expenses in per cent of GDP</b>	<b>2.49</b>	<b>2.46</b>	<b>2.48</b>	<b>2.39</b>	<b>2.78</b>	<b>3.15</b>	
The public sector	0.80	0.78	0.82	0.75	0.84	0.95	
The private sector	1.69	1.68	1.66	1.63	1.94	2.20	

Source: 2004-2006 - Dansk Center for Forskningsanalyse

[www.dst.dk/fui](http://www.dst.dk/fui)

Table 152		Expenses for Research & Development (R&D). Yearly real growth-rate					
	2004	2005	2006	2007	2008	2009	
	DKK mio. in 2009-prices						
<b>Total</b>	<b>41 246</b>	<b>41 750</b>	<b>43 538</b>	<b>42 577</b>	<b>49 288</b>	<b>52 611</b>	
The public sector	13 197	13 254	14 395	13 466	14 858	15 897	
The private sector	28 049	28 496	29 142	29 111	34 430	36 714	

Source: 2004-2006 - Dansk Center for Forskningsanalyse

[www.dst.dk/fui](http://www.dst.dk/fui)



Table 153 The ICT sector in Denmark. 2010

	Enter- prises	Full-time employees	Turn- over	Wages and salaries
————— DKK mio. —————				
<b>ICT industries, total</b>	<b>11 650</b>	<b>82 890</b>	<b>185 805</b>	<b>46 397</b>
ICT manufacturing	293	5 513	9 929	2 546
ICT wholesale trade	1 093	12 941	51 103	7 348
Telecommunications	364	16 303	48 263	6 752
ICT services industries	9 900	48 133	76 510	29 751

Note: The figures cannot be compared with previous publications due to shift to new industry classification.

[www.statbank.dk/iterhviderhv](http://www.statbank.dk/iterhviderhv)

Table 154 Enterprises' use of ICT. 2012

	Internet access	Own web site	Broadband connection to the internet <sup>2</sup>
————— per cent —————			
<b>All enterprises<sup>1</sup></b>	<b>99</b>	<b>89</b>	<b>93</b>
<b>Sectors</b>			
Manufacturing	100	93	94
Construction	100	91	90
Trade and transport etc.	98	84	92
Information and communication	99	96	97
Business service and finance	98	93	95
<b>Fuldtidsansatte</b>			
10-19 employees	98	86	91
20-49 employees	99	91	93
50-99 employees	99	95	97
100 employees +	100	96	99

<sup>1</sup> All enterprises with at least 10 employees. <sup>2</sup> All connections faster than analogue modem or ISDN. Inclusive mobile broadband.

[www.statbank.dk/vita](http://www.statbank.dk/vita) and [www.dst.dk/vita1](http://www.dst.dk/vita1)



Table 155 Goods and services purchased on the Internet. 2012

	16-24 years	25-34 years	35-44 years	45-54 years	55-64 years	65-74 years	75-89 years	Total
	per cent of age group							
<b>Total</b>	<b>87</b>	<b>87</b>	<b>83</b>	<b>77</b>	<b>62</b>	<b>39</b>	<b>12</b>	<b>68</b>
	per cent of population							
Tickets for events	59	63	54	52	34	19	5	44
Other travel arrangements	43	54	53	54	40	23	7	42
Holiday accommodation	30	45	51	53	39	23	5	38
Clothes, sports goods	53	51	52	39	18	7	2	35
Household goods (e.g. furniture, toys, etc)	22	44	43	34	25	12	3	28
Music, movies	36	46	36	26	16	6	2	26
Internet, television, phone subscription	30	36	30	30	20	13	3	25
Books, magazines, newspapers	19	31	28	26	20	10	3	21
Electronic equipment	28	31	30	23	13	7	2	20
Other computer software	20	27	21	22	13	9	2	18
Video games software	29	22	26	16	6	3	0	16
Computer hardware	20	22	20	17	9	6	2	15
Share purchases, financial services or insurances	9	16	12	14	9	5	2	11
Food or groceries	6	11	12	10	6	3	1	8
E-learning material	11	11	8	7	3	2	0	6
Medicine	5	3	5	7	7	6	2	5

[www.statbank.dk/bebrit08](http://www.statbank.dk/bebrit08)

Table 156 Access to computer and internet in the home

	2005	2006	2007	2008	2009	2010	2011	2012
	per cent of households							
<b>Computer access from home</b>								
<b>Total</b>	<b>84</b>	<b>85</b>	<b>83</b>	<b>85</b>	<b>86</b>	<b>88</b>	<b>90</b>	<b>92</b>
Single adult without children	71	72	70	0	80	82	84	84
Couple without children	83	85	84	85	87	90	93	94
Single adult with children	87	93	93	92	93	96	94	97
Couple with children	98	97	97	0	98	98	98	99
<b>Internet access from home</b>								
<b>Total</b>	<b>74</b>	<b>78</b>	<b>78</b>	<b>82</b>	<b>83</b>	<b>86</b>	<b>90</b>	<b>92</b>
Single adult without children	58	64	63	0	74	79	84	83
Couple without children	75	79	80	81	84	88	93	93
Single adult with children	70	83	87	89	91	95	91	99
Couple with children	93	94	96	0	97	97	99	99

[www.statbank.dk/fabrit01](http://www.statbank.dk/fabrit01)



Table 157 Internet and telephony			
	2010 <sup>1</sup>	2011 <sup>1</sup>	2012
Subscriber line, fixed network (1.000) <sup>2</sup>	2 258	2 162	2 016
Per 100 inhabitants	40,6	38,7	36,0
Mobile subscriptions <sup>3</sup> (1.000)	7 790	8 088	8 292
Per 100 inhabitants <sup>3</sup>	140,1	144,9	148,0
Internet subscriptions (1.000)	2 150	2 185	2 219
Per 100 inhabitants	38,7	39,2	39,6
xDSL subscriptions (1.000)	1 243	1 208	1 191
Cable modem subscriptions (1.000)	559	576	609
Fibre subscriptions(1.000)	171	218	272
Mobile broadband subscriptions (1.000) <sup>4</sup>	3 546	4 651	5 427
Dedicated data subscriptions (1.000)	791	915	1 020
	----- mio. minutes -----		
Domestic traffic, fixed network <sup>5</sup>	6 068	5 322	4 622
International traffic, fixed network <sup>5</sup>	428	413	403
Domestic traffic, mobile network	10 733	11 170	11 536
International traffic, mobile network	591	730	734
	----- mio. -----		
SMS sent	13 029	12 179	11 285
MMS sent	85	97	147
	----- no. mio. MB in period -----		
Mobile data traffic	14 997	25 963	42 906
	----- DKK mio. -----		
Revenues	40 506	39 420	...

<sup>1</sup> 2010 og 2011 is updated figures compared to last year's yearbook. <sup>2</sup> Including fixed network IP telephony subscriptions <sup>3</sup> Omfatter GSM-, UMTS-, CDMA2000-abonnemeter, mobilt bredbånd og aktive GSM- og UMTS-taletidskort. Et taletidskort anses for aktivt, hvis der har været indgående eller udgående trafik eller reloads af taletidskortet inden for de seneste 3 måneder. Eksklusive rene GPRS-abonnemeter uden samtidig tale og telemetri-abonnemeter. <sup>4</sup> Cover the following subscriptions with a marketed/theoretical downstream capacity of a minimum of 256 kbit/s: Standard mobile subscriptions used for Internet data traffic, supplementary data subscriptions for mobile subscriptions and dedicated data subscriptions. <sup>5</sup> Inklusive trafik fra fastnet IP-telefoni.

Source: [www.itst.dk/statistik/Telestatistik/halvarsstatistik](http://www.itst.dk/statistik/Telestatistik/halvarsstatistik)