



Oxford Research A/S, December 2012

The Effect of the Industrial PhD Programme on Employment and Income



**Danish Agency for Science
Technology and Innovation**

Ministry of Science
Technology and Innovation



The Effect of the Industrial PhD Programme on Employment and Income



The Effect of the Industrial PhD Programme on Employment and Income

Published by:
The Danish Agency for Science, Technology and Innovation
Bredgade 40
1260 København K
Tlf. 35446200
Fax 35446201

Text: Oxford Research

ISBN: 978-87-92776-68-6

TABLE OF CONTENT



1. EXECUTIVE SUMMARY	5
2. SAMMENFATNING (DANISH EXECUTIVE SUMMARY)	7
3. INTRODUCTION	9
3.1. The Industrial PhD Programme	9
4. METHODOLOGY	11
4.1.1. Comparison group	12
4.1.2. Statistics Denmark datasets	12
5. INDUSTRIAL PHD GRADUATES' EMPLOYMENT AND INCOME	14
5.1. Who are Industrial PhD students?	14
5.1.1. Background of Industrial PhDs	14
5.2. Where do Industrial PhDs work and what do they do?	17
5.2.1. Sociology of work	17
5.3. How many are employed	23
5.3.1. Employment rates	23
5.4. Industrial PhDs' income	27
5.4.1. Income	29
5.5. Mobility	34
5.5.1. Mobility	34
6. APPENDIX A – OVERVIEW OF DATA	38
7. PUBLICATIONS	68

1. EXECUTIVE SUMMARY



An Industrial PhD project is an industry focused doctoral project conducted in cooperation of a private company, a PhD student and a university. The Industrial PhD student is employed by a private company and the company applies for a subsidy from the Danish Agency for Science, Technology and Innovation to cover part of the wage intended for the PhD student. The Industrial PhD programme was initiated in 1971 but was transformed in 1988 to allow the students to achieve a doctorate upon completion.

This report analyses the effect of the Industrial PhD Programme on graduates' subsequent employment and income. This analysis includes a mapping of the graduates' profile, employment type, job functions, and mobility in the labour market.

The analysis is based on access to a number of Statistics Denmark's data registers. PhD holders can be tracked through their personal security number and various data registers can be merged to extract information. The Industrial PhDs are compared to a comparison group composed of conventional PhDs which match the Industrial PhDs on sex, relevant work experience before starting the PhD and field of research. For each Industrial PhD there is a similar traditional PhD in the comparison group. When interpreting the results it is important to remember that the comparison group is not a representative sample of conventional PhDs but a sample which mirrors the Industrial PhDs on the parameters mentioned.

The central conclusions in the report are summarised below:

Employment among the Industrial PhDs is high. The rate of employment for Industrial PhDs varies during the period of 2004-2010, with the proportion of those employed ranging between 95-99 percent (as of November each year). For the period 2004-2009, between 2 to 9 percent are unemployed during the course of a year. Very few experience long-term unemployment. On average, those affected by unemployment are unemployed 15-36 percent of the year. Employment among the comparison group of conventional PhDs is correspondingly high.

Industrial PhDs have a high income. In 2010, graduates from the Industrial PhD programme earned an average of DKK 636,158 per year (gross income). With an annual income of DKK 785,086, the Industrial PhDs from social sciences had the highest income. On average, graduates from the Industrial PhD programme in 2010 earn more than half a million Danish kroner a year, irrespective of their field of research.

Industrial PhDs earn significantly more than conventional PhDs. In 2010, Industrial PhDs earned on average DKK 38,778 more per year than the comparison group of conventional PhDs. (DKK 636,158 versus DKK 597,380 per year).

Industrial PhDs are - unlike conventional PhDs - typically recruited by the private sector. Close to 80 percent of Industrial PhDs are employed in the private sector. Among the comparison group of conventional PhDs, the number is just under 50 percent. Industrial PhDs are typically employed in industrial and business sectors, while most conventional PhDs are employed in public administration.

Industrial and conventional PhDs earn the same if employed in the same sector (public/private). The difference in income between Industrial and conventional PhDs disappears when we compare salaries within the public and private sector, respectively. In 2010, an Industrial PhD employed in the private sector earned on average DKK 674,922 per year and a conventional PhD in the private sector earned an average of DKK 700,582. Thus, effect on income of being Industrial/conventional PhD is indirect and caused by the type of employment to which the PhD leads. A graduate from an Industrial PhD programme is more likely to work in the private sector and the conventional PhD is more likely to find employment in the public sector, with a correspondingly lower salary.

Industrial PhDs are typically specialised experts and rarely hold management positions. Most industrial PhDs (85 percent in 2010) perform functions that require knowledge at the highest level. Only 8 percent hold positions in management. However, conventional PhDs are even more specialized, with 90 percent performing a work function that requires knowledge at the highest level and only 5 percent employed as managers. Thus, completing an Industrial PhD slightly increases the likelihood of becoming a manager compared to completing a conventional PhD.

The rate of mobility and a “brain drain” out of the country is limited. Few Industrial PhDs leave Denmark after graduation without returning. Since 2004, 24 people have emigrated without returning, equivalent to approximately 7 percent of all graduates. Most - 4 people - have emigrated to the United States and China, while 3 have emigrated to Australia.

Industrial PhDs have considerable professional experience when enrolling as PhDs and typically study a technical science at DTU. The Industrial PhD students have, on average, around 4 years of professional experience by the time they enrol in an Industrial PhD programme. By far, most pursue advanced education in a technical science, followed by those studying the natural sciences. The vast majority - nearly half - have completed their education at DTU.

Et ErhvervsPhD-projekt er et treårigt erhvervsrettet forskningsprojekt, hvor den studerende ansættes i en privat virksomhed og samtidig indskrives på et universitet. Ph.d.-projektet har et erhvervsrettet fokus, men kandidaten skal bruge al sin arbejdstid på projektet og forskeruddannelsen og må ikke varetage andre opgaver i virksomheden.

Analysen belyser, hvem der tager en ErhvervsPhD, og hvilke jobfunktioner de efterfølgende varetager, hvor mange der er i beskæftigelse, hvor meget de tjener, og hvor mobile de er på arbejdsmarkedet.

Den centrale del af analysen er en omfattende registeranalyse baseret på en række af Danmarks Statistiks registre. Resultaterne for ErhvervsPhD'erne sammenlignes med en kontrolgruppe af traditionelle ph.d.'er. De traditionelle ph.d.'er matcher ErhvervsPhD'erne på uddannelsesretning, erhvervs erfaring ved påbegyndelse af ph.d.-projekt og køn. De centrale konklusioner i rapporten er opsummeret nedenfor:

Beskæftigelsen blandt ErhvervsPhD'er er høj. I perioden 2004-2010 ligger beskæftigelsen blandt ErhvervsPhD'er omkring 99 pct. (hvis man ser bort fra personer, der er gået på pension eller har orlov). Hvis man ser på, hvor mange der i løbet af et år berøres af ledighed, er det mellem 2 og 9 pct. i perioden 2004-2009. Meget få er dog langtidsledige, idet den gennemsnitlige årsledighedsgrad blandt dem, der berøres af ledighed, ligger på 15-36 pct. Beskæftigelsen blandt kontrolgruppen af traditionelle ph.d.'er er tilsvarende høj.

ErhvervsPhD'er har en høj indtægt. I 2010 tjente de i gennemsnit 636.158 kr. om året. ErhvervsPhD'erne med en samfundsvidenskabelig/juridisk baggrund har den højeste indtægt. De tjente i gennemsnit 785.086 kr. i 2010.

ErhvervsPhD'er tjener væsentligt mere end traditionelle ph.d.'er. I 2010 tjente ErhvervsPhD'erne i gennemsnit 38.778 kr. om året mere end kontrolgruppen af traditionelle ph.d.'er. (636.158 kr. mod 597.380 kr. om året).

ErhvervsPhD'er og traditionelle ph.d.'er tjener det samme, når de er ansat i samme sektor (privat/offentlig). Traditionelle ph.d.'er, der er ansat i det private, tjener nogenlunde det samme som ErhvervsPhD'er, der er ansat i det private. Det samme gælder for traditionelle ph.d.'er og ErhvervsPhD'er ansat i det offentlige. Effekten på indkomsten er derved indirekte og opstår, fordi et ErhvervsPhD-bevis i højere grad end en traditionel ph.d.-grad kvalificerer til ansættelse i en stilling med høj løn i det private.

ErhvervsPhD'er bliver typisk fagspecialister og kun i få tilfælde ledere.

De fleste ErhvervsPhD'er (85 pct. i 2010) har en arbejdsfunktion, der kræver viden på højeste niveau. 8 pct. har ledelsesarbejde. De traditionelle ph.d.'er er endnu mere specialiserede, idet 90 pct. har en arbejdsfunktion, der kræver viden på højeste niveau. 5 pct. har ledelsesarbejde. Der er således flere ErhvervsPhD'er end traditionelle ph.d.'er, der er ansat som ledere.

ErhvervsPhD'erne ansættes modsat de traditionelle ph.d.'er typisk i det private.

Tæt på 80 pct. af ErhvervsPhD'erne er ansat i det private. Blandt kontrolgruppen af traditionelle ph.d.'er er det lige under 50 pct. ErhvervsPhD'erne ansættes typisk i sektorerne industri og erhvervsservice, mens flest traditionelle ph.d.'er ansættes i sektoren offentlig administration.

Mobilitet og brain drain ud af landet er begrænset. Få ErhvervsPhD'er forlader Danmark efter endt uddannelse uden at returnere. Siden 2004 er 24 personer udvandret uden at være vendt tilbage, hvilket svarer til godt 7 pct. af populationen. Flest – 4 personer – er udvandret til henholdsvis USA og Kina, mens 3 er udvandret til Australien.

ErhvervsPhD'er har betydelig erhvervs erfaring, når de starter deres ph.d.-forløb, og er typisk tilknyttet en teknisk uddannelse på DTU.

ErhvervsPhD'erne har i gennemsnit omkring 4 års erhvervs erfaring, når de starter som ErhvervsPhD. Klart flest tager deres ph.d.-grad inden for en teknisk uddannelse, mens naturvidenskab er den næst mest hyppige uddannelsesretning. Langt de fleste – næsten halvdelen – er tilknyttet DTU under ErhvervsPhD-forløbet.

3. INTRODUCTION

This report analyses the effect of the industrial PhD programme on employment and income for the graduates. The analysis includes aspects like:

- Level of employment among Industrial PhDs
- Income
- Type of employment and work function performed
- Share of Industrial PhDs in management positions
- Mobility on the labour market

The study continues the research presented in previous studies.¹ The analysis covers the period 2004-2010 and therefore gives the first indications of the effect of the financial crisis on industrial PhDs.

3.1. The Industrial PhD programme

The Industrial PhD programme was initiated in 1971 under the name “The Industrial Researcher Programme”. In 1988 it was made possible to qualify for a PhD degree when graduating. The programme was subsequently reformed to comply with Danish PhD regulations, making every graduate a formal PhD graduate.

An Industrial PhD project is an industry focused PhD. The research project is conducted in cooperation between a private company, an Industrial PhD student and a university.

The Industrial PhD student is employed by a private company. The company receives a subsidy for the student's salary from the Danish Agency for Science, Technology and Innovation. In general the subsidy corresponds to 30-50 percent of the Industrial PhD's total salary. In addition, the company can receive subsidies to cover certain documented expenses for the Industrial PhD candidate's activities.

The student divides his or her working hours equally between the university and the company over the three-year course of the project and cannot work on other projects in the company.

¹ See for example The Danish Agency for Science, Technology and Innovation (2011): Analysis of the Industrial PhD Programme, and Forskning- og innovationsstyrelsen (2007): ErhvervsPhD – Et effektivt redskab for innovation og videnspredning.

The objective of the Industrial PhD Programme is to:

- educate the researchers at a PhD level with first-hand knowledge of research and innovation in the private sector,
- create growth in the Danish businesses through cooperation on R&D between universities and Danish privately held companies, and
- facilitate knowledge transfer and networking between Danish companies and researchers at universities in Denmark and abroad.

Public institutions may also apply for approval of an Industrial PhD project. If funding has not been allocated for this purpose in a particular funding round, public institutions must cover all expenses, including expenses for enrolment and supervision at the university.

The central part of the analysis is a statistical analysis based on access to a number of Statistics Denmark's databases. The statistical analysis has been carried out by Oxford Research.

The Industrial PhD Programme is administered by the Danish Agency for Science, Technology and Innovation, which collects personal security numbers for all Industrial PhDs. The personal security numbers make it possible to track the industrial PhDs in the registers of Statistics Denmark and follow their subsequent career patterns. The relevant information is stored in different registers that have been merged to extract the relevant information. However, the personal security number has been encrypted by Statistics Denmark to ensure the anonymity of the study population.

The data in the analysis covers the period from 2004 to the latest year available in the registers. For most registers this is 2010, but for some registers the more recent data available is from 2009.

The Industrial PhD programme in its current form was initiated in 1988² and the population for the analysis is defined as follows:

- The person must be identifiable based on the personal security number in the registers of Statistics Denmark
- The person must have been enrolled as an Industrial PhD student from 1988 onwards
- The person must have completed an Industrial PhD in 2009 or earlier

The last criterion ensures that Industrial PhDs are no longer PhDs when we analyse their income and employment. Thus, to be included in the 2010 analysis – the last year we have data for – the Industrial PhDs must have finished in 2009 or earlier. For the analysis of previous years the same criteria apply. Only PhDs who have graduated at least one calendar year before this date are included.

Since 2004 is the starting point for the analysis, we start out looking at Industrial PhDs who have graduated in 2003 or earlier. This also implies that the population is gradually increasing from 2004 to 2010 as more Industrial PhDs graduate from the programme. The analysis of income, employment, and other variables in 2010 includes around 700 Industrial PhDs who fulfil the above-mentioned criteria.

² As mentioned a similar programme existed already before 1988 but did not lead to the award of a PhD degree.



4.1.1. Comparison group

The results for Industrial PhDs are compared to the results for a comparison group of conventional PhDs. The comparison group has been established by Statistics Denmark based on a number of predefined criteria. Thus, the comparison group of conventional PhDs:

- Have the same sample size as the Industrial PhDs
- Have graduated as conventional PhDs
- Match the Industrial PhDs on
 - Sex
 - Field of research
 - Work experience after master degree (but before starting the PhD programme)

No persons can be in both groups.

When interpreting the results, it is important to remember that the comparison group is not a representative sample of conventional PhDs but a sample which mirrors the Industrial PhDs on the above parameters. That is, the objective of the analysis is to compare industrial PhDs to comparable students enrolled in conventional PhD programmes and not to the average conventional PhD student.

The datasets used in the analysis are briefly described below.

4.1.2. Statistics Denmark datasets

The **Integrated Database for Labour Market Research (IDA)** provides access to coherent data about persons and establishments at the level of individual persons and individual establishments. The database is suitable for research on labour market issues. The distinctive feature of this database is that it allows researchers to connect specific persons with specific companies.

The headlines for variables in IDA are persons, jobs and establishments/firms.

Persons cover variables such as gender, age, family and household, education, employment and work experience, unemployment and income. The dataset is used to analyse unemployment.

Jobs cover variables such as job/occupation (full-time/part-time), hourly labour earnings, seniority and change in appointments. The dataset is used to analyze type of employment and change in employment.



Establishments and firms cover such variables as year of establishment, sector, employees and level of labour earnings. The dataset is used to analyse in which sector the Industrial PhDs are employed.

Register Based Work Force Statistics (RAS) contains information on the Danish population's attachment to the labour market at the end of November. For persons in employment, RAS contains information on location of residence and location of establishment, which is used for commuter statistics. The dataset is used to analyse employment and whether PhDs are employed in the public or private sector.

The High Quality Income Statistics (INDH) contains information on average gross income, taxable income, etc. The dataset is used to analyse income levels of PhDs.

Historical Migrations (VNDS) contains information on immigration and emigration and is used to analyse the mobility of PhDs.

Persons in the Population (BEF) contains background information on people and is used to document the sex of PhDs.

The PhD-register covers all persons in Denmark who have completed a PhD Education. The register gives information on entrance of doctoral students by area of research, gender, and points in time. The dataset is used to analyse fields of research, graduation rates, and time of graduation. It can also be used to identify conventional PhD students' work experience prior to enrolling in a PhD Education.

5. INDUSTRIAL PHD GRADUATES' EMPLOYMENT AND INCOME >

This section analyses the effect of the Industrial PhD programme on graduates' subsequent employment and income. This includes a breakdown of who they are, where they work, which functions they perform, and their mobility in the labour market. The results are compared to a comparison group of conventional PhDs.

5.1. Who are Industrial PhDs?

This section provides background characteristics on Industrial PhDs. The central conclusions are:

Industrial PhDs typically obtain their PhD in technical sciences

- Most of them from the Technical University of Denmark.

They have significant professional experience when starting the PhD

- They typically obtain approximately four years of professional experience prior to entering the Industrial PhD programme.³

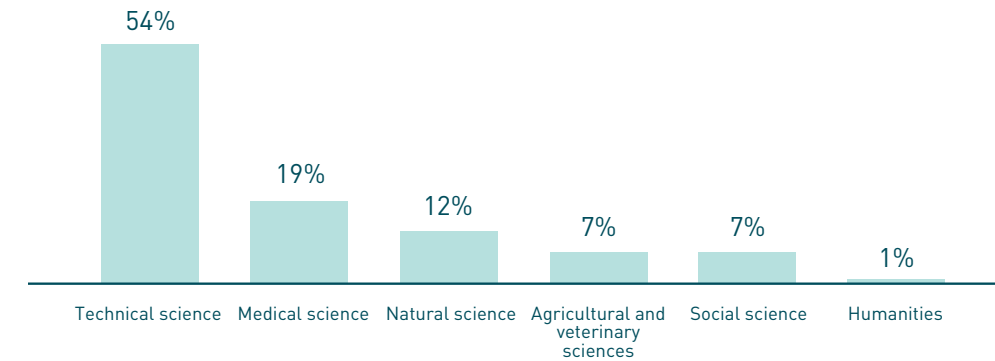
5.1.1. Background of Industrial PhDs

The vast majority of Industrial PhD students graduate within the technical sciences. By 2010, 54 pct. of all persons who completed an Industrial PhD Education did so in the technical sciences. This corresponds to 362 of the 676 Industrial PhDs in 2010.

The second most common field of research for Industrial PhDs is medical sciences, representing 19 pct. of all graduates. Humanities is the rarest field of research for Industrial PhDs. By 2010, only 7 persons had a background in humanities, corresponding to approximately 1 pct of the group.

³ As mentioned the comparison group has been composed to match the professional experience of the Industrial PhDs.

FIGURE 5.1.1 Field of research of Industrial PhDs 2010 >

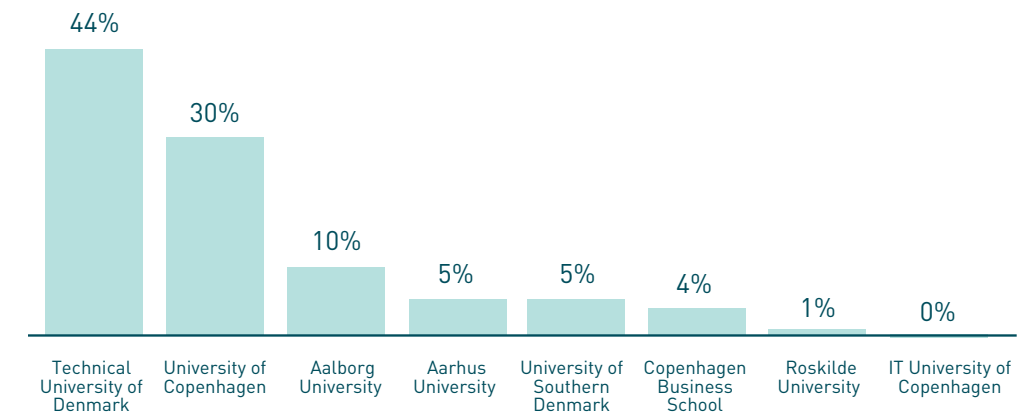


Notes: The figure shows within which field of research the PhDs have completed their Industrial PhD degree. The 2010 data refers to all persons having completed an Industrial PhD Education by 2010 or earlier. The comparison group has been composed to match the field of research of the Industrial PhDs. N=676.

Source: Oxford Research based on data from Statistics Denmark.

Keeping in mind that the vast majority of Industrial PhDs are from the technical sciences, it is not surprising that 44 pct. of all Industrial PhDs graduate from the Technical University of Denmark. The second largest source of Industrial PhDs is the University of Copenhagen with 30 pct. Only a few Industrial PhDs graduate from the IT University of Copenhagen and Roskilde University. By 2010, only 1 and 7 graduated from these universities, respectively.

FIGURE 5.1.2 Industrial PhDs 2010 – Educational institution



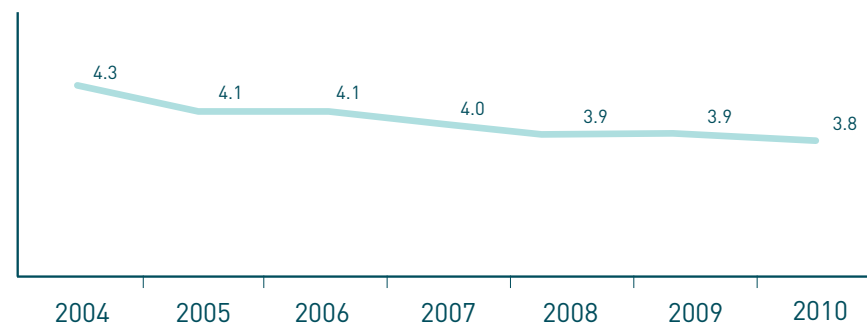
Notes: Educational institution illustrates which universities the Industrial PhDs have been attached to during their PhD Education. The data refers to all persons having graduated in 2010 or earlier. N=676.

Source: Oxford Research based on data from Statistics Denmark.

Industrial PhD students typically gain a fair share of work experience prior to starting their PhD Education. This is most likely because the PhD project must involve a private company (or public institution) to be approved. Many university graduates at the master level presumably have limited networks to private companies and public institutions and little insight into which types of research projects are available. Thus, many are initially employed and subsequently decide to complete a PhD in collaboration with their employer.

The 676 persons with an Industrial PhD degree in 2010 had, on average, 3.8 years of professional experience prior to the start of their PhD Education. From 2004-2010, the average pre-PhD work experience decreased by roughly half a year. Hence, in 2004 the 418 Industrial PhDs who had graduated by then had 4.3 years experience prior to their PhD.

FIGURE 5.1.3 Professional experience in years prior to enrolment in the Industrial PhD Programme, 2004-2010



Notes: The figure illustrates the average professional experience of all Industrial PhDs prior to enrolling as a PhD. Data is from Statistics Denmark's PhD register. The comparison group has been composed to match the professional experience of the Industrial PhDs prior to the initiation of the Industrial PhD. The population is gradually enlarged as the number of Industrial PhD graduates increase. 2004: N=418, 2010: N=676.

Source: Oxford Research based on data from Statistics Denmark.

Appendix A contains all background data on Industrial and conventional PhDs.

5.2. Where do Industrial PhDs work and what do they do?

This section focuses on where Industrial PhDs work and what they do. The central conclusions are:

Both industrial PhDs and conventional PhDs are employed primarily in large companies.

- For both Industrial and conventional PhDs, slightly more than half work for firms with more than 250 employees.

Almost four out of five Industrial PhDs work in the private sector in functions which require high levels of expertise.

- 52 pct. of conventional PhDs are employed in the public sector. Like Industrial PhDs, they mainly perform functions which require high level of expertise.
- 8 pct. of Industrial PhDs are managers, while 5 pct. of conventional PhDs are in management.

5.2.1. Sociology of work

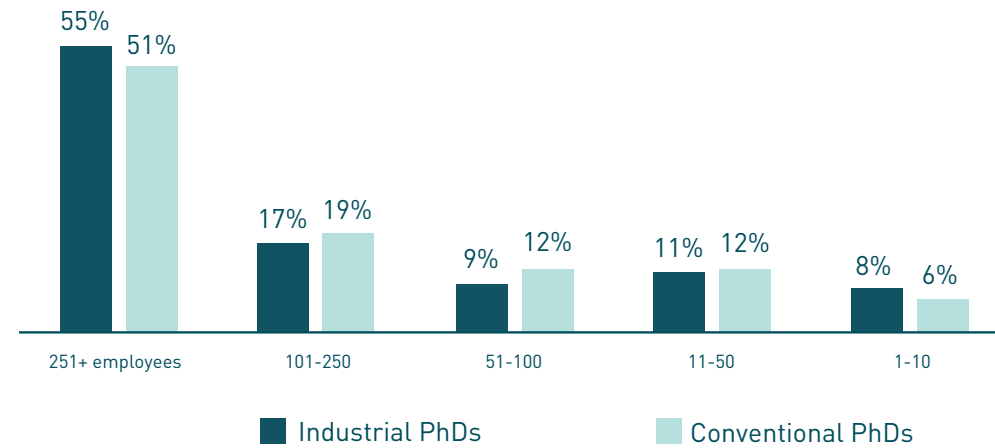
Most Industrial PhDs work in large companies. By 2009, more than half of the graduates had found employment in companies with more than 250 employees, corresponding to 288 of the 528 PhDs. 72 pct. worked in companies with more than 100 employees, while only 19 pct. were employed in private companies with 50 employees or less. This differs significantly from the general distribution of private firms in Denmark. Among all companies in the private sector, only 0.2 pct. employ more than 250 people while 93 pct. of all companies had less than 10 employees.⁴ However, since large companies invest by far the most in research and development, it is natural that the Industrial PhDs also cluster in these companies.

The conventional PhDs in the comparison group are similarly distributed. By 2009, 51 pct. were employed in large companies with more than 250 employees while only 6 pct. were employed in small companies with 10 employees or less. The reason for the large share of conventional PhDs being employed by large companies is most likely that universities, where conventional PhDs are often employed, employ more than 250 people.

⁴ Danmarks Statistik (2012): Nyt fra Danmarks Statistik, nr. 425.



FIGURE 5.2.1 Number of employees at the work place of Industrial PhDs and conventional PhDs 2009



Notes: The work place refers to the place where Industrial PhDs have their main employment. The data on conventional PhDs refers to the comparison group and not the total population of conventional PhDs. N(Industrial PhDs)=528, N(conventional PhDs)=526.

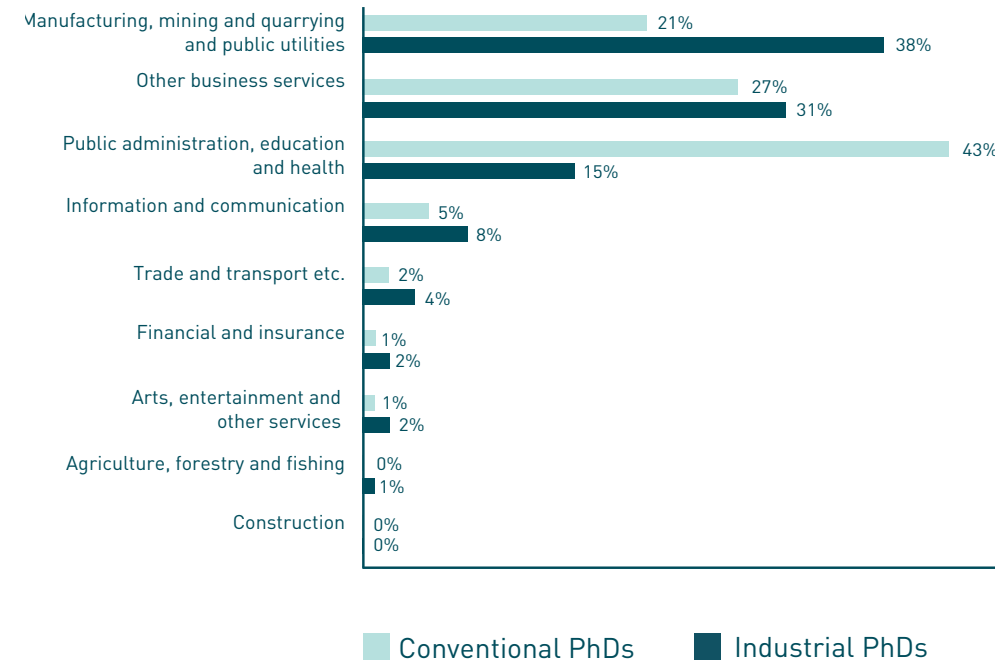
Source: Oxford Research based on data from Statistics Denmark.

Although the distributions of the two types of PhDs are very similar in 2009, different developments have occurred since 2004. From 2004 to 2009 the share of Industrial PhDs working in large firms has increased from 47 to 55 pct. For the comparison group of conventional PhDs, the share employed in large firms has decreased from 55 pct. in 2004 to 51 pct. in 2009.

Most Industrial PhDs are employed in the sector of “Manufacturing, mining and quarrying and public utilities” (manufacturing) while most conventional PhDs are employed in “Public administration, education and health”. In 2010, 38 pct. of the graduates from the Industrial PhDs were employed in manufacturing and 31 pct. in other business services. Thus, these two sectors employ nearly 7 out of ten Industrial PhDs. For the conventional PhDs, 42 pct. are employed in public administration, education and health while manufacturing and other business services collectively employ 48 pct. of conventional PhD graduates.



FIGURE 5.2.2 Sectoral employment 2009 – type of PhD



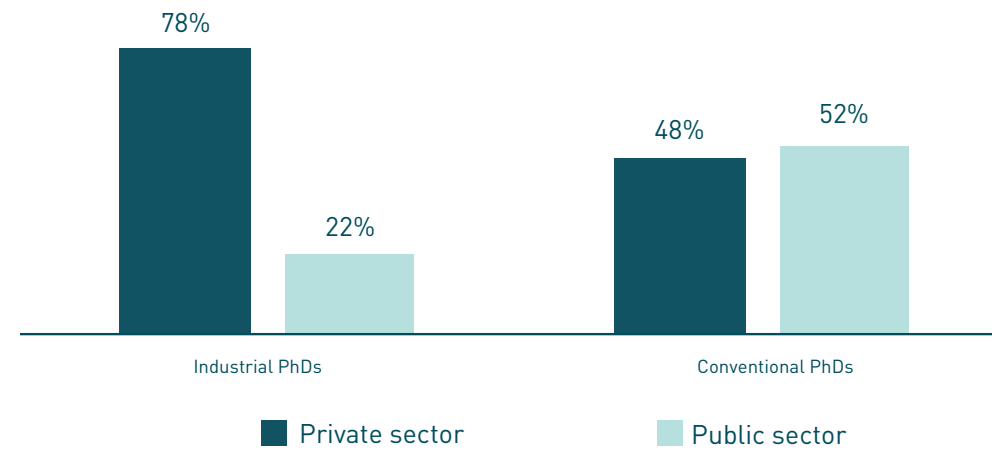
Notes: Sectoral employment is based on the official categorisation of sectors into 10 standard groups (Dansk branchenomenklatur, DB07). N(Industrial PhDs)=528, N(conventional PhDs)=526.

Source: Oxford Research based on data from Statistics Denmark.

The vast majority of Industrial PhDs work in the private sector. By 2010, a total of 487 of the 624 Industrial PhDs worked in the private sector, equivalent to 78 pct. or almost four out of five persons in the group. Only 22 pct. are employed in the public sector. This distribution differs considerably from the roughly equal split between the conventional PhDs.



FIGURE 5.2.3 Sectoral employment 2010 – type of PhD



Notes: The public sector includes public administration and services and public companies and public quasicompanies. Sectoral employment is determined in accordance with the international guidelines in SNA (System of National Accounts. N(Industrial PhDs)=624, N(conventional PhDs)=603.

Source: Oxford Research based on data from Statistics Denmark.

The overwhelming majority of Industrial PhDs perform highly skilled work. Indeed, 85 pct. of the Industrial PhDs with a reported job function in 2010 were employed in positions requiring a high level of expertise. 8 pct. are employed as managers.

Conventional PhDs are even more specialised. In 2010, 90 pct. performed work requiring a high level of expertise, while 5 pct. performed management work. Thus, the likelihood of becoming a manager is slightly higher for Industrial PhDs compared to conventional PhDs.



TABLE 5.2.4 Job function of PhDs 2010 – type of PhD

Job function	Industrial PhDs		Conventional PhDs	
	Count	Percentage	Count	Percentage
Work requiring high-level expertise	514	85	523	90
Management	50	8	30	5
Work requiring expertise	29	5	18	3
Office and customer service	4	1	6	1
Agriculture, forestry and fishery	3	0	2	0
Handicrafts	2	0	2	0
Operation, assembly and transport	2	0	0	0
Other manual work	2	0	0	0
Total	607	100%	581	100%

Notes: Job function is based on primary employment. For employees primary employment is based on the employment where they have received the highest salary for the year.

Source: Oxford Research based on data from Statistics Denmark.

For both industrial and conventional PhDs, few perform functions other than management and work requiring high-level expertise. For conventional PhDs, only 28 individual graduates reported working outside of these two professional functions, while the corresponding number for the Industrial PhD graduates is 42.

The work performed by Industrial PhDs requiring high level expertise is often engineering work. Approximately one in every four Industrial PhDs performs engineering work as their main employment, while 10 percent mainly engage in research and teaching at higher education institutions. The figures for conventional PhDs are the opposite. Among this group 30 percent perform research and teaching at higher education institutions, while 15 percent are engaged in engineering work.

TABLE 5.2.5 Job function of PhDs 2010 – type of PhD				
Job function	Industrial PhDs		Conventional PhDs	
	Count	Percentage	Count	Percentage
Engineering work	156	26%	88	15%
Pharmaceutical work	70	12%	30	5%
Research and teaching at higher education institutions	61	10%	176	30%
Work requiring high level expertise	38	6%	33	6%
Regular medical work	8	1%	33	6%
All other work	274	45%	221	38%
Total	607	100%	581	100%

Notes: Job function is based on primary employment. For employees primary employment is based on the employment where they have received the highest salary for the year.

Source: Oxford Research based on data from Statistics Denmark.

Appendix A contains all data on where Industrial and conventional PhDs work and what they do.

5.3. How many are employed

This section focuses on employment of the Industrial PhDs. The central conclusions are:

Industrial PhDs have a very high employment rate

- Only around one percentage of industrial PhDs experience unemployment during the year.

The few that experience unemployment quickly find a new job

- The average unemployment period is 2-4 months. Conventional PhDs in the comparison group also experience high employment and only short spells of unemployment.

The financial crisis has not affected the unemployment rate of Industrial PhDs markedly

- Unemployment has only been affected marginally by the financial crisis. However, more recent data is necessary to be able to draw more firm conclusions on the impact of the financial crisis.

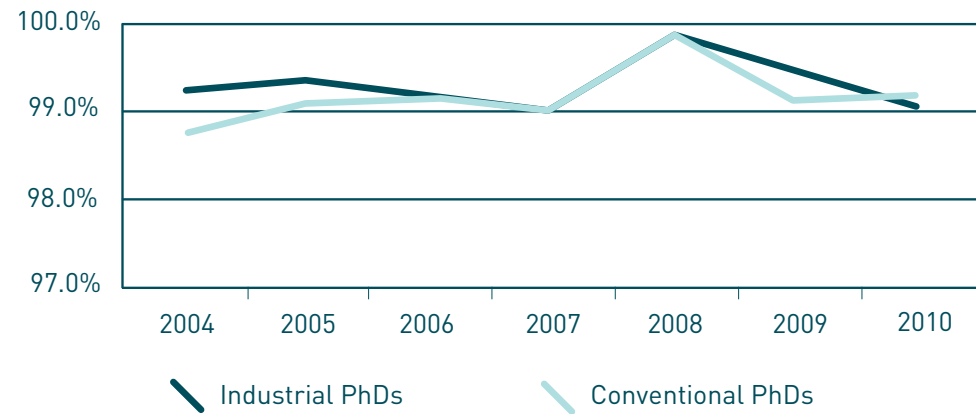
5.3.1. Employment rates

Unemployment among Industrial PhDs is very low. Between 2004-2010 the employment rate of Industrial PhDs reported annually on November 1st has been around 99 pct. In November 2010 595 of 601 Industrial PhDs were employed. In November 2008 only 1 of the 505 Industrial PhDs was unemployed.

The employment rates for conventional PhDs are equally high. Of the 575 persons reported in November 2010, 570 were employed.



FIGURE 5.3.1 Development in the percentage of employment 2004-2010 – type of PhD



Notes: The employment rate illustrates the percentage of Industrial PhDs with employment on 1 November the specific year. Only persons reported as employed or unemployed are included in the data. Missing values and persons not in the labour force are excluded from the data. The notion of not being in the labour force mainly refers to retirees or persons on parental leave. International guidelines from the International Labour Organisation (ILO) are employed to determine attachment to the labour market. 2010: N(Industrial PhDs)=601, N(conventional PhDs)=575.

Source: Oxford Research based on data from Statistics Denmark.

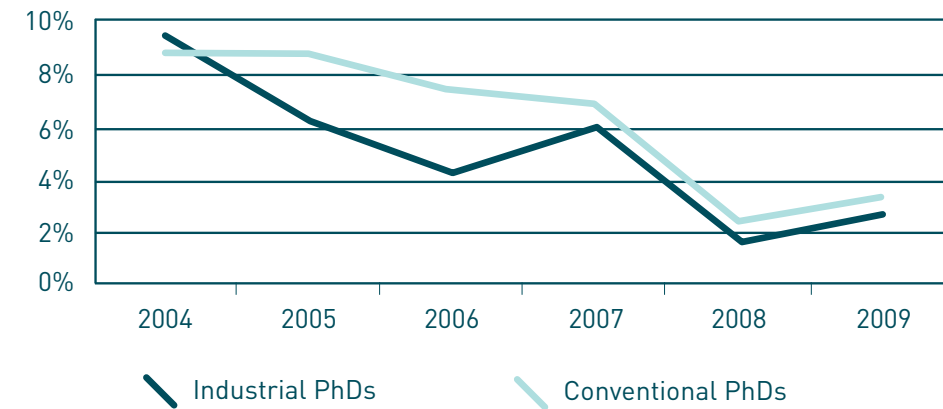
PhDs listed as not in the labour force and with no information on employment status have been excluded from the data. The notion “not in the labour force” mainly refers to PhDs who have retired or who are on parental leave. Since they are neither employed nor unemployed they have not been added to either of these categories.⁵

Looking at the share of Industrial PhDs experiencing unemployment during a specific year tells a similar story. Only a small percentage of Industrial PhDs are unemployed at some point during a year. From 2004-2008 the share of Industrial PhDs experiencing unemployment decreased from 9 pct. to 2 pct. In 2008 only 8 of the 512 Industrial PhDs were unemployed at some point during the year.

⁵ Further, the employment status of 6-8 pct. of Industrials PhDs and 12-13 pct. of the conventional PhDs are missing in the registries of Statistics Denmark from 2004-2010. They have also been omitted.



FIGURE 5.3.2 Percentages of PhDs experiencing unemployment during the year 2004-2009 – type of PhD



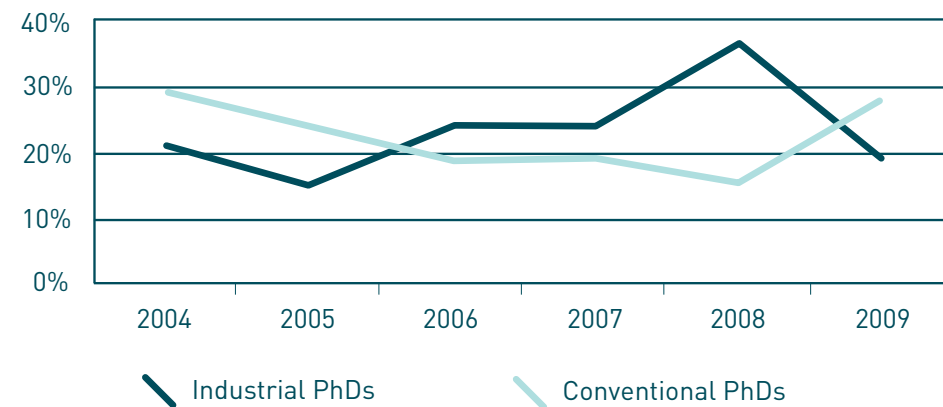
Notes: The unemployment rate illustrates the percentage of Industrial PhDs experiencing unemployment at some point during the specific year. The specific year refers to the period between January 1st and December 31st of that year. 2010: N(Industrial PhDs)=568, N(conventional PhDs)=568.

Source: Oxford Research based on data from Statistics Denmark.

The impact of the financial crisis on the unemployment of Industrial PhDs from 2008 to 2009 was modest. In 2009, 15 of the 553 Industrial PhDs experience unemployment. This is slightly more than the year before but the increase is very limited. However, to draw firm conclusions on the impact of the financial crisis, data for 2010 and later is needed. Comparable developments characterize the group of conventional PhDs.

Of the Industrial PhDs who experience unemployment at some point throughout the year, the average duration of unemployment was about 3 months out of the year. In 2005, the 27 Industrial PhDs without employment were out of work for 15 pct. of the year, equivalent to 55 days. In 2008, the 8 persons affected by unemployment were on average unemployed for 36 pct. of the year, equivalent to 131 days over the course of the year.

FIGURE 5.3.3 Average share of the year as unemployed 2004-2009 – type of PhD



Notes: Average share of the year as unemployed measures the proportion of the year in which a person has been unemployed for either a continuous period or several periods combined. Unemployment ratio is calculated as the number of unemployed hours as a share of the (potential) working hours. A share of 100 percent implies that the person has been unemployed the entire year. 2010: N(Industrial PhDs)=568, N(conventional PhDs)=568.

Source: Oxford Research based on data from Statistics Denmark.

The results should be interpreted with caution. The relatively high average duration of unemployment in 2008 is generated primarily by a small number of outliers (8 persons) experiencing unemployment slightly longer than the other years.

Appendix A contains all employment data for Industrial and conventional PhDs.

5.4. Industrial PhDs' income

This section focuses on the income of the Industrial PhDs. The central conclusions are:

Industrial PhDs have a higher income than conventional PhDs

- In 2010, an average Industrial PhD had a gross yearly income of DKK 636,158 while a conventional PhD on average earned DKK 597,380.

The Industrial PhDs have experienced a substantial salary increase

- In 2004, the average income for an Industrial PhD was DKK 509,757. By 2010, salaries for this group had increased by approximately 25 percent.

Industrial PhDs from the social sciences earn the highest income

- The cohort of 2010 graduates from the Industrial PhD programme in the social sciences earn on average DKK 785,086 per year. They are followed by Industrial PhDs from humanities, who earn on average DKK 644,977 and from technical sciences, with average incomes of DKK 581,013 per year.
- Among conventional PhDs, the group in social sciences also earn the highest income. A comparison of the fields of research for Industrial and conventional PhDs shows that the biggest difference is within humanities, where Industrial PhDs earn approximately twice as much as conventional PhDs. However, few Industrial PhDs have completed their PhD in humanities and the results are influenced by a few individuals having very large incomes in some years.

Industrial PhDs employed in the private sector earn a higher income than Industrial PhDs in the public sector

- Industrial PhDs in 2010 on average earned DKK 674,922 per year while their counterparts employed in the public sector earned DKK 574,894.

Conventional PhDs and Industrial PhDs earn the same when employed in the same sector (private/public)

- Over the period 2004-2010, an average Industrial PhD employed in the private sector earned DKK 610,716 per year, while a conventional PhD in the private sector had an average income of DKK 625,832. Likewise, the two groups had similar income in the public sector.
- Thus, despite the industrial PhDs being an industry-focused PhD and conventional PhDs being focused on the public sector, they do not earn a higher salary when employed in their “own” sector. The positive effect on income from completing an Industrial PhD is indirect and arises because they are more likely to find employment in high paying jobs in the private sector upon completion of their PhD.

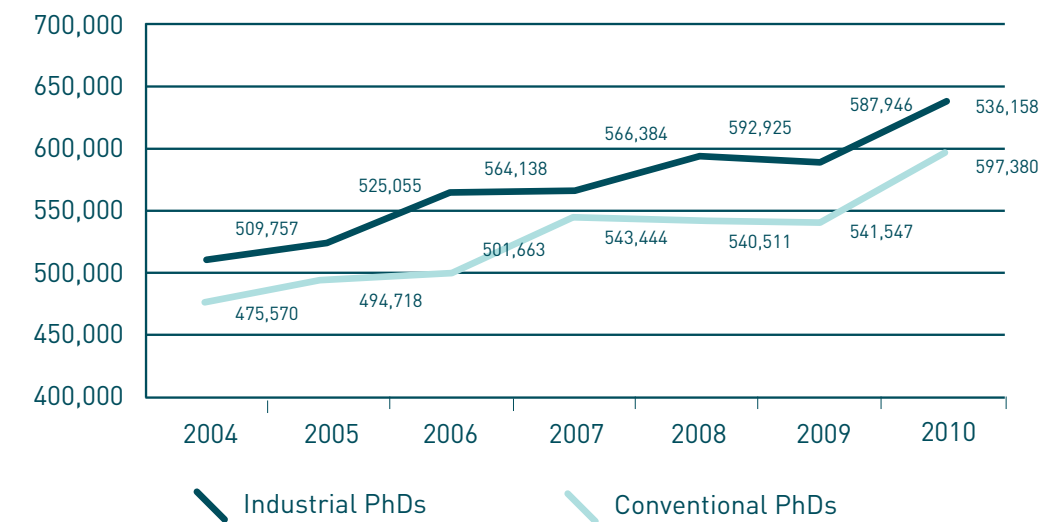
The following section presents a more detailed presentation of the data and conclusions.

5.4.1. Income

This section analyses Industrial PhDs’ income and the impact of field of research and employment (public / private) on income. The results for Industrial PhDs are compared to conventional PhDs, and development is traced over time.

Industrial PhDs earn significantly more than the conventional PhDs. In 2010, industrial PhDs earned on average DKK 636,158 per year before taxes, while conventional PhDs earned DKK 597,380. This is a difference of nearly 40,000 per year, which represents a little more than six pct. As illustrated by figure 3.5.1 Industrial PhDs earned more than conventional PhDs throughout the entire 2004-2010 period.

FIGURE 5.4.1 Average gross income for PhDs 2004-2010 – Type of PhD



Notes: Gross income is the income that is the object of ordinary income tax (calculated by Statistics Denmark). 2010: N(Industrial PhDs)=655, N(conventional PhDs)=639.

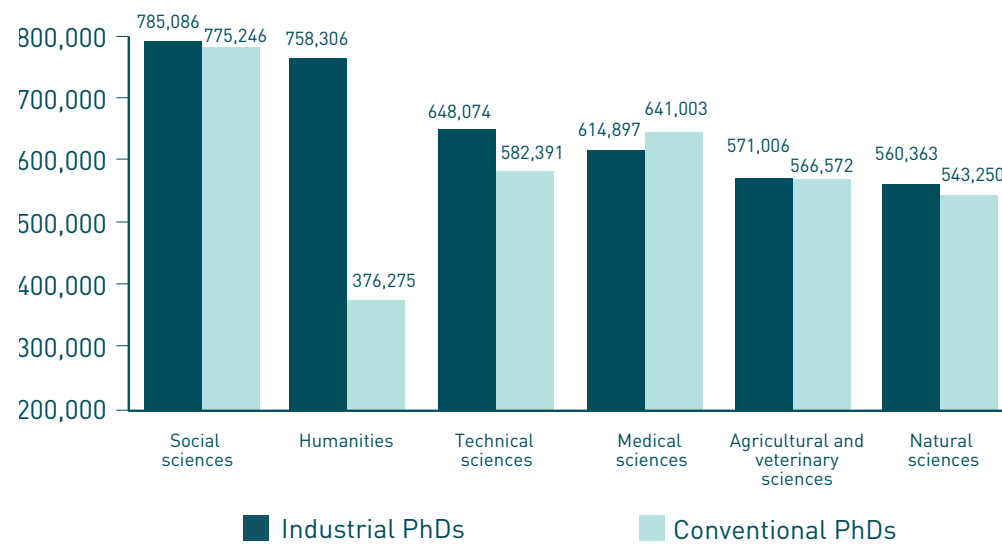
Source: Oxford Research based on data from Statistics Denmark.

The industrial PhDs’ income has been steadily increasing since 2004. During the period 2004-2010, the income of Industrial PhDs increased from DKK 509,757 per year to DKK 636,158, which represents an increase of DKK 126,000 a year or approximately 25 pct. Similarly, the conventional PhDs’ annual income has increased from 475,570 to 597,380, which also corresponds to an increase of approximately 25 pct.

The field of research affects the income of the PhDs considerably. Industrial PhD graduates with a background in the social sciences had the highest income in 2010, making on average DKK 785,096 per year. Industrial PhDs from the humanities had on average the second highest income, making on average DKK 758,306. Given that humanities is generally not a field of research that leads to a high income, this is surprising. However, it should be stressed that observed level of income is based on few observations and that a few individuals with very high incomes have a strong impact on the average income.

Industrial PhDs in natural sciences and agricultural and veterinary sciences have the lowest income in 2010, making DKK 560,363 and 571,006 respectively. Thus, the industrial PhDs with a social science background make around 40 percentage more on average a year than Industrial PhDs from natural sciences and agricultural and veterinary sciences.

FIGURE 5.4.2 Average gross income for PhDs 2010 – field of research



Notes: Gross income is the income that is object to ordinary income tax (calculated by Statistics Denmark). Field of research refers to the field of research the PhDs have completed their PhD degree in. The data for humanities for Industrial PhDs are based on 7 observations. 2010: N(Industrial PhDs)=655, N(conventional PhDs)=639.

Source: Oxford Research based on data from Statistics Denmark.

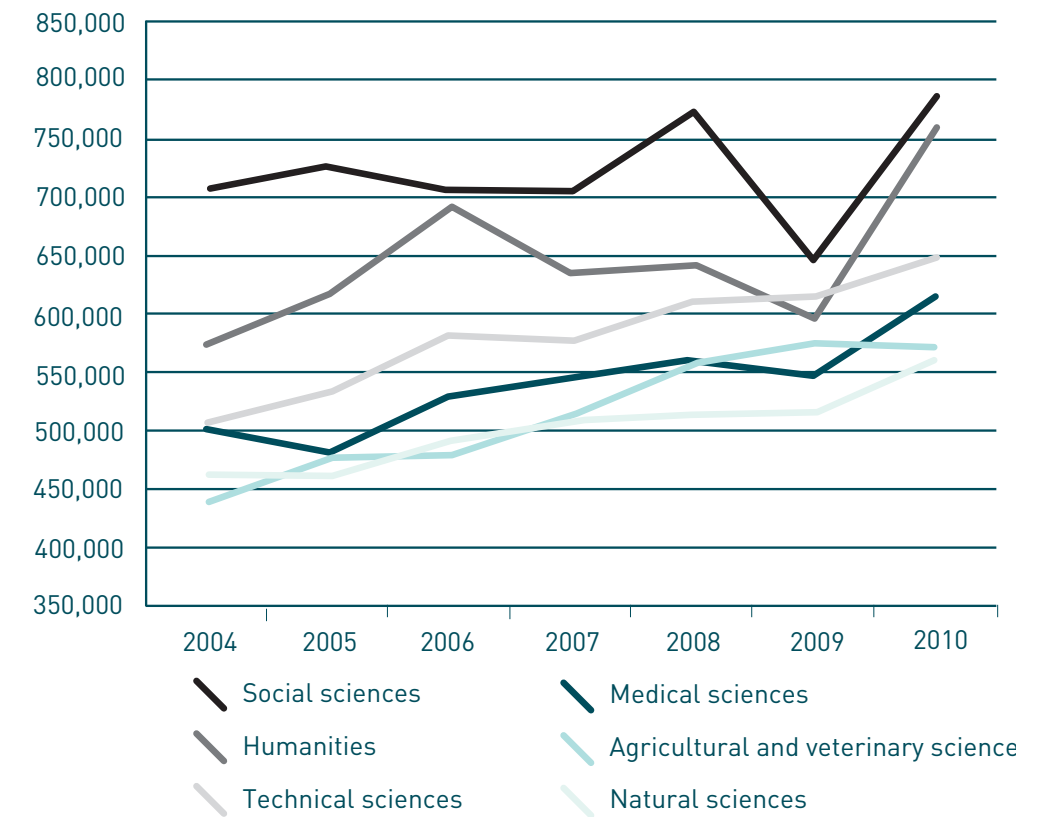
Among the conventional PhDs, the group of social science PhDs are also the ones with the highest income in 2010, followed by the medical sciences. Medical sciences are also the only field of research where conventional PhDs have a higher income than Industrial PhDs. Conventional PhDs on average had an income of DKK 641,003 in 2010, which is about DKK 26,000 higher than the Industrial PhDs (average yearly income DKK 614,897).

Humanities graduates have by far the biggest difference in income between Industrial PhDs and conventional PhDs. As mentioned, they have the second highest average income among Industrial PhDs; however, among conventional PhDs, they have the lowest income (DKK 376,275).

Thus, those who have completed their Industrial PhDs within humanities earn an average of approximately DKK 380,000 more per year than the conventional PhDs. This means that the Industrial PhDs make about twice as much as the conventional PhDs. It should be stressed again that only a few persons have completed an Industrial PhD in humanities.

In each year included in the study, the industrial PhDs with a social science background are the group with the highest income. They are followed by humanities as the second highest income group, all years except 2009, where the group with a technical science background has a slightly higher income. Natural, medical, and agricultural and veterinary sciences have the lowest incomes.

FIGURE 5.4.3 Development in average gross income for Industrial PhDs 2004-2010 – field of research



Notes: Gross income is the income that is object to ordinary income tax (calculated by Statistics Denmark). 2010: N(Industrial PhDs)=655, N(conventional PhDs)=639.

Source: Oxford Research based on data from Statistics Denmark.

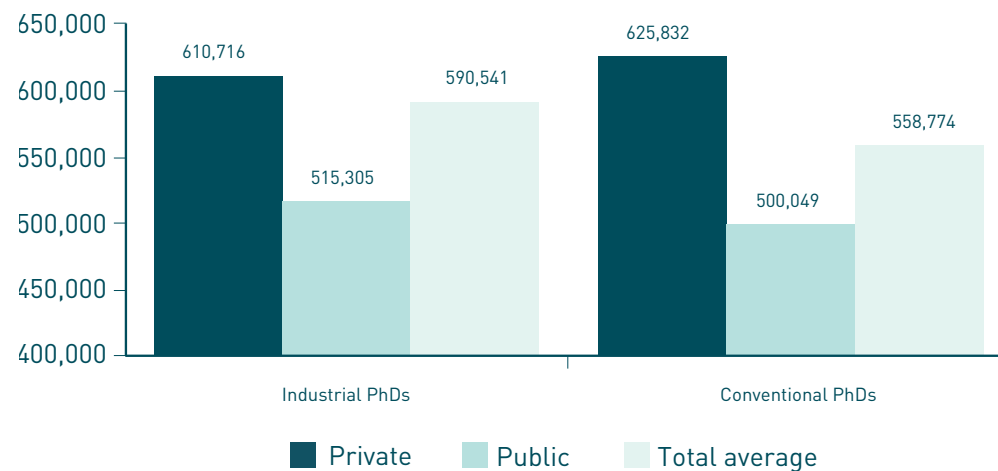
As illustrated by figure 3.4.3, the annual fluctuations for the PhDs with a social science background and humanities are significant. The main reason is that the results are based on relatively few observations and that some PhDs have a very high income in some years but fall back to an income around the average the following year. For the other fields of research, income increased steadily over the period.

As illustrated in section 3.3 on work sociology, more industrial PhDs than conventional PhDs are employed in the private sector. Since wages are traditionally higher in the private sector than in the public sector, we distinguish between public and private sector employment in the next analysis. Further, since the Industrial PhD is industry-focused and the conventional PhDs complete their PhD in the public sector, one could also imagine that Industrial PhDs provide more value in the private sector than conventional PhDs, while conventional PhDs provide the most value in the public sector.

As illustrated in figure 3.4.4, Industrial and conventional PhDs employed in the private sector have roughly the same average income over the period 2004-2010. The same is the case for the PhDs employed in the public sector.

Over the period 2004-2010, an Industrial PhD employed in the private sector earned on average DKK 610,716 per year, while a conventional PhD in the private sector had an average income of DKK 625,832. Correspondingly, an industrial PhD employed in the public sector earned, on average, DKK 515,305 per year and an average conventional PhD earned DKK 500,049.

FIGURE 5.4.4 Gross salary for PhDs 2004-2010 average - sector



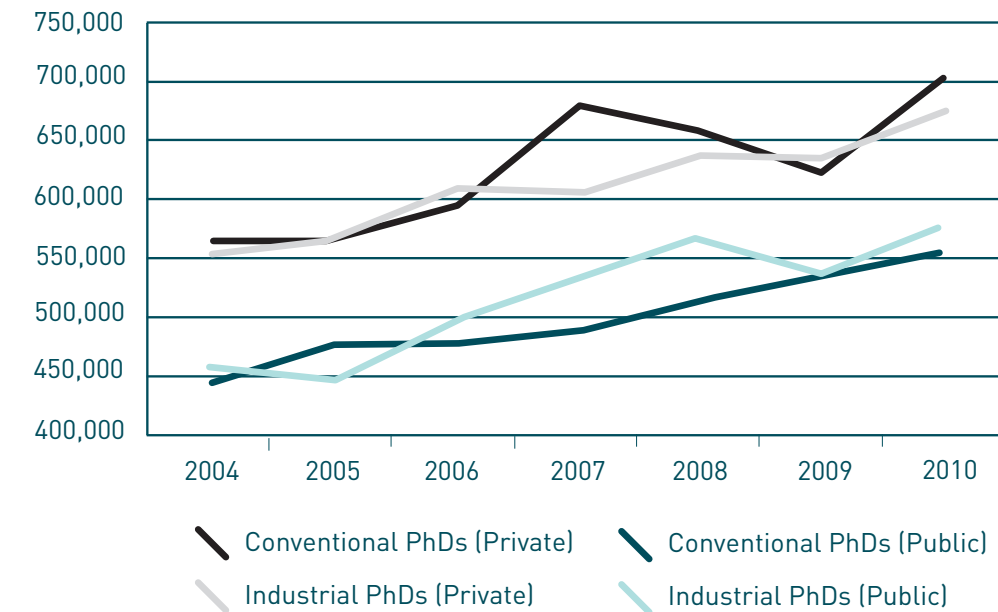
Notes: The public sector includes public administration and services and public companies and public quasicompanies. 2010: N[Industrial PhDs]=624, N[conventional PhDs]=603.

Source: Oxford Research based on data from Statistics Denmark.

Thus, if income is an indicator of the value an employee generates, then a conventional PhD generates the same value as an Industrial PhD when employed in the private sector. Similarly, an Industrial PhD generates the same value as a conventional PhD when employed in the public sector. Thus, the effect of the PhD programmes (Industrial/conventional) on income is indirect. The Industrial PhD degree more often leads to high income employment in the private sector. This is also possible as a conventional PhD, but it is more likely to lead to employment in the public sector, with correspondingly lower salaries. In other words, the PhD programme affects the type of sector, which in turn affects the level of income.

For most years – looking at 2004-2010 – the Industrial PhDs and the conventional PhDs in the public and private sector respectively have roughly the same income. This is illustrated by figure 3.5.5. Only in 2007 did the conventional PhDs in the private sector make substantially more than the Industrial PhDs (roughly DKK 70,000).

FIGURE 5.4.5 Development in average income for PhDs 2004-2010 - sector



Notes: The public sector includes public administration and services and public companies and public quasicompanies. 2010: N[Industrial PhDs]=624, N[conventional PhDs]=603.

Source: Oxford Research based on data from Statistics Denmark.

In 2010, an Industrial PhD employed in the private sector earned on average DKK 674,922 per year and a conventional PhD also in the private sector earned an average of DKK 700,582. In the public sector, an Industrial PhD in 2010 had an average income of DKK 574,894 per year while their counterparts with conventional PhDs earned, on average, DKK 553,957 per year.

In 2010, male Industrial PhDs earned on average approximately DKK 90,000 more than female Industrial PhDs. The difference is larger than for conventional PhDs (DKK 61,000 per year). Appendix A contains all income data for Industrial and conventional PhDs for the period 2004-2010 broken down by type of employment, field of research and sex.

5.5. Mobility

This section focuses on the mobility of the PhDs. The central conclusions are:

Mobility of industrial PhDs between companies is in line with patterns in other sectors and time periods

- Approximately 20 pct. of the Industrial PhDs change to a new job in another company every year.
- The pattern is similar for conventional PhDs.

Indications are that the financial crisis has reduced mobility of PhDs

- The financial crisis seems to have reduced voluntary mobility more than it has increased involuntary mobility.

Mobility out of the country and brain drain is limited

- 7 pct. of the industrial PhDs who have graduated since 2004 have moved abroad and not returned.

5.5.1. Mobility

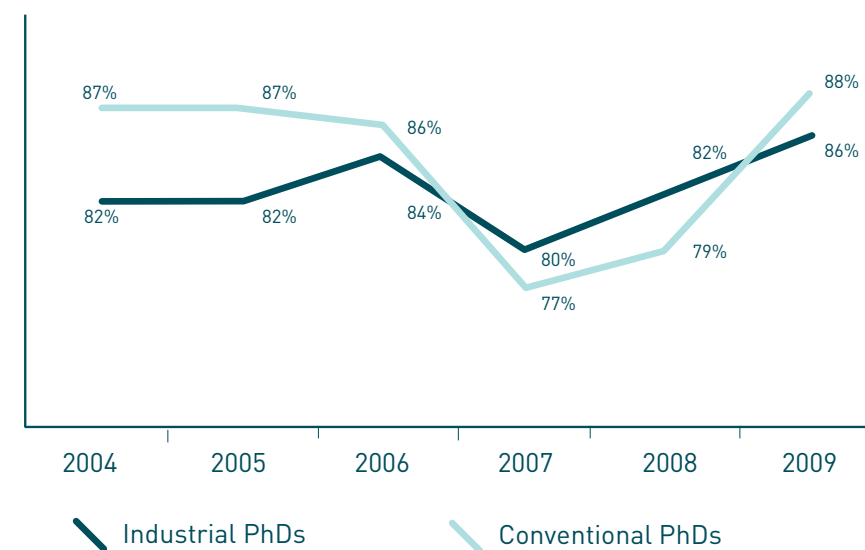
The mobility of Industrial PhDs in the labour market has been fairly stable from 2004-2009.

In general, it is positive to have a mobile labour force. This ensures that the labour force can be employed where it is most needed and moved away from positions or sectors where it is not needed anymore. Also, mobility brings new challenges to the employees and can help develop new competencies and skills.

In 2004, 82 pct. of the Industrial PhDs worked for the same company throughout the year and 18 pct. changed to a job in another company as illustrated by figure 5.3.1. The mobility of Industrial PhDs on the labour market was relatively stable up until 2008, with 80 to 84 pct. remaining in the same job every year and 16 to 20 pct. finding a new job in another company. Thus, on average, Industrial PhDs change job every five years. The pattern is similar for conventional PhDs and the findings are in line with findings from other sectors and other periods of time.⁶

2004-2008 was characterised by a booming economy, a low level of unemployment, and labour shortages in some sectors. This started to change in 2008 when the financial crisis erupted and unemployment started to rise. This seems to have affected mobility of the Industrial and conventional PhDs negatively. For Industrial PhDs the share remaining in the same employment went up from 82 pct. to 86 pct. and for conventional PhDs the share went up from 79 pct. to 88 pct.

FIGURE 5.5.1 Development of PhDs with unchanged employment or movements within the same company 2004-2009 – type of PhD



Notes: The figure illustrates the share of PhDs with unchanged employment compared to the previous year. Unchanged employment includes PhDs who have moved inside the company. The specific year refers to the period from November 1st of the previous year to October 31st of the specific year. It is not possible to distinguish between voluntary and forced mobility. 2009: N(Industrial PhDs)=498, N(conventional PhDs)=503.

Source: Oxford Research based on data from Statistics Denmark.

⁶ See for example: Rosdahl, Anders. Danskerne lader sig flytte, hvis incitamentene er der. http://www.sfi.dk/danskerne_lader_sig_flytte_-_hvis_incitamentene_er_der-4815.aspx



When more recent data becomes available it will be possible to better assess the impact of the financial crisis. One would suspect the financial crisis to have two opposite effects. On the one hand less people will voluntarily change job because the supply of jobs is lower. On the other hand some people will be laid off and therefore be forced to change job. Early indications suggest that the reduced voluntary mobility is stronger than the increased forced mobility.

Mobility can also happen between countries. It is generally regarded as positive that knowledge workers move abroad and acquire new competencies. However, at the same time it can lead to loss of competencies if they do not return.

Only a small share of Industrial PhDs move abroad after graduation and do not return. Of the 331 Industrial PhDs graduating between 2004 and 2010, 24 have moved abroad and not returned by the end 2011. 14 have moved abroad but had returned by the end of 2011.

TABLE 5.5.1 Number and share of PhDs moving abroad and returning by 2011 – type of PhD

PhDs graduating 2004-2010	Industrial PhDs		Conventional PhDs	
	Number	Percentage	Number	Percentage
Moved abroad and not returned	24	7	30	n/a
Moved abroad and returned	14	4	22	n/a
Total number of PhD graduates	331	100	n/a	n/a

Notes: The table shows whether PhDs who have graduated between 2004 and 2010 have moved abroad and whether they have returned by the end of 2011. N(Industrial PhDs)=331

Source: Oxford Research based on data from Statistics Denmark.

Mobility out of the country for conventional PhDs is slightly higher. 30 PhDs graduating between 2004 and 2010 have moved abroad without returning, while 22 others have returned after moving abroad. Appendix A contains all data on mobility for Industrial and conventional PhDs.



6. APPENDIX A – OVERVIEW OF DATA



Appendix for section 5.1. Who are the Industrial PhDs?

Field of research 2004-2010 for Industrial PhDs and conventional PhDs						
Industrial PhDs						
	2004		2005		2006	
	Count	Percentage	Count	Percentage	Count	Percentage
Technical science	248	59%	268	58%	281	57%
Medical science	64	15%	81	17%	89	18%
Natural science	49	12%	53	11%	57	12%
Agricultural and veterinary sciences	26	6%	30	6%	31	6%
Social sciences	27	6%	27	6%	29	6%
Humanities	4	1%	4	1%	4	1%
Total	418	100%	463	100%	491	100%
Conventional PhDs						
	2004		2005		2006	
	Count	Percentage	Count	Percentage	Count	Percentage
Technical science	248	55%	264	54%	280	53%
Medical science	64	14%	77	16%	85	16%
Natural science	60	13%	67	14%	75	14%
Social sciences	37	8%	37	8%	41	8%
Agricultural and veterinary sciences	34	8%	37	8%	38	7%
Humanities	10	2%	10	2%	10	2%
Total	453	100%	492	100%	529	100%



Industrial PhDs								
	2007		2008		2009		2010	
	Count	Percentage	Count	Percentage	Count	Percentage	Count	Percentage
	300	56%	316	56%	334	54%	362	54%
	99	19%	104	18%	118	19%	128	19%
	66	12%	68	12%	73	12%	81	12%
	32	6%	39	7%	43	7%	49	7%
	31	6%	33	6%	40	7%	49	7%
	4	1%	5	1%	6	1%	7	1%
Total	532	100%	565	100%	614	100%	676	100%
Conventional PhDs								
	2007		2008		2009		2010	
	Count	Percentage	Count	Percentage	Count	Percentage	Count	Percentage
	304	54%	331	54%	347	53%	365	53%
	89	16%	98	16%	111	17%	126	18%
	78	14%	82	13%	84	13%	85	12%
	42	7%	46	8%	47	7%	53	8%
	40	7%	43	7%	47	7%	49	7%
	11	2%	12	2%	14	2%	16	2%
Total	564	100%	612	100%	650	100%	694	100%

Source: Register Based Work Force Statistics 2004 - 2010

Work experience prior to the PhD							
	Measured in years						
	2004	2005	2006	2007	2008	2009	2010
Industrial PhDs	4.3	4.1	4.1	4.0	3.9	3.9	3.8
Conventional PhDs	4.4	4.3	4.1	4.0	4.0	3.9	3.9

Source: Register Based Work Force Statistics 2004 - 2010



University						
Industrial PhDs						
	2004		2005		2006	
	Count	Percentage	Count	Percentage	Count	Percentage
Technical University of Denmark	206	49%	224	48%	234	48%
University of Copenhagen	114	27%	134	29%	143	29%
Aalborg University	45	11%	47	10%	51	10%
Aarhus University	20	5%	23	5%	23	5%
University of Southern Denmark	12	3%	14	3%	17	3%
Copenhagen Business School	17	4%	17	4%	19	4%
Roskilde University	4	1%	4	1%	4	1%
IT University of Copenhagen	0	0%	0	0%	0	0%
Total	418	100%	463	100%	491	100%
Conventional PhDs						
	2004		2005		2006	
	Count	Percentage	Count	Percentage	Count	Percentage
Technical University of Denmark	197	43%	212	43%	226	43%
University of Copenhagen	134	30%	146	30%	158	30%
Aalborg University	58	13%	59	12%	61	12%
Aarhus University	43	9%	50	10%	57	11%
University of Southern Denmark	12	3%	15	3%	17	3%
Copenhagen Business School	7	2%	7	1%	7	1%
Roskilde University	2	0%	3	1%	3	1%
IT University of Copenhagen	0	0%	0	0%	0	0%
The Royal Danish Academy of Fine Arts, School of Architecture	0	0%	0	0%	0	0%
Missing	0	0%	0	0%	0	0%
Total	453	100%	492	100%	529	100%



University								
Industrial PhDs								
	2007		2008		2009		2010	
	Count	Percentage	Count	Percentage	Count	Percentage	Count	Percentage
Technical University of Denmark	249	47%	264	47%	274	45%	296	44%
University of Copenhagen	156	29%	167	30%	185	30%	204	30%
Aalborg University	57	11%	60	11%	66	11%	70	10%
Aarhus University	27	5%	29	5%	31	5%	37	5%
University of Southern Denmark	19	4%	19	3%	26	4%	33	5%
Copenhagen Business School	20	4%	20	4%	25	4%	28	4%
Roskilde University	4	1%	6	1%	6	1%	7	1%
IT University of Copenhagen	0	0%	0	0%	1	0%	1	0%
Total	532	100%	565	100%	614	100%	676	100%
Conventional PhDs								
	2007		2008		2009		2010	
	Count	Percentage	Count	Percentage	Count	Percentage	Count	Percentage
Technical University of Denmark	245	43%	265	43%	275	42%	285	41%
University of Copenhagen	164	29%	174	28%	187	29%	200	29%
Aalborg University	65	12%	72	12%	79	12%	87	13%
Aarhus University	60	11%	66	11%	70	11%	81	12%
University of Southern Denmark	19	3%	21	3%	24	4%	24	3%
Copenhagen Business School	7	1%	9	1%	9	1%	9	1%
Roskilde University	3	1%	3	0%	3	0%	5	1%
IT University of Copenhagen	0	0%	1	0%	1	0%	1	0%
The Royal Danish Academy of Fine Arts, School of Architecture	1	0%	1	0%	1	0%	1	0%
Missing	0	0%	0	0%	1	0%	1	0%
Total	564	100%	612	100%	650	100%	694	100%

Source: Register Based Work Force Statistics 2004 - 2010



Appendix for section 5.2. Where do Industrial PhDs work and what they do

Description of the work places of PhDs 2004-2009						
Industrial PhDs						
	2004		2005		2006	
	Count	Percentage	Count	Percentage	Count	Percentage
1-10	35	9%	38	9%	41	9%
11-50	62	17%	67	16%	71	16%
51-100	36	10%	33	8%	36	8%
101-250	65	17%	78	19%	76	17%
251+ employees	175	47%	201	48%	213	49%
Total	373	100%	417	100%	437	100%
Missing						
	5		7		9	
Conventional PhDs						
	2004		2005		2006	
	Count	Percentage	Count	Percentage	Count	Percentage
1-10	27	7%	21	5%	25	6%
11-50	47	12%	53	13%	53	12%
51-100	33	9%	29	7%	35	8%
101-250	62	16%	66	16%	71	16%
251+ employees	209	55%	235	58%	250	58%
Total	378	100%	404	100%	434	100%
Missing						
	5		7		9	



Industrial PhDs						
	2007		2008		2009	
	Count	Percentage	Count	Percentage	Count	Percentage
1-10	43	9%	41	8%	43	8%
11-50	58	12%	59	12%	60	11%
51-100	42	9%	43	9%	48	9%
101-250	82	18%	86	17%	89	17%
251+ employees	242	52%	263	53%	288	55%
Total	467	100%	492	100%	528	100%
Missing						
	11		12		15	
Conventional PhDs						
	2007		2008		2009	
	Count	Percentage	Count	Percentage	Count	Percentage
1-10	31	7%	35	7%	33	6%
11-50	57	12%	52	10%	62	12%
51-100	51	11%	53	11%	63	12%
101-250	92	20%	96	19%	99	19%
251+ employees	233	50%	260	52%	269	51%
Total	464	100%	496	100%	526	100%
Missing						
	11		12		9	

Source: Integrated Database for Labour Market Research 2004 - 2009



Sector employment						
Industrial PhDs						
	2004		2005		2006	
	Count	Percentage	Count	Percentage	Count	Percentage
Public administration and service	71	17%	74	16%	81	16%
Public companies and quasi-companies	13	3%	15	3%	15	3%
Private	294	70%	335	72%	351	71%
Not reported/missing	40	10%	39	8%	44	9%
Total	418	100%	463	100%	491	100%
Conventional PhDs						
	2004		2005		2006	
	Count	Percentage	Count	Percentage	Count	Percentage
Public administration and service	196	43%	211	43%	226	43%
Public companies and quasi-companies	11	2%	13	3%	13	2%
Private	176	39%	187	38%	204	39%
Not reported/missing	70	15%	81	16%	86	16%
Total	453	100%	492	100%	529	100%



Industrial PhDs							
2007		2008		2009		2010	
Count	Percentage	Count	Percentage	Count	Percentage	Count	Percentage
83	16%	88	16%	101	16%	121	18%
15	3%	11	2%	11	2%	16	2%
381	72%	405	72%	431	70%	487	72%
53	10%	61	11%	71	12%	52	8%
532	100%	565	100%	614	100%	676	100%
Conventional PhDs							
2007		2008		2009		2010	
Count	Percentage	Count	Percentage	Count	Percentage	Count	Percentage
237	42%	257	42%	281	43%	302	44%
16	3%	10	2%	8	1%	11	2%
222	39%	241	39%	246	38%	290	42%
89	16%	104	17%	115	18%	91	13%
564	100%	612	100%	650	100%	694	100%

Source: Integrated Database for Labour Market Research 2004 - 2009



Sector employment (without 'not reported/missing' values)						
Industrial PhDs						
	2004		2005		2006	
	Count	Percentage	Count	Percentage	Count	Percentage
Public administration and service	71	19%	74	17%	81	18%
Public companies and quasi-companies	13	3%	15	4%	15	3%
Private	294	78%	335	79%	351	79%
Total	378	100%	424	100%	447	100%
Conventional PhDs						
	2004		2005		2006	
	Count	Percentage	Count	Percentage	Count	Percentage
Public administration and service	196	51%	211	51%	226	51%
Public companies and quasi-companies	11	3%	13	3%	13	3%
Private	176	46%	187	45%	204	46%
Total	383	100%	411	100%	443	100%



Industrial PhDs							
2007		2008		2009		2010	
Count	Percentage	Count	Percentage	Count	Percentage	Count	Percentage
83	17%	88	17%	101	19%	121	19%
15	3%	11	2%	11	2%	16	3%
381	80%	405	80%	431	79%	487	78%
479	100%	504	100%	543	100%	624	100%
Conventional PhDs							
2007		2008		2009		2010	
Count	Percentage	Count	Percentage	Count	Percentage	Count	Percentage
237	50%	257	51%	281	53%	302	50%
16	3%	10	2%	8	1%	11	2%
222	47%	241	47%	246	46%	290	48%
475	100%	508	100%	535	100%	603	100%

Source: Integrated Database for Labour Market Research 2004 - 2009



Sector employment ('public' refers to both 'public administration and services' and 'public companies and quasi-companies')

Industrial PhDs						
	2004		2005		2006	
	Count	Percentage	Count	Percentage	Count	Percentage
Public	84	22%	89	21%	96	21%
Private	294	78%	335	79%	351	79%
Total	378	100%	424	100%	447	100%

Conventional PhDs						
	2004		2005		2006	
	Count	Percentage	Count	Percentage	Count	Percentage
Public	207	54%	224	55%	239	54%
Private	176	46%	187	45%	204	46%
Total	383	100%	411	100%	443	100%



Industrial PhDs							
2007		2008		2009		2010	
Count	Percentage	Count	Percentage	Count	Percentage	Count	Percentage
98	20%	99	20%	112	21%	137	22%
381	80%	405	80%	431	79%	487	78%
479	100%	504	100%	543	100%	624	100%

Conventional PhDs							
2007		2008		2009		2010	
Count	Percentage	Count	Percentage	Count	Percentage	Count	Percentage
253	53%	267	53%	289	54%	313	52%
222	47%	241	47%	246	46%	290	48%
475	100%	508	100%	535	100%	603	100%

Source: Integrated Database for Labour Market Research 2004 - 2009



Job position 2010				
	Industrial PhDs		Conventional PhDs	
	Count	Percentage	Count	Percentage
Work, requiring high level expertise	514	76%	523	75%
Management	50	7%	30	4%
Work, requiring expertise	29	4%	18	3%
Office and customer service	4	1%	6	1%
Agriculture, forestry and fishery	3	0%	2	0%
Handicrafts	2	0%	0	0%
Operation, assembly and transport	2	0%	0	0%
Other manual work	2	0%	0	0%
Service and sales	1	0%	2	0%
Military work	0	0%	0	0%
Not reported	49	7%	60	9%
Missing	20	3%	53	8%
Total	676	100%	694	100%

Source: The High Quality Income Statistics



Job position (without 'not reported/missing' values)				
	Industrial PhDs		Conventional PhDs	
	Count	Percentage	Count	Percentage
Work, requiring high level expertise	514	85%	523	90%
Management	50	8%	30	5%
Work, requiring expertise	29	5%	18	3%
Office and customer service	4	1%	6	1%
Agriculture, forestry and fishery	3	0%	2	0%
Handicrafts	2	0%	0	0%
Operation, assembly and transport	2	0%	0	0%
Other manual work	2	0%	0	0%
Service and sales	1	0%	2	0%
Military work	0	0%	0	0%
Total	607	100%	584	100%

Source: The High Quality Income Statistics



Appendix for section 5.3. How many are employed

Socio-economic status - main attachment to the labour market						
Industrial PhDs						
	2004		2005		2006	
	Count	Percentage	Count	Percentage	Count	Percentage
Missing	26	6%	33	7%	35	7%
Employed (115-135)	378	90%	424	92%	447	91%
Unemployed (200)	3	1%	3	1%	4	1%
Not in labour force (310-400)	11	3%	3	1%	5	1%
Total	418	100%	463	100%	491	100%
Conventional PhDs						
	2004		2005		2006	
	Count	Percentage	Count	Percentage	Count	Percentage
Missing	55	12%	66	13%	67	13%
Employed (115-135)	383	85%	411	84%	443	84%
Unemployed (200)	5	1%	4	1%	4	1%
Not in labour force (310-400)	10	2%	11	2%	15	3%
Total	453	100%	492	100%	529	100%



Industrial PhDs							
2007		2008		2009		2010	
Count	Percentage	Count	Percentage	Count	Percentage	Count	Percentage
41	8%	45	8%	46	7%	52	8%
479	90%	504	89%	543	88%	595	88%
5	1%	1	0%	3	0%	6	1%
7	1%	15	3%	22	4%	23	3%
532	100%	565	100%	614	100%	676	100%
Conventional PhDs							
2007		2008		2009		2010	
Count	Percentage	Count	Percentage	Count	Percentage	Count	Percentage
72	13%	83	14%	82	13%	91	13%
475	84%	508	83%	535	82%	570	82%
5	1%	1	0%	5	1%	5	1%
12	2%	20	3%	28	4%	28	4%
564	100%	612	100%	650	100%	694	100%

Source: Register Based Work Force Statistics 2004-2010



Socio-economic status - main attachment to the labour market without 'missing'						
Industrial PhDs						
	2004		2005		2006	
	Count	Percentage	Count	Percentage	Count	Percentage
Employed	378	96%	424	99%	447	98%
Not in labour force	11	3%	3	1%	5	1%
Unemployed	3	1%	3	1%	4	1%
Total	392	100%	430	100%	456	100%
Conventional PhDs						
	2004		2005		2006	
	Count	Percentage	Count	Percentage	Count	Percentage
Employed (115-135)	383	96%	411	96%	443	96%
Not in labour force (310-400)	10	3%	11	3%	15	3%
Unemployed (200)	5	1%	4	1%	4	1%
Total	398	100%	426	100%	462	100%

Socio-economic status - main attachment to the labour market without 'missing' and 'not in labour force'						
Industrial PhDs						
	2004		2005		2006	
	Count	Percentage	Count	Percentage	Count	Percentage
Employed	378	99%	424	99%	447	99%
Unemployed	3	1%	3	1%	4	1%
Total	381	100%	427	100%	451	100%
Conventional PhDs						
	2004		2005		2006	
	Count	Percentage	Count	Percentage	Count	Percentage
Employed (115-135)	383	99%	411	99%	443	99%
Unemployed (200)	5	1%	4	1%	4	1%
Total	388	100%	415	100%	447	100%



Industrial PhDs							
2007		2008		2009		2010	
Count	Percentage	Count	Percentage	Count	Percentage	Count	Percentage
479	98%	504	97%	543	96%	595	95%
7	1%	15	3%	22	4%	23	4%
5	1%	1	0%	3	1%	6	1%
491	100%	520	100%	568	100%	624	100%
Conventional PhDs							
2007		2008		2009		2010	
Count	Percentage	Count	Percentage	Count	Percentage	Count	Percentage
475	97%	508	96%	535	94%	570	95%
12	2%	20	4%	28	5%	28	5%
5	1%	1	0%	5	1%	5	1%
492	100%	529	100%	568	100%	603	100%

Source: Register Based Work Force Statistics 2004-2010

Industrial PhDs							
2007		2008		2009		2010	
Count	Percentage	Count	Percentage	Count	Percentage	Count	Percentage
479	99%	504	100%	543	99%	595	99%
5	1%	1	0%	3	1%	6	1%
484	100%	505	100%	546	100%	601	100%
Conventional PhDs							
2007		2008		2009		2010	
Count	Percentage	Count	Percentage	Count	Percentage	Count	Percentage
475	99%	508	100%	535	99%	570	99%
5	1%	1	0%	5	1%	5	1%
480	100%	509	100%	540	100%	575	100%

Source: Register Based Work Force Statistics 2004-2010



Yearly duration of unemployment						
Industrial PhDs						
	2004	2005	2006	2007	2008	2009
Employed throughout the whole year	355	403	437	462	512	553
Experienced unemployment during the year	37	27	19	29	8	15
Average yearly duration of unemployment	21%	15%	24%	24%	36%	19%
Total population	392	430	456	491	520	568
Percentage experiencing unemployment during the year	9%	6%	4%	6%	2%	3%
Missing	26	33	35	41	45	46
Conventional PhDs						
	2004	2005	2006	2007	2008	2009
Employed throughout the whole year	365	389	428	459	517	550
Experienced unemployment during the year	35	37	34	33	12	18
Average yearly duration of unemployment	29%	24%	18%	19%	15%	28%
Total population	400	426	462	492	529	568
Percentage experiencing unemployment during the year	9%	9%	7%	7%	2%	3%
Missing	55	66	67	72	83	82

Source: Register Based Work Force Statistics 2004-2010





Appendix for section 5.4. Industrial PhDs' income

Taxable gross income in DKK before deductions vs. sector employment					
Industrial PhDs					
		2004	2005	2006	2007
	Public	456,098	447,879	495,285	532,007
	Private	554,026	561,835	608,283	605,284
	Total average	532,264	537,915	584,015	590,292
Conventional PhDs					
		2004	2005	2006	2007
	Public	447,016	479,449	478,384	490,341
	Private	563,480	565,522	593,355	675,880
	Total average	500,535	518,611	531,328	577,056



Industrial PhDs				
2008	2009	2010		Average income 2004-2010
566,219	534,753	574,894		515,305
635,693	634,967	674,922		610,716
622,047	614,297	652,961		590,541
Conventional PhDs				
2008	2009	2010		
514,106	537,088	553,957		500,049
657,352	624,653	700,582		625,832
582,063	577,352	624,473		558,774

Source: The High Quality Income Statistics



Taxable gross income in DKK before deductions vs. field of research					
Industrial PhDs					
		2004	2005	2006	2007
	Social sciences	707,532	724,645	707,615	704,469
	Humanities	573,486	618,570	691,453	634,388
	Technical science	506,051	533,917	582,726	577,095
	Medical science	502,604	482,430	528,823	544,869
	Agricultural and veterinary sciences	437,825	475,147	478,241	511,083
	Natural science	460,425	463,321	489,612	508,099
	Total average	509,757	525,055	564,138	566,384
Conventional PhDs					
		2004	2005	2006	2007
	Social sciences	543,148	568,867	573,180	855,710
	Medical science	486,781	494,579	527,660	537,586
	Technical science	482,467	512,740	511,615	533,497
	Agricultural and veterinary sciences	478,257	476,125	499,991	537,076
	Natural science	410,688	417,351	415,539	444,581
	Humanities	366,957	337,888	373,573	400,619
	Total average	475,570	494,718	501,663	543,444



Industrial PhDs				
2008	2009	2010		Average income 2004-2010
773,332	645,630	785,086		721,187
640,779	597,858	758,306		644,977
606,468	612,759	648,074		581,013
559,020	548,638	614,897		540,183
555,658	571,579	571,006		514,363
514,124	515,798	560,363		501,677
592,925	587,946	636,158		568,909
Conventional PhDs				
2008	2009	2010		
765,739	680,797	775,246		680,384
548,713	596,014	641,003		547,477
529,857	530,518	582,391		526,155
532,469	514,728	566,572		515,031
473,441	481,003	543,250		455,122
390,331	381,329	376,275		375,282
540,511	541,547	597,380		527,833

Source: The High Quality Income Statistics



Appendix for section 5.5. Mobility

Mobility of PhDs in the labour market 2004-2010 - job change without latest year				
Industrial PhDs				
	2004		2005	
	Count	Percentage	Count	Percentage
U Unchanged	278	80%	314	82%
T3 From other company (other employment)	38	11%	36	9%
T4 From other employment to new work place	11	3%	7	2%
T6 From outside the labour force (retirement)	1	0%	8	2%
T8 From abroad	4	1%	0	0%
T1 From other job within the same company	6	2%	11	3%
Missing	1	0%	0	0%
04 From employee	0	0%	3	1%
T2 From unknown job within the same company	0	0%	0	0%
T5 From unemployment	7	2%	3	1%
T7 From leave of absence	0	0%	0	0%
Total	346	100%	382	100%
Conventional PhDs				
	2004		2005	
	Count	Percentage	Count	Percentage
U Unchanged	297	85%	331	85%
T3 From other company (other employment)	31	9%	31	8%
T1 From other job within the same company	6	2%	6	2%
T4 From other employment to new work place	7	2%	4	1%
T6 From outside the labour force (retirement)	0	0%	3	1%
T8 From abroad	4	1%	4	1%
04 From employee	0	0%	2	1%
T5 From unemployment	3	1%	3	1%
Missing	1	0%	3	1%
T2 From unknown job within the same company	1	0%	1	0%
Total	350	100%	388	100%



Industrial PhDs							
2006		2007		2008		2009	
Count	Percentage	Count	Percentage	Count	Percentage	Count	Percentage
339	81%	338	76%	359	76%	421	85%
50	12%	57	13%	43	9%	44	9%
5	1%	20	4%	31	7%	10	2%
2	0%	2	0%	2	0%	6	1%
5	1%	3	1%	1	0%	6	1%
15	4%	16	4%	29	6%	5	1%
1	0%	3	1%	2	0%	3	1%
1	0%	2	0%	2	0%	3	1%
0	0%	0	0%	1	0%	0	0%
1	0%	3	1%	1	0%	0	0%
0	0%	1	0%	1	0%	0	0%
419	100%	445	100%	472	100%	498	100%
Conventional PhDs							
2006		2007		2008		2009	
Count	Percentage	Count	Percentage	Count	Percentage	Count	Percentage
341	82%	331	74%	337	71%	422	84%
33	8%	43	10%	57	12%	33	7%
15	4%	14	3%	37	8%	21	4%
8	2%	40	9%	25	5%	11	2%
3	1%	6	1%	3	1%	7	1%
3	1%	2	0%	2	0%	5	1%
3	1%	2	0%	4	1%	3	1%
3	1%	4	1%	4	1%	1	0%
4	1%	4	1%	2	0%	0	0%
1	0%	0	0%	1	0%	0	0%
414	100%	446	100%	472	100%	503	100%

Source: Integrated Database for Labour Market Research 2004 - 2009



Mobility of PhDs in the labour market 2004-2010 - job change without latest year (without missing values and movements within the same company are registered as 'unchanged')

Industrial PhDs				
	2004		2005	
	Count	Percentage	Count	Percentage
U Unchanged	284	82%	314	82%
T3 From other company (other employment)	38	11%	36	9%
T4 From other employment to new work place	11	3%	7	2%
T6 From outside the labour force (retirement)	1	0%	8	2%
T8 From abroad	4	1%	0	0%
O4 From employee	0	0%	3	1%
T5 From unemployment	7	2%	3	1%
T7 From leave of absence	0	0%	0	0%
Total	346	100%	382	100%

Conventional PhDs				
	2004		2005	
	Count	Percentage	Count	Percentage
U Unchanged	304	87%	338	87%
T3 From other company (other employment)	31	9%	31	8%
T4 From other employment to new work place	7	2%	4	1%
T6 From outside the labour force (retirement)	0	0%	3	1%
T8 From abroad	4	1%	4	1%
O4 From employee	0	0%	2	1%
T5 From unemployment	3	1%	3	1%
Total	350	100%	388	100%



Industrial PhDs							
2006		2007		2008		2009	
Count	Percentage	Count	Percentage	Count	Percentage	Count	Percentage
354	84%	354	80%	389	82%	426	86%
50	12%	57	13%	43	9%	44	9%
5	1%	20	4%	31	7%	10	2%
2	0%	2	0%	2	0%	6	1%
5	1%	3	1%	1	0%	6	1%
1	0%	2	0%	2	0%	3	1%
1	0%	3	1%	1	0%	0	0%
0	0%	1	0%	1	0%	0	0%
419	100%	445	100%	472	100%	498	100%

Conventional PhDs							
2006		2007		2008		2009	
Count	Percentage	Count	Percentage	Count	Percentage	Count	Percentage
357	86%	345	77%	375	79%	443	88%
33	8%	43	10%	57	12%	33	7%
8	2%	40	9%	25	5%	11	2%
3	1%	6	1%	3	1%	7	1%
3	1%	2	0%	2	0%	5	1%
3	1%	2	0%	4	1%	3	1%
3	1%	4	1%	4	1%	1	0%
414	100%	446	100%	472	100%	503	100%

Source: Integrated Database for Labour Market Research 2004 - 2009



Moving abroad and returning after PhD graduation			
Industrial PhDs			
Graduation year	2004	2005	2006
Number of persons having moved abroad and not returned by the end of 2011	4	2	4
Number of persons having moved abroad and return in the end of 2011	2	1	5
Total number of Industrial PhD graduates this year	45	28	41
Countries permanently moved to:	USA (3) Switzerland (1)	China (1) Australia (1)	China (3) Norway (1)
Conventional PhDs			
Graduation year	2004	2005	2006
Number of persons having moved abroad and not returned by the end of 2011	5	3	3
Number of persons having moved abroad and return in the end of 2011	7	3	3
Total number of Industrial PhD graduates this year	Not relevant since data is not based on the entire population		
Countries permanently moved to:	China (2) Iceland (1) USA (1) Netherlands (1)	USA (1) Norway (1) Italy (1)	Sweden (1) Israel (1) Great Britain (1)



Industrial PhDs					
2007	2008	2009	2010	Total	Percentage
0	3	3	8	24	7%
2	4	0	0	14	4%
33	49	62	73	331	100%
	Portugal (1) Canada (1) Netherlands (1)	USA (1) Switzerland (1) Australia (1)	Australia (1) Netherlands (1) Germany (1) Great Britain (1) Czech Republic (1) Norway (1) Ireland (1) Italy (1)		
Conventional PhDs					
2007	2008	2009	2010	Total	Percentage
6	4	3	6	30	
2	4	2	1	22	
Not relevant since data is not based on the entire population					
Poland (1) Switzerland (1) USA (1) North Korea (1) India (1) Sweden (1)	USA (1) Iceland (1) Spain (1) Belgium (1)	USA (1) Mexico (1) Poland (1)	Australia (1) Germany (1) Great Britain (1) Poland (1) Ireland (1) Turkey (1)		

Source: Historical Migrations statistics

Publications from The Danish Agency for Science, Technology and Innovation in the series Innovation: Analysis and assessment

2013

- 11/2013 The Effect of the Industrial PhD Programme on Employment and Income
- 10/2013 Strategi for samarbejde om Danmarks klynge- og netværksindsats
- 09/2013 De skjulte helte – eksportsucceser i dansk industris mellemklasse
- 08/2013 An Analysis of the Level of Consistency in the Danish Innovation Ecosystem
- 07/2013 Key Success Factors for Support Services for Cluster Organisations
- 06/2013 Performanceregnskab for GTS-net 2013
- 05/2013 Kommercialisering af forskningsresultater – Statistik 2012 (Public Research Commercialisation Survey – Denmark 2012)
- 04/2013 Innovation Network Denmark – Performance Accounts 2013
- 03/2013 Productivity Impacts of Business Investments in R&D in the Nordic Countries - A microeconomic analysis
- 02/2013 Erhvervslivets forskning, udvikling og innovation i 2013
- 01/2013 Performanceregnskab for innovationsmiljøerne 2013

2012

- 14/2012 Evaluering af GTS-instituttet DFM
- 13/2012 Evaluering af GTS-instituttet Alexandra
- 12/2012 Evaluering af GTS-instituttet Agrotech
- 11/2012 An Analysis of Danish Innovation Policy – The Knowledge Pilot Scheme (The Innovation Assistant Scheme)
- 10/2012 Impact Study: The Innovation Network Programme
- 09/2012 The Perfect Cluster Programme - Nordic-German-Polish-Baltic project
- 08/2012 The impacts of Danish and Bavarian Cluster Services – results from the Nordic-German-Polish Cluster Excellence Benchmarking
- 07/2012 Kommercialisering af forskningsresultater – Statistik 2011 (Public Research Commercialisation Survey – Denmark 2011)
- 06/2012 Performanceregnskab for GTS-net 2012
- 05/2012 Performanceregnskab for Innovationsmiljøer 2012
- 04/2012 Innovation Network Denmark – Performance Accounts 2012
- 03/2012 Produktivitetseffekter i Norden af erhvervslivets forskning og udvikling
- 02/2012 Erhvervslivets forskning, udvikling og innovation i 2012
- 01/2012 Evaluering af innovationsmiljøerne

2011

- 20/2011 Access to Research and Technical Information in Denmark
- 19/2011 Universiteternes Iværksætterbarometer 2011
- 18/2011 Impact Study: The Innovation Network Programme
- 17/2011 Clusters are Individuals: Nordic-German-Polish Cluster Excellence Benchmarking
- 16/2011 24 ways to cluster excellence – successful case stories from clusters in Germany, Poland and the Nordic countries
- 15/2011 Impact Study of Eureka Projects
- 14/2011 Evaluering af GTS-instituttet Teknologisk Institut

- 13/2011 Evaluering af GTS-instituttet DBI
- 12/2011 Evaluering af GTS-instituttet DELTA
- 11/2011 Kommercialisering af forskningsresultater – Statistik 2010 (Public Research Commercialisation Survey – Denmark 2010)
- 10/2011 Performanceregnskab for Videnskabsministeriets GTS-net 2011
- 09/2011 Performanceregnskab for Videnskabsministeriets Innovationsmiljøer 2011
- 08/2011 Innovation Network Denmark – Performance Accounts 2011
- 07/2011 Erhvervslivets Outsourcing af FoU
- 06/2011 Evaluering af GTS-instituttet FORCE Technology
- 05/2011 Evaluering af GTS-instituttet Bioneer
- 04/2011 Evaluering af GTS-instituttet DHI
- 03/2011 Erhvervslivets forskning, udvikling og innovation i 2011
- 02/2011 Økonomiske effekter af erhvervslivets forskningssamarbejde med offentlige videninstitutioner
- 01/2011 Analysis of Danish innovation policy - The Industrial PhD Programme and the Innovation Consortium Scheme

2010

- 12/2010 Brugerundersøgelse af GTS-institutterne 2010
- 10/2010 Universiteternes Iværksætterbarometer 2010
- 09/2010 Performanceregnskab for Videnskabsministeriets Innovationsmiljøer 2010
- 08/2010 Innovationsnetværk Danmark - Performanceregnskab 2010
- 07/2010 Performanceregnskab for Videnskabsministeriets GTS-net 2010
- 06/2010 Kommercialisering af forskningsresultater - Statistik 2009
- 05/2010 InnovationDanmark 2009 - resultater og evalueringsstrategi
- 04/2010 Effektmåling af videnpilotordningens betydning for små og mellemstore virksomheder
- 03/2010 An Analysis of Firm Growth Effects of the Danish Innovation Consortium Scheme
- 02/2010 Erhvervslivets forskning, udvikling og innovation i Danmark 2010
- 01/2010 Produktivitetseffekter af erhvervslivets forskning, udvikling og innovation