



Project acronym: EFFORTI

Project full title: Evaluation Framework for Promoting Gender Equality in R&I

Project number: 710470

Programme: Horizon 2020 - Science with and for Society (SWAFS)

Objective: GERI-3-2015, "Evaluation of initiatives to promote gender equality in research policy and research organizations"

Type of action: RIA

EFFORTI – Deliverable 2.2

Country Note Denmark

Authors: Evanthia Kalpazidou Schmidt, Ebbe Krogh Graversen, Sanne Schioldann Haase, Maria Lehmann Nielsen, Matias Engdal Christensen

Deliverable No.: D2.2 (Work package number: WP2)

Dissemination level: Public

Document version: 2.0 (Final)

Due date: 31st March 2017 (M10)

Date of first submission: 31st March 2017 (M10)

Date of Resubmission: 29th January 2018 (M20)

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 710470



Horizon 2020
European Union funding
for Research & Innovation

General Information on EFFORTI

EFFORTI (Evaluation Framework for Promoting Gender Equality in R&I) seeks to analyse and model the influence of measures to promote gender equality on research and innovation outputs and on establishing more responsible and responsive RTDI (research, technology, development, innovation) systems. For this purpose, EFFORTI will

- develop an evaluation framework which enables evaluators, science managers, policy-makers and programme owners to conduct a sound analysis of the research and innovation outputs, outcomes and impacts of gender equality measures across Europe, with a focus on the national level;
- design a differentiated concept to analyse a variety of policy measures and assess their performance, taking into account the diversity in the national policies as well as organisational contexts;
- derive general lessons for evidence-based and thus "good" policy-making in the field of gender equality within RTDI systems. This means that not only has progress towards more gender equality in RTDI been achieved, but also that RTDI has been able to benefit from this progress through enhanced scientific and innovation outputs and productivity, as well as through a higher responsiveness to societal needs and challenges.

Terms of use

This document was developed within the EFFORTI project, funded by the European Commission within Horizon 2020, by a consortium consisting of six partners, the Fraunhofer Society represented by the Fraunhofer ISI in Karlsruhe and the CeRRI in Berlin (coordinator, Germany), the UOC - UNIVERSITY OF CATALONIA (Spain), JOANNEUM Research (Austria), AU - AARHUS UNIVERSITY (Denmark), NaTE - THE ASSOCIATION OF HUNGARIAN WOMEN IN SCIENCE (Hungary), INTRASOFT International (Luxembourg).

This document may be freely used, copied, and distributed, provided that the document itself is not modified or shortened, that full authorship credit is given, and that these terms of use are not removed but included in every copy. This document is subject to updates, revisions, and extensions by the EFFORTI consortium.

Please address questions and comments to: Susanne.Buehrer@isi.fraunhofer.de.

Document history

Version	Date	Changes
1.0	31 st March, 2017	
2.0	29 th January 2018	Reference to EU funding on the front page

Content

0	Introduction.....	9
1	Innovation System	10
1.1	Structure of the research and innovation system.....	10
1.1.1	Ranking in the European Innovation Scoreboard (Rank and Class).....	10
1.1.2	Development of the R&D sector and its subsectors.....	11
1.2	Knowledge intensity of economies	14
1.2.1	Share of ISCED 6 STEM graduates in the whole population	14
1.2.2	Proportion of scientists and engineers in total labour force.....	14
1.2.3	Employment in knowledge intensive activities (KIA).....	15
1.2.4	Employment in knowledge intensive activities – business activities (KIABI).....	15
1.2.5	Number of scientific papers in relation to the population size	16
1.2.6	Number of patents developed by publicly financed research per inhabitant/citizen.....	16
1.2.7	Share of tertiary educated population among the group of 25 to 34 years old	16
1.3	Governance	17
1.3.1	Main actors in research and innovation governance	17
1.3.2	Relevance of national and regional levels in R&I policy and financing	19
2	Gender Equality Policies	20
2.1	Employment and labour market policies	20
2.1.1	Description of equal opportunity/ anti-discrimination legislation	20
2.1.2	Description of Structures for Gender Equality	23
2.1.3	Description of relevant policy initiatives to foster equality.....	24
2.1.4	General assessment of the effectiveness of existing equal opportunity / anti-discrimination legislation / measures.....	24
2.2	Welfare and Gender Regimes.....	31
2.2.1	Fiscal policies	31
2.2.2	Parental leave policies	32
2.2.3	Empirical Evidence for Gender Regime	35
2.2.4	General assessment of the gender regime.....	44
2.3	Gender equality policies in RTDI (Current developments).....	46
2.3.1	Description of overall strategic gender equality policies in RTDI in place.....	46
2.3.2	Main challenges concerning GE in RTDI.....	48
2.3.3	Policy measures promoting gender equality in RTDI.....	49
2.3.4	Actors responsible for GE in RTDI	52

2.3.5	Assessment of Gender Equality Policies in RTDI.....	54
3	Gender equality in RTDI.....	56
3.1	Gender equality in RTDI on organisational level	56
3.1.1	Proportion of RPOs that have adopted gender equality plans.....	56
3.1.2	Proportion of R&D personnel working in RPOs that have adopted gender equality plans.....	56
3.2	Participation of women in tertiary education	56
3.2.1	Share of tertiary educated population among the group of 25 to 34 years old by sex.....	57
3.2.2	Gender ratio for all tertiary graduates, by field of education	58
3.2.3	Development of the number of women ISCED 6 graduates.....	60
3.2.4	Development of the proportion of women ISCED 6 graduates differentiated by field of study	60
3.2.5	Development of the proportion of women ISCED 6 graduates differentiated by narrow fields of study in the natural sciences and engineering	61
3.2.6	Distribution of ISCED 6 graduates across fields of study by sex	61
3.3	Labour Market Participation of women and men in the RTDI (whole sector)	62
3.3.1	General Labour market participation	62
3.3.2	Participation of women and men in RTDI	65
3.4	Horizontal segregation	71
3.4.1	General horizontal segregation	71
3.4.2	Proportion of female researchers by economic activities (NACE Rev. 2) in the business enterprise sector, by sex.....	73
3.4.3	Distribution of researchers in the Higher Education Sector (HES), across fields of science, 2012	74
3.4.4	Horizontal segregation by scientific field in the higher education sector	76
3.5	Vertical segregation.....	77
3.5.1	General vertical segregation.....	77
3.5.2	Vertical segregation in RTDI.....	80
3.6	Employment conditions/status/contracts.....	82
3.6.1	General working time culture	82
3.6.2	Working time in RTDI	83
3.6.3	Working contracts in RTDI	84
3.7	Gender Pay Gap.....	85
3.7.1	General Gender Pay gap	85
3.7.2	Gender Pay Gap in RTDI.....	87
3.7.3	Gender Gap in Scientific Outputs	88

3.8	Sex differences in international mobility of researchers	90
3.8.1	During their PhD	91
3.8.2	In their post-PhD careers	91
3.9	Women in decision-making positions in RTDI	91
3.9.1	Proportion of women grade A staff by main field of science	91
3.9.2	Glass Ceiling Index	94
3.9.3	Proportion of women heads of institutions in the higher education sector	95
3.9.4	Proportion of women on boards, members and leaders	95
3.9.5	Percentage of research evaluation panels in RFOs that included at least 40 % of target of under-represented sex on boards	96
3.10	Inclusion of gender in research and teaching	98
3.10.1	Support to the inclusion of gender contents in research agendas by funders (%)	99
3.10.2	Inclusion of the gender dimension in research contents (% RPO)	99
3.10.3	Inclusion of the gender dimension in teaching/curricula	99
4	Evaluation Culture and Policy	100
4.1	Description of Evaluation Culture	100
4.1.1	Explicit legislation and adoption of evaluation standards	100
4.1.2	Budget, number, frequency and public access to evaluations	102
4.1.3	Actors and Institutions	102
4.1.4	What kind of evaluations are commissioned and conducted?	104
4.1.5	Relevance of gender equality in RTDI evaluations & evaluation of gender equality initiatives in RTDI	106
4.1.6	Recent trends/developments in RTDI policy evaluation	108
4.2	Evaluation utilisation and policy learning	109
5	Conclusions	111
5.1	Comparison between gender equality in the labour market and in RTDI	111
5.2	Main strengths and weaknesses of the innovation system and their impact on gender equality in RTDI	112
5.3	Main issues of evaluation culture and policy in RTDI	113
6	Glossary	117
7	Bibliography	119

Figures

Figure 1:	Maternity leave comparison between EU countries.....	32
Figure 2:	Duration of parental leaves across EU countries, in weeks	33
Figure 3:	Men's proportion of parental leave days taken in 2014.....	36
Figure 4:	Duration of paid leave for men and women, 2014	38
Figure 5:	Age at first childbirth, mothers and fathers	40
Figure 6:	Families with and without children 0-17 by type of family, 2013.....	42
Figure 7:	Time used on domestic work for women and men 18-74 years, hours.....	44
Figure 8:	Graduated students, percent with tertiary level, 2012.....	57
Figure 9:	Percentage of female graduates in tertiary levels of education, 2014	58
Figure 10:	Gender ratio for all tertiary* graduates, by field of education, 2014	59
Figure 11:	Tertiary education attained by field of education, percent, 2012	59
Figure 12:	Persons working part-time, 2013	64
Figure 13:	R&D man-year in public sector, 2015.....	67
Figure 14:	R&D man-year in public sector by time, category of staff, sector research institutions and sex.....	68
Figure 15:	Share of female researchers in the public sector, 2004-2012	68
Figure 16:	Share of female researchers in the private sector, 2004-2012.....	69
Figure 17:	Research food chain in Denmark from PhD to professor divided by gender and scientific field, 2004 and 2013, %	75
Figure 18:	Women and men on boards of listed companies, percent, 2014.....	78
Figure 19:	Policy for increasing the proportion of the underrepresented gender in other management levels	79
Figure 20:	National granted patents	90
Figure 21:	Proportion of women and men at various rungs of the academic ladder in Denmark, Norway, Sweden and Finland, 2012.....	93
Figure 22:	Gender distribution at the DNRF's Centres of Excellence compared to national distribution in 2012	94
Figure 23:	Gender composition in university management in 2008 and 2014.....	95
Figure 24:	Share of women among employed persons with managerial responsibilities	96
Figure 25:	Share of gender-balanced research evaluation panels in funders, 2013.....	97
Figure 26:	Gender balance among the five councils under DFF as of 1 January 2015.....	97
Figure 27:	Gender balance among evaluation panels and external evaluators as of 1 December 2014.....	98
Figure 28:	Board members as of 1 January 2015	98
Figure 29:	Institutions in Denmark	103
Figure 30:	Establishment of the Innovation Fund Denmark	103

Tables

Tab. 1:	Summary Innovation Index of EIS from 2008 to 2015	10
Tab. 2:	Ranking in the EIS between 2008 and 2015	10
Tab. 3:	Development of GERD as a percentage of GDP for 2005, 2010 and 2015.....	11
Tab. 4:	Development of GERD as a percentage of GDP between 2005 and 2015 by sector of performance.....	11
Tab. 5:	Total researchers (FTE), by sectors of performance	12
Tab. 6:	Researchers (FTE) in different sectors as percentages of total number of researchers (FTE).....	13
Tab. 7:	Share of ISCED 6 STEM graduates per million inhabitants.....	14
Tab. 8:	Proportion of scientists and engineers in the active population between 15 and 74 years, by year	14
Tab. 9:	Annual data on employment in KIA as a percentage of total employment at the national level (from 2008 onwards, NACE Rev. 2).....	15
Tab. 10:	Employment in knowledge intensive activities – business activities (KIABI)	15
Tab. 11:	Number of scientific papers in relation to the population size.....	16
Tab. 12:	Number of patents developed by publicly financed research per citizen	16
Tab. 13:	Share of tertiary educated population among the group of 25 to 34 years old*	16
Tab. 14:	National bodies responsible for R&I.....	17
Tab. 15:	Major funding agencies	18
Tab. 16:	Relevant laws and policy initiatives to foster gender equality between women and men	25
Tab. 17:	Fiscal incentive for secondary workers, 2011 – (sorted by AETR).....	31
Tab. 18:	Recipients/users of publicly-administered paternity leave benefits or publicly-administered paid paternity leave per 100 live births, 2006 and 2013	36
Tab. 19:	Number of weeks of paid parental leave in the Nordic countries in 2000 and 2014	37
Tab. 20:	Fertility rate, total (births per woman)	40
Tab. 21:	Mean age of women at birth of first child by year.....	41
Tab. 22:	One-parent families and children by sex of parent, measurement, country and year (number of families).....	41
Tab. 23:	Childcare by indicator, country and year	42
Tab. 24:	Percentage of children in formal childcare, 2012	43
Tab. 25:	Time spent on unpaid, paid and total work, by sex, 2001	43
Tab. 26:	Proportion of RPOs that have adopted gender equality plans, 2013	56
Tab. 27:	Proportion of research & development personnel working in RPOs who adopted gender equality plans, 2013	56
Tab. 28:	Share of tertiary educated population among the group of 25 to 34 years old by sex* ..	57
Tab. 29:	Development of the number of women ISCED 6 graduates	60
Tab. 30:	Development of the proportion of women ISCED 6 graduates differentiated by field of study	61
Tab. 31:	Development of the proportion of women ISCED 6 graduates differentiated by narrow fields of study in the natural sciences and engineering	61
Tab. 32:	Distribution of ISCED 6 graduates across broad fields of study, by sex, 2012	62

Tab. 33:	Employment rates in the total population aged 20-64, by sex and gender gap	63
Tab. 34:	Employment impact of parenthood (age 20-49), 2012.....	63
Tab. 35:	Full-time equivalent (FTE) employment rates among women and men aged 20-64 (%) and gender gap (percentage points), 2010-2014.....	64
Tab. 36:	Proportion of scientists and engineers in the active population between 15 and 74 years, by sex and year	65
Tab. 37:	Annual data on employment in knowledge intensive activities as a percentage of total employment at the national level, by sex (from 2008 onwards, NACE Rev. 2)	65
Tab. 38:	Employment in knowledge intensive activities – business activities (KIABI) by sex	66
Tab. 39:	Number of researchers in all R&D sectors by sex and years (in full-time equivalents)	66
Tab. 40:	Share of women in R&D	67
Tab. 41:	Number of researchers in BES, HES, GOV, and PNP by sex and years (in full-time equivalents)	70
Tab. 42:	Gender segregation in occupations, by economic sectors.....	72
Tab. 43:	Employment by occupation, sex, measurement, country and year	73
Tab. 44:	Proportion of female researchers in the business enterprise sector, by economic activity (NACE Rev. 2) 2012.....	73
Tab. 45:	Distribution of researchers in the Higher Education Sector (HES), across fields of science, 2012 (percentage)	74
Tab. 46:	Dissimilarity index for researchers in the higher education sector and government sector	77
Tab. 47:	Share of male and female members of boards in largest quoted companies, supervisory board or board of directors	78
Tab. 48:	Ordinary professors and professors with special responsibilities (professor WSR) assessed by main subject area, job description and gender. Number/share of persons ultimo 2015	80
Tab. 49:	Proportion of women academic staff, by grade and total	81
Tab. 50:	The share of women at professor, associate and assistant professor level 2009-2015 ...	81
Tab. 51:	Actual weekly working hours of full-time workers by gender and country	83
Tab. 52:	Actual weekly working hours of full-time employed persons in academic professions by gender and country	83
Tab. 53:	Part-time employment of researchers in the higher education sector out of total researcher population, by sex 2012	83
Tab. 54:	"Precarious" working contracts of researchers in the higher education sector out of total researcher population, by sex, 2012	84
Tab. 55:	Career stage with stable employment conditions	84
Tab. 56:	Gender pay gap by country	86
Tab. 57:	Gender pay gap (%) in the economic activity "Scientific research & development" and in the total economy, 2010	87
Tab. 58:	Numbers of scientific publications by country.....	88
Tab. 59:	Proportion of publications written by women as main author.....	88

Tab. 60:	Women to men ratio of authorships (when acting as corresponding author) in all fields of science (2011-2013)	88
Tab. 61:	Women-to-men ratio of scientific authorship (when acting as corresponding author), by field of science, 2007-2009 and 2011-2013	89
Tab. 62:	Number of patents by country	89
Tab. 63:	Proportion of patents filed by women	90
Tab. 64:	International mobility rates of HES researchers during their PhD, by sex and sex difference 2012	91
Tab. 65:	International mobility rates of HES researchers in post-PhD careers, by sex and sex difference 2012	91
Tab. 66:	Proportion of women grade A staff by main field of science, 2013.....	91
Tab. 67:	Glass Ceiling Index.....	94
Tab. 68:	Proportion of women heads of institution in the higher education sector	95
Tab. 69:	Proportion of women on boards, members and leaders.....	96
Tab. 70:	Support to the inclusion of gender contents in research agendas by funders (%)	99
Tab. 71:	Inclusion of the gender dimension in research content (%RPO)	99

0 Introduction

This Denmark Country Note is one of seven country notes that were written as part of the H2020 project EFFORTI (Evaluation Framework for Promoting Gender Equality in Research and Innovation, No 710470) to analyse the context in which gender equality measures in RTDI (research, technology, development, innovation) take place. EFFORTI seeks to analyse and model the influence of measures to promote gender equality on research and innovation outputs and on establishing more responsible and responsive RTDI systems.

The main objective of this report is to understand the influence of wider contextual framework conditions in Denmark on structuring the situation of women in RTDI, their career opportunities and, subsequently, on the effects of gender equality measures in RTDI. Based on the objectives of the EFFORTI project we have considered the following contextual framework conditions as relevant:

- the structure and performance of the research and innovation system,
- gender equality policies in the labour market and welfare policies related to reproductive work and childcare,
- the governance and existing policies of gender equality in RTDI, and
- the evaluation culture and policy, especially in the field of gender equality in RTDI.

In the concluding chapter the findings of each country note are summarised. This provides a better understanding of how gender equality policies in RTDI are related to the innovation system, on the one hand, and to broader policies of gender equality and welfare regimes, on the other.

With this report we acknowledge the need to analyse the structure and governance of innovation systems and the societal environments in terms of the opportunities and constraints offered by various gender, welfare and innovation regimes for women's employment. This task is particularly important as programmes and initiatives to promote gender equality in RTDI are located at the interface of different policy environments of the innovation system and gender equality as well as welfare policies. For each EFFORTI country (Austria, Denmark, France, Germany, Hungary, Spain, Sweden) such a report was compiled because the selected programmes and initiatives that will be analysed as case studies, are embedded in different contexts and interact differently with their environment. The national country notes will provide a better understanding of these contexts.

Subsequently, the seven national country notes will be compared with each other in a comparative report. The comparative report will focus on the interfaces between the three domains innovation system, welfare and gender equality policy initiatives as well as of evaluation cultures and how they are reflected in gender equality programmes in RTDI. A special emphasis will be put on how gender equality policies are embedded in and aligned with national innovation policies.

Methodology

Most of the research carried out in preparation of the national country notes is desk-based (secondary data collection and analysis of international and national literature). Additional local and sector-level information has been obtained through expert interviews with key informants and through national workshops with stakeholders and evaluators in cases where the information was not available in the collected data or literature.

1 Innovation System

1.1 Structure of the research and innovation system

1.1.1 Ranking in the European Innovation Scoreboard (Rank and Class)

According to the European Innovation Scoreboard (EIS), Denmark is among the European Union (EU) leaders in innovation with a performance score above that of the EU average (Hollanders, Es-Sadki and Kanerva 2016, 6). Based on the unweighted average of 25 indicators, Denmark has improved its innovation performance from 0.624 in 2008 to 0.7 in 2015, making it the second most innovative country in the EU28. Throughout the period, Denmark improved its innovation performance almost every year, with only a small decline in 2013 and 2014, and, as a result, Denmark has almost caught up with Sweden. Furthermore, the Danish innovation performance has been improving faster than the EU average with a mean annual growth rate of 1.7 % in 2008-2015 (Hollanders et al. 2016, 16), and, as a consequence, the Danish innovation performance has “increased from 26 % above the EU average in 2008 to 34 % in 2015” (Hollanders et al. 2016, 50).

Tab. 1: Summary Innovation Index of EIS from 2008 to 2015

	2008	2009	2010	2011	2012	2013	2014	2015
EU28	0.495	0.502	0.511	0.514	0.519	0.521	0.523	0.521
Denmark	0.624	0.63	0.639	0.678	0.694	0.693	0.675	0.7

Source: (Directorate-General for Internal Market, Industry, Entrepreneurship and SMEs 2016)

Tab. 2: Ranking in the EIS between 2008 and 2015

	2008	2009	2010	2011	2012	2013	2014	2015
EU28	12	12	12	12	12	12	12	12
Denmark	5	5	4	2	2	2	2	2

Source: (Directorate-General for Internal Market, Industry, Entrepreneurship and SMEs 2016)

Denmark's innovation performance is above the EU average in almost every aspect (Hollanders et al. 2016, 50). According to the EIS report, Denmark is performing particularly well in dimensions such as *Open, excellent and attractive research systems*, *Linkages and entrepreneurship*, and *Intellectual assets* (Hollanders et al. 2016, 50). *International scientific co-publications* and *Public-private co-publications* are two indicators where Denmark is performing well above the EU average, while the country's relative weaknesses lie in its *Non-R&D innovation expenditures* (Hollanders et al. 2016, 50). Furthermore, according to the EIS report, “performance has improved for 14 indicators and on average most strongly in the dimensions Human resources (5.3 %) and Economic effects (3.4 %). Performance has declined in Finance and support (-2.0 %), due to a relatively sharp decline in Venture capital investments (-9.0 %)” (Hollanders et al. 2016, 50).

In regard to the performance in *Human resources* (HR), Denmark has had a significant improvement of 0.3 percentage points over eight years, which puts it well above the EU average (Hollanders et al. 2016, 19). In respect to the *Economic effects* dimension, Denmark has improved its performance by 3.4 percentage points, the most significant improvement across the EU countries (Hollanders et al. 2016, 26).

1.1.2 Development of the R&D sector and its subsectors

1.1.2.1 Development of GERD (share of gross domestic expenditure on R&D) between 2005 and 2015

According to the most recent data released by Statistics Denmark (*Danmarks Statistisk*), the country's gross domestic expenditure on research and development (GERD) reached 3.02 % of gross domestic product (GDP) in 2014 (*Danmarks Statistik 2016b*). Denmark has increased its GERD by 0.66 percentage points, going from 2.39 % in 2005 to 3.02 % in 2014. This is well above the EU average (2.03 %) which has only increased by 0.29 percentage points over the same period. Denmark had its biggest increase from 2005 to 2009 when its expenditures rose from 2.39 % to 3.07 %. From 2009 to 2014, the expenditures decreased by 0.04 %. Denmark spends the second highest percentage of GDP on research and development (R&D) among the countries included in the EFFORTI project, and Denmark and Sweden are the only countries above the 3 % target set by the Europe 2020 goals.

Tab. 3: Development of GERD as a percentage of GDP for 2005, 2010 and 2015

	2005	2010	2015
EU28	1.74	1.93	2.04
Denmark	2.39	2.94	3.03

Source: (Eurostat n.d.-a)

Tab. 4: Development of GERD as a percentage of GDP between 2005 and 2015 by sector of performance

	Time/ sector	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
EU28	All sectors	1.74	1.77	1.77	1.84	1.93	1.93	1.97	2.01	2.03	2.04	2.04
	BES	1.10	1.12	1.12	1.16	1.19	1.19	1.24	1.28	1.29	1.3	1.3
	HES	0.39	0.39	0.4	0.42	0.46	0.47	0.46	0.47	0.48	0.48	0.47
	GOV	0.24	0.23	0.23	0.24	0.26	0.25	0.25	0.25	0.25	0.25	0.24
	PNP	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02
Denmark	All sectors	2.39	2.4	2.51	2.78	3.07	2.94	2.97	3.00	3.01	3.02	3.03
	BES	1.63	1.61	1.76	1.94	2.14	1.97	1.98	1.97	1.91	1.87	1.87
	HES	0.59	0.62	0.66	0.76	0.85	0.89	0.92	0.95	1.02	1.07	1.08
	GOV	0.15	0.16	0.08	0.07	0.06	0.06	0.06	0.07	0.07	0.07	0.07
	PNP	0.02	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01

Source: (Eurostat n.d.-a)

The business enterprise sector (BES) represents the biggest share of Denmark's expenditures with 1.87 %, accounting for almost two-thirds of total R&D in 2014 (*Danmarks Statistik 2016b*). From 2005 to 2009, Denmark increased its spending on the business enterprise sector from 1.63 % to 2.14 %. Since 2009, this figure has decreased from 2.14 % to 1.87 % in 2015, still well above the EU average of 1.3 %. In the same period, the EU average only increased by 0.2 %, which means that only Austria and Sweden spend more than Denmark on BES R&D expenditures, disbursing 2.11 % and 2.12 % of their GDP, respectively.

Denmark only uses a small part of its expenditures in the government sector (GOV). In 2014, only 0.07 % of GDP was spent on the government sector, well below the average across the EU (0.25 %). Denmark spends the smallest share of GDP on the government sector at only 0.07 %, a figure that

has stalled since 2007 when GOV's share dropped by 0.08 %. This decline is due to the fact that sector research was transferred from the government sector to universities in 2007 (Andersen 2003). Furthermore, another reason behind the small expenditures on GOV is to be found in Denmark's non-existent military research.

When we turn to the higher education sector (HES), the picture seems to be quite different. In Denmark, "public research is mainly performed by the university system, accounting for about one third of total R&D in 2014" (Grimpe and Mitchell 2016, 6). 1.01 % of GDP is spent on the higher education sector, making Denmark's spending on HES as a share of GDP well above the average 0.47 % in the EU. Since 2005, Denmark has increased its spending on HES every year, with expenditures going up from 0.59 % in 2005 to 1.08 % in 2015.

In spite of this positive development, the Danish government that came into office in 2015 has declared that they will reduce the public research spending to 1 % of GDP (Ministry of Higher Education and Science 2015e). According to the Research and Innovation Observatory (RIO) country report, in the long run this may present a threat to Denmark's innovation capacity (Grimpe and Mitchell 2016, 11).

Spending on the last sector, the private non-profit sector (PNP), has not expanded since 2005 staying at 0.01 % of GDP, almost at the same level as the EU average. In Denmark, private non-profit research funding is mostly found within the healthcare sector.

1.1.2.2 Development of number of researchers between 2005 and 2015 in the whole R&D sector and its subsectors

This subsection shows the distribution of research active staff in the various sectors. In general, Denmark has increased the total number of full-time equivalent (FTE) researchers in all sectors of R&D from 28 179 researchers in 2005 to 41 809 in 2015. Denmark has had a remarkable increase in the share of FTE researchers employed in the HES from 19.7 % in 2005 to 37.8 % of total FTE researchers in 2015. Denmark has had a remarkable increase in the share of FTE researchers employed in the HES from 19.7 % in 2005 to 37.8 % of total FTE researchers in 2015. The increase in the numbers of FTE researchers is the result of a comprehensive strategy for Denmark in the global economy, initiated by the government in 2006. The strategy *Progress, innovation, and cohesion strategy for Denmark in the global economy* is aimed at enabling Denmark to maintain its position as one of the wealthiest countries in the world (Danish Prime Minister's Office 2006). However, this growth is counterbalanced by a decrease in the share of FTE researchers employed in the BES and GOV, which have experienced a decline of 4 % and 4.2 %, respectively. In spite of this, BES accounts for the largest share of the R&D sector, with HES still trailing behind. The decrease of FTE in the GOV sector is due to a merger process between universities and public research institutes in 2007-2009. The aim of the mergers was to strengthen research, sharpen the profile of the universities and improve their competitive edge.

Tab. 5: Total researchers (FTE), by sectors of performance

	EU28			Denmark		
	Total	Total	BES	HES	GOV	PNP
2005	1 374 760	28 179	17 624	8 242	2 105	208
2006	1 422 499	28 846	17 718	8 763	2 173	193

2007	1 458 115	30 174	19 145	9 642	1 203	184
2008	1 523 247	35 702	23 400	10 954	1 159	188
2009	1 555 600	36 789	23 479	12 010	1 115	185
2010	1 602 756	37 435	22 774	13 250	1 216	195
2011	1 626 802	39 181	23 927	13 881	1 181	192
2012	1 681 342	40 080	24 369	14 305	1 208	198
2013	1 730 841	39 968	23 364	15 057	1 254	194
2014	1 760 232	41 431	23 838	16 013	1 384	196
2015	1 817 764	41 809	24 248	15 984	1 382	196

Source: (Eurostat n.d.-a)

Tab. 6: Researchers (FTE) in different sectors as percentages of total number of researchers (FTE)

	Denmark				
	All sectors	BES	HES	GOV	PNP
2005	100 %	62.5 %	29.2 %	7.5 %	0.7 %
2006	100 %	61.4 %	30.4 %	7.5 %	0.7 %
2007	100 %	63.4 %	32.0 %	4.0 %	0.6 %
2008	100 %	65.5 %	30.7 %	3.2 %	0.5 %
2009	100 %	63.8 %	32.6 %	3.0 %	0.5 %
2010	100 %	60.8 %	35.4 %	3.2 %	0.5 %
2011	100 %	61.1 %	35.4 %	3.0 %	0.5 %
2012	100 %	60.8 %	35.7 %	3.0 %	0.5 %
2013	100 %	58.5 %	37.7 %	3.1 %	0.5 %
2014	100 %	57.5 %	38.6 %	3.3 %	0.5 %
2015	100 %	58.0 %	38.2 %	3.3 %	0.5 %

Source: (Eurostat n.d.-a)

Tab. 5 shows that Denmark has increased the total number of researchers (FTE) in all sectors of R&D. The number has risen from 28 179 researchers in 2005 to 41 809 in 2015 and, apart from a small drop in 2013, the number grew every year since 2005. The largest increase in the number of researchers (FTE) occurred from 2007 to 2008, with the number going up by 5 528. In the EU, the total number of researchers (FTE) increased by 24.4 %, significantly less than the 48.4 % rise in Denmark. As a matter of fact, Austria (with 48.7 %) and Hungary (with 59.4 %) are the only countries in the EFFORTI project that have increased their relative number more than Denmark.

Tab. 5 shows that the number of researchers (FTE) in the BES has increased from 17 624 researchers in 2005 to 24 248 in 2015, which is less than the 41.5 % increase in EU. Except from 2005 to 2008, when the number of researchers (FTE) increased by 5 776, the growth has been stalling. In 2015, 58 % of researchers (FTE) in the whole R&D sector were employed in the business sector, a 4 % drop compared to 2005. In the EU, 48.7 % of all researchers (FTE) in the R&D sector were employed in the business sector, a smaller share than the one seen in Denmark.

As demonstrated in Tab. 5, Denmark has witnessed a large increase in the number of researchers (FTE) in the HES. From 2005 to 2015, Denmark almost doubled its number of researchers, going from 8 242 in 2005 to 15 984 in 2015. In 2015, 38.2 % were employed in the HES compared to 29.2 % in 2005, which shows that now the HES makes up for a larger share of the Danish R&D sector compared to 2005. In comparison to other countries, Denmark had the most significant changes in

this sector: across the EU, the number of researchers (FTE) in the HES grew by 28.2 %. Among the countries included in the EFFORTI project, Denmark has the second largest share of researchers (FTE) employed in the HES.

As seen in Tab. 5, the number of researchers (FTE) in the GOV sector has decreased from 2 105 in 2005 to 1 382 in 2015. From 2006 to 2007, 979 researchers were cut from this sector due to the reorganisation of the sector research that was transferred to universities in 2007-2009. Afterwards, the number has slightly increased, but only by 179 researchers. As a result, the share of researchers employed in the GOV sector has been reduced by 4.2 %. In the EU, 11.6 % of the researchers are employed in the GOV, compared to 3.3 % in Denmark. The low number of researchers (FTE) in the GOV is also due to the fact that Denmark does not have any military research or chemical public research institutes.

In the PNP sector, Denmark has not witnessed any significant changes, maintaining the number at roughly 200 researchers.

1.2 Knowledge intensity of economies

1.2.1 Share of ISCED 6 STEM graduates in the whole population

This subsection shows the share of ISCED 6 STEM graduates in the whole population; the share of graduates is estimated per million inhabitants to create a clearer overview. ISCED is the International Standard Classification of Education developed by the United Nations Educational, Scientific and Cultural Organisation (UNESCO) to facilitate comparisons of education statistics, and in this classification, level 6 includes the secondary stage of tertiary education, e.g. PhD programmes. STEM refers to the academic disciplines of science, technology, engineering and mathematics.

Tab. 7: Share of ISCED 6 STEM graduates per million inhabitants

	2005	2006	2007	2008	2009	2010	2011	2012	2013
Denmark	75.5	73.0	71.3	81.2	84.7	107.1	114.4	118.4	145.5

Source: (Innovationsindikator 2015)

As evident from Tab. 7, Denmark's share of ISCED 6 STEM graduates in the whole population has increased every year since 2005 from 75.5 per million inhabitants to 145.5 in 2013. This development is in line with the Danish government's goal of increasing the share of graduates from these academic disciplines (Danish Government 2005).

1.2.2 Proportion of scientists and engineers in total labour force

Tab. 8 shows the proportion of scientists and engineers in the active population. As seen in the table, the proportion has risen by 3.1 percentage points from 2005 to 2015, meaning that currently 8.8 % of the labour force in Denmark are either scientists or engineers.

Tab. 8: Proportion of scientists and engineers in the active population between 15 and 74 years, by year

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
EU28	:	:	:	4.9	4.9	5.0	6.4	6.5	6.6	6.6	6.8
Denmark	5.7	5.8	5.5	5.8	6.0	6.1	8.5	8.8	9.2	9.0	8.8

Source: (Eurostat n.d.-a)

Denmark had the largest increase between 2010 and 2011 when the proportion rose by 2.4 percentage points, but from 2013 and onwards the development has been in decline by 0.4 percentage points. The rise in 2011 is due to a shift in the definition of scientists and engineers in Denmark. In spite of this recent development, Denmark has one of the largest proportions of scientists and engineers in the active population, 2 percentage points above the average in the EU. Furthermore, the number of students choosing engineering education is booming these years, illustrated by an 11 % increase in the number of students pursuing Master of Science in Engineering and a 10 % increase for Bachelor of Engineering (Ministry of Higher Education and Science 2016f), making it likely to see an increase in the proportion of scientists and engineers in Denmark in the near future.

1.2.3 Employment in knowledge intensive activities (KIA)

Tab. 9 illustrates the employment in knowledge intensive activities (KIA) as a percentage of total employment. Denmark has increased this share by 2.8 percentage points from 36.3 % in 2008 to 39.1 % in 2015. Thus, Denmark has a higher percentage of people employed in KIA than the average in the EU (36.0 %) in 2015. Furthermore, this development has been relatively stable since 2010. The last significant increase in employment shares of total employment in KIA took place between 2008 and 2010.

Tab. 9: Annual data on employment in KIA as a percentage of total employment at the national level (from 2008 onwards, NACE Rev. 2)

	2008	2009	2010	2011	2012	2013	2014	2015
EU28	34.2	35.0	35.4	35.6	35.7	35.8	35.9	36.0
Denmark	36.3	38.6	39.5	39.2	39.5	39.6	39.4	39.1

Source: (Eurostat n.d.-a)

According to the 2015 RIO country report, “especially engineers are perceived as being essential for a future growth of new knowledge intensive sectors” (Grimpe and Mitchell 2016, 64). As mentioned in sections 1.2.1 and 1.2.2, the Danish government tries to address this increasing demand and, as a result, the number of newly enrolled students has increased significantly. Moreover, the number of PhD candidates in the technical sciences increased from 200 in 2005 to 515 in 2015 (Statistikbanken 2016). It has been a political ambition of the government to increase the number of industrial PhD candidates, and the globalisation strategy put forth in 2006 had the intention to double the yearly intake of industrial PhD students (Aagaard and Mejlgaard 2012, 280, Kalpazidou Schmidt 2012). As a result, the number of industrial PhD candidates has increased from 83 in 2005 to 130 in 2014 (Innovationsfonden 2016).

1.2.4 Employment in knowledge intensive activities – business activities (KIABI)

Tab. 10 gives an overview of the employment in knowledge intensive activities – business activities (KIABI). As evident from the table, Denmark has increased this type of employment by 0.8 percentage points between 2008 and 2015, corresponding to the same increase in the EU.

Tab. 10: Employment in knowledge intensive activities – business activities (KIABI)

	2008	2009	2010	2011	2012	2013	2014	2015
EU28	13.2	13.4	13.5	13.7	13.8	13.8	13.9	14.0
Denmark	14.8	15.3	15.8	15.6	15.5	15.2	15.4	15.6

Source: (Eurostat n.d.-a)

In terms of KIABI, Denmark's development has been stable since 2010, staying between 15.8 % in 2010 and 15.6 % in 2015. Regardless of this, only Sweden among the EFFORTI countries has higher employment in KIABI than Denmark.

1.2.5 Number of scientific papers in relation to the population size

Examining Tab. 11 reveals that Denmark has the highest number of scientific papers in relation to its population size, a dynamic that has been stable since 2005. This number has risen by 1 199 between 2005 and 2014, with no other country included in the EFFORTI project close to the same increase.

Tab. 11: Number of scientific papers in relation to the population size

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Denmark	1 674	1 740	1 783	1 855	1 936	2 120	2 314	2 521	2 697	2 873

Source: (Innovationsindikator 2015)

Compared to Sweden, Denmark has 389 more scientific papers in relation to the population size. A contributor to Denmark's high number of scientific papers might be the bibliometric research indicator system fully implemented in 2012; it distributes 25 % of the universities' basic funding according to their publishing performance (Ministry of Higher Education and Science 2017a).

1.2.6 Number of patents developed by publicly financed research per inhabitant/citizen

Tab. 12 shows the number of patents developed by publicly financed research per inhabitant. Among the countries studied in the EFFORTI project, Denmark has the highest number of patents developed by publicly financed research, a number that has increased from 13 in 2005 to 26 in 2013.

Tab. 12: Number of patents developed by publicly financed research per citizen

	2005	2006	2007	2008	2009	2010	2011	2012	2013
Denmark	13	19	24	26	16	17	21	22	26

Source: (Innovationsindikator 2015)

The development has not always been stable. Between 2005 and 2008, the number increased by 13, followed by a reduction of 10 in 2009. Afterwards, it increased again from 16 in 2009 to 26 in 2013, making Denmark the leader in developing the most patents by publicly financed research among the countries included in the EFFORTI project.

1.2.7 Share of tertiary educated population among the group of 25 to 34 years old

As seen in Tab. 13, Denmark has increased the share of tertiary educated population among the group of 25 to 34 years old by 4.7 percentage points from 39.8 % in 2005 to 44.5 % in 2015, trailing behind Sweden (46.5 %) and France (44.7 %). Compared to the EU average, the share of tertiary educated population is 6.6 percentage points higher in Denmark. However, the share in the EU has increased by 9.6 percentage points, more than the 4.7 percentage point increase in Denmark.

Tab. 13: Share of tertiary educated population among the group of 25 to 34 years old*

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
EU28	28.3	29.2	29.9	30.9	32.3	33.3	34.4	35.5	36.5	37.2	37.9
Denmark	39.8	40.8	36.2	36.4	37.6	37.6	38.6	40.2	41.2	42.7	44.5

* Data up to 2013 are based on ISCED 1997, as from 2014 ISCED 2011 is applied. At this level of aggregation data are directly comparable.

Source: (Eurostat n.d.-a)

After a minor decline from 2006 to 2007, Denmark has been increasing the share every year. However, it is important to keep in mind that Denmark changed its definition of tertiary educated people from 2014 to 2015, and it is part of the reason why the share increased by 1.8 percentage points in that period. The rise in tertiary educated people among the group of 25 to 34 years old is consistent with the Danish politicians' ambitions to get the youth faster through the educational system. As a policy initiative, the parliament adopted *Fremdriftsreformen* on May 3, 2016, a law that aims to reduce the study time by 4.3 month (Ministry of Higher Education and Science 2016b).

1.3 Governance

1.3.1 Main actors in research and innovation governance

In Denmark, research and innovation are placed within the authority of the Ministry of Higher Education and Science. The ministry is responsible for research, innovation, technology and higher education and works to improve (Danish Agency for Science and Higher Education n.d.-a):

- Quality and cohesion in higher education;
- Quality and relevance in research;
- Effective utilisation and spreading of knowledge and technology;
- Internationalisation of higher education, research and innovation;
- Innovation in the business sector, public institutions and higher education;
- Effective administration of education support and funding.

1.3.1.1 Ministries responsible for R&I

The main responsibility for research and innovation (R&I) is placed within the authority of the Ministry of Higher Education and Science, meaning that Denmark's R&I system is quite centralised. The ministry aims at increasing knowledge, growth and welfare in Denmark, and its vision is to create the best innovation, research and studying conditions in Europe. To ensure this, Denmark has adopted a national strategy for R&I called *Denmark – Nation of solutions* (Danish Government 2012b). "The strategy was launched by the former government in 2013 and is the nation's first comprehensive innovations strategy based on collaborative efforts between the involved ministries, i.e. the Ministry of Higher Education and Science, the Ministry of Business and Growth and other relevant sectorial ministries, as well as stakeholders from the Danish innovation system" (Directorate-General for Research and Innovation 2015, 4). The strategy focuses on three main areas which include innovation driven by societal challenges, translating knowledge to value, and increasing the innovation capacity by education, and contains 27 policy initiatives regarding research, innovation and education (Danish Government 2012b). It focuses on better knowledge exchange between companies and knowledge institutions, across borders and between the public and the private sectors.

Tab. 14: National bodies responsible for R&I

	Main responsibility
Denmark	Ministry of Higher Education and Science

Besides the Ministry of Higher Education and Science, the Ministry of Business and Growth has several tasks related to development, entrepreneurship and venture capital in the business sector. Furthermore, different sectoral ministries like the Ministry of Energy, Utilities and Climate, the Ministry of Environment and Food, and the Ministry of Foreign Affairs have various thematic R&I programmes. Funding of the thematic programmes is coordinated through the Ministry of Finance's annual Research Bill and specified in the annual Research Bill.

1.3.1.2 Major Funding Agencies (national and regional)

The Ministry of Finance grants resources to various public funding agencies via the Finance Bill, and in 2016, the R&I sector had a budget of EUR 2.1 billion (Danmarks Statistik 2016a). Once a year, the Danish Agency for Science, Technology and Innovation publishes the latest figures about research and innovation, focusing on three government councils and funds: the Danish National Research Foundation, the Danish Council for Independent Research, and the Innovation Fund Denmark, all of which are under the jurisdiction of the Ministry of Higher Education and Science. These funding agencies carry out 60 % of the government's research funding. The remaining 40 % is carried out by a number of different programmes outside of the ministry's field of responsibility (Ministry of Higher Education and Science 2016e), e.g. Green Development and Demonstration Program (GUDP) that is under the jurisdiction of the Ministry of Environment and Food of Denmark.

Tab. 15: Major funding agencies

	Major funding agencies
Denmark	The Danish National Research Foundation
	The Danish Council for Independent Research
	The Innovation Fund Denmark

The Danish National Research Foundation (DNRF) was founded in 1991 as an independent foundation aiming to strengthen basic research within all scientific subject areas in Denmark (Danish National Research Foundation 2015). It provides funding primarily through its Centres of Excellence. Funding is non-thematic and only oriented towards scientific excellence at public research centres, e.g. universities. In 2015, the Danish National Research Foundation did not grant any new appropriations outside their primary Centres of Excellence, to which they allocated EUR 57.1 million in 2015 (Ministry of Higher Education and Science 2016e).

The Danish Council for Independent Research (DFF) provides financial support to research activities based on a researcher's ideas and mainly to researchers at research institutions, such as universities. The council's primary purpose is to support and promote the most original ideas and initiatives within Danish research (Ministry of Higher Education and Science 2016a). In 2015, they granted EUR 161.3 million. Previously, they acted as an advisor to the Minister of Higher Education and Science, the government and the parliament in research-related questions. This task was transferred to the Danish Council for Research and Innovation Policy (DFIR) in 2014.

The Innovation Fund Denmark (IFD) is the latest addition that was established in April 2014 by joining research, technology development and innovation grants from the Danish Council of Strategic Research (*Det Strategiske Forskningsråd*), the Danish Council for Technology and Innovation (*Rådet for Teknologi og Innovation*) and the Danish National Advanced Technology

Foundation (*Højteknologifonden*) (Ministry of Higher Education and Science 2015b). The fund is an independent agency inside the state administration; its main purpose is to facilitate the development of knowledge and technology, including advanced technology, in order to foster growth and employment in Denmark (Ministry of Higher Education and Science 2015b). In 2015, they granted EUR 188.2 million (Ministry of Higher Education and Science 2016e).

1.3.2 Relevance of national and regional levels in R&I policy and financing

Even though the Danish research and innovation system is centralised, the five Danish regions and municipalities also play a significant role in the R&I funding, granting the total of EUR 47.9 million in 2016, an 1.9 % increase compared to 2015 (Danmarks Statistik 2016a). The Danish regions mostly do research and development within the healthcare sector through university hospitals (particularly regarding clinical tests) and in cooperation with universities and business sectors (Danish Government 2015). Furthermore, the regions support industrial development that enhances regional collaboration between research and business communities. The municipalities enter into development cooperation with other public research institutions and the business community to a greater extent (Danish Government 2015).

In 2013, the Ministry of Higher Education and Science, together with a range of other ministries, the five regions and Local Government Denmark (KL), launched the first joint strategy within regional clusters and networks in the national innovation system. The aim is to enhance future competitive and innovative businesses (Ministry of Higher Education and Science 2017b). The strategy has five different focus areas, including clusters and networks as a bridge-builder within research and education.

2 Gender Equality Policies

Relevant gender equality subjects and issues will be presented in the following chapter that serves as a mapping of gender equality policies in Denmark. As a contextualising note on the gender equality discourse in Denmark, referral can be made to the common practice of translating the term gender equality into *ligestilling* which in itself is a gender-neutral term covering equality of more diverse types.

2.1 Employment and labour market policies

2.1.1 Description of equal opportunity/ anti-discrimination legislation

Three most important laws concerning gender equality (GE) and equal treatment in the Danish labour market and employment are the Act on Equal Treatment of Men and Women as regards access to employment (*Ligebehandlingsloven*), the Act on Equal Pay for Men and Women (*Ligelønsloven*), and the Act on Entitlement to Leave and Benefits in the Event of Childbirth (*Barselsloven*) (Beskæftigelsesministeriet n.d.-j, Institut for Menneskerettigheder 2016, 12-14).

According to the Act on Equal Treatment (*Ligebehandlingsloven*), discrimination on the labour market in regard to conditions of employment is prohibited. The act also contains rules about dismissal on grounds of pregnancy or parental leave and the Ministry of Employment has developed a brief guide on protection against dismissal (Beskæftigelsesministeriet n.d.-g, Beskæftigelsesministeriet 2016a).

Similarly, the Act on GE states that both direct and indirect discrimination on the basis of gender or sexual harassment is prohibited (Retsinformation 2013). The Act on Prohibition of Discrimination on the Labour Market (*Forskelsbehandlingsloven*) further states that direct and indirect discrimination on the basis of race, skin colour, ethnicity, religion or faith, sexual orientation, national or social origin, political beliefs, age or disability is also prohibited (Beskæftigelsesministeriet n.d.-e). In case of unequal treatment on the basis of gender, race, skin colour, ethnicity, religion or faith, sexual orientation, national or social origin, political beliefs, age or disability, complaints can be submitted to the Board of Equal Treatment (*Ligebehandlingsnævnet*) (Beskæftigelsesministeriet n.d.-h).¹

There are no quotas in the Act on GE, but ministries, including departmental/responsible ministries, must aim for gender-equal composition in committees. According to the Act on GE, state companies must have a policy for more women in leadership. Furthermore, public committees, commissions, etc., set up by a minister or municipal or regional councils, and decision-making boards in state institutions should have an equal composition of men and women (Ministeriet for Børn, Undervisning og Ligestilling 2015a, Nørby 2016, 17, Ministeriet for Børn, Undervisning og Ligestilling n.d.-a). More specifically, paragraph 5 in the Act on GE states that state institutions and state companies with more than 50 employees must set up measurable targets for the underrepresented sex in decision-making boards and have GE policies for increasing the number of the underrepresented sex at other managerial levels. Furthermore, every second year ministries and state institutions or state companies with more than 50 employees must provide a review or statement on the current status of GE,² containing information on GE policies (if such policies are in

¹ The Board of Equal Treatment is an independent board established in 2009. The board members are judges and lawyers (Ankestyrelsen 2014, Ankestyrelsen n.d.).

² The latest so-called *Ligestillingsredegørelse* (equal opportunities report) can be found at <http://www.ligestillingdanmark.dk/>.

place), gender composition of employees, and other relevant information about the evaluation of current initiatives promoting GE (Retsinformation 2013, Institut for Menneskerettigheder 2016, 30-31).³ There are no consequences or sanctions in cases where organisations or companies do not meet the targets for the underrepresented sex (*måltal*). However, if organisations or companies do not follow the regulations concerning reporting the targets they have set up and why they have not reached the goal, they risk receiving a financial penalty (Larsen et al. 2016, 14).

The same requirements apply to municipal councils and regional councils who must provide similar information on any existing GE policies and gender composition among the employees in municipal or regional committees (Retsinformation 2013). According to the Act on GE (paragraphs 8-11), public committees, commissions, etc., that are set up by a minister, committees set up by municipal or regional councils and decision-making boards in state institutions, including universities or state companies, should have equal composition of men and women. Regardless of their size, state companies and institutions must have a policy for more women in leadership (Ministeriet for Børn, Undervisning og Ligestilling 2015a, Nørby 2016, 17, Ministeriet for Børn, Undervisning og Ligestilling n.d.-a).

This is also reflected in the so-called Danish Model for Women on boards (*Den Danske Model for Flere Kvinder i Ledelse*) initiated by the Danish Parliament in 2013, addressing the share of female leaders in committee and leadership positions in private and state institutions and companies (*statslige virksomheder*) (Ministeriet for Børn, Undervisning og Ligestilling 2015a). The model was supposed to motivate state institutions (including universities) and state companies to address gender imbalances in their boards (Ministry of Foreign Affairs of Denmark 2016). The model functions on the basis of a “comply-or-explain” principle, where government and (state) company boards have to either live up to the intentions stated in the model (and in the Act on GE) – i.e. formulate suitable, measurable targets and a GE strategy – or explain why they have not managed to do so (Dansk Industri 2016).

Initially, about 1 100 of the largest companies (today 850 companies, see part 2.1.4) had to provide measurable targets for increasing the underrepresented sex in the highest management body and report the development in annual reports. Further, they must initiate policies for increasing the number of the underrepresented sex at other levels of leadership (Ministeriet for Børn, Undervisning og Ligestilling 2015a, Nørby 2016, 17, Dansk Industri 2016, Ministeriet for Børn, Undervisning og Ligestilling n.d.-a). Furthermore, the Act on Equal Treatment between Men and Women in Insurance, Pension and Similar Matters (*Lov om Ligebehandling af Mænd og Kvinder ifm. Forsikring, Pension og lignende Finansielle Ydelser*) is meant to secure GE in all employment insurances in regard to work accidents, occupational and other illnesses, disability, unemployment or age. According to the act, discriminatory treatment related to gender (e.g. sexual or other kinds of harassment) or parental leave is prohibited (Erhvervs- og Vækstministeriet n.d.).

³ Information (in Danish) on available *Ligestillingsredegørelser* is provided at the following website <http://uvm.dk/Ligestilling/Det-offentlige/Ligestillingsredegørelser>.

A parent is entitled to paid leave in the part of the leave which is not or is no longer economically covered by the employer.⁴ In Denmark, the Act on Entitlement to Leave (*Barselsloven*) secures rights for leave and income maintenance (Beskæftigelsesministeriet n.d.-a).

Prohibition against gender discrimination is included in the Act on Equal Pay (*Ligelønsloven*), paragraphs 1.1 and 1.2. It states that discriminatory treatment in regard to pay/wages is prohibited. The act also includes rules on gender-classified statistics (Beskæftigelsesministeriet n.d.-i, Beskæftigelsesministeriet 2016b).

As stated in the Act on Equal Pay's paragraph 6, every third year the Minister for Employment and the Minister for Children, Education and Gender Equality (hereafter: the Minister for GE) provide a review of the initiatives for equal pay for men and women in order to increase the focus on equal pay, intensify the work on reducing pay gaps, and support discussions on equal pay between leaders and employees (Beskæftigelsesministeriet n.d.-f, Beskæftigelsesministeriet 2016b). The review includes a brief presentation of the policy on gender-based pay statistics (as described above) and jurisprudence on issues regarding equal pay, an analysis of pay gaps between men and women, a mapping of equal pay initiatives in recent years, and a summary of initiatives by social partners.⁵

Since 2008, state companies and institutions have had access to statistics on gender pay gaps through ISOLA – the statistical portal of the Agency for Modernisation Ministry of Finance (*Moderniseringsstyrelsen*) (Beskæftigelsesministeriet 2016b, 26).⁶ As of 15 January 2016, all companies with 35 employees or more and with at least 10 women and 10 men in similar work positions, must provide gender-based statistics on pay/wage. Alternatively, the companies can provide information of their ongoing efforts to enhance equal pay for employees, including an action plan for the following 1-3 years (Beskæftigelsesministeriet n.d.-f, Nørby 2016, 19, Institut for Menneskerettigheder 2016, 21).⁷ For additional information on equal pay, see part 2.1.4.

In recent years, the Ministry for Gender Equality has focused on issues related to gender mainstreaming assessment in state institutions (including universities) and municipalities (Institut for Menneskerettigheder 2016, 31-32, Ligestillingsafdeling, Udenrigsministeriet n.d.-a). For an overview of recent and current GE policy initiatives, see part 2.1.3.

⁴ *Udbetaling Danmark* is an authority responsible for the control of several public benefits, e.g. pension or parental leave. For more information on parental leave for self-employed (in Danish), see *Selvstændig på barsel* (Udbetaling Danmark n.d.-b) or *Bekendtgørelse om barselsudligning for selvstændigt erhvervsdrivende* (Retsinformation 2016). In case of unequal treatment on the basis of gender, race, skin colour, ethnicity, religion or faith, sexual orientation, national or social origin, political beliefs, age or disability, complaints can be submitted to the Board of Equal Treatment (*Ligebehandlingsnævnet*) (Beskæftigelsesministeriet n.d.-h, Institut for Menneskerettigheder 2016, 12).

⁵ Danish social partners include the Danish Confederation of Trade Unions (LO), the Danish Confederation of Salaried Employees and Civil Servants (FTF), the Danish Confederation of Professional Associations (AC), the Danish association for students and graduates in Law, Business Economics and Political and Social Sciences (DJØF), the Danish Association of Masters and PhDs (DM), the Confederation of Danish Employers (DA), the Danish Employers Association for the Financial Sector (FA), Local Government Denmark (KL), Danish regions, the Agency for Modernisation Ministry of Finance (*Moderniseringsstyrelsen*).

⁶ In 2010, the Agency for Modernisation Ministry of Finance improved their reporting tool, HRmeter, which also provides gender-based statistics on payment, staff composition and sick leave (Beskæftigelsesministeriet 2016b, 26). The website www.lønoverblik.dk also provides an overview of gender-based pay statistics for all government institutions (in Danish).

⁷ This was decided during OK15, the collective agreements of 2015 (Beskæftigelsesministeriet 2016b, 20).

2.1.2 Description of Structures for Gender Equality

As an EU country, Denmark is obligated to implement GE aspects in all policies and activities, and according to the Danish Act on Gender Equality, all public/official authorities must work for GE and implement GE in all planning and management, and ministers are responsible for promoting GE in all aspects, policies and activities (Ministeriet for Børn, Undervisning og Ligestilling n.d.-b).

The overall aim for GE, as formulated by the Minister for GE in the 2016 GE action plan, is that everyone, regardless of gender, should have equal opportunities to participate in society and unfold their full potentials and talents. The ministry stressed that all resources must be brought into play and that no one should experience discrimination on the basis of gender (Nørby 2016, 7). Furthermore, the ministry has initiated a network consisting of seven municipalities with the purpose of examining how to expand good GE practices to other municipalities (Institut for Menneskerettigheder 2016, 32).

Today, only personal experiences with discrimination can be brought before the board by laymen, and since January 2016, the Institute for Human Rights can bring relevant matters to the Board of Equal Treatment (Institut for Menneskerettigheder n.d., Institut for Menneskerettigheder 2016, 15).

In Danish GE policies, the main responsible actors in policy/legislation matters are the Danish Parliament's Gender Equality Committee, the Danish Institute for Human Rights, the Ministry of Children, Education and Gender Equality, and the Ministry of Employment. For an overview of actors responsible for GE issues in RTDI, please see part 2.3.4 *Actors responsible for GE in RTDI*.

The Danish Parliament's Gender Equality Committee (*Folketingets Ligestillingsudvalg/Ligestillingsudvalget*), or the standing committee for gender equality, is one of the Danish parliament's standing committees and was set up in 2011-2012 as the main responsible agent for the areas covered by the committee (Folketinget 2015a). Previously, gender equality issues had not been dealt with by a committee set up specifically for this purpose. The committee addresses issues concerning gender equality, including both national and international gender equality activities. The Gender Equality Committee's remit thus corresponds to that of the Minister for Gender Equality. The Committee deals with bills and proposals for parliamentary resolution concerning gender equality and scrutinises government initiatives in this area (Folketinget 2015b).

In addition, the **Danish Institute for Human Rights** (*Institut for Menneskerettigheder*), an independent state-funded institution, was appointed as the national organ for gender equality in 2011. The task of the institute is to promote, evaluate and oversee GE in Denmark and address discrimination based on gender. The institute thus has a mandate to promote and protect human rights and equal treatment in Denmark and abroad in relation to race, ethnicity and gender. The body advises the government, the parliament, ministries, and public authorities on human rights, among others, when new legislation is suggested. The institute produces analyses and research on human rights, for instance, about equal pay. In the area of gender, the institute recommends, for example, the revision of the Danish law on equal pay, so that the rule concerning work of equal value becomes more transparent. Another focus area of the body is the Danish educational system, where there is a gender divide within some educational areas. The institute carries out specific projects to promote equal treatment and provides advice in discrimination cases.

The Ministry of Children, Education and Gender Equality is responsible for the overall activities of the government in the field of gender equality; therefore, the Minister for Gender Equality is

primarily engaged in coordinating the government's gender equality efforts and formulating overall principles for its gender equality policy. The Minister for Gender Equality also coordinates the equality work across ministries. There is a department for gender equality, which functions as a secretariat for the minister, that is responsible for the initiatives in the field of gender equality through coordination, development and implementation of the government's policies and councils. The department advises the minister and the parliament in matters concerning gender equality. The Minister for Gender Equality is also responsible for the areas covered by the Parliament's Gender Equality Committee (individual ministers are responsible for gender equality within their respective departments). Other actors like the Board of Equal Treatment, other ministries, municipalities, as well as a great number of institutions and NGOs are involved in promoting gender equality through concrete projects as well as contributing to enhancing the national debate on the issue.

The Ministry of Employment addresses GE themes such as protection against labour market discrimination (i.e. the Ministry's guide on protection against dismissal, and the guide on equal pay). Further, the ministry provides regular reviews of equal pay and addresses issues of pay gaps, as mentioned in other parts in this report.

2.1.3 Description of relevant policy initiatives to foster equality

Gender assessment or gender mainstreaming assessment (*ligestillingsvurdering*) is the current Danish approach to gender mainstreaming.⁸

For descriptions of policies and initiatives concerning equal economic independence, equal pay for equal work, see also part 2.1.1, and parts 2.2.1 to 2.2.2. For descriptions on equality in decision-making, see also part 3.5 on vertical segregation, part 3.9 on women in decision-making, and part 2.3.3.2 on measures addressing gender balance in decision-making. For a description of policies and initiatives addressing horizontal issues, see also part 2.1.1 on equal opportunity/anti-discrimination legislation, part 2.3.1 on policy initiatives (in general and in RTDI), and part 2.3.4 on responsible actors and their tasks for promoting GE (in RTDI). See also parts 2.2.4 and 2.3.5.

The Danish Institute for Human Rights finds that there is a great variety of initiatives, campaigns and GE reviews and mapping of gender inequality issues. But, according to the institute, Denmark lacks both clearly formulated goals for the GE initiatives and continuous evaluations on whether the initiatives are working (Institut for Menneskerettigheder 2016, 32), see also part 2.1.4 below⁹.

2.1.4 General assessment of the effectiveness of existing equal opportunity / anti-discrimination legislation / measures

Possibilities of enforcing the Danish GE laws and policies depend on whether GE criteria are based on legislation, individual contracts between employer and employee or collective agreements (Institut for Menneskerettigheder 2016, 14). Laymen can bring cases about personally experienced discrimination to the Board of Equal Treatment (*Ligebehandlingsnævnet*). The Institute for Human Rights can bring other principle cases before the board (Beskæftigelsesministeriet n.d.-h, Institut for Menneskerettigheder 2016, 12).

⁸ The terms are used simultaneously.

⁹ A detailed overview of Danish GE legislation and policies (in Danish) can be found in *Kvinder i ledelse* (Larsen et al. 2016, 8-14).

The website on gender assessment¹⁰ was initiated as part of the EU program PROGRESS (2007-2013). The website provides tips and brief guides for gender assessment for organisations and companies, e.g. gender assessment in budget analyses and gender mainstreaming assessment in education and research (Ligestillingsafdelingen, Udenrigsministeriet n.d.-b). Tab. 16 illustrates the laws and policy initiatives to promote gender equality.

Tab. 16: Relevant laws and policy initiatives to foster gender equality between women and men¹¹

Equal economic independence	<ul style="list-style-type: none"> • Labour market participation • Work-life balance • Childcare facilities 	X X X
Equal pay for equal work and for work of equal value	<ul style="list-style-type: none"> • Wage transparency • Equal pay 	X X
Equality in decision-making	<ul style="list-style-type: none"> • Initiatives to improve the gender balance in decision-making • Monitoring the 25 % target for women in top level decision-making positions in research • (40 % of) members (of one sex) in committees and expert groups • (Support to women in European Parliament elections)¹² 	X X (X) (X)
Horizontal issues	<ul style="list-style-type: none"> • Promoting non-discriminatory gender roles in all areas of life such as education, career choices, employment and sport • Equality bodies who monitor, enforce, evaluate and update the legal framework • Annual report on progress on gender equality 	(X) (X) X
Additional activities	<ul style="list-style-type: none"> • Gender budgeting in legislation/gender-responsive policy-making or policy evaluation • Supporting/promoting women in research 	(X) X

X indicates that there are policy initiatives or laws supporting the specific measure. (X) indicates that there is not a direct national policy initiative targeting the measure in question, but that there are related initiatives or initiatives covering closely related measures or objectives.

Equal economic independence (labour market participation, work-life balance, childcare facilities)

Despite legislation and relevant policy initiatives to achieve gender equality, we can conclude that undertakings to explore statistical patterns of skewed gender compositions (in particular in Danish academia, but also in other sectors) have been quite scarce (Nielsen 2015), see also part 2.2 on welfare and gender regimes and chapter 3 on gender equality in RTDI.

Even though the Act on Equal Treatment prohibits dismissal on the ground of pregnancy or parental leave, some parents experience this type of discrimination, and, according to a recent study by the Institute for Human Rights, one in seven women in the study do not return to their employer when

¹⁰ The website is <https://english.ligestillingsvurdering.dk/>.

¹¹ The table is based on the European Commission's strategy for equality between women and men 2010-2015.

¹² As a member of the EU, Denmark shares the objective of gender equality in a wide range of areas. However, currently there does not seem to be any concrete policies supporting women in European Parliament elections.

their period of parental leave is over (Warming 2016, 8).¹³ Similarly, researchers on maternity or paternity leave are not allowed to be active in their work during leave, e.g. they are not allowed to attend workshops or take courses. The Danish National Research Foundation finds that “this excludes the parent from the research environment to an extent that is not desirable neither for the parent nor the research group” (Højgaard and Sinkjær 2014, 8).

Equal pay (wage transparency, part-time work and fixed-time contracts, non-traditional occupations / gender segregation)

Denmark has a history of strong social partners negotiating employment conditions for employees. In the Danish Model, working conditions and pay are typically laid down by collective agreements between employers’ organisations and Danish trade unions; therefore, the social partners are responsible for e.g. the determination of wages through a collective bargaining system (Ministry of Employment n.d.-a).

As mentioned in part 2.1.1, companies with 35 employees or more must provide gender-divided pay statistics. A similar agreement as the agreement on equal pay between men and women (see part 2.1.1) has been made between Local Government Denmark (KL) and the Danish Association of Local Government Employees Organisations; they have entered into an agreement concerning statistics on local pay negotiations for municipal workplaces. Once a month, the official Payroll Data Office for Danish Municipalities and Regions (KRL) discloses payroll statistics for each municipality on its website¹⁴ (Beskæftigelsesministeriet 2016b, 24). In 2006, the Ministry of Employment, the Department for Gender Equality (the Ministry of Children, Education and Gender Equality), the Confederation of Danish Employers (DA) and the Danish Confederation of Trade Unions (LO) developed a guide for equal pay, where workplaces and companies wanting to improve gender equality matters can find inspiration (Beskæftigelsesministeriet n.d.-d, Beskæftigelsesministeriet et al. 2006).¹⁵

The Danish trade unions have organised a range of different activities, groups and campaigns in order to influence the political agenda concerning equal pay (Beskæftigelsesministeriet 2016b, 18ff).¹⁶

More detailed descriptions regarding equal pay and wage transparency are stated in the Act of Equal Pay (for Men and Women), see part 2.1.1.

However, despite traditional collective agreements, women have lower wages in comparison to their male colleagues. Danish women still earn 16.4 % less per hour than Danish men (Eurostat n.d.-b).

¹³ For a summary of the study and suggestions for policy initiatives in English, see *Diskrimination af forældre* (Warming 2016, 10-12).

¹⁴ The website is www.krl.dk.

¹⁵ The Ministry for Employment will provide a revision of the 2006 guide for equal pay.

¹⁶ For instance, the trade union’s internal training programmes, *FIU Equality (Fagbevægelsens Interne Uddannelser (FIU), Ligestilling)* – a partnership between three of Denmark’s large trade unions; HK, Dansk Metal (trade union for metal workers) and 3F United Federation of Danish Workers (*Fagligt Fælles Forbund*) – have developed courses on equal pay. Also, LO has held workshops on the subject and are organising a yearly campaign in November called *Women’s last labour day (Kvindernes sidste arbejdsdag)*, where the message is, that if there is a gender pay gap at 16 % - 18 %, then women should take the rest of the year off. There are other examples on how the trade unions raise debates on issues in regard to the gender pay gap (Beskæftigelsesministeriet 2016b, 18ff). A description of further initiatives (in Danish) can be found in the Ministry of Employment’s review of equal pay, *Ligelønsredøgørelse* (Beskæftigelsesministeriet 2016b).

Even with well-developed social and childcare policies, Denmark performs less well in this regard than the other Nordic countries, including in the field of academia.

The Danish Institute for Human Rights states that the area of equal pay needs improvement. Not much has changed over the past 10 years, and the pay gap might be due to gender discrimination, therefore, more visibility is needed (Institut for Menneskerettigheder 2016, 18ff).¹⁷ The Danish Confederation of Professional Associations (AC, *Akademikernes Centralorganisation*) has stressed that there is a sustained need for governmental attention and further political initiatives to promote equal pay (Beskæftigelsesministeriet 2016b, 20).

In 2011, the Danish National Centre for Social Research (SFI) found that the existing regulations on gender-divided pay gap statistics, initiated in 2006, were insufficient, since only about one quarter to one third of the companies which the regulations applied to abided by the regulation. SFI's report led to a revision of the policy on pay statistics in 2014. The revised regulations entailed an extension of the companies encompassed by the regulations and of employers' obligations and employees' rights to information and hearing. Furthermore, encompassed companies would now automatically receive gender-divided wage statistics (Krogh 2015). In 2015 and 2016, there have been further revisions of the policy demanding gender-based pay statistics. In 2015, it was decided that also smaller companies with at least 10 full-time employees (described in part 2.1.3) and at least 3 male and 3 female employees, should provide statistics on the payment of male and female employees. However, in 2016, the 2015 changes were withdrawn.¹⁸ According to the 'new' or current policy in force, companies that have provided relevant employee information to Statistics Denmark (*Danmarks Statistik*), will automatically receive gender-based statistics on pay by Statistics Denmark once a year (Beskæftigelsesministeriet 2016b, 3).¹⁹

Equality in decision-making (committees, expert groups, European Parliament elections)

The Danish Council for Independent Research has set a target of equal representation of men and women in the council in order to further gender diversity. The target is that on the board, the academic councils and subcouncils and the group of external assessors, the underrepresented gender should account for at least 40 %.

The Danish Business Authority has developed guidelines *Target figures, policies and reporting on the gender composition of management* (Danish Business Authority 2016).²⁰ The Business Authority conducts an annual follow-up on companies' compliance with the rules and policies regarding

¹⁷ More detailed information on this and other possible GE (policy) improvements can be found (in Danish) in the 2015-2016 status report on gender by the Danish Institute for Human Rights (Institut for Menneskerettigheder 2016).

¹⁸ The Danish Institute for Human Rights, the Danish Women's Society (*Dansk Kvindesamfund*) and the Danish Association of Masters and PhDs (*Dansk Magisterforening*), among others, have criticised the latest decision to roll back the 2015 changes, since it has become more difficult for employees employed in the 9 500 companies which are no longer subject to the policy, to gain insights into possible pay gaps (Dansk Kvindesamfund 2016, *Magisterbladet* 2016, Beskæftigelsesministeriet 2016b, 18ff).

¹⁹ Companies can also collect a statistical overview themselves or they can provide relevant information to an employers' association, where they will be given gender-based statistics on pay to the extent that this is possible (Beskæftigelsesministeriet 2016b, 3).

²⁰ The latest guidelines in English are in *Guidelines on Target figures, policies and reporting on the gender composition of management* (Danish Business Authority 2016).

gender composition based on random sampling.²¹ These follow-ups will be incorporated into the Danish Business Authority's 2017 evaluation of whether the rules have led to positive advances in the share of women in management (Danish Business Authority 2016).

Furthermore, the ministry for GE has initiated a qualitative survey mapping barriers and potentials for supporting the development of GE in management in the largest Danish companies. In 2017, the GE policies will be evaluated (Nørby 2016, 19).

See also parts 2.1.1 and 3.5.1.1 for further description of equality in companies and in decision-making.

Horizontal issues (non-discriminatory gender roles, equality bodies, progress reports)

Once a year, the Minister of Minister for Children, Education and Gender Equality provides a review or statement on GE for the parliament (Ministry for Children, Education and Gender Equality 2016, Retsinformation 2013).

In recent years, several other reports and notes containing evaluations or assessments of GE policies and initiatives have been published, i.e. the report on measurable targets (*måltal*) and policies for gender distribution in state institutions and companies (Minister for ligestilling 2015), report by the Danish Council for Independent Research on gender and research in DFF (Bloch and Henriksen 2013), report on the gender-segregated labour market by SFI (Larsen et al. 2016), and assessment of equal pay (Beskæftigelsesministeriet 2016b).

The Minister for GE has formulated three main goals and underlying areas of focus as listed below (Nørby 2016, 7)²²:

- 1) Rights and freedom for each individual
 - a. Promoting GE among refugees and ethnic minorities
 - b. Fighting human trafficking
 - c. Battling violence and stalking in close relationships
 - d. Battling sexism and hate speech
- 2) Better use of resources and talents and
 - a. Promoting GE among children and youngsters in schooling and the educational system
 - b. Promotion GE in the labour market and in management
 - c. Strengthening GE evaluation in public authorities
- 3) Global GE stake/effort (*ligestillingsindsats*)
 - a. A proactive Danish effort (*indsats*) in battling the global violence against women
 - b. A proactive Danish effort supporting women's participation in society globally

²¹ The follow-ups can be found on the Danish Business Authority's website at <https://erhvervsstyrelsen.dk/koensfordeling-i-ledelsen>.

²² The visions and focus areas match the issues addressed in the *United Nations Committee on the Elimination of Discrimination against Women* (2015) (Institut for Menneskerettigheder 2016, 17). Further details on the three visions and concrete initiatives can be found in the annual review/GE action plan *Redegørelse/Perspektiv- og handlingsplan 2016* by the Ministry for GE (in Danish) (Nørby 2016).

- c. A proactive Danish effort for improving societal participation of LGBT persons in Europe

Additional activities (gender budgeting/gender-responsive policy-making/evaluation)

The Ministry of Employment has decided that all bills must be accompanied by a “gender mainstreaming memorandum”: all bills must take gender (mainstreaming) consequences of the bill in question into account, i.e. considerations about the bill’s consequences for women’s and men’s behaviours and opportunities on the labour market. If it can be argued that the bill does not change the existing balance between women’s and men’s conditions, no further elaboration or argumentation is needed. In other cases, the memorandum must include a more thorough analysis in a gender mainstreaming assessment. Memoranda must be sent to the Minister for Employment and to the Employment Committee of the parliament (Ligestillingsafdelingen, Udenrigsministeriet n.d.-d).

See also a description of the Danish Institute for Human Rights in part 2.1.2. See also part 2.3.3 for description of GE initiatives at the Danish Council for Independent Research, and part 2.3.4 for further descriptions of assessment of GE policies and responsible actors. See part 4 for further information on the Danish evaluation culture and policy.

Equality in decision-making

The question of quotas has been an ongoing discussion, but there are currently no quotas in the Act on GE (Niskanen 2011, 63-66); “resistance towards gender quotas in the field [of decision-making] is strong and the principle of self-management (in setting up company goals) prevails” (Augustín 2015, 5).

In regard to GE in decision-making, there has been some development since the changes in the Act for GE and the Danish Model for more women on boards were initiated in 2013 (see parts 2.1.1 and 2.1.3). The act and the model originally targeted 1 100 of the largest companies, however, due to changes in the Danish Financial Statements Act (*Årsregnskabs- og selskabsloven*, 2015), the regulation covers only 850 companies today (Dansk Industri 2016).

Findings from the latest analysis of the gender composition in leadership in supreme governing bodies and at other company management levels in 170 companies²³ can be found in the *Report on gender composition 2013*, composed by the Danish Business Authority (Danish Business Authority 2015). The report shows that for the companies required to set target figures, only 2 % of the companies report on an equal division and 73 % indicate a target figure. For those companies that have set a target figure, 65 % provide a status report in relation to achieving the objective:

Corporate ambition in relation to the setting of target figures is on average an increase of the underrepresented gender by approximately 25 %. However, the analysis shows that most companies have set a goal to increase the proportion of the underrepresented gender with respectively 20 %, 25 %, 33 % and 40 %. Of the companies that specify their target figure, 84 % of the companies report on the expected timeframe for achieving that objective. The time horizon for most companies is set at four years. (Danish Business Authority 2015, 1)

²³ On the basis of approximately 1 200 companies, a representative sample of 170 companies was selected for the analysis (Danish Business Authority 2015).

Horizontal issues

When comparing the two annual reports on GE by the Ministry for GE (Nørby 2016) and by the Institute for Human Rights, two slightly different pictures of the current GE status and GE focus appear. In their 2015-2016 status report, the Institute for Human Rights state that, while there was a great deal of public discussion and media attention on GE issues such as sexism, hate speech, gender-based violence and rape in 2015, the government decided to cancel existing initiatives for the promotion of equal pay and increasing the number of female researchers. In 2015, the government furthermore abandoned the policy on parental equalisation (*barselsudligning*) for self-employed. The institute finds that with the changes for self-employed, there is a great risk that it will be less attractive for (imminent) parents to engage in self-employment (Institut for Menneskerettigheder 2016, 15-16).

Additional activities

In some cases, the legislation has prohibited implementation of GE actions as it does not allow affirmative action that favours one gender over another. Such actions need specific dispensation from the responsible ministry in order to be implemented.

In the Act on Gender Equality, there are no possibilities of sanctions when or if the obligation for mainstreaming is disregarded, neither does the Board of Equal Treatment have the authority to apply sanctions in regard to omission of gender mainstreaming (Institut for Menneskerettigheder 2016, 30).

The latest *Report/Perspective and Action Plan* submitted by the Minister for Children, Education and Gender Equality to the Danish parliament provides insight into which GE issues in regard to mainstreaming (mainly in public authorities) the Ministry for Equality focuses on (Nørby 2016, 18).²⁴ The 2016 ministerial GE report stresses that while the state, regions and municipalities are focused on implementing a gender perspective in regards to employers, there is less focus on gender mainstreaming and gender awareness in regards to the core services and citizen-oriented services (Nørby 2016).²⁵

The 2016 status paper on gender by the Danish Human Rights Institute states that in 2013, 62 % of state institutions and 76 % of municipalities did not have specified GE objectives as regards their core activities. Furthermore, 52 % of state institutions working with bills/draft legislations stated that they “sometimes”, “rarely” or “never” focus on gender mainstreaming in relation to bills/draft legislations. The status paper also states that 30 % of government authorities and 10 % of municipalities make use of gender-based data to a high or very high degree, 36 % of governmental authorities and 52 % of municipalities do not make use of gender-based data or do so only to a small degree (Institut for Menneskerettigheder 2016, 31-32).

²⁴ Original sources are *Ligestillingsredegørelser 2015. Hovedrapport* (Ministeriet for Børn, Undervisning og Ligestilling 2016), *Analyse: af kønsforskelle i beskæftigelsesindsatsen* (Slotsholmsanalyse 2014), and *Kønsforskelle i hjemmeplejen* (KORA 2014).

²⁵ An overview of how state institutions, municipalities and regions score on the GE index in regard to personnel and core outputs/renderers can be found (in Danish) at <http://www.ligestillingidanmark.dk/> (Ligestillingsredegørelse n.d.).

As mentioned earlier, the Institute for Human Rights finds that Denmark lacks clearly formulated goals for GE and improved evaluations on what works. The institute has therefore formulated the following recommendations for the Ministry for Gender Equality (Institut for Menneskerettigheder 2016, 33):

- Strengthening of the work on gender equality and mainstreaming:
 - o Specifying the content in regard to mainstreaming in the Act on Gender Equality:
 - Formulating specific goals for the overall GE work,
 - Performing continual evaluations of the initiatives launched.
- Formulation of specific goals for the execution of assessment of GE (*ligestillingsvurdering*) in all bills/draft legislations which (will) have a direct impact on the citizens;
- Strengthening the supervision of public authority bodies in regard to the fulfilment of the gender mainstreaming obligation:
 - o The ministry might consider engaging the Public Accounts Committee (*Rigsrevisionen*), civil services and the Danish Parliamentary Ombudsman as supervisory bodies regarding matters of observance of the legislation by public authorities.

2.2 Welfare and Gender Regimes

2.2.1 Fiscal policies

Concerns regarding aspects of equal economic independence are covered in the Act on Entitlement to Leave, the Act on Equal Treatment of Men and Women (e.g. access to employment and protection from dismissal on grounds of leave), the Act on Entitlement to Leave Benefits, the Act on Prohibition of Discrimination on the Labour Market, and the Act on Equal Treatment between Men and Women in Insurance, Pension and Similar Matters.

Gender mainstreaming is not considered in fiscal policies in Denmark. Yet GE and fiscal policies are related: for instance, adjustments in top taxes can influence the pay gap between men and women. In Denmark, men have overall higher payments than women. According to the Economic Council on the Labour Market, (AE, *Arbejderbevægelsens Erhvervsråd*), the number of women paying top taxes has never before been so low as it is today, where 137 000 women and 340 000 men pay top taxes (Juul and Caspersen 2016). Therefore, a tax credit favouring top tax payers would benefit the most well-paid employees, which are mostly men, and widen the overall pay gap between men and women.

Tab. 17: Fiscal incentive for secondary workers, 2011 – (sorted by AETR)

	Secondary earner (AETR) Primary earner at 100 % of AW and 2 children	Single (net personal average tax)	Ratio (secondary earner/single)
Denmark	48.5	36.8	1.3
Unweighted average	31.3	23.7	1.4
Unweighted average without joint taxation countries	30	23.1	1.3

Unweighted average for joint taxation countries (FR, DE, IE, LU, PT)	37.3	26.9	1.4
--	------	------	-----

Source: (Plantenga 2014, 41)

A new liberal government alliance was just initiated at the end of November 2016; future fiscal policies and their GE effects may follow. See more detailed descriptions of policy initiatives regarding labour market participation and work-life balance in part 2.1.1, and policy initiatives regarding childcare facilities in part 2.2.2.

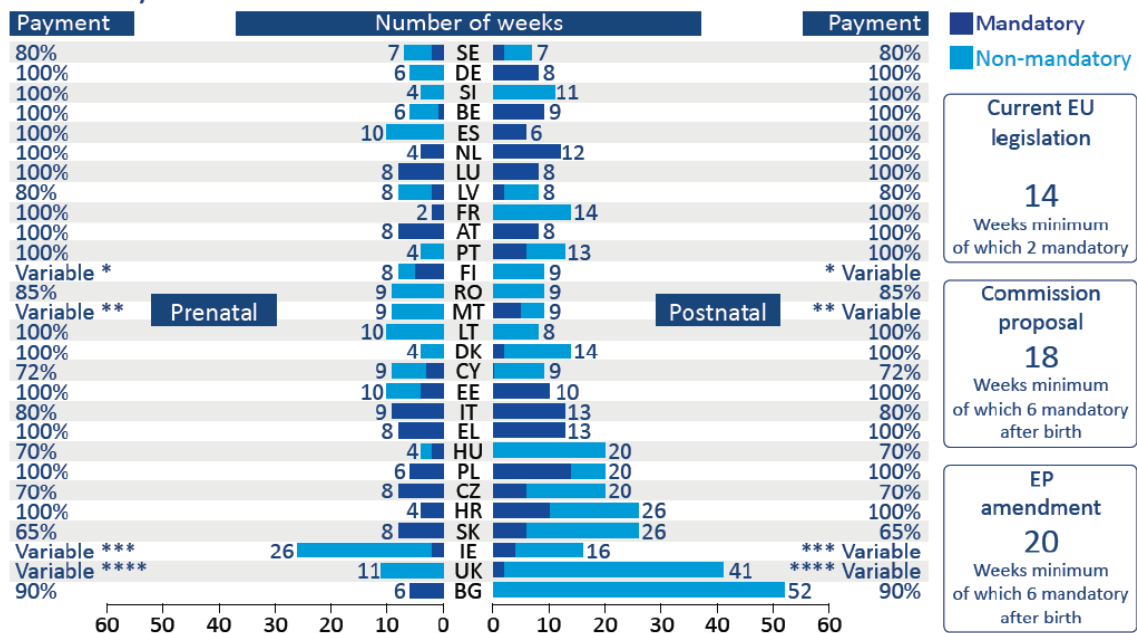
2.2.2 Parental leave policies

2.2.2.1 Possible duration of maternity leave

Women have the right to four weeks of paid parental leave during pregnancy (pregnancy leave) and 14 weeks of paid leave after giving birth (maternity leave). Fathers have the right to two weeks of parental leave within 14 weeks after the birth (Beskæftigelsesministeriet n.d.-a). For further details, see the sections below.

Figure 1: Maternity leave comparison between EU countries

Maternity leave



Source: (Schulze and Gergoric 2015, 114)

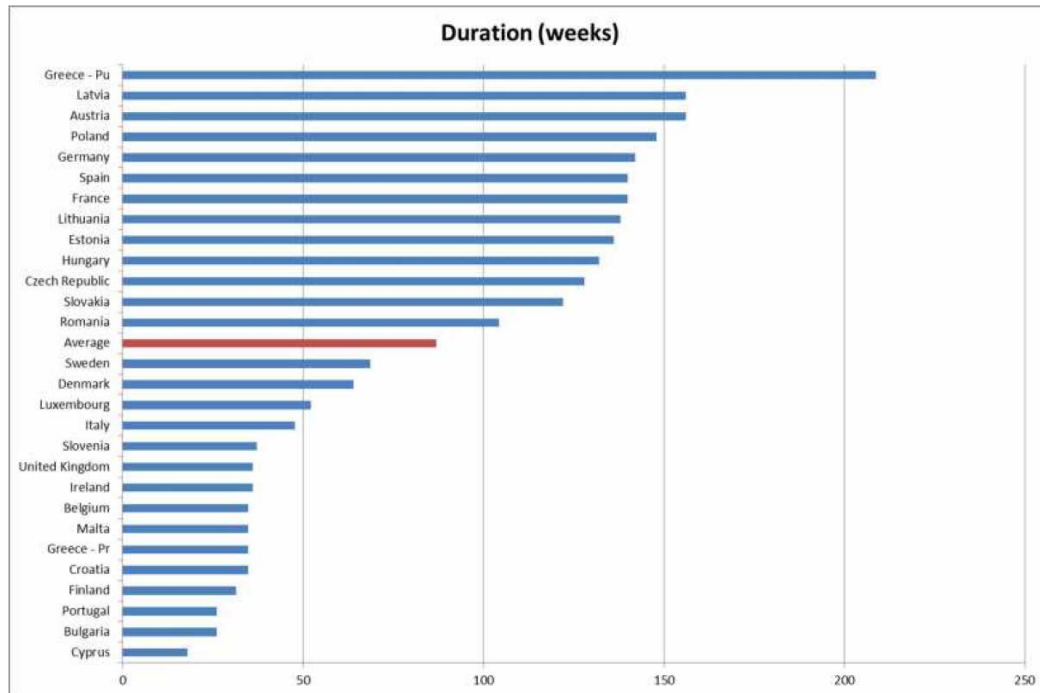
2.2.2.2 Possibility of paternity leave

Fathers are entitled to paid leave for two weeks after the birth (Beskæftigelsesministeriet n.d.-a, Marcussen 2016, 44), “however, they may enter into an agreement with their employer to postpone the two weeks to a later date within the first 14 weeks after the birth” (Marcussen 2016, 44); see also parts 2.2.2.5 and 2.2.2.6. But unlike in other Nordic countries (namely, Norway, Sweden and Iceland), there is no paid earmarked leave for fathers in Denmark and there are currently no plans to change this (Andersen 2016, 3, Institut for Menneskerettigheder 2016, 49).

2.2.2.3 Possible duration of parental leave

As the figure below illustrates, the duration of parental leave in Denmark is below the EU average. The proportion of men with parental leave is low, but in recent years the proportion of men who take up parental leave has increased (see also part 2.2.3.2). As mentioned earlier, paternity leave is not mandatory in Denmark. See also parts 2.2.2.5 and 2.2.2.11.

Figure 2: Duration of parental leaves across EU countries, in weeks



Source: (Schulze and Gergoric 2015, 68)

As mentioned above, women have the right to four weeks of paid parental leave during pregnancy and 14 weeks of paid leave after giving birth, while fathers have the right to two weeks of parental leave within 14 weeks after the birth of the child. During these 20 weeks of parental leave, the parents are entitled to parental leave benefits/paid leave: mothers are entitled to paid leave for four weeks before and 14 weeks after birth takes place (Beskæftigelsesministeriet n.d.-a). Altogether, parents are entitled to a total of 32 weeks of paid leave which they can share between them (Beskæftigelsesministeriet n.d.-a)²⁶.

2.2.2.4 Who is entitled to take parental leave?

The Act on Parental Equalisation in the Private Labour Market (*Barselsudligningsloven*) stresses that employers in the private labour market must pay a yearly fee to an obligatory parental equalisation agreement/scheme. In return, employers will receive a supplementary salary/wage refund from the agreement/scheme, when employees are on paid leave (Beskæftigelsesministeriet n.d.-c). Specific rules apply to students and self-employment. The latter can get advice and information from *Udbetaling Danmark*.

²⁶ According to an analysis by *Agenda*, a news magazine for the Confederation of Danish Employers (DA), employees in the public sector (which employs many women) often get more paid parental leave than employees in the private sector (employing more men). *Agenda's* numbers show, that in 2014, public employees got 4.1 days of paid parental leave, compared to 1.7 days of paid leave for employees in the private sector (Ravn 2014).

2.2.2.5 Flexibility of Parental Leave arrangements

In their latest report, the Nordic Social Statistical Committee states that “parental leave lasts on year and is very flexible. Parents may, for example, divide the last 32 weeks between them and take turns being on leave, or they may take their leave one after the other or concurrently” (Marcussen 2016, 44). Furthermore, the period of parental leave (32 weeks) can be extended with another 8 or 14 weeks (Beskæftigelsesministeriet n.d.-b), but the total amount of cash benefit for leave remains the same (Marcussen 2016, 44). A parent can also choose to save/postpone 8 to 13 weeks of parental leave for later use (Beskæftigelsesministeriet n.d.-d, Beskæftigelsesministeriet 2016b, 23).²⁷

The Maternity, Paternity and Parental Leave and Benefit Act states that employees *can* extend the parental leave with some degree of public benefits. One of the parents may postpone 8 to 13 weeks of the 32-week parental leave (see also parts 2.2.2.3 and 2.2.2.5). The postponed leave must be taken before the child is nine years old. Furthermore, the right to return to prior working arrangements is to some extent protected, if the prior work still exists (Tvarnø 2015, 32).

2.2.2.6 Policies in place for supporting paternity leave or usage of entitlements by fathers

In the collective agreement in 2015, it was decided that fathers/co-mothers/male adopters would be given the right to an additional week of paid paternity/parental leave (Beskæftigelsesministeriet 2016b, 20). Today, fathers are entitled to paid leave for two weeks after birth (Beskæftigelsesministeriet n.d.-a).

2.2.2.7 Regulations and initiatives supporting parents returning to work

See description of regulations and initiatives supporting parents returning to work in part 2.1 *Employment and labour market policies* and part 2.2.2.11 *Legal rights to reduce working time on request*.

2.2.2.8 Compensation rate for wages for maternity leave

During the 20 weeks of parental leave, the parents are entitled to parental leave benefits/paid leave (see part 2.2.2.3 above) (Beskæftigelsesministeriet n.d.-a). The compensation rates in Denmark are not gender-specific. However, a prerequisite for cash benefits at childbirth is that the parent or employee has worked at least 120 hours within the last 13 weeks, has finished a vocational qualification course of duration of at least 18 months or has been employed as an apprentice (Marcussen 2016, 41).²⁸

2.2.2.9 Compensation rate for wages for parental leave

Employers who have been in continuous employment for the past 13 weeks, who have had at least 120 working hours within the 13 weeks and who have daily contact with their child during leave, are entitled to parental leave allowance (*barselsdagpenge*) by *Udbetaling Danmark*, which in 2015 was DKK 4 180 per week (pre-tax). However, some workplaces have agreements where the employer pays parental leave allowance to the employee. Here the employee receives a compensation for expenses for employees on leave. An employee is not entitled to paid leave by both the employer and *Udbetaling Danmark* at the same time (*Udbetaling Danmark* n.d.-a).

²⁷ For further information on parental leave and benefits (in Danish), see *Barselsdagpenge* (Beskæftigelsesministeriet n.d.-a).

²⁸ Additional and more detailed information on policies applying for and statistics on families and children in the Nordic countries, please see the report *Social protection in the Nordic Countries 2014/2015. Scope, expenditure and financing* (Nordic Social Statistical Committee 2016).

2.2.2.10 Additional paid leave for working parents

The Act on Social Service (2015) secures the employee's right to leave to take care of relatives with a handicap, illness and/or terminal condition (substantial and permanent physical or mental capacity, or incurable disorder). An employee can either be awarded public remuneration to care for a dying family member or continue to work on reduced time without a salary reduction, after agreement with the employer. In the first case, the employer receives a salary reimbursement from the municipality. The employee will then be employed by the local council to take care of the relative who is ill at home, for a maximum period (with pay) of six months – which in special cases can be prolonged by three months. The payment is approximately EUR 2 500 per month (Tvarnø 2015, 31).

According to the force majeure clause in the Parental Leave Directive (Act on Employees' Rights to Leave for Special Family-Related Reasons, 2006), workers are entitled to time off from work on grounds of force majeure, in case of urgent family reasons, e.g. in case of a sickness or an accident. However, there are no specified conditions or more details, and the entitlement to such time off from work is not limited to a certain amount of time per year and/or per case (Tvarnø 2015, 31).

2.2.2.11 Legal right to reduce working time on request

It is not a legal right to obtain modified work schedules (Tvarnø 2015, 32). The different possibilities for leave or reduced working time are rather flexible in Danish legislation, as they depend on agreements made between employer and employee.

2.2.2.12 Protection against dismissal

According to the Act on Equal Treatment (*Ligebehandlingsloven*), discrimination on the labour market in regard to conditions of employment is prohibited. The act also contains rules about dismissal on grounds of pregnancy or parental leave and the Ministry of Employment has developed a guide on protection against dismissal (Beskæftigelsesministeriet n.d.-g, Beskæftigelsesministeriet 2016a).

Flexible working arrangements are rather common in Denmark (Plantenga and Remery 2009, 8, 25, 27, 53). In 2001/2002, a new part-time law was passed by the government, stating that employer and employee must agree upon working time. The law also provides employees with the possibility of going from full-time to part-time work (e.g. from 37 to 15 hours a week). If an employer dismissed an employee on grounds of the employee's request for reduced working hours, the employer must provide financial compensation for the employee in question. The law also includes a principle of equal treatment of full-time and part-time employees (Plantenga and Remery 2009, 30, 31). See also description in part 2.1 on employment and labour market policies and part 2.2.2.11.

2.2.3 Empirical Evidence for Gender Regime

In the 2015 report *The Policy on Gender Equality in Denmark*, Augustin states that:

Denmark is characterized by high female employment rates, high representation of women in part-time employment, a significant gender pay gap, gender-segregation in educational choices and in the labour market, low representation of women in economic decision-making as well as in science and research, and a very high female take-up rate of parental leave. (2015, 5)

For a review of the assessment of GE issues, policies and initiatives in Denmark, see also part 2.1.4, and for a general description of the gender regime in regard to parental leave, see chapters above and part 2.1.4.

2.2.3.1 Usage of parental leave

As Tab. 18 shows, there has been an increase in the share of users of publicly-paid paternity leave, when comparing 2006 and 2013. See also table and description in part 2.2.3.2.

Tab. 18: Recipients/users of publicly-administered paternity leave benefits or publicly-administered paid paternity leave per 100 live births, 2006 and 2013

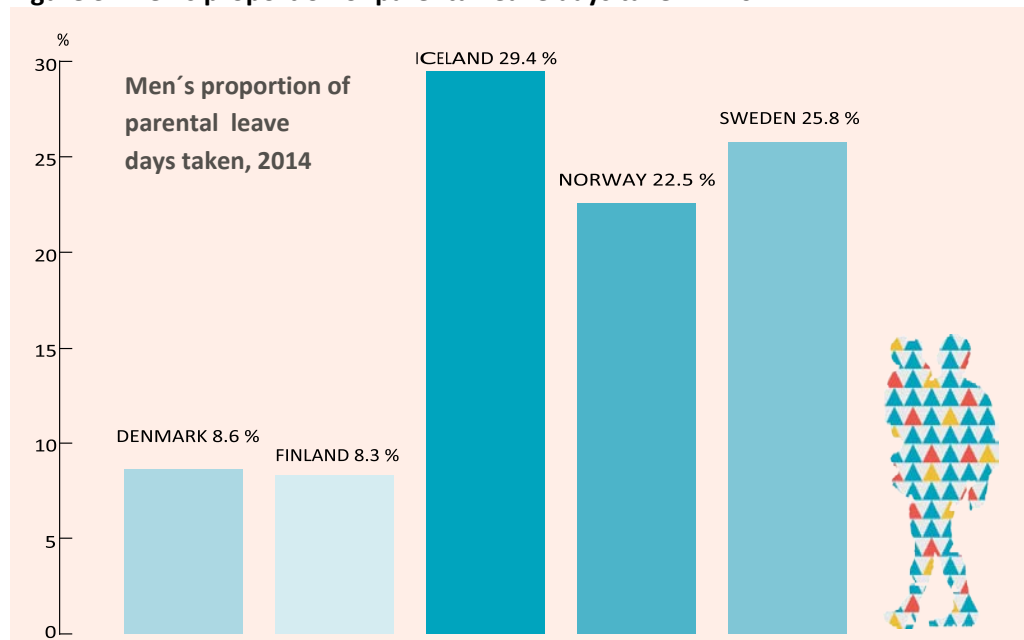
	2006	2013
Denmark	65.8	68.9

Source: (OECD 2016b)

Since 2009, there has been a small increase in the share of men taking parental leave. In 2014, around 1 in 3 men took parts of the parental leave that parents can share between them; 37 % of fathers and 99.4 % of mothers took parts of the shared parental leave. 45 % of the fathers took two weeks of paternity leave. 18 % of fathers took no parental leave (Danmarks Statistik 2015a).²⁹

According to NIKK, Nordic Information on Gender (*Nordisk Information för Kunnskap om Kön*),³⁰ even though fathers in the Nordic countries, e.g. Denmark, take more parental leave than fathers in many other countries, there are differences between the Nordic countries worth noticing (NIKK 2016b). The table below from a factsheet recently disclosed by NIKK gives an overview of the differences within some of the Nordic countries regarding the share of leave taken by fathers in 2014 (NIKK 2016b).

Figure 3: Men's proportion of parental leave days taken in 2014



Source: (NIKK 2016b)

²⁹ It is not possible to say whether the 18 % covers fathers who did not take any leave at all; the number might also cover fathers who took leave paid by their employer, where the employer did not apply for compensation at the municipal level for the paid leave costs for the employees.

³⁰ NIKK is a Nordic cooperative body for the Nordic Council of Ministers. NIKK provides knowledge about policies, practices and research related to GE in Denmark, Finland, Iceland, Norway, Sweden, Greenland, Faroe Islands and Åland Islands.

Figure 3 shows that fathers in Iceland, Sweden and Norway took between 22.5 % - 29.4 % of the overall parental leave days in 2014. Similarly, the Danish Institute for Human Rights stressed in their annual report on GE, that even when looking at parents who shared the period of parental leave between them, 88 % of the overall parental leave days are taken by the mother (Institut for Menneskerettigheder 2016, 49).

2.2.3.2 Average duration of parental leave periods by sex (measured in days);

Tab. 19 shows the number of paid parental leave weeks, presented in the article *Trends in parental leave in the Nordic countries* (Eydal et al. 2015).

Tab. 19: Number of weeks of paid parental leave in the Nordic countries in 2000 and 2014

Number of weeks	Total	Fathers quota	Paternity leave ^b
<i>Denmark</i>			
2000	30	2	2
2014	50	0	2
<i>Finland</i>			
2000	44	0	3
2014	48	6	3
<i>Iceland</i>			
2000	26	4	0
2014	39	13	0
<i>Norway</i>			
2000	42/52 ^a	10	2
2014	49/59 ^a	10	2
<i>Sweden</i>			
2000	64	8	2
2014	69	8	2

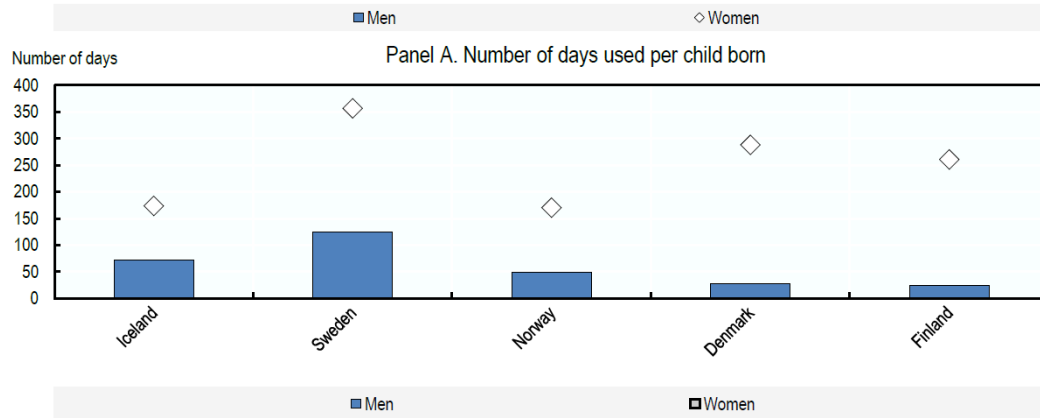
^a57 weeks with 80 % replacement or 47 weeks with 100 % replacement.

^bLeave that the father can take during the first weeks afterbirth when the mother is also on leave.

Source: (Eydal et al. 2015, 170)

From 1998 to 2002, there was a fathers' quota in Denmark, which is reflected in the numbers when comparing year 2000 and 2014 (Eydal et al. 2015). The table also shows that there has been an increase in the number of weeks of paid parental leave. The duration of paternity leave had been stable (two weeks).

According to an overview from Statistics Denmark, there has been a small increase in the mean number of parental leave weeks held by fathers in the period from 2007 to 2013, and a small decrease in the number of weeks held by mothers, but in general the numbers have been relatively stable (Danmarks Statistik 2015b).

Figure 4: Duration of paid leave for men and women, 2014

Source: (OECD 2016b, 6)

As seen in Figure 4, the duration of paid leave for men and women is relatively low in Denmark, when comparing with other Nordic countries. In Denmark, there is currently no earmarked leave for fathers, as in e.g. Sweden. In a report from 2014, the Danish Institute for Human Rights found that 3-4 times as many mothers as fathers take parental leave in Denmark, and that the duration of parental leave taken by mothers is much higher than the duration of leave taken by fathers (Institut for Menneskerettigheder 2014a, 8).³¹

In November 2016, the Rockwool Foundation published a study on the effects of the parental leave reforms in Denmark and the paternity leave on maternity leave and the post-leave labour market performance of mothers (Andersen 2016). The study addresses this as an issue of “(...) penalty of motherhood on labour market outcome, across socio-economic groups and institutional contexts” (Andersen 2016, 3). The study concludes that “(...) when fathers’ share of leave increases (...) it causally reduces the labour market penalty of maternity leave” (Andersen 2016, 4). The study gave immediate rise to several articles about parental leave and maternity/paternity leave in the Danish media.³²

2.2.3.3 What are the main barriers for increasing the participation of men in parental leave?

In the annual GE review/action plan of February 25, 2016, the Minister for GE states that the frames for paternity leave ensure that it is possible for women and men to share the parental leave between them. Yet the minister also stresses the necessity of a joint effort involving the government, the industry, companies, employers as well as employees and the unions, along with social partners, the families and individuals (Nørby 2016, 17).

In a survey initiated by the Danish Institute for Human Rights in 2015, one in five male respondents stated that they had taken less parental leave than they wanted. The main reasons stated by respondents of both sexes was economic reasons, and/or because the mothers/women had wanted

³¹ Minor differences in the statistics provided by the OECD and the Danish Institute for Human Rights might be found, due to differences in methods.

³² Examples of Danish articles on the parental leave related to the study of the Rockwool Foundation: *Mor får højere løn hvis far tager mere barsel* (DR 2016); *Mere barsel til far giver mor mere løn og bedre karrierekurs* (Politiken 2016). For more information on parental leave in private companies (in Danish), see *Barsel.dk* (Virk n.d.).

to take the rest of the leave. Other studies have shown that many men are unaware about their rights to parental leave (Institut for Menneskerettigheder 2016, 50, Warming 2016, 7).

According to Bloksgaard and Rostgaard, there are cultural explanations, as well. Take-up of parental leave is also a question of broader cultural shifts in perceptions of parenthood. Still, not all fathers are equally susceptible to changes in family organisation involving parental leave. Parental leave is often perceived as 'for women'. A recent survey showed that more than 50 % of the fathers who took less than three months in total (paternity and/or parental leave) stated that "if my employer had clearly indicated that my job situation would not be negatively affected" and "if my work place had a tradition for male employees taking leave" were factors influencing the period of leave they took. These cultural problems with acceptance of fathers pursuing parental leave may be related to the lack of a fathers' quota (Bloksgaard and Rostgaard 2016).

However, there has been some (cultural) changes, and a cultural shift in (especially male) attitudes to fatherhood and in society's views on men's role in childcare for young children, which may have been encouraged or at least supported by the father's quota in 1998-2002:

Further analysis shows that it is now more the well-educated fathers, working in public sector occupations and with well-educated partners who take Parental leave, presumably because they stand in a better situation in the labour market, they may have secured better leave rights and may also have a partner who is more eager herself to return to the labour market. (Bloksgaard and Rostgaard 2016, 8)

In another study, the Institute of Human Rights found that parents (almost every second woman and one in four men) have experienced different kinds of discrimination related to pregnancy or parental leave at their workplace. For instance, one in six women in the study have been asked during job interviews if they were pregnant or planning to become pregnant, even though it is illegal for employers to act on such questions. The study also showed that men taking paternity leave often receive remarks from their male colleagues such as "have a nice holiday" (Warming 2016, 7-8). Especially earmarked leave for fathers seems to be of great importance; NIKK finds that "the most gender-equal use of the parental insurance is found in countries that stipulate that a certain portion of the total parental leave granted for a child can only be taken by the father" (NIKK 2016a), and also other studies have shown that most fathers would be interested in taking more parental leave, if there was more earmarked parental/paternity leave for men (Institut for Menneskerettigheder 2016, Institut for Menneskerettigheder 2014a, 10-11).

On request of the Ministry of Employment, in 2013 SFI performed a literature study on experiences with earmarked leave for fathers in Nordic countries to examine which factors influence how and if parents take parental leave. SFI found that fathers are resistant to take (some of the) leave that can be shared between the parents, if the leave is not earmarked for the fathers. SFI also found that factors such as pay compensation and flexibility are influential factors. On the basis of the study, SFI concluded that policies on earmarked leave can support more gender-equal norms about parental leave, and contribute to normalisation of paternity leave (Jacobsen et al. 2013).

In sum, several studies on parental leave conclude that earmarked paternity leave would contribute to gender equality in families and on the labour market (Andersen 2016, 27, Institut for Menneskerettigheder 2016), and the Institute of Human Rights recommends government initiates for the improvement of men's share of parental leave (Institut for Menneskerettigheder 2016, 50,

53). However, recently the minister stated that there will be no earmarked leave for fathers (Dinnesen 2016, Institut for Menneskerettigheder 2016, 49), but the (now former) minister stated that she will initiate contact and dialogue with companies and business organisations in order to address issues and possibilities in regard to paternity leave (Nørby 2016).³³ The new minister for GE has not yet taken a stand regarding earmarked leave.

2.2.3.4 Fertility rate

As Tab. 20 shows, there has been a decrease in the number of births per woman. By 2014, women in Denmark on average gave birth to 1.67 children, compared to 1.85 children in 2006. Yet in 2014, the fertility rate in Denmark was still above the EU average (1.54).

Tab. 20: Fertility rate, total (births per woman)

	2006	2007	2008	2009	2010	2011	2012	2013	2014
EU28	1.53	1.56	1.61	1.60	1.61	1.58	1.58	1.54	1.54
Denmark	1.85	1.84	1.89	1.84	1.87	1.75	1.73	1.67	1.67

Source: (World Bank n.d.)

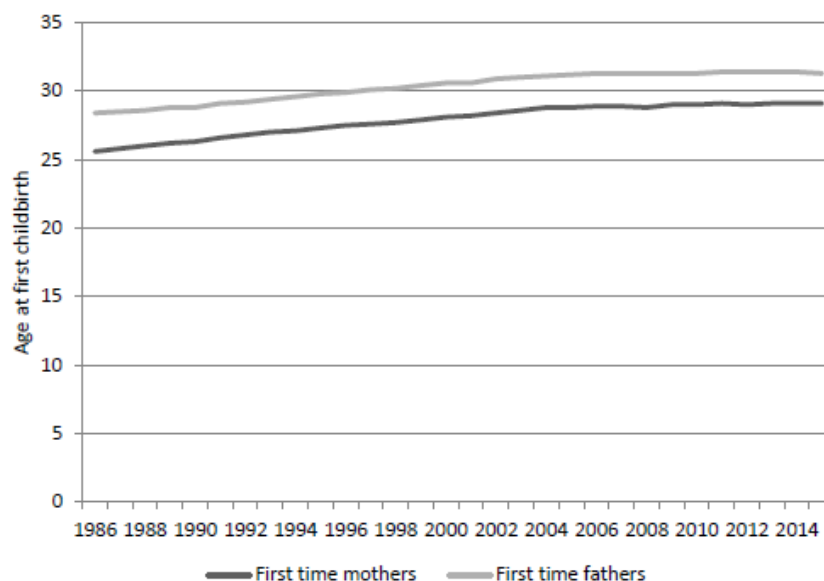
“In the Nordic countries good childcare and parental leave allowances are likely to keep up the fertility rate”(Nordic Council of Ministers 2015, 6).

The decrease in fertility in Denmark might partly be explained by the increased participation in the workforce, the increase in the number of one-parent family, as well as by the increase in the enrolment in higher education.

2.2.3.5 Mean age of women at birth of first child

The figure and table below show the mean age of mothers and fathers at first childbirth (Andersen 2016, 15). Note that Andersen’s figure numbers are not RDTI- or sector-specific, but show the overall developments, as does the table provided below.

Figure 5: Age at first childbirth, mothers and fathers



³³ On November 28, 2016, Merete Riisager (V) was appointed as Minister for Children, Education and Gender Equality.

Figure 5 shows that while women in 1986 were around 25 years of age at the time of first childbirth, in 2014, the mean age of first time mothers was close to 30 years of age. There has also been a little increase in the age of first time fathers, who in 2014 are a little older than 30 at the time of first childbirth. In the period 2004-2014, the curve has hardly changed. According to Andersen, this can be interpreted as an effect of the business cycle in the period 1986-2014, and that it “implies that over time, families are likely to have a stronger foothold at the labour market at the time that they start producing children” (2016, 14).

Tab. 21: Mean age of women at birth of first child by year

	2005	2006	2007	2008	2009	2010	2011	2012
Denmark	28.9	29.1	29.2	29	29.1	29.1	29.2	29.1

Source: (UNECE 2017b)

Tab. 21 also shows that the mean age of women and men at birth of first child has been relatively stable, with a small increase from 2005-2006.

2.2.3.6 One parent families and children by sex of parent

As seen in Tab. 22, the share of one-parent families has increased steadily for both men and women, but that the largest increase has been in one-parent families for women. In 2013, about four times as many women than men were single parents; almost 147 000 families were one-parent families with a mother and almost 32 000 families were one-parent families where the gender of the parent was male.

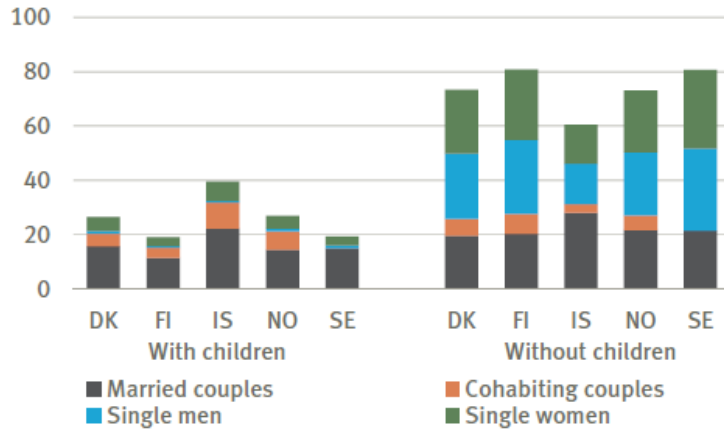
Tab. 22: One-parent families and children by sex of parent, measurement, country and year (number of families)

	2005	2006	2007	2008	2009	2010	2011	2012	2013
Female parent									
Denmark	128 397	130 577	132 739	134 661	137 733	140 710	142 801	144 222	146 978
Male parent									
Denmark	24 594	25 226	25 929	26 667	27 634	28 779	29 685	30 782	31 935

Source: (UNECE 2016)

As seen in the figure below, the share of single men with children in Denmark is rather low, while the share of cohabiting couples with children and the share of single women with children are almost the same (Marcussen 2016).³⁴

³⁴ For Sweden, note that the figure does not include the share of cohabiting couples with children, as here “cohabiting individuals count as married people” (Marcussen 2016). In the Swedish numbers, no differentiation is made between married couples and cohabiting couples.

Figure 6: Families with and without children 0-17 by type of family, 2013

Note: DK: Children aged 0–24. SE: Married include cohabiting couples

Source: NOSOSCO: "Social protection in the Nordic Countries"

Source: (Nordic Council of Ministers 2015, 8)

The latest numbers show that in 2015, 19 % of single parents in Denmark were male and 81 % of single parents were female (Marcussen 2016). Changes in the numbers of single male and female parents are probably due to broader cultural shifts in attitudes towards parenthood and single life. The numbers in the table might also partly be due to the increased participation of women in the labour market, functioning welfare system with social benefits for one-parent families, good possibilities for singles to adopt or utilise reproductive technologies to assist pregnancy, and sufficient supply of childcare. However, there is an intensive political debate as to the sustainability of such system in the long run.³⁵

2.2.3.7 Enrolment rate of children aged under 3 years in childcare facilities

As Tab. 23 shows, the enrolment rate of small children in childcare has increased since 2005/2006, but has been relatively stable in the period 2007/2008 to 2012/2013. Nordic countries including Denmark have a high share of parents enrolled in the labour force, compared to other European countries (Cevea 2016, 3, Nordic Council of Ministers 2015, 11).

Tab. 23: Childcare by indicator, country and year

	2005/06	2006/07	2007/08	2008/09	2009/10	2010/11	2011/12	2012/13
Denmark	62	63	66	66	65	67	66	67

Source: (UNECE 2017a)

2.2.3.8 Women not working or working part-time because of inadequacy of childcare services

Nordic countries, including Denmark, have extensive publicly subsidised childcare provision (Neuman 2014, 11), and adequate childcare services are available and affordable in Denmark. Due to the high share of women enrolled in the labour market, having smaller children enrolled in childcare facilities is quite common; therefore, it seems unlikely to find statistics with a significant share of women not working or working part-time because of inadequacy of childcare facilities.

³⁵ Additional tables and figures providing an overview of family types by gender and number of children can be found (in Danish) in *Målbar ligestilling. Statistik som værktøj til fremme af kønsligestilling i kommunerne* (Institut for Menneskerettigheder 2014b) and (in English) in *Social protection in the Nordic countries 2014/2015* (Nordic Social Statistical Committee 2016).

However, Laursen et al. state that:

Discussions about Danish family policy do take place. The aim of Denmark's policy is obviously to allow women to work. For many women, returning to work is a financial necessity, and many women want to have a career. Others would rather take care of their small children for years, (...), but few actually do so. Recently, concerns have been raised on the quality and flexibility of day care due to strained finances in the municipalities. (2015, 19)

See also part 3.3.1 *General labour market participation* (part 3.3.1.3 *Employment by full-time and part-time status*).

2.2.3.9 Main reasons for women not working or working part-time

Compared to other Nordic countries, Denmark has a relatively high share of men and women working part-time (Nordic Council of Ministers 2015, 27f). As more women than men are single parents (see part 2.2.3.5 above), this might be one of the reasons why some women in Denmark are not working or working part-time. Other explanations could be that women spend more time on domestic work than men, and also, men and women are often employed in different sectors where there might be different possibilities for employment in full-time or part-time positions. See also part 3.3.1 on general labour market participation (3.3.1.3) and part 3.4.1 on general horizontal segregation.

2.2.3.10 Percentage of children in formal childcare

As Tab. 24 shows, the percentage of children in formal childcare is relatively high and above the EU level. In 2012, 69 % of children below the age of 3 were enrolled in formal childcare for more than 30 hours a week, and the same counts for 87 % of children between 3 years of age and schooling age, see also part 2.2.3.7 above.

Tab. 24: Percentage of children in formal childcare, 2012

	Below age 3			Between age 3 and compulsory schooling age		
	1-29 hours	30 hours +	Total	1-29 hours	30 hours +	Total
EU28	15	15	30	37	46	83
Denmark	5	69	74	11	87	98

Source: (Plantenga 2014, 44, Eurostat n.d.-b)

2.2.3.11 Time spent on unpaid work

As Tab. 25 illustrates, more women than men spend time on unpaid work.

Tab. 25: Time spent on unpaid, paid and total work, by sex, 2001

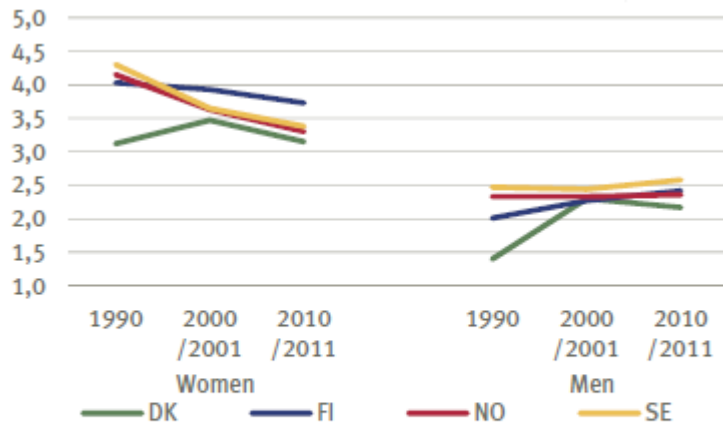
	Paid work		Unpaid work	
	Women	Men	Women	Men
OECD Average	215.3	328.5	271.7	137.6
Denmark	194.6	260.1	242.8	186.1

Source: (OECD n.d.)

When looking at newer numbers specifically in the Danish context, it appears that on average, women spend about one hour more on unpaid work/domestic work, e.g. household tasks and caring

for children, than men (Cevea 2016, 4). Figure 7 illustrates the development in time spent on domestic tasks around 1990, 2000 and in 2010/2011 (Nordic Council of Ministers 2015, 12).

Figure 7: Time used on domestic work for women and men 18-74 years, hours



Note: DK domestic work includes the age group 18–74, and it also includes fewer codes for domestic work, than for FI, NO and SE

Source: UNECE, Nordic Statistical Institutes and "Hvad bruger vi tiden til", Rockwool Fonden 2012

The figure shows that even though women in Denmark spend a little less time on domestic work when comparing 2000/2001 and 2010/2011, overall, there has been no significant developments in the time women spent on domestic work over the period 1990-2010/2011. There has been a small increase in the time men spend on domestic work tasks (from less than 1.5 hours a day in 1990 to a little more than 2 hours a day in 2010/2011). But in 2010/2011, women still spend around 1 hour more than men on domestic work. Also, in regard to this figure, it does not seem valid to point out specific reasons as 'causal' explanations. Changes are probably due to broader cultural shifts in attitudes towards domestic work, and could maybe also be explained by possibilities for professional cleaning help, among other things. Furthermore, as it is common that both men and women are enrolled in the workforce, the time for domestic work is limited for both genders, and in general men today take more part in domestic work than in 1990. However, as the table and figure above demonstrate, women still spend more time on domestic work than men.

2.2.4 General assessment of the gender regime

In terms of gender equality, Nordic countries such as Denmark have a very positive reputation (Nørby 2016, Niskanen 2011, 11). It is quite likely for Denmark to be portrayed as a country with a high overall degree of gender equality and as a country with very few GE issues.³⁶

The website for the Ministry for Children, Education and Gender Equality (Ministry for GE) states that "gender equality between women and men is a general principle and objective of Danish policy. (...) Today, women and men in Denmark share the same formal rights, obligations and opportunities in society" (Ministry for Children, Education and Gender Equality n.d.). The website for the Ministry for GE states that not only securing formal and de jure GE, but also de facto GE is a priority in Denmark (Ministry for Children, Education and Gender Equality n.d.).

³⁶ In the *National report on the implementation of the Beijing Declaration* (2014), the ministry stated that "Many in Denmark consider that gender equality is fully achieved." A similar finding is addressed in Nielsen's article on GE in academia (Nielsen 2013).

While some might argue that discussing issues related to GE might be less interesting in a country like Denmark, others – especially gender researchers – argue that there are still important gender-related issues in Denmark that have not been overcome. For instance, access to societal power is unequally distributed, the educational system and labour market are characterised by gender segregation, and there is a pay gap. These issues point to the need for the development and implementation of further initiatives for promoting GE in Denmark, e.g. promoting women in positions of power and influence and addressing the gender pay gap (Niskanen 2011, 111, Institut for Menneskerettigheder 2016, Nielsen 2013, Cevea 2016).

In the *Gender gap report* of 2016, the World Economic Forum ranks Denmark as number 19 in the Global Gender Gap Index out of 144 countries. In 2006, Denmark was ranked as number eight. Denmark has a top score on GE in educational attainment (literacy rate, enrolment in primary, secondary and tertiary education), but a low score on GE when looking at legislators, senior officials and managers, and on women in ministerial positions and years with a female head of state over the last 50 years (World Economic Forum 2016, 158-159, Institut for Menneskerettigheder 2016, 15).

Some of the challenges in regard to GE and gender mainstreaming, which are often addressed in public debate is the concern that a high level of gender equality would lead to uniformity/homogeneity, challenging, and potentially threatening, not just the inequalities but also other differences between men and women.³⁷ Other challenges are of a more practical character.

In recent years, some of the GE issues addressed in Denmark concerned human trafficking, violence and stalking in relationships and families, hate speech and sexism and educating/teaching refugees and foreigners – especially from non-Western countries – about Danish understanding of GE,³⁸ e.g. freedom of choice regardless of gender, women's rights and women's enrolment in the Danish labour market, modern family constructions (e.g. paternity leave, rainbow families), etc. (Nørby 2016, 5, Institut for Menneskerettigheder 2016, 15). Freedom of speech is perceived as one of the most important rights in Denmark, and focus on hate speech, sexism and sexual harassment in public debates has gained a lot of media attention and is discussed as democratic issues. For example, the term "everyday sexism" has become a commonly used term when addressing GE issues in public debate culture in Denmark.

However, the Institute for Human Rights finds that since 2014-2015, there has been some notable improvements, e.g. higher priority on initiatives against violence in families and close relationships (DKK 6.5 million for projects for victims of stalking), and the initiative *Respect for rape victims* providing clear guidelines for the police with a special focus on the victims' dignity (January 2016) and stricter penalties for rape, child abuse and false accusations (July 2016) (Institut for Menneskerettigheder 2016, 15-17). Furthermore, GE issues in regard to schooling and education have been addressed, since gender-divided/gender-segregated patterns in schooling and educational choices are connected to the gender-divided/gender-segregated labour market, and to issues in regard to equal pay, women in leadership positions, etc. There is a concern about girls'

³⁷ This concern is indirectly addressed in the ministries' annual GE review and action plan, *Redegørelse/ Perspektiv- og handlingsplan 2016*, that states that "a society, where boys and girls have equal opportunities, does not mean that everybody should be the same. Instead it is about bringing all talents and potentials in play" (Nørby 2016, 5).

³⁸ In the report *Gender and power in the Nordic countries*, Niskanen found that the increased focus on immigration has effected the framework for the GE debate in countries such as Denmark and the Netherlands (2011, 81).

issues in relation to identity and self-confidence and about boys' motivation, subject knowledge and professional competences (Nørby 2016, 5).

While GE issues in some (Nordic) countries are addressed as important societal and democratic issues, it appears that in Denmark, focus on GE is a method for improving the general economy, research quality and innovation, or Denmark's position in a globalised world in general, rather than an independent goal, desirable in itself.³⁹ See also part 2.1.4.

In 2017, the Danish National Centre for Social Research will carry out a Nordic literature review of the effects of fathers taking paternity and parental leave for the well-being of the family and the children and effects on women's and men's labour market participation, pay and access to leadership positions (Danish National Centre for Social Research n.d.).

2.3 Gender equality policies in RTDI (Current developments)

When discussing GE in research, the focus has been on GE in public research and the relatively low share of female professors (Danmarks Forsknings- og Innovationspolitiske Råd 2015, 6). The 2015 report *Women in research. Bringing all talents into play* by the Ministry of Higher Education and Science states that "Denmark is often seen as a role model for the rest of Europe in the area of gender equality, but in the area of leadership roles within research, we unfortunately do not have much to boast about. We need to do better" (Ministry of Higher Education and Science 2015f, 4).⁴⁰

2.3.1 Description of overall strategic gender equality policies in RTDI in place

As research and innovation has become an area for increasing national and international discussion and interest, policies on research and evaluation have focused on expansion of public research funding and reforms supporting an improvement of the global competition. Denmark has had an increase in research performance and research impact, see also part 1 (section 1.1). However, even in times with an increased focus on and interest in research and innovation and increase of allocated resources, developments in regard to gender equality have been quite modest (Danmarks Forsknings- og Innovationspolitiske Råd 2015, 18).

On their webpage, the Ministry of Higher Education and Science provide an overview of reports (the first report covers the period 1998-2000) addressing overall GE issues in research and higher education.⁴¹

In 2013, the YDUN programme (Younger women Devoted to a UNiversity career) was initiated by DFF, the Danish Council for Independent Research, in order to promote the share of female researchers and support their opportunities for funding.⁴² A total of DKK 110 million (EUR 14.8 million) was provided for 17 female researchers in Denmark in the year of 2014 (Institut for Menneskerettigheder 2016, 16-17, Ministry of Higher Education and Science 2015d, 46).⁴³ However,

³⁹ Example (in Danish): *Ligestilling* (Regeringen n.d.).

⁴⁰ For a description of GE policies in academia from the 1990s to today, see *New and persistent gender equality challenges in academia* (Nielsen 2015).

⁴¹ For the latest statistical overview of the gender composition in higher education and research shows, see part 3.5.

⁴² Other recent programmes targeting GE issues in research: FREJA (the Danish Research Council) and the Minerva program (Max Planck Society).

⁴³ See, for instance, *Denmark: Women's grant lost in inequality ocean* (Watson and Hjorth 2015b).

the YDUN programme caused a lot of negative reactions, see parts 2.3.2 and 2.3.3.1 (for other DFF initiatives, see also part 2.1.3).

In December 2014, the Minister for Higher Education and Science appointed the Taskforce for More Women in Research (see also part 2.3.3.1). In their recommendations, the taskforce stated that if no GE initiatives are initiated, there will not be an equal gender composition among professors until year 2064 (Ministry of Higher Education and Science 2015d, 18). However, when it comes to the initiation and implementation of actual policies, Denmark is not in the forefront. A report by DFIR, the Danish Council for Research and Innovation Policy, providing an international perspective of GE challenges in research, states that the adoption of gender mainstreaming strategies in research is not a prioritised strategy (Danmarks Forsknings- og Innovationspolitiske Råd 2015, 16).

Another advice in the 2015 recommendation of the Taskforce for More Women in Research was to develop a national talent barometer.⁴⁴ In 2016, the now former minister for Higher Education and Science Ulla Tørnæs, and the head of the Universities Denmark (*Danske Universiteter*)⁴⁵ agreed on initiating a “national talent barometer”, providing information on the current status of the gender composition among researchers at the universities in Denmark. It was stated that the minister and the universities would meet once a year to discuss the GE progress.

Moreover, the Act on Gender Equality’s paragraph 11 also applies to universities. According to the act, universities are obligated to (Ministry of Higher Education and Science 2015f, 21):

- “*Report gender composition* in the highest management body (the board), if the company or institution does not have an equal gender balance in the board, which means there is not a 60/40 gender divide.”
- “*Set a specific target* for the underrepresented gender in the highest management body (the board) and provide a time period, in which the university expects to achieve its target.”
- “*Develop a policy for equal gender composition* in the upper levels of management if the company or institution does not have equal gender balance in management in general.”

In addition, according to the Act on Gender Equality, public councils and commissions *established by a minister*, e.g. the Danish Council for Independent Research, the Danish National Research Foundation and the board of the Innovation Fund Denmark, should have an equal gender balance. When proposing new members, both sexes should be represented among the candidates (Ministry of Higher Education and Science 2015f, 24).

Furthermore, “boards and other collective management bodies, which do not have an equal gender composition, must set targets for the future representation of the underrepresented gender in the board and lay out a timeframe for when this target must be achieved (Gender Equality Act § 11)” (Ministry of Higher Education and Science 2015f, 24).

In 2014, the universities for the first time provided measurements (*måltal*) and policies for the gender composition in boards in accordance with the Act on Gender Equality. Universities can also choose to provide goals for the gender composition in their so-called development contracts as part

⁴⁴ For other recommendations by the taskforce, see *Recommendations from the Taskforce for More Women in Research, April 2015* (Ministry of Higher Education and Science 2015d).

⁴⁵ For more information about Universities Denmark, see *Universities Denmark - A brief presentation* (Universities Denmark 2013).

of the universities' strategic development (Ministry of Higher Education and Science 2015f, 6). If universities do not have an equal gender balance in upper university management, i.e. a composition of less than 40 % women or less than 40 % men, then they must develop a policy for equal gender balance in upper levels of management. The policy must describe the university's efforts to increase the number of the underrepresented gender in upper management levels (Ministry of Higher Education and Science 2015f, 22). See also part 2.1.3.

2.3.2 Main challenges concerning GE in RTDI

Despite a high number of female PhD candidates, in regard to female researchers, Denmark is below the OECD average with less than 20 % of women professors (Institut for Menneskerettigheder 2016, 16-17).

A report on GE in research showed that women who are recruited for research projects in DFF, the Danish Council for Independent Research (*Det Frie Forskningsråd*), had almost twice the experience as the male researchers recruited, and that almost twice as many men as women had been recruited by their PhD supervisor (Bloch and Henriksen 2013, 1, 17-18), questioning the idea of meritocracy in RTDI.

Nielsen (2016) finds that Norwegian and Swedish legislative frameworks provide clearer responsibility structures for universities' gender equality work than Danish legislation, and that among Nordic countries, Denmark lacks specific statements addressing GE in the national Higher Education Acts. Nielsen concludes that:

These findings lend support to the conclusion that GE –as is the case in other areas of society – is less institutionalized in the Danish higher education policy, which also resonates in the current activities at university-level. (...) In opposition to the Norwegian and Swedish Universities, GE issues are completely absent in the annual university statements of the Danish Universities, and Aarhus and Copenhagen [Universities] also hold the lowest share of faculty action plans. (2016, 17-18)

In 2015, the Ministry of Higher Education and Science withdrew the support for the YDUN programme (Institut for Menneskerettigheder 2016, 16-17, Ministry of Higher Education and Science 2015d), described in part 2.3.1.1, even though the program was found effective in solving matters of gender equality in research funding (Uddannelses- og Forskningsministeriet 2015). The withdrawal was due to a lot of (negative) debate about the programme, because it had been accused of discriminating men as it targeted female researchers (Watson and Hjorth 2015b, Watson and Hjorth 2015a).⁴⁶ The Danish National Research Foundation found that many young researchers at the Centres of Excellence "are against such [GE] initiatives, worrying that such programs would mark them as second-rate researchers" (Højgaard and Sinkjær 2014, 8).

In terms of comparing different sectors, one issue is that there are no comparable statistics showing gender composition in public and private research sectors distributed in different academic positions. However, the overall numbers show that, compared to e.g. Finland, Austria, the Netherlands and Switzerland, a relatively high share of women researchers in Denmark are employed in the private sector. Gender imbalance among researchers in the private sector is

⁴⁶ For more insight into the debate, see the following references (Watson and Hjorth, 2015a; Watson and Hjorth, 2015b; Danish National Research Foundation 2015).

therefore relatively high, also compared to the gender balance in the public research sector (Danmarks Forsknings- og Innovationspolitiske Råd 2015, 16-17).

While some countries, e.g. Austria, are measuring and promoting women's collaborations between female researchers and the industry and female researchers in the private business sector, no such initiatives are found in the Danish context (Danmarks Forsknings- og Innovationspolitiske Råd 2015, 17).

According to Nielsen, Danish universities, with the weakest governance strategies and responsibility structures, also hold the lowest shares of female senior researchers, suggesting a positive relationship between the extent and systematicity of university strategies for governing gender equality work and women's representation at the upper levels (Nielsen 2016, 18). This rationale is supported by the 2015 report by the Danish Council for Research and Innovation Policy, which found that sustainable changes in gender equality and research and innovation call for long-term commitments in the universities and research institutions (Danmarks Forsknings- og Innovationspolitiske Råd 2015, 18).

In 2015, the Taskforce for More Women in Research stated that:

When dialogue in Denmark focuses on special initiatives, such as financial incentives to promote women in research, the debate often becomes quite polarised. And more so here in Denmark than in other countries it seems. (...) The extremely polarised debate resulting from these disagreements often tends to dominate the overall discussion of women in research. As a consequence we do not get to discuss the many other possible initiatives that could be implemented to ensure that women, who can and will research, have the opportunity to do so. (Ministry of Higher Education and Science 2015d, 46)

In the annual follow-up meeting in 2013/2014, the Danish National Research Foundation (DNFR) invited 500 female and 100 male researchers and other staff at DNFR's Centres of Excellence (CoE) to discuss the questions "Is there a problem?" and "If yes, what can be done about it?" (Højgaard and Sinkjær 2014, 7).⁴⁷ This framing exemplifies how discussions about gender equality issues in the Danish context are often started with the question, whether it is perceived to be an issue at all.

2.3.3 Policy measures promoting gender equality in RTDI

No kinds of discrimination, including positive gender discrimination, are permitted in Denmark. It is, however, possible for higher education institutions (HEIs) to apply for a special permission to implement measures favouring one gender – even if this might not be very 'popular' to do in Denmark, and has generated an intensive debate at national level (for an example, see description of the YDUN programme above).⁴⁸

As mentioned earlier, a website initiated by the department for gender equality (*Ligestillingsafdelingen*) at the Danish Ministry of Foreign Affairs provides tips and brief guides for

⁴⁷ For information about the 2014 meeting at DNRF, see *Centers of Excellence* (Danish National Research Foundation n.d.)

⁴⁸ For example, the Danish YDUN-programme targeting female researchers caused a lot of scepticism and debate (see www.videnskab.dk) (only in Danish).

gender mainstreaming assessment in e.g. education and research (Ligestillingsafdelingen, Udenrigsministeriet n.d.-b, Ligestillingsafdelingen, Udenrigsministeriet n.d.-c).

The Danish Council for Independent Research (DFF) monitors applications from and grants to women and men and prepares annual statistics to follow up on the following targets:

- that gender distribution among applicants for DFF corresponds to the gender distribution in the academic environments;
- that in proportion to their share of applications, men and women obtain grants at approximately the same level within the various areas of the Council means;
- that men and women to the same extent get from one academic level to the next to ensure a more equal gender distribution at the highest academic levels.

In addition, in connection with applications for funding with a limitation in the form of PhD-age, the DFF aims to compensate for maternity/paternity leave and family-related absence with a factor 2 in relation to the actual absence. The council is also working on a specific initiative offering funding to young female researchers to establish research groups and be in charge of research projects (Danish Council for Independent Research 2013a).

2.3.3.1 Measures addressing GE in scientific careers

In 2013, after a workshop on gender in research and excellence, the Danish Council for Independent Research (DFF) adopted a gender equality policy. The policy of DFF addresses issues such as transparency, composition of the council, evaluation, and special initiatives. DFF also commissioned a study on the role of gender in research and excellence (Danish Council for Independent Research 2013b). The report maps gender aspects and differences in the Danish R&I system (Bloch and Henriksen 2013, Grimpe and Mitchell 2016).

From 2008 to 2009, the DFF initiated a new instrument, *Female research leaders*. The instrument targeted in particular women at associate professor level. In 2008, 10 female researchers received DKK 43 million (EUR 5.8 million) funding and in 2009, 15 female research leaders received DKK 70 million (EUR 9.4 million). Following this initiative, the DFF decided to focus on initiatives aimed at female researchers in the *Sapere Aude* funding programme, aiming at strengthening talented researchers and encouraging more women to become research leaders (Danish Council for Independent Research 2013a).

Furthermore, the YDUN programme was initiated with the aim of strengthening the utilisation of talent in Danish research by promoting a more balanced gender composition in research environments: for instance, if a male and female applicant would have equal qualifications, the application of the underrepresented sex would be prioritised (Nordic Council of Ministers 2015, 18).

The Minister of Higher Education and Science appointed the Taskforce for More Women in Research in 2014, as mentioned earlier. Based on the knowledge about challenges and barriers for women in research, in 2015 the taskforce published recommendations for promoting GE in research. The recommendation was directed towards the Minister, the legislature, universities, research councils and foundations, etc. (Grimpe and Mitchell 2016, 49). Moreover, as mentioned earlier, based on the report of the taskforce (Ministry of Higher Education and Science 2015a), a talent barometer was initiated in 2016 to measure and follow up the development on gender equality at universities.

Finally, universities have their own initiatives to promote female scientists through measures such as mentoring programmes, financial incentives and career development programmes.

In order to be able to monitor developments in the gender balance in their Centres of Excellence (CoE), the Danish National Research Foundation (DNRF) initiated a process where leaders of the foundation's CoEs must include information on their gender composition in annual reports. "DNRF will also ask the centres to provide a short account of the recruitment policies, including eventual considerations in relation to the gender balance of staff at the centres" (Nordic Council of Ministers 2015, 11). See also part 3.9.1 *Proportion of women grade A staff by main field of science*.

2.3.3.2 Measures addressing gender balance in decision-making

As mentioned in part 2.1.1, paragraphs 8-11 in the Act on GE state that public committees, commissions, etc. that are set up by a minister, by municipal or regional councils, and decision-making boards in state institutions (including universities) *should have* an equal composition of men and women (Ministeriet for Børn, Undervisning og Ligestilling 2015a, Ministeriet for Børn, Undervisning og Ligestilling n.d.-a, Nørby 2016, 17). The website *Women in management*⁴⁹ provides information on current legislation and tips for implementation thereof. In order to increase the share of women in decision-making positions in the business and enterprise sector, the government decided that approximately 1 100 largest companies have to set up targets for the proportion of the underrepresented sex in the decision-making and governing bodies. The companies must monitor and report the status of the achievement of the targets as well as for drafting policies in annual reports. Failure to meet the targets is not subject to sanctions. However, lack of reporting in annual reports on policies and targets can be subject to sanctions (Erhvervsstyrelsen 2016).

In 2013, the Innovation Fund Denmark (IFD) emphasised the fund's focus on equal opportunities for both men and women. IF thus requested that their programme committees would focus on ensuring equal opportunities in both the application process and in conducting research projects: "the programme committees were asked to evaluate, if at their follow up meetings with grant recipients, there was a need to discuss if research management has sufficient focus on leadership development for both male and female PhDs and postdocs" (Nordic Council of Ministers 2015, 11).

For an overview of approaches to gender balance in decision-making and description of relevant measures, see part 2.1.1, and part 2.1.3. on equality in decision-making, part 2.1.4 and part 2.3.1.1.

2.3.3.3 Measures addressing the integration of gender dimension in research

Despite the fact that the gender dimension in research has been the point of attention of researchers for decades and gender perspectives have been incorporated in research projects funded by the DFF, specific policy measures addressing the integration of the gender dimension in research are very new in the Danish context.

In the chapter *Integrating gender in research* in the ministerial report *Women in research. Bringing all talents into play*, an overview of approaches within the Danish RTDI context are provided (Ministry of Higher Education and Science 2015f, 27-28):

- "The Danish National Research Foundation considers the inclusion of relevant methodological considerations, including gender perspectives, when evaluating project

⁴⁹ See the website at <http://kvinderiledelse.dk/>.

applications. A number of the foundation's centres work with gender as a natural parameter of their research focus."

- "The Danish Council for Independent Research expects applicant to account for possible relevant gender perspectives in their project descriptions, in line with other relevant perspectives. Under The Danish Council for Independent Research, Social Sciences, gender research is named as one of the areas supported by the council. There are no overall statistics for the area, and therefore it is not possible to account for how many projects under DFF include relevant gender perspectives."
- "The board of the Danish Council for Strategic Research (now part of Innovation Fund Denmark) asked its six programme commissions to consider if it would be relevant to include wording on gender and diversity perspectives in the text of their calls for 2014."
- "University of Copenhagen (KU) has implemented further education and hold workshops aimed at spreading knowledge of gender perspectives in research and increasing awareness about gender bias in research."⁵⁰

2.3.3.4 Other measures

All relevant measures are mentioned above.

2.3.4 Actors responsible for GE in RTDI

In RTDI in Denmark, the main actors are the Ministry of Higher Education and Science, the Danish Agency for Science and Higher Education, the Danish Agency for Institutions and Educational Grants, the Ministry of Business and Financial Affairs, and the four council agencies for research/research funding and innovation. For an overview of actors responsible for general GE issues in Denmark, please see part 2.1.2 *Description of structures for gender equality*.

The Ministry of Higher Education and Science is the main body responsible for science, innovation and higher education. The Ministry consists of a department and two agencies, the Danish Agency for Science and Higher Education, and the Danish Agency for Institutions and Educational Grants. Two of the agencies are located at the Ministry for Higher Education and Science (the Danish Agency for Science and Higher Education, and the Danish Agency for Institutions and Educational Grants). As of 2017, the agencies have undertaken tasks for which the two former agencies were responsible (the Danish Agency for Science, Technology and Innovation, and the Danish Agency for Higher Education).

The Danish Agency for Science and Higher Education (*Styrelsen for Forskning og Uddannelse*) is responsible for all tasks requiring specific expertise within the areas of education and research. It is the overall task of the agency to lay the foundation for development of high-quality research and higher education in Denmark. The agency follows professional developments and discussions within the sector of research and education, and contributes with new analyses and expert knowledge to the Ministry of Higher Education and Science. Furthermore, the agency works in areas of EU and global cooperation within research and education, international education programmes, etc., thus promoting international interaction in research and education. Moreover, the Danish Agency for Science and Higher Education contributes with expert knowledge in the provision of ministerial services and policy development in cooperation with the department.

⁵⁰ Concrete examples can be found in the report on page 29.

The Danish Agency for Institutions and Educational Grants (*Styrelsen for Videregående Uddannelser*), located under the Ministry of Higher Education and Science, handles tasks within allocation and administration of grants and funding to institutions. Furthermore, the agency contributes with expert knowledge in the provision of services and policy development at the Ministry of Higher Education and Science.

The Ministry of Industry, Business and Financial Affairs (*Erhvervs- og Vækstministeriet*) is responsible for improving the conditions for business in Denmark. The ministry conducts economic analyses and suggests policy initiatives in areas of importance to economic growth. The jurisdiction of the ministry includes a number of policy areas which are important for the general business environment, including business regulation, intellectual property rights, competition and consumer policy, the financial sector and shipping.

Turning to the Research Council system, there are four agencies involved in RTDI and GE activities: the Danish Council for Independent Research, the Danish Council for Research and Innovation Policy, the Danish National Research Foundation, and Innovation Fund Denmark.

The Danish Council for Independent Research (DFF, *Det Frie Forskningsråd*, renamed in 2017 to the Danish Independent Research Fund) funds public research activities based on researchers' own initiatives and provides advice in all scientific areas for the Danish Minister for Higher Education and Science, the Danish parliament, and the government. As mentioned earlier, the council adopted an equal opportunities policy in 2013. The council aims at, on an ongoing basis, monitoring applications from and grants to women and men, as well as looking into the proportions between applications and possible applications from the two genders. Annual statistics are to be prepared to follow up on set targets, and specific initiatives are implemented. The council aims at engaging in cooperation with all stakeholders to develop an equal opportunity environment for both men and women to create a research career at top level.

The Danish Council for Research and Innovation Policy (DFiR, *Danmarks Forsknings- og Innovationspolitiske Råd*), established in 2014, aims at developing Danish research and innovation by providing advice to the Minister for Higher Education and Science, the Danish Parliament and other stakeholders on research, technology and innovation. One of the main subject areas addressed by the council is gender in research and innovation and targeted efforts to ensure more women in research. DFiR recently looked into the measures that other countries, i.e. Austria, Finland, the Netherlands and Switzerland, use in order to improve gender balance in research, and identified three approaches to increasing the number of women in research and professorships: a) a central, national focus on the issue, b) financial incentives, and c) targeted initiatives at research institutions.

The Danish National Research Foundation (DNRF, *Danmarks Grundforskningsfond*) is an independent body promoting and stimulating research at the frontiers of all scientific fields. The DNRF has two funding instruments: 1) Centres of Excellence, which is the primary funding mechanism of the body; a Centre of Excellence grant is large and flexible, has a lifetime of up to 10 years and is expected to generate ground-breaking results; and 2) Niels Bohr Professorships, an instrument which has the goal of funding top-class researchers from abroad.

Innovation Fund Denmark (*Innovationsfonden*) was established in 2014, merging three former funds.⁵¹ The fund invests in new initiatives to create growth and employment in Denmark. The body has three overall programmes for investments to develop innovative ideas:

- Grand Solutions: For substantial investments and long-term projects/partnerships where the focus is on research, technology, experimental development and market development.
- InnoBooster: For small enterprises and entrepreneurs with sound development plans.
- Talents: For undergraduates, recent graduates and postgraduate researchers aiming to become entrepreneurs or to secure a research career in the private sector. The body adheres to responsible research and innovation and requires that project applications demonstrate commitment to transparency, ethical conduct, and education and training of new researchers and graduates.

Moreover, the association of the eight Danish universities, **Universities Denmark** (*Danske Universiteter*), acts as the coordinating body to address issues of concern to the sector as a whole, among others gender equality. The body aims at ensuring that its members have the best possible conditions in matters of research, research-based education, dissemination of knowledge as well as innovation and cooperation with companies. University management and staff convene at Universities Denmark to initiate common initiatives and to communicate with ministries, politicians, policymakers and other stakeholders.

2.3.5 Assessment of Gender Equality Policies in RTDI

Nielsen finds that “the topic of GE is a lower priority in Denmark [compared to Norway and Sweden], which apparently also resonates in the universities’ concern for the topic” (Nielsen 2016, 18). In general, research on GE in academia has addressed that Danish universities tend to discuss GE in more modest or careful terms than e.g. Swedish and Norwegian universities. For instance, Nielsen found that one of the differences in the GE debates in academia, is that while GE issues are debated as structural issues in other Nordic countries, in the Danish context there seems to be a tendency of individualising the issue and leaving the structural and cultural barriers unaddressed (Nielsen 2013).

In Denmark, GE issues in academia are addressed with arguments in relation to globalisation, competition and talent, innovation and quality. While arguments such as justice, equal opportunity and rights and prevention of discrimination are central in the GE debates in Norwegian and Swedish universities, in Denmark such arguments do not seem to have taken hold in debates about GE and academia (Nielsen 2013).

Regarding the business enterprise sector, as described earlier, the assessment of GE is made in the form of annual reports on GE policies and of the status of the achievement of the set targets (*måltal*). Failure to report can be subject to sanctions (Erhvervsstyrelsen 2016).

In their report on women in top management positions in the largest Danish companies, the Danish Institute for Human Rights found that the policy for measurable targets (*måltal*) effectuated in 2013 has had very moderate effects so far. By 2015, only 14.2 % or less than one in seven top managers in the largest 1 200 Danish companies are women (Larsen et al. 2016, 1). The authors find that by 2015, more than four in five companies still have not reached the targets of at least 40 % of the

⁵¹ The three former funds were the Danish Council for Strategic Research (*Det Strategiske Forskningsråd*), The Danish Council for Technology and Innovation (*Rådet for Teknologi og Innovation*) and the Danish National Advanced Technology Foundation (*Højteknologifonden*).

underrepresented sex in managerial bodies (usually women), and that only little has changed since 2013 (Larsen et al. 2016, 35). The companies in the study request better information about current GE policies such as measurable targets. If the development in the past couple of years continues, the authors find that another 59 years will pass before an equal gender composition (50/50) is achieved in top management positions in the largest Danish companies. If the development slows down even more than in recent years, it might take up to 129 years (Larsen et al. 2016, 45-48).

To summarise briefly, it can be concluded that the policy for measurable targets for the underrepresented sex is not sufficient in terms of reaching an equal gender composition in company management in Denmark.

See also part 2.1.4 *General assessment of the effectiveness of existing equal opportunity / anti-discrimination legislation / measures.*

3 Gender equality in RTDI

3.1 Gender equality in RTDI on organisational level

3.1.1 Proportion of RPOs that have adopted gender equality plans

With just 16 % of research performing organisations (RPOs) with gender equality plans, Denmark has a rather low position in this regard, when comparing to other countries and to the EU average (36 %).

Tab. 26: Proportion of RPOs that have adopted gender equality plans, 2013

	2013
EU28	36
Denmark	16

Source: (Directorate-General for Research and Innovation 2016, 116)

This might partly be due to the strong culture of self-management when setting up e.g. company goals (Augustín 2015, 5). However, in 2015, four out of eight universities reported that they had GE plans and policies focusing on the upper levels of management. The fifth university reported that they have almost achieved a 60/40 gender composition at all management levels, and the sixth university reported that they were developing a GE policy on management (Ministry of Higher Education and Science 2015f, 22-23).

3.1.2 Proportion of R&D personnel working in RPOs that have adopted gender equality plans

Considering the EU average (70 %), the proportion of research and development personnel employed in RPOs with gender equality plans is rather low (45 %).

Tab. 27: Proportion of research & development personnel working in RPOs who adopted gender equality plans, 2013

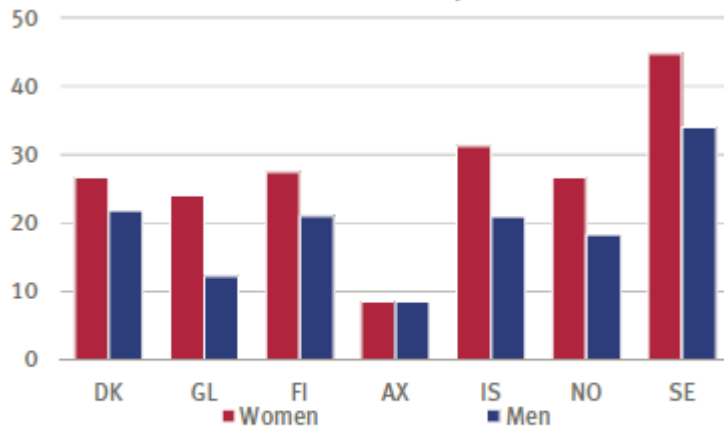
	2013
EU28	70
Denmark	45

Source: (Directorate-General for Research and Innovation 2016, 117)

This could partly be explained by the general aversion in the Danish society against affirmative actions, mainly due to a belief in meritocracy and gender-blind organisations, but also in order to avoid stigmatisation of women. For possible further explanations, see part 3.2.1.

3.2 Participation of women in tertiary education

Today, slightly more women than men have a profession-oriented, vocational education (education of a practical or technical character, and occupationally specific education) and there are more women than men with tertiary education (Institut for Menneskerettigheder 2014a, 5). Figure 8 shows the percentage of male and female graduates in tertiary education (ISCED 5 and 6) in 2012 in the Nordic countries (Nordic Council of Ministers 2015, 23).

Figure 8: Graduated students, percent with tertiary level, 2012

Note: SE 2011

Source: EDUC03 in the database Nordic Statistics

In almost all the Nordic countries, there is a higher overall percentage of female than male graduates. In 2014, 56 % of new students enrolled in undergraduate university degree programmes were women (Ministry of Higher Education and Science 2015f, 5). Although more women than men are enrolled in tertiary education, only 1 in 5 professors is female (Uddannelses- og Forskningsministeriet 2016b).

3.2.1 Share of tertiary educated population among the group of 25 to 34 years old by sex

As Tab. 28 shows, there has been a steady increase in the share of tertiary educated population in Denmark to 44.5 % in 2015, which is above the EU average (37.9 %). Yet the share of tertiary educated women (53.6 %) is much higher than the share of men with tertiary education (35.8 %). Looking at the 2005 numbers and the developments over the entire period, it can be seen how the share of women with tertiary education has increased more than the share of men with tertiary education.

Tab. 28: Share of tertiary educated population among the group of 25 to 34 years old by sex*

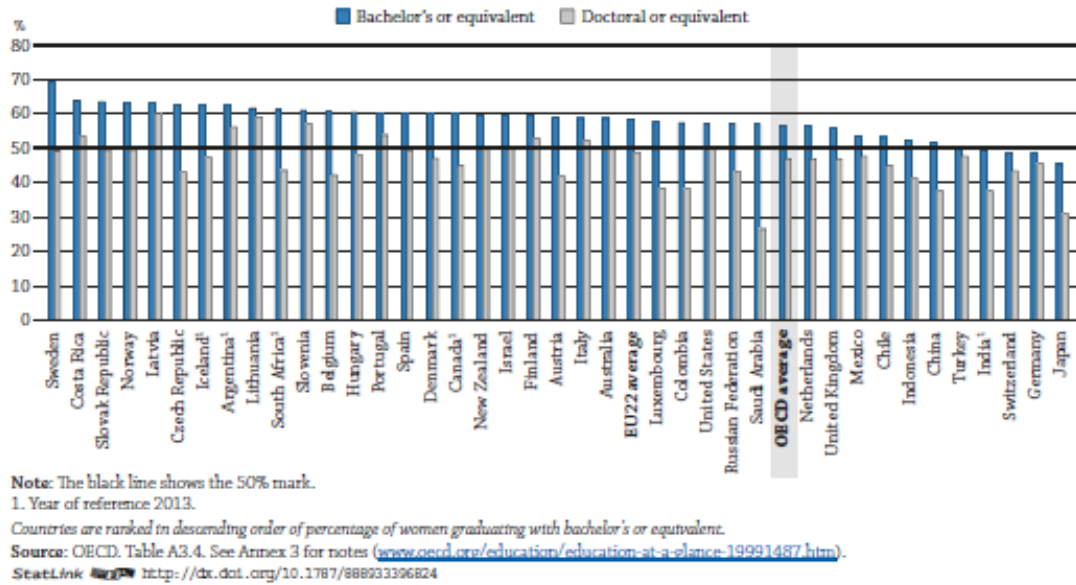
		2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
EU28	Total	28.3	29.2	29.9	30.9	32.3	33.3	34.4	35.5	36.5	37.2	37.9
	Males	25.4	25.9	26.4	27.2	28.2	29.1	30.0	30.8	31.7	32.5	32.9
	Females	31.1	32.5	33.6	34.8	36.4	37.6	38.8	40.2	41.3	42.0	42.9
Denmark	Total	39.8	40.8	36.2	36.4	37.6	37.6	38.6	40.2	41.2	42.7	44.5
	Males	35.3	36.2	32.1	32.4	30.6	31.1	31.0	31.3	32.4	35.2	35.8
	Females	44.4	45.5	40.4	40.5	44.8	44.3	46.5	49.7	50.6	50.6	53.6

* Introduction of the ISCED 2011 classification: data up to 2013 are based on ISCED 1997, as from 2014 ISCED 2011 is applied. Online tables present data for three aggregates (see 3.2 above), and at this level of aggregation data are directly comparable for all available countries except Austria.

Source: (Eurostat n.d.-a)

As Figure 9 shows, by 2014, 60 % of graduates from a bachelor's degree or equivalent were women, which is above the OECD average, and a little less than 50 % of doctoral graduates or equivalent were women, which is similar to the OECD average.

Figure 9: Percentage of female graduates in tertiary levels of education, 2014



Source: (OECD 2016a, 64)

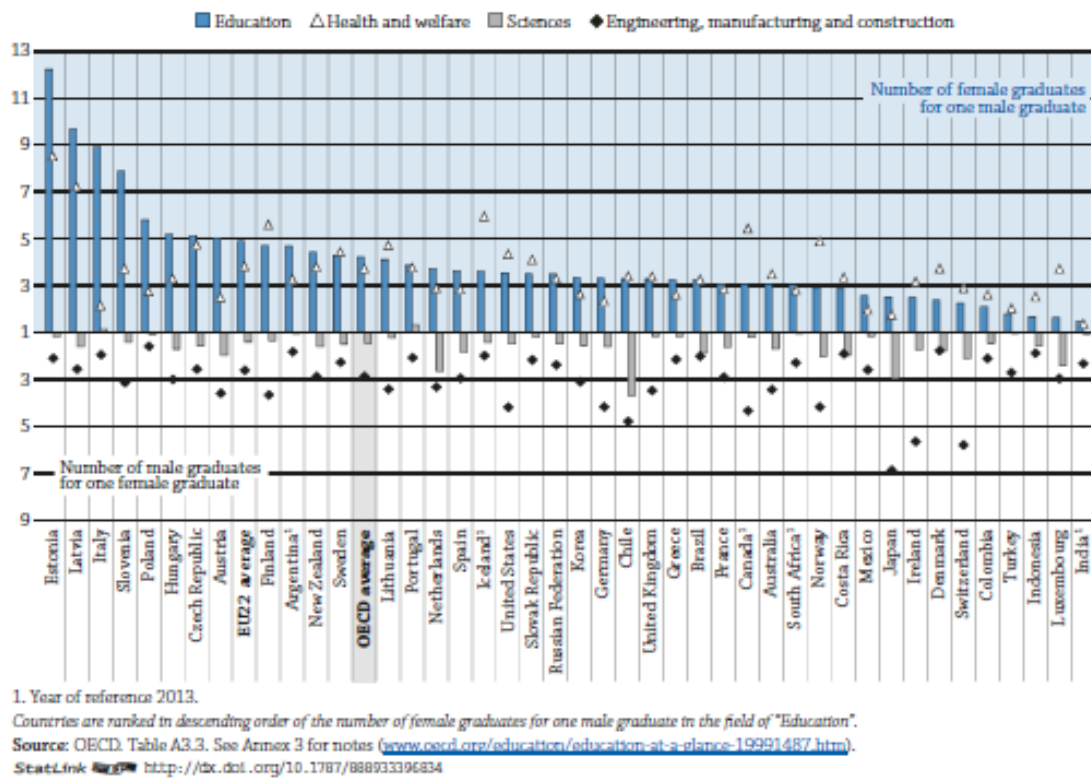
However, looking at the overall picture, more men than women had taken a long cycle higher education program (*lang videregående uddannelse*) in 2014 (Cevea 2016, 23). But by 2015, women had outpaced men; slightly more women than men aged 25-54 had a long cycle higher education program (e.g. PhD), and around 275 000 women and 148 000 men had a medium-cycle higher education program. Men dominate in the short-cycle higher educations and vocational educations statistics (Cevea 2016, 23). By 2015, 55.9 % of women and 39.6 % of men had a higher education (Europa-Kommissionen 2016, 5-6).

Historically, men have had better access to education so the changes might partly be explained as effects of a focus on improving labour market outcomes as well as educational outcomes for women. The argument has been that if women would gain higher educational status, this would also improve their labour market outcomes. However, looking at gender pay gaps, this does not seem to be the case (Cevea 2016, 23-24).

3.2.2 Gender ratio for all tertiary graduates, by field of education

In terms of education, the gender ratio differs depending on the field, as the figure below shows. While there are many women within health and welfare sciences, men dominate natural sciences, engineering, manufacturing and construction.

Figure 10: Gender ratio for all tertiary* graduates, by field of education, 2014

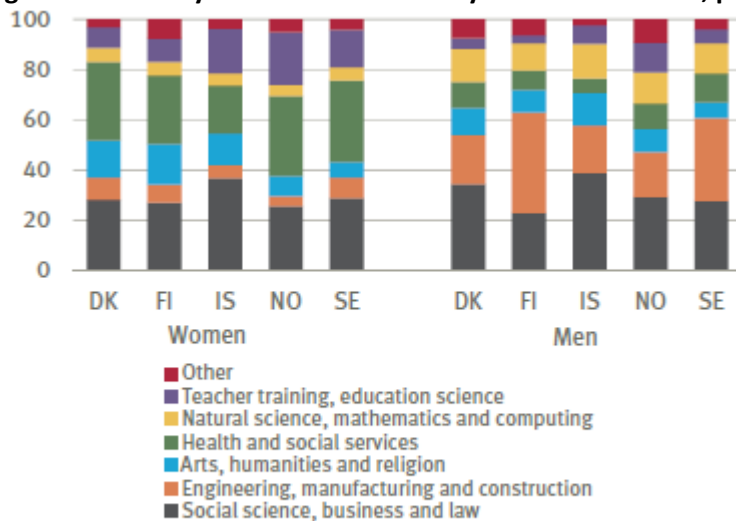


*Tertiary graduates include short-cycle tertiary, bachelor's or equivalent, master's or equivalent, and doctoral

Source: (OECD 2016a)

Figure 11 shows the gender distribution of students graduated in tertiary education (ISCED 5 and 6) by field for the Nordic countries in 2012 (Nordic Council of Ministers 2015, 24) .

Figure 11: Tertiary education attained by field of education, percent, 2012



Source: EDUC03 in the database Nordic Statistics

As the figure above illustrates, in 2012 in Denmark a high share of men and women had attained a tertiary education in social science, business and law. However, slightly more men than women could be identified within these fields and in engineering, manufacturing and construction, while

more women had attained a tertiary education within health and social services. The figure shows that relatively few women attained a tertiary degree in engineering, manufacturing and construction, or in natural science, mathematics and computing, compared to their male peers.

A possible explanation for this might be found in some of the same factors that lead to the highly gender-segregated labour market, where some fields are perceived as either “women’s fields” or “men’s fields,” as described in the introductory chapters.

3.2.3 Development of the number of women ISCED 6 graduates

Tab. 29 shows the development in the number of male and female ISCED 6 graduates in the period 2006-2012.

Tab. 29: Development of the number of women ISCED 6 graduates

	2006		2007		2008		2009		2010		2011		2012	
	Men	Women	Men	Women	Men	Women	Men	Women	Men	Women	Men	Women	Men	Women
EU27	55 163	43 519	57 196	46 754	59 784	50 743	54 876	46 586	56 162	47 185	62 626	54 628	63 472	56 916
Denmark	513	397	576	397	631	471	660	503	764	624	824	679	849	703

Source: (Directorate-General for Research and Innovation 2016, 36, Directorate-General for Research and Innovation 2013, 78)

As seen in the table, there has been a steady increase in the share of both male and female ISCED 6 graduates during the entire period. The increase for both sexes also means that in 2012, the gender differences in Denmark had not changed significantly. But as mentioned earlier, today women are ‘better educated’ than men, and there are slightly more women than men with a PhD.

3.2.4 Development of the proportion of women ISCED 6 graduates differentiated by field of study

In regard to the development in the proportion of women ISCED 6 graduates differentiated by field in 2006 and 2010, Tab. 30 shows that there has been a smaller increase in the share of female graduates in some fields (e.g. in humanities & arts, science, mathematics and computing, engineering, and manufacturing and construction). But as there has not been a change in social sciences, business and law, and a small decrease in the proportion of female graduates in agriculture and veterinary and in health and welfare, the changes from 2006 to 2010 do not seem particularly interesting.

Tab. 30: Development of the proportion of women ISCED 6 graduates differentiated by field of study

		Education	Humanities & arts	Social sciences, business and law	Science, mathematics and computing	Engineering, manufacturing and construction	Agriculture and veterinary	Health and welfare	Services
EU27	2006	64	52	47	41	25	51	54	
	2010	64	54	49	40	26	52	56	
	2012	64	54	51	42	28	57	59	45
Denmark	2006	-	50	46	34	25	61	63	
	2010	-	53	46	35	29	55	58	
	2012								

Source: (Directorate-General for Research and Innovation 2016, 26, Directorate-General for Research and Innovation 2013, 79, Directorate-General for Research 2009, 51)

3.2.5 Development of the proportion of women ISCED 6 graduates differentiated by narrow fields of study in the natural sciences and engineering

Tab. 31: Development of the proportion of women ISCED 6 graduates differentiated by narrow fields of study in the natural sciences and engineering

		Life science	Physical science	Mathematics and statistics	Computing	Engineering and engineering trades	Manufacturing and processing	Architecture and building
EU27	2004	53	34	31	18	19	30	36
	2010	57	34	32	19	23	42	34
	2012	58	37	36	21	25	35	38
Denmark	2004	-	-	26	-	28	-	-
	2010	-	-	35	-	29	-	-
	2012	-	-	48	-	30	-	-

Source: (Directorate-General for Research and Innovation 2016, 31, Directorate-General for Research and Innovation 2013, 80)

Taking a closer look at the development in the proportion of women in subfields within the natural sciences and engineering in 2004, 2010 and 2012, there has been a rather significant increase in the proportion of female ISCED 6 graduates in mathematics and statistics and a smaller increase of the female proportion within engineering and engineering trades.

3.2.6 Distribution of ISCED 6 graduates across fields of study by sex

As Tab. 32 shows, in 2012, the gender distribution of ISCED 6 graduates varies across different fields of study.

Tab. 32: Distribution of ISCED 6 graduates across broad fields of study, by sex, 2012

		Teaching and education science	Humanities and arts	Social sciences, business and law	Science, mathematics and computing	Engineering, manufacturing and construction	Agriculture and veterinary	Health and welfare
EU28	Women	4	14	20	26	9	4	23
	Men	2	10	17	32	21	3	14
Denmark	Women	:	11	11	19	16	10	33
	Men	:	9	11	17	32	8	24

Source: (Directorate-General for Research and Innovation 2016, 29)

The gender differences are quite small in most fields, except for in engineering, manufacturing and construction where 32 % of the graduates are male and only 16 % are female, and in health and welfare where 33 % are women compared to 24 % male ISCED 6 graduates.

As in part 3.2.5, this development might lead to the assumption that some traditionally male-dominated fields, such as engineering, might still have stronger male connotations than other fields, such as e.g. science, mathematics and computing.

3.3 Labour Market Participation of women and men in the RTDI (whole sector)

In 2014, Denmark had the second highest female employment rate (70 %) among the 27 other European countries, and the numbers are increasing (Institut for Menneskerettigheder 2014a, 5, Andersen 2016). In the past 10 years, the share of men working part-time has increased from 11 % to 15 %. The gender pay gap is 4 % - 7 %. By 2015, 25 % of companies had an equal gender composition in their management boards and 79 % of companies had set up measurable targets for the underrepresented sex in the company board; on average, the target was set to 27 %. Also in 2015, 49 % of state institutions (which report frequently on the current GE status) have an equal gender composition in their management boards. Here, the target for representation of the underrepresented sex was, on average, set to 40.1 %. Yet, there are still issues of gender segregation in the overall Danish labour market (Nørby 2016, 17). All these factors will be described in more detail in the following parts in chapter 3 (3.3 to 3.9).

3.3.1 General Labour market participation

3.3.1.1 Employment rate by sex

Tab. 33 shows that, in regard to the employment rates for men and women aged 20-64, there has been a changing development in the gender gap. Yet it has remained under the overall EU level.

Tab. 33: Employment rates in the total population aged 20-64, by sex and gender gap⁵²

		2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
EU28	Males	75.9	76.8	77.6	77.8	75.7	75.1	75.0	74.6	74.3	75.0	75.9
	Females	60.0	61.1	62.1	62.8	62.3	62.1	62.2	62.4	62.6	63.5	64.3
	Gender gap	15.9	15.7	15.5	15.0	13.4	13.0	12.8	12.2	11.7	11.5	11.6
Denmark	Males	82.3	83.8	83.2	83.9	80.5	78.6	79.0	78.6	78.7	79.5	80.2
	Females	73.7	74.8	74.7	75.5	74.5	73.0	72.4	72.2	72.4	72.2	72.6
	Gender gap	8.6	9.0	8.5	8.4	6.0	5.6	6.6	6.4	6.3	7.3	7.6

Source: (Eurostat n.d.-a)

The gender gap of employment rates decreased in the period 2006-2010, especially at the time of the financial crisis in 2008, but has increased afterwards.⁵³

3.3.1.2 Employment rate by age of children and sex

Women and men with children in Denmark are among the EU families with the highest work intensity. By 2014, 66 % of families in Denmark and 67 % of families in Sweden had a very high degree of work intensity (Cevea 2016, 12-13).

Tab. 34: Employment impact of parenthood (age 20-49), 2012

	Males	Females
OECD Average	-11.3	10
Denmark	-9.9	2.7

A positive impact of parenthood on employment rates translates into a negative score in the table, and a negative impact of parenthood translates into a positive score.

Source: (Plantenga 2014, 40)

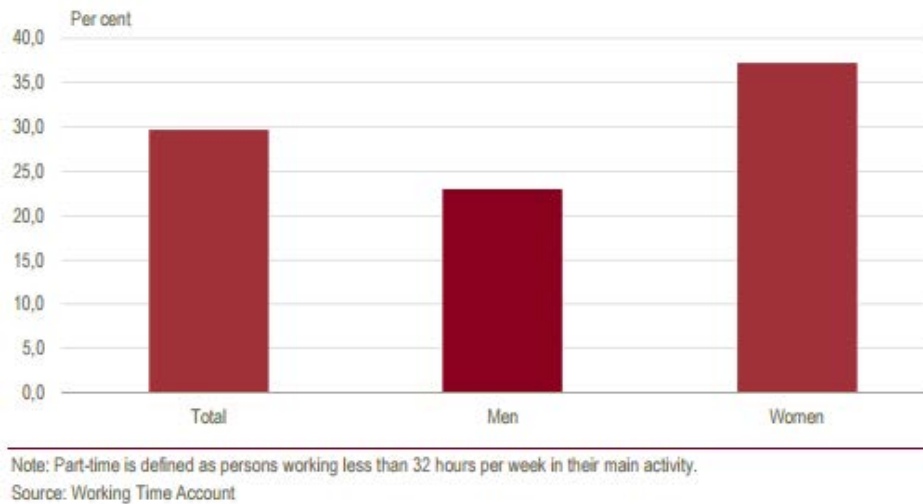
Good childcare facilities are an important factor in the enrolment of women in the labour market (Nordic Council of Ministers 2015, 6); therefore, it is safe to assume that having children does not have a huge impact on the overall employment of women in relative terms, even if there is an impact, as shown in the table. See also chapters above on childcare (e.g. parts 2.2.3.7 and 2.2.2.3.8).

3.3.1.3 General employment by full-time and part-time status, sex

Figure 42 shows the share of men (23.1 %) and women (37.3 %) working part-time in 2013 (Statistics Denmark 2014, 5-6).

⁵² This means the difference of employment rates between women and men. It is calculated by subtracting the employment rate for women from that of men.

⁵³ Unemployment rates for women in the period 1979 to 2015 can be found in the report *Paternity leave and the motherhood penalty: New causal evidence* by the Rockwool Foundation (Andersen 2016, 14).

Figure 12: Persons working part-time, 2013

As seen in Tab. 35, the full-time employment rates for men and women have not changed much when comparing 2010 and 2014.

Tab. 35: Full-time equivalent (FTE) employment rates among women and men aged 20-64 (%) and gender gap (percentage points), 2010-2014

		2010	2014
EU28	Males	73.1	72.7
	Females	53.5	54.5
	Gender gap	19.6	18.2
Denmark	Males	75.7	75.5
	Females	64.8	63.5
	Gender gap	10.9	12.0

Source: (Directorate-General for Justice and Consumers 2016, 49)

The developments might be explained by the increase in the number of men and decrease in the number of women working part-time. Over the past 30 years, the share of women working part-time has decreased with around 13 percentage points (Cevea 2016, 10, 15); there has been an increase in the share of young women working part-time, but a decrease in the number of women in other age groups working part-time (Nordic Council of Ministers 2015, 28). But there are still gender differences in regard to part-time work, which might partly be explained by horizontal segregation, where men and women are employed in different sectors where the working conditions might differ. For instance, job positions and areas that have traditionally been seen as “men’s jobs” still have more full-time positions today than the jobs traditionally seen as “women’s jobs”, e.g. there are less full-time positions in the public sector (Larsen et al. 2016, 40, 51ff; Institut for Menneskerettigheder 2016, 25). In the latest Statistical Yearbook by Statistics Denmark, it is stated that by 2013, 45 % of women were employed in general government, while 83 % of men were employed in corporations and organisations (Statistics Denmark 2014, 6-7). Other explanatory factors are gender roles, where women are still seen as primary care providers for children and since they often earn less than men, they also tend to be the ones to work less, if one partner (the man or woman) has to do so (Cevea 2016, 16). However, it should also be added, that 18.3 % of women (and 14 % of men) working part-time have stated that they would like to work more, and are therefore “involuntarily” in their part-time position (Cevea 2016, 17).

3.3.2 Participation of women and men in RTDI

There is evidence that women's careers suffer from the high turnover rates at assistant professor level and the challenges in obtaining public research funding (Nielsen 2015). This will be elaborated in the parts below.

3.3.2.1 Proportion of scientists and engineers in total labour force, by sex

Tab. 36 shows that the development of male scientist and engineers in the active labour force has been relatively stable in the period 2005-2015, with smaller increases in the last five years. The same development can be seen when looking at the female scientists, except for a large increase in 2010-2011.

Tab. 36: Proportion of scientists and engineers in the active population between 15 and 74 years, by sex and year

		2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
EU28	Total	:	:	:	4.9	4.9	5.0	6.4	6.5	6.6	6.6	6.8
	Males	:	:	:	6.0	6.1	6.2	7.3	7.2	7.3	7.4	7.5
	Females	:	:	:	3.5	3.5	3.6	5.5	5.5	5.7	5.8	6.0
Denmark	Total	5.7	5.8	5.5	5.8	6.0	6.1	8.5	8.8	9.2	9.0	8.8
	Males	7.6	7.7	7.2	7.7	7.7	7.7	8.1	8.4	8.7	8.7	8.4
	Females	3.5	3.6	3.6	3.6	4.1	4.3	8.9	9.3	9.7	9.4	9.4

Source: (Eurostat n.d.-a)

This might be attributed to a high investment in PhD students, based on the Globalisation Strategy (Danish Prime Minister's Office 2006), initiated by the prime minister in 2006 and continuing throughout the period. As mentioned earlier, female students and female PhD students have outnumbered the male PhD students in recent years.

3.3.2.2 Employment in knowledge intensive activities (KIA) by sex

Tab. 37 shows that there is a larger share of women compared to men employed in knowledge intensive activities. Both the gender difference and the shares of men and women have been quite stable in the period 2008-2015, and are somewhat higher than the EU average.

Tab. 37: Annual data on employment in knowledge intensive activities as a percentage of total employment at the national level, by sex (from 2008 onwards, NACE Rev. 2)

		2008	2009	2010	2011	2012	2013	2014	2015
EU28	Total	34.2	35.0	35.4	35.6	35.7	35.8	35.9	36.0
	Males	27.2	28.0	28.5	28.7	28.8	28.9	29.1	29.1
	Females	42.7	43.5	43.8	43.8	43.9	43.9	44.0	44.2
Denmark	Total	36.3	38.6	39.5	39.2	39.5	39.6	39.4	39.1
	Males	30.8	32.5	33.8	33.3	33.4	33.5	34.0	33.5
	Females	42.5	45.2	45.7	45.6	46.1	46.3	45.3	45.2

Source: (Eurostat n.d.-a)

For a general description, see part 1.2.3 *Employment in knowledge intensive activities*.

3.3.2.3 Employment in knowledge intensive activities – business activities (KIABI) by sex

A certain stability can be seen in the development of men and women employed in knowledge intensive business activities (see Tab. 38).

Tab. 38: Employment in knowledge intensive activities – business activities (KIABI) by sex

		2008	2009	2010	2011	2012	2013	2014	2015
EU28	Total	13.2	13.4	13.5	13.7	13.8	13.8	13.9	14.0
	Males	13.3	13.6	13.9	14.1	14.2	14.4	14.5	14.6
	Females	13.1	13.2	13.1	13.2	13.3	13.2	13.3	13.4
Denmark	Total	14.8	15.3	15.8	15.6	15.5	15.2	15.4	15.6
	Males	15.8	16.5	17.6	17.2	17.1	16.9	17.4	17.4
	Females	13.7	13.9	13.9	13.8	13.8	13.3	13.2	13.7

Source: (Eurostat n.d.-a)

Yet here, there is a higher share of men, which shows a small increase in the period 2008-2015, compared to women, but the gender difference has not changed much. The gender gap employment in Danish KIABI is somewhat higher than the average in the EU28.

For a general description, see part 1.2.34 *Employment in knowledge intensive activities – business activities*.

3.3.2.4 Researchers in all R&D sectors

Tab. 39: Number of researchers in all R&D sectors by sex and years (in full-time equivalents)

		2005	2006	2007	2008	2009	2010	2011	2012	2013
EU28	Total	1 374 760	1 422 499	1 458 115	1 523 245	1 555 606	1 602 765	1 626 802	1 680 987	1 731 241
	Females	:	:	:	:	:	:	:	:	:
	Males	:	:	:	:	:	:	:	:	::
Denmark	Total	28 179	28 846	30 174	35 702	36 789	37 435	39 181	40 080	40 316
	Females	8 113	:	8 843	:	10 952	11 654	12 376	12 573	13 159
	Males	20 066	:	21 331	:	25 837	25 781	26 805	27 507	27 157

Source: (Eurostat n.d.-a)

As Tab. 39 shows, there has been an overall increase in the total number of researchers in all research and development sectors in the period 2005-2013. However, R&D still appear male-dominated by 2013, since the gender gap does not show any considerable change.

See also part 1.1.2 *Development of the R&D sector and its subsectors* and part 3.3.2.2 below.

The share of female researchers in Danish R&I shows an increase from 29% to 33% in the period 2005-2013 (see Table 40). In 2015, 49 % of early stage researchers enrolled in a PhD program were women and 51 % were men. From 2013/2014 to 2015, there has been a small decrease in the share of academic staff at higher levels. By 2015, 39 % of assistant professors, and 33 % of associate professors were women, compared to 40 % female assistant professors and 38 % female associate professors in 2013/2014 (Uddannelses- og Forskningsministeriet 2016b).

Tab. 40: Share of women in R&D

	2005	2007	2009	2011	2013
Denmark	29 %	29 %	30 %	32 %	33 %

Source: (Eurostat n.d.-a)

The decrease in the share of assistant professors can be explained by the recent policy of the universities to recruit researchers in non-tenure positions, such as post-doc positions, rather than in tenure positions, i.e. in assistant professor positions.

3.3.2.5 Researchers differentiated by R&D sectors

As Figure 13 by Statistics Denmark illustrates, the absolute highest share of researchers and technical/administrative staff in R&D in the public sector, are employed in the higher education sector (HES).⁵⁴

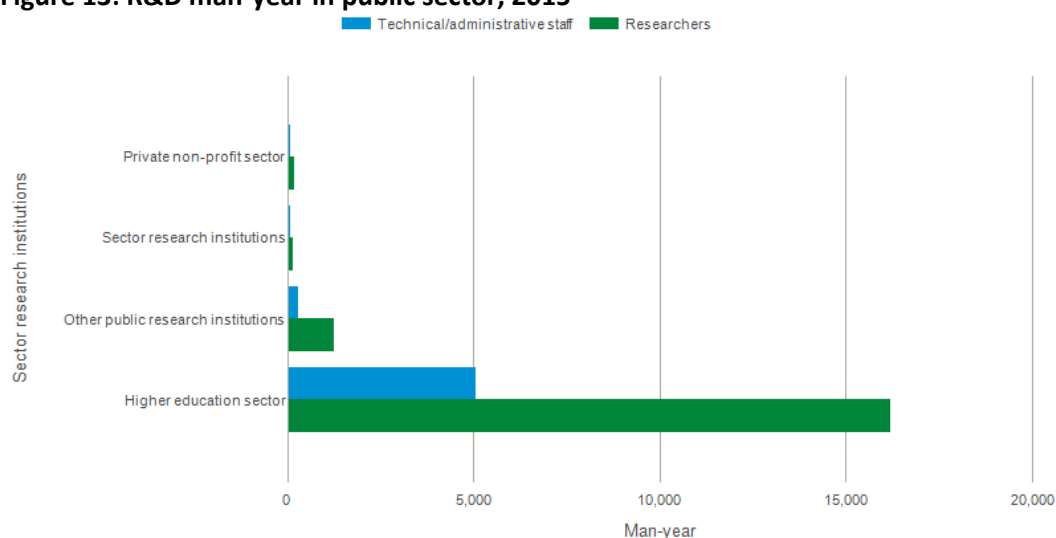
Figure 13: R&D man-year in public sector, 2015

Figure 14 by Statistics Denmark shows the share of men and women in the public R&D sector.⁵⁵

⁵⁴ These figures from Statistics Denmark have not been published. This and other similar figures can be found at (Statistics Denmark n.d.-a, Statistics Denmark n.d.-b)

⁵⁵ These figures from Statistics Denmark have not been published. This and other similar figures can be found at (Statistics Denmark n.d.-a, Statistics Denmark n.d.-b).

Figure 14: R&D man-year in public sector by time, category of staff, sector research institutions and sex

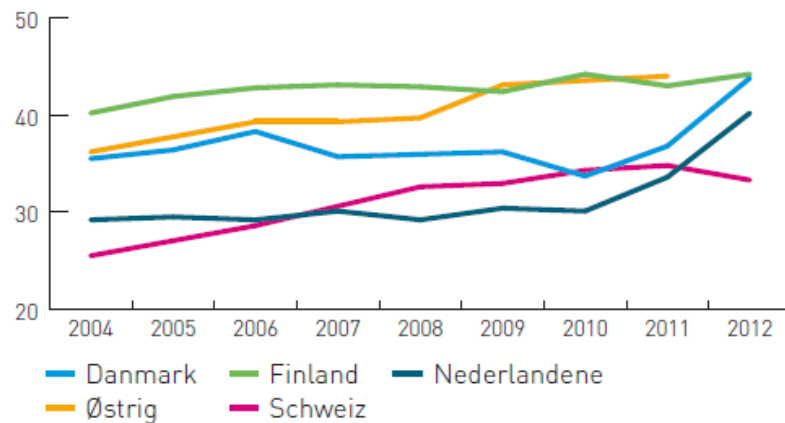
	Male	Female
2015		
Technical/administrative staff		
Higher education sector	1 831	3 235
Other public research institutions	101	196
Sector research institutions	23	46
Private non-profit sector	14	85
Researchers		
Higher education sector	9 608	6 583
Other public research institutions	663	593
Sector research institutions	70	100
Private non-profit sector	67	129

The latest year is preliminary data. University hospitals are included in Higher education sector.

Unit : man-year

As seen in the figure above, in 2015 there was gender gap in the public R&D sector, particularly in the distribution of researchers in the higher education sector (HES) and in the distribution of technical/administrative staff, where all sector research institutions employed more female than male staff.

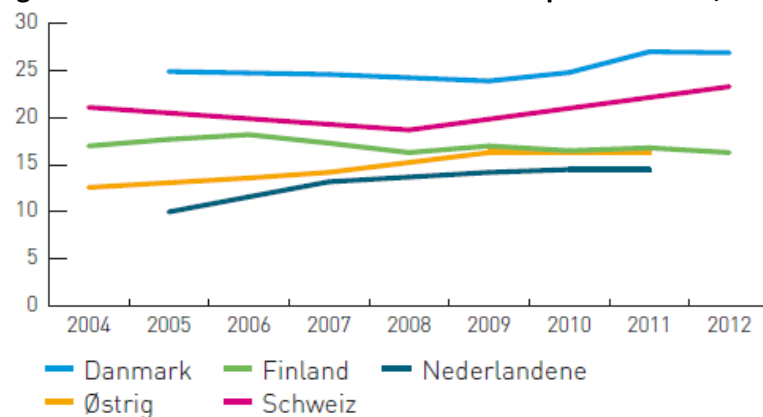
Figure 15 below shows the development in the share of female researchers in the public sector in the period 2004 to 2012, comparing Denmark (light blue), Finland (green), the Netherlands (dark blue), Austria (yellow) and Switzerland (pink) (Danmarks Forsknings- og Innovationspolitiske Råd 2015, 20).

Figure 15: Share of female researchers in the public sector, 2004-2012

Kilde: Eurostat

As the figure shows, there has been a relatively large increase in the share of women researchers in the public sector in Denmark from 2010-2012, which is primarily due to the increase in investments and public funding. It should be added that there has also been an increase in the share of male researchers.

Figure 16 illustrates the high share of female researchers in the private sector in Denmark (light blue) in the period 2004-2012, compared to Finland (green), the Netherlands (dark blue), Austria (yellow) and Switzerland (pink) (Danmarks Forsknings- og Innovationspolitiske Råd 2015, 22).

Figure 16: Share of female researchers in the private sector, 2004-2012

Kilde: Eurostat

The figure shows that the share of female researchers in the private sector in Denmark has been relatively stable until 2009/2010, and has increased since, however not as much as the share of women researchers in the public sector, as shown in Figure 15.

The following table illustrates the development in the number of researchers by gender in different sectors in the period 2005 to 2013.

Tab. 41: Number of researchers in BES, HES, GOV, and PNP by sex and years (in full-time equivalents)

Time		EU28				Denmark			
		BES	HES	GOV	PNP	BES	HES	GOV	PNP
2005	Total	626 081	551 459	181 758	15 462	17 624	8 242	2 105	208
	Females	:	:	:	:	4 347	2 901	765	100
	Males	:	:	:	:	13 277	5 341	1 340	108
2006	Total	654 004	566 464	185 036	16 995	17 718	8 763	2 173	193
	Females	:	:	:	:	:	3 309	820	109
	Males	:	:	:	:	:	5 454	1 353	84
2007	Total	667 464	585 624	188 306	16 721	19 145	9 642	1 203	184
	Females	:	:	:	:	4 639	3 651	447	107
	Males	:	:	:	:	14 506	5 991	756	77
2008	Total	695 179	618 351	192 370	17 345	23 400	10 954	1 159	188
	Females	:	:	:	:	:	:	:	:
	Males	:	:	:	:	:	:	:	:
2009	Total	695 602	642 780	199 210	18 014	23 479	12 010	1 115	185
	Females	:	:	:	:	5 745	4 671	432	104
	Males	:	:	:	:	17 734	7 339	683	81
2010	Total	719 935	663 331	201 547	17 952	22 774	13 250	1 216	195
	Females	:	:	:	:	5 865	5 267	406	116
	Males	:	:	:	:	16 909	7 983	810	79
2011	Total	747 215	656 965	203 821	18 802	23 927	13 881	1 181	192
	Females	:	:	:	:	5 985	5 864	405	122
	Males	:	:	:	:	17 942	8 017	776	70
2012	Total	792 692	661 902	207 428	18 965	24 369	14 305	1 208	198
	Females	:	:	:	:	6 041	5 879	524	129
	Males	:	:	:	:	18 328	8 426	684	69
2013	Total	830 713	675 973	210 635	13 920	23 812	15 057	1 254	194
	Females	:	:	:	:	6 097	6 347	590	125
	Males	:	:	:	:	17 715	8 710	664	69

Source: (Eurostat n.d.-a)

In the business enterprise sector (BES), about one third of the researchers are women (4 347 women and 13 277 in 2005 and 6 097 women and 17 715 men in 2013). There has been an overall increase in the share of researchers, but no large changes in the gender distribution.

The higher education sector (HES) is dominated by male researchers, but here the number of women has more than doubled and the gender gap in the distribution of researchers has decreased (2 901 women and 5 341 men in 2005, 6 347 women and 8 710 men in 2013).

Contrary to BES and HES, in the government sector (GOV) there has not been an increase in the overall share of researchers. On the contrary, the overall number of researchers has decreased from around 2 000 in 2005 to 1 254 in 2013. In 2005, there was almost twice as many male (1 340) as female (765) researchers. But by 2012, the gender gap in the distribution of researchers in the GOV had decreased radically, and also in the following year the gender gap was a lot smaller than in the earlier period (590 female and 664 male researchers in 2013). This is a result of the 2008-2009 mergers between universities and public research institutions. The majority of the public research

institutions were merged with the universities and their researchers became part of the workforce of the HES.

The overall number of researchers in the private non-profit sector (PNP) has stayed relatively stable in the period 2005-2013, when comparing to the other sectors, and the gender gap is smaller than in e.g. HES and BES. However, there seems to be a decrease in the number of male researchers compared to female. In 2006, a few more female (109 women) than male researchers (84 men) were employed in PNP, and in 2013 only 69 of the researchers were male compared to the 125 female researchers.

For a general description of the developments in the sectors, see part 1.1.2 *Development of R&D sectors and its subsectors* (1.1.2.1 and 1.1.2.2) and part 1.2.2 *Proportion of scientists and engineers in total labour force*.

3.4 Horizontal segregation

For a general description of the developments in the sectors, see part 1.1.2 *Development of R&D sectors and its subsectors* (1.1.2.1 and 1.1.2.2) and part 1.2.2 *Proportion of scientists and engineers in total labour force*.

3.4.1 General horizontal segregation

It can seem paradoxical that while Denmark is one of the European countries with the highest number of women enrolled in the labour market, the Danish labour market is also one of the most gender-segregated labour markets in Europe. The latest report on the gender-segregated/gender-divided labour market by SFI states that no significant changes in the horizontal gender segregation in the labour market have taken place over the past 20 years (Larsen et al. 2016, 10).

Gender segregation in the Danish labour market is characterised by women primarily being employed in the public sector and men in the private sector (Larsen et al. 2016, 13), and pay gaps are explained with the fact that due to periods of maternity leave, men often have more overall working experience than women, even though women, particularly the younger generations (25-39-year olds) are often more educated than their male peers, except for in the municipal/regional sector, where male employees seem to be better educated than female employees. Gender pay gaps are also explained with the fact that more men than women work in the private sector in which the job functions are often more favourable than in other sectors. Furthermore, non-measurable qualifications, e.g. informal qualifications such as customer understanding or interpersonal skills, are remunerated in the private sector to a higher degree than in other sectors (Beskæftigelsesministeriet 2016b, 7-9). Especially in the public sector some professions are seen as “women’s professions” and others, usually in the private sector, as “men’s professions” (Larsen et al. 2016, 9f). In 2013, 36 % of women were employed in divisions of industry where women account for at least 80 % of the overall employment. The same applies to men, where 24 % of men were employed in areas with at least 80 % men (Larsen et al. 2016, 13).⁵⁶ Another issue is that women and

⁵⁶ In 2013, 54 % of women worked in public administration, teaching and health, while only 15 % worked in trade and transportation. 25 % of men worked in trade, transportation, etc., 19 % in public administration, teaching and health and 17 % in industry, extraction of raw material (*råstofudvinding*) and utility (*forsyningsvirksomhed*) (Larsen et al. 2016, 13).

men with comparable educations and jobs often perform different kinds of working tasks and assignments (Beskæftigelsesministeriet 2016b, 18-19).

SFI found an increase in the share of women employed in regions and municipalities and very little development in the government employment. In 2012, 74 % of employees in the private sector were men and 78 % of employees in regions and municipalities were women. 47 % of government employees were female (Larsen et al. 2016, 12). Mobility between the private and the public sector is a rather uncommon affair; therefore, SFI finds that the Danish labour market is somewhat inflexible in regard to mobility between the public and the private sector (Larsen et al. 2016, 9-10, 14-15).

3.4.1.1 Gender segregation in occupations and in economic sectors, 2004 vs 2014

Looking specifically at the gender segregation in economic sectors in 2004 and 2014 (see Tab. 42), there has been a small decrease in the gender segregation in occupations to 25 % in 2014, yet the gender segregation in sectors has been unchanged and remains at 19 % in 2015 (as it was in 2004).

Tab. 42: Gender segregation in occupations, by economic sectors

	Gender segregation in occupations (%)		Gender segregation in sectors (%)	
	2004	2014	2004	2014
EU28	24.7	24.4	17.7	18.9
Denmark	27.5	25	19.1	19

Source: (Directorate-General for Justice and Consumers 2016, 52)

Taking a closer look at where men and women find employment and at the gender gaps in 2004 and 2014 (see Tab. 43), it appears that differences in employment and in the gender gap depend on the field. The following status quo appears when looking at the overall vertical distribution: in 2004, 76.3 % of legislators, senior officials and managers were men. In 2014, 73.7 % were men (and 26.3 % were women). Other male-dominated fields where the gender distribution has hardly changed over 10 years, are in the armed forces and in craft and related trade works (93.9 % men for both fields/areas in 2014), among plant and machine operators and assemblers (84.4 % men in 2014) and among agricultural and fishery workers (85.9 % men in 2014). Among professionals, technicians and associate professionals and elementary occupations, the gender distribution is almost equal. Two fields are dominated by women; there are more female than male clerks (71.3 % women in 2014) and service workers and shop and market sales workers (63.5 % women in 2014).

Tab. 43: Employment by occupation, sex, measurement, country and year

Denmark		2004	2014
Legislators, senior officials and managers	Female	23.8	26.3
	Male	76.3	73.7
Professionals	Female	42.1	54.9
	Male	57.9	45.1
Technicians and associate professionals	Female	58.6	43.7
	Male	41.5	56.3
Clerks	Female	76.4	71.3
	Male	23.6	28.6
Service workers and shop and market sales workers	Female	75.9	63.5
	Male	24.1	36.5
Skilled agricultural and fishery workers	Female	22.4	14.1
	Male	77.6	85.9
Craft and related trade workers	Female	4.2	6.1
	Male	95.8	93.9
Plant and machine operators and assemblers	Female	22.2	15.6
	Male	77.9	84.4
Elementary occupations	Female	44.7	46.2
	Male	55.4	53.8
Armed forces	Female
	Male	92.4	93.9

Source: (UNECE n.d.)

3.4.2 Proportion of female researchers by economic activities (NACE Rev. 2) in the business enterprise sector, by sex

Comparing the proportion of female researchers in the BES by economic activity (NES Rev. 2) in 2009 and 2012, there has been a small increase in the share of women in manufacturing and manufacturing of chemicals and chemical products and in the services of the business economy, and a larger increase in the proportion of women in the manufacturing of pharmaceutical products and preparations, and in particular in other, unspecified, NACE categories (see Table 44).

Tab. 44: Proportion of female researchers in the business enterprise sector, by economic activity (NACE Rev. 2) 2012

		Manufacturing	Manufacture of chemicals and chemical products	Manufacture of basic pharmaceutical products and preparations	Services of the business economy	Other NACE category
EU27	2009	15	27	45	19	83
	2012					
Denmark	2009	25	43	43	23	21
	2012	28	48	54	25	49

Source: (Directorate-General for Research and Innovation 2016, 60)

For a general description, see part 1.2.3 *Employment in knowledge intensive activities*.

3.4.3 Distribution of researchers in the Higher Education Sector (HES), across fields of science, 2012

The table shows that the gender distribution of female researchers in the HES 2012 depends on the field of science in question.

Tab. 45: Distribution of researchers in the Higher Education Sector (HES), across fields of science, 2012 (percentage)

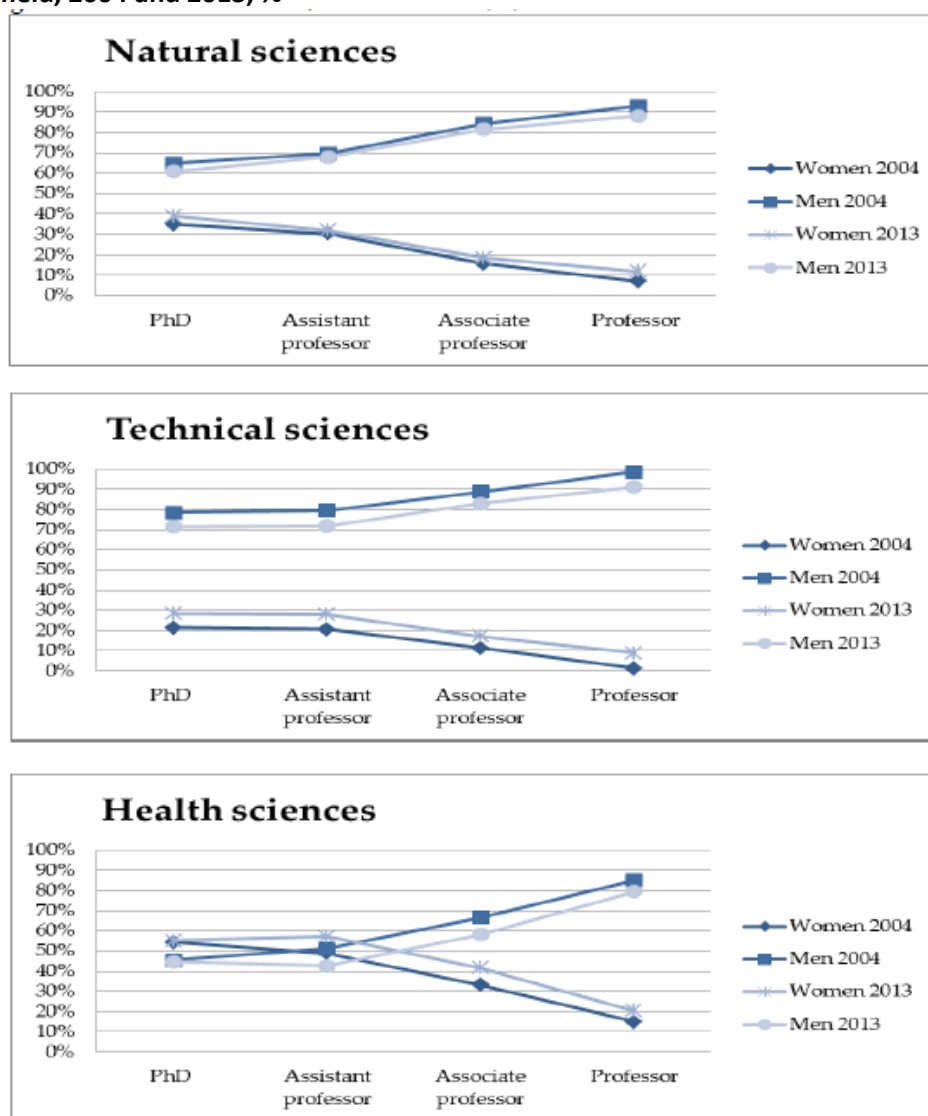
Country	Gender	Natural sciences	Engineering and technology	Medical sciences	Agricultural sciences	Social sciences	Humanities
Denmark	Women	14	7	39	8	22	10
	Men	20	16	28	5	21	10

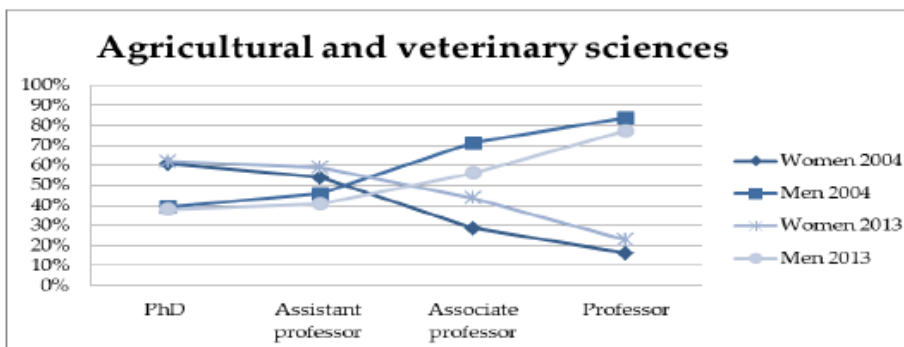
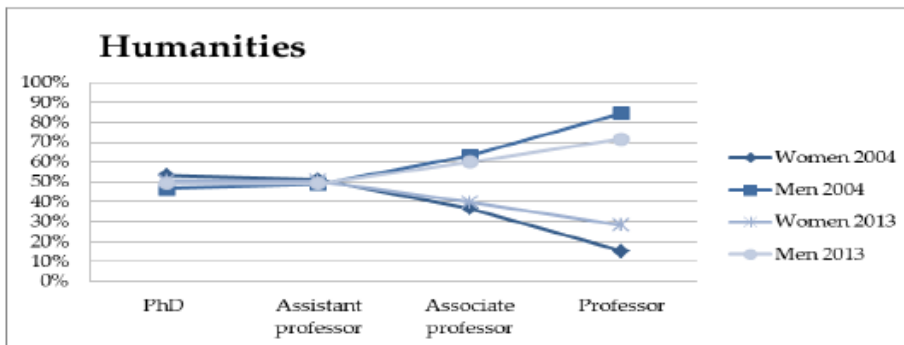
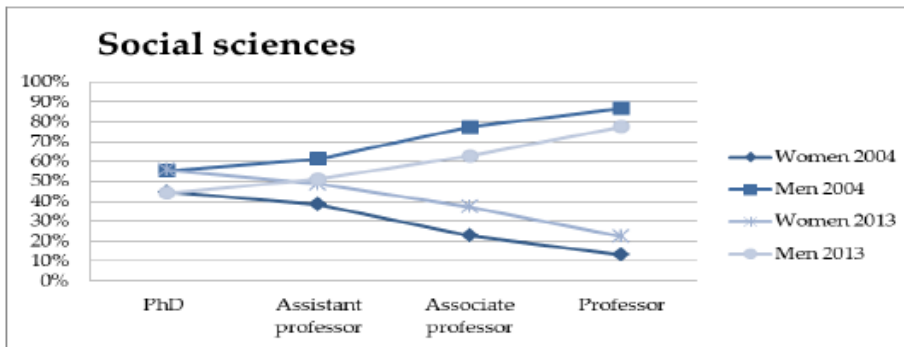
Source: (Directorate-General for Research and Innovation 2016, 56)

According to the table above, in humanities and social sciences, the gender distributions are equal (10 % men, 10 % women, 22 % women and 21 % men, respectively). Here the largest gender gaps in the distribution of researchers are found in engineering and technology (7 % women and 16 % men) followed by agricultural science. Both agricultural science and medical science have a higher distribution of female researchers, while male researchers are stronger represented in engineering and technology and natural sciences.

Figure 17 illustrates the developments in gender balance of male and female researchers at different career levels in different fields by 2004 and 2013 (Ministry of Higher Education and Science 2015d, 15-17).

Figure 17: Research food chain in Denmark from PhD to professor divided by gender and scientific field, 2004 and 2013, %





Note 1: PhD encompasses PhD students in the category salaried PhD recipients (clinical assistants, graduate scholars, etc. are not included).

Note 2: The account is based on the number of people.

Source: Statistics Denmark and the Ministry of Higher Education and Science

The largest shares of female researchers are found in the humanities and social sciences and the smallest proportions of female researchers are found in natural and technical sciences (Ministry of Higher Education and Science 2015d, 15-17).

As the figures show, there is a significant divide between the share of male and female professors across all sectors, and even in the fields where there are more female than male PhD candidates like health sciences, social sciences, and agricultural and veterinary sciences, the share of male professors is still much higher than the share of female professors.

3.4.4 Horizontal segregation by scientific field in the higher education sector

Looking at the dissimilarity index (DI) in 2006, 2009 and 2012 in the HES and GOV, there has been a small improvement in the gender gap for researchers in the HES (Tab. 46). From 2006 to 2009, there was also an improvement in the gender gap in the GOV, however, the DI in 2012 indicates a negative development in terms of gender equal distribution in the GOV sector in the period 2009-2012.

Tab. 46: Dissimilarity index for researchers in the higher education sector and government sector

	Dissimilarity Index 2006		Dissimilarity Index 2009		Dissimilarity Index 2012	
	HES	GOV	HES	GOV	HES	GOV
EU27	0.14	0.18	-	-	-	-
Denmark	0.19	0.23	0.19	0.15	0.18	0.22

Source: (Directorate-General for Research and Innovation 2016, 80, Directorate-General for Research and Innovation 2013, 77, Directorate-General for Research 2009, 64)

For a general description of the developments in the sectors, see part 1.1.2 *Development of R&D sectors and its subsectors* (1.1.2.1 and 1.1.2.2) and part 1.2.2 *Proportion of scientists and engineers in total labour force*.

3.5 Vertical segregation

3.5.1 General vertical segregation

During the past 20 years, there has been an increase of 40 % in the number of female top leaders. In 2013, 6 % of all male employees were top leaders, while this accounts for 2.6 % of female employees, where 29 % of leaders were women. Across sectors, more women (33 %) than men (21 %) are employed in positions that require knowledge on the highest level within the specific field (Larsen et al. 2016, 13f).

The general decrease in the vertical gender segregation on the labour market over the past 20 years is (at least, partly) due to the fact that there has been an increase in the enrolment of women into education, including higher education. Yet, women primarily chose educations which lead to employment in the public sector and men to a large degree chose educations targeting the private sector (Larsen et al. 2016, 10).

SFI concludes that, to a very high degree, it is still much more likely for a man to become a top leader than it is for a woman, and that this can be concluded across different sectors (private, municipal/regional and government sector) (Larsen et al. 2016, 14). Overall, similar developments are found in Sweden and Norway. However, there are fewer female top leaders in Denmark than in Sweden and Norway, but the difference between Denmark and the two other Nordic countries has become smaller (Larsen et al. 2016, 14).

3.5.1.1 Share of male and female members of boards in largest quoted companies, supervisory board or board of directors

In 2015, the highest shares of female board members were found in the parliament (40 %) and among the ministers (39 %). About one third of the members of regional assemblies are women (34 %) and about 1 in 5 members of central bank and board members in the largest quoted companies are women.⁵⁷ As Tab. 47 shows, the share of female board members in Denmark is above the EU average, but still not close to 50 %.

⁵⁷ Statistics for the share of men and women leaders in 2012 in publicly limited liability companies, publicly traded stock companies, in municipalities, regions, and in the government can be found (in Danish) at <http://kvinderiledelse.dk/statistik.aspx>.

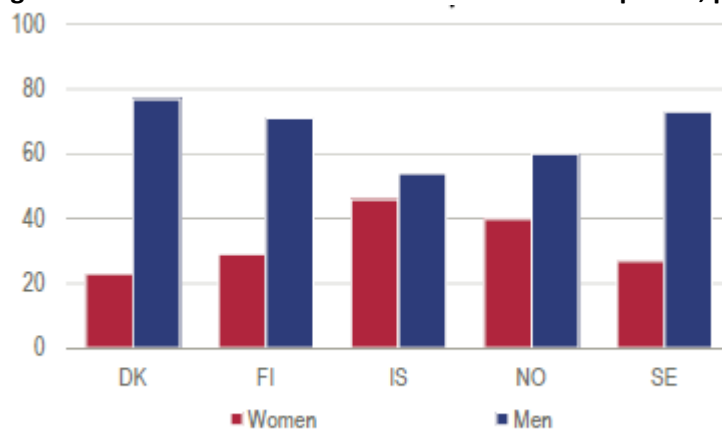
Tab. 47: Share of male and female members of boards in largest quoted companies, supervisory board or board of directors

	Share of female ministers	Share of female members of parliament	Share of female members of regional assemblies	Share of female members of boards in largest quoted companies, supervisory boards or board of directors	Share of female members of central bank
EU	22	25	31	16	17
Denmark	39	40	34	21	21

Source: (Humbert et al. 2015, 173)

In terms of gender composition at managerial levels in Danish companies, the most positive developments have been found in listed companies. It is difficult to single out the specific causes for this development (Larsen et al. 2016, 47).

Figure 18 shows the share of men and women on boards of publicly listed companies⁵⁸ in Nordic countries in 2014 (Nordic Council of Ministers 2015, 34).

Figure 18: Women and men on boards of listed companies, percent, 2014

Source: European Commission, database on men and women in decision making

By 2014, about three of ten board members of the largest publicly listed companies in the Nordic countries were women. Denmark had the lowest share with 23 % women (Nordic Council of Ministers 2015, 34). Among companies required to develop a policy for increasing the proportion of the underrepresented gender in the company's 'other management levels', 4 % of the companies report an equal balance, and 50 % informed on a policy (two-thirds of which have also outlined the content of the policy). Corporate policy frequently deals with personnel policies, including job sharing, job postings and recruitment processes (Danish Business Authority 2015, 2).

⁵⁸ Listed companies: "publicly listed means that the shares of the company are traded on the stock exchange" (Nordic Council of Ministers 2015, 34).

Figure 19: Policy for increasing the proportion of the underrepresented gender in other management levels

Chart 4-4: Does the company inform on the progress made in achieving the stated target figures	C	D	C+D
The company informs on status	54%	84%	65% (80)
The company does not inform on status	46%	16%	35% (44)
Total	81	43	124

Charts regarding policy for increasing the proportion of the underrepresented gender in other management levels³

Chart 4-6: Whether the company has a policy to increase the proportion of the underrepresented gender	C	D	C+D
The company informs on an equal division	2%	8%	4% (6)
The company has a policy	43%	64%	50% (84)
The company does not inform on an equal division nor does it have a policy	55%	28%	47% (79)
Total	116	53	169

Chart 4-7: Whether the company inform on the content of their policy	C	D	C+D
The company has a policy and inform on the content	74%	62%	69% (58)
The company has a policy but does not inform on the content	26%	38%	31% (26)
Total	50	34	84

The charts are referring to C and D. C and D represent the accounting classes that the companies concerned must present the companies must present its financial statements/annual report in accordance with the Danish Financial Statements Act.

Source: (Danish Business Authority 2015)

Furthermore, 50 % of the companies (C+D) have internal target figures for the proportion of the underrepresented gender in the content of their GE policy, and 90 % (C+D) report that they have “other initiatives that make the company attractive for leaders of both sexes” (personnel policies, including job-sharing, job postings and recruitment processes) (Danish Business Authority 2015, 4).

In a report on the gender-segregated Danish labour market, SFI finds that one of the explanatory factors can be the phenomenon of ‘homosocial reproduction’, where male leaders choose other male leaders. Other explanatory factors are differences in the sectors where men and women are employed and the proportion of available leadership positions within these sectors, gender differences regarding work-life balance – especially for parents, and gendered biases in the working culture, promoting men rather than women or (indirectly) providing men with different career opportunities, for instance, by offering more career-relevant tasks and responsibilities to men than to women (Larsen, Holt and Larsen 2016, 57ff). See also part 2.3.5 *Assessment of gender equality*

policies in RTDI, and description of equality in decision-making and targets for the underrepresented sex in part .

3.5.2 Vertical segregation in RTDI

The share of female PhD candidates has followed the development of the EU countries, yet the share of female professors has been below the average share of the EU (Bloch and Henriksen 2013, 5-6). While the share of female PhDs in Denmark is almost 50 %, less than 20 % of full professors are women (Institut for Menneskerettigheder 2016, 16-17). As Tab. 48 shows, the share of women professors with special responsibilities (professors WSR) (29.7 % in 2015) and clinical professors (20.4 % in 2015) is somewhat higher than the share of women in 'regular'/'ordinary'/full professorships (Statistik og Analyse 2016, 8).⁵⁹

Tab. 48: Ordinary professors and professors with special responsibilities (professor WSR) assessed by main subject area, job description and gender. Number/share of persons ultimo 2015

	Professor			Professor WSR			Total		
	Men	Women	Share of wome	Men	Wom en	Share of women	Men	Women	Share of wome
HUM	121	46	27.5 %	46	43	48.3 %	167	89	34.8 %
SAM	336	78	18.8 %	98	37	27.4 %	434	115	20.9 %
NAT	246	32	11.5 %	38	7	15.6 %	284	39	12.1 %
JORD	80	15	15.8 %	22	13	37.1 %	102	28	21.5 %
SUND	191	52	21.4 %	51	22	30.1 %	242	74	23.4 %
TEK	254	19	7.0 %	65	15	18.8 %	319	34	9.6 %
Total	228	242	16.5 %	320	137	30.0 %	1 548	379	19.7 %

Humanities (HUM), Social Sciences (SAM), Natural Sciences (NAT), Agriculture (JORD), Health (SUND) and Technology (TEK)

Source: (Statistik og Analyse 2016)

Tab. 48 shows that the share of female professorships, especially 'ordinary professorships' (full professorships, not including professor WSR and clinical professors), differs across different main subject areas. The highest share of female professorships (27.5 % ordinary professors) are found in humanities, where there is an almost gender equal distribution of professors WSR (48.3 % women). The smallest share of female ordinary professors and professors WSR are found in technology (7 % ordinary female professors) and natural sciences (15.6 % of professors WSR), respectively.

In 2015, around 40 % of female and 30 % of male researchers were employed in humanities and health. About 30 % of female and 48 % of male researchers were employed in technology and natural sciences. This picture has not changed much since 2009 (Statistik og Analyse 2016, 11). The share of academic personnel differs across universities. For instance, in 2015, 25 % of the professors at Roskilde University (RUC) were women, were no (0 %) of the professors at the IT University of Copenhagen (ITU) were women (Statistik og Analyse 2016, 10).

⁵⁹ On average, by the time they are employed as professors, professors with special responsibilities are younger (between 40-54 years) than ordinary professors (55 years+). Yet the age differences also depend on the main subject area (Statistik og Analyse 2016, 12-13). The Taskforce for More Women in Research found similar results for the period 2011-2013 (Ministry of Higher Education and Science 2015d, 24-25).

Nielsen found that early-career female researchers experience “gender practices of pre-selection in recruitment and promotion, managerial perceptions of women’s ‘otherness’ and their incompatibility with the prevailing cultures and characteristics of the local research environments, precarity, unclear career paths, blurry performance thresholds, the irreconcilability of lives inside and outside the university, lower job satisfaction, and weaker professional network ties (...) such drawback may add up over time and become cumulative disadvantages (...)” (2014b, 13).

See also part 3.9 *Women in decision-making positions in RTDI*.

3.5.2.1 Proportion of women academic staff, by grade

In general, there have not been significant changes in the number of male and female academic staff at any levels from 2014 to 2015 (Statistik og Analyse 2016, 8).⁶⁰ As Tab. 49 shows, there has been an increase in the total proportion of women academic staff from 2007 to 2013 (from 33 % to 43 % women in the total academic staff, respectively). Yet in 2013, the only gender-equal staff distribution was found in grade D staff. The share of women grade A staff was still below 20 %, less than one third of grade B staff were women and less than half of the grade C staff were women.

Tab. 49: Proportion of women academic staff, by grade and total⁶¹

		Grade A	Grade B	Grade C	Grade D	Total
EU27	2007	19	36	44	44	38
	2010	20	37	44	46	40
EU28	2013	21	37	45	47	41
Denmark	2007	12	25	37	44	33
	2010	15	29	38	47	37
	2013	19	31	43	51	43

Source: (Directorate-General for Justice and Consumers 2016, 129, Directorate-General for Research and Innovation 2013, 90, Directorate-General for Research 2009, 75)

The tables below show the development of the share of women at different academic levels and in different scientific areas over the period from 2009 to 2015 (Statistik og Analyse 2016, Uddannelses- og Forskningsministeriet 2016b).

Tab. 50: The share of women at professor, associate and assistant professor level 2009-2015

	2009	2010	2011	2012	2013	2014	2015
Professor level	15.5 %	15.9 %	16.2 %	16.9 %	18.4 %	18.8 %	19.8 %
Associate professor level	28.6 %	28.9 %	28.5 %	29.7 %	30.6 %	31.7 %	32.6 %
Assistant professor level	37.4 %	38.9 %	40.5 %	40.4 %	40.6 %	39.7 %	39.4 %
Total	28.8 %	29.5 %	30.1 %	30.7 %	31.5 %	31.9 %	32.4 %

Source: (Statistisk og Analyse 2016)

⁶⁰ A table (in Danish) with the exact numbers of men and women at different academic career levels in 2014 and 2015 and the share of women in percentages can be found in *Videnskabeligt personale på universiteterne 2015* (Statistik og Analyse 2016, 8).

⁶¹ Grade A: top-level researchers (full professors). Grade B: associate professor, senior researcher. Grade C: assistant professor, post.doc. fellowship holders. Grade D: graduate students, junior lectures and other academic staff without a doctoral degree (but with an ISCED 5 degree).

As the table above illustrates, in 2015, 49 % of PhDs were female and 51 % were male. Since 2009, there has been an overall increase in the share of assistant, associate and full professors (Statistik og Analyse 2016, 1).⁶² In the period 2013-2015, 40 % of assistant professors, 38 % of associate professors and 26 % of professors were women (Uddannelses- og Forskningsministeriet 2016b). In comparison to the first table, there has been a small increase in the share of female grade A and B staff, and a decrease in the share of female grade C staff.

Altogether, at the end of 2015, the share of women in academic positions (professors, associate professor and assistant professor) was less than a third (32.4 %) of the total share of academic positions, with less than 20 % of women at full professor level (Statistik og Analyse 2016, 7). According to the Taskforce for More Women in Research, “maternity leave incurs extra costs for the employer. As women have the longest parental leave, this could be a disincentive to employing young women in research positions. Particularly when it comes to attract external grants, as well as financing the extra costs associated with maternity leave” (Ministry of Higher Education and Science 2015d, 44).

3.6 Employment conditions/status/contracts

The Danish labour market is characterised by the “flexicurity” model, combining flexibility, i.e. a high degree of personal responsibility and a focus on work-life balance with security for the employees – the so-called Danish Model; “most labour market issues are settled by employers and employees rather than by law” (Ministry of Employment n.d.-b). However, the general terms of employment are in many cases regulated by collective agreements between the employer associations and the trade unions.

In the Consolidation Act on the Working Environment, it is stated that all workplaces must compose workplace assessments/evaluations. In all workplaces with more than 10 employees, matters of working environment must be structured in accordance with a working environment organisation (Arbejds miljøorganisation n.d.). Improvement of (the working conditions in) innovation, e.g. in public innovation, has been of special interest to the Danish Agency for Science, Technology and Innovation. Municipalities and regions have made an agreement, the *MED-system*, to support the contributory influence of employees (Damvad 2011).

3.6.1 General working time culture

In Denmark, working hours are laid down in the collective agreements, are typically 37 hours a week, and must not exceed maximum 48 working hours a week. Working hours are noted in employment agreements (3f 2016).

Tab. 51: Actual weekly working hours of full-time workers by gender and country

		2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
EU28	Women	39.4	39.2	39.2	39.1	38.9	39.1	39.1	39.0	38.9	38.9	38.9
	Men	42.5	42.3	42.3	42.1	41.7	41.9	41.9	41.7	41.6	41.5	41.5
	Total	41.4	41.2	41.2	41.0	40.7	40.8	40.8	40.7	40.6	40.5	40.5
Denmark	Women	37.0	37.1	37.2	37.1	37.3	37.6	37.8	37.8	37.7	37.7	37.8
	Men	41.0	40.9	40.5	40.4	40.3	40.8	41.1	40.8	40.7	40.6	40.7
	Total	39.4	39.5	39.3	39.1	39.1	39.5	39.8	39.6	39.5	39.4	39.6

Source: (Eurostat n.d.-a)

As seen in Tab. 51, the total working hours of full-time workers in 2015 are a little below the EU average, and men (40.7 hours) in Denmark on average work a couple of hours more per week than women (37.8 hours). The amount of weekly working hours and the gender differences have been relatively stable in the period 2005-2015.

See description of gender differences in regard to working time in part 3.3.1.3.

3.6.2 Working time in RTDI

In a survey on the psychical work environment among academics, the Danish Confederation of Professional Associations, AC, found that only 41 % of academics stated that they work less than 40 hours a week. 24 % - 27 % work more than 45 hours per week (Akademikerne 2016, 3). 56 % of academics employed in the private sector stated that they had good work-life balance, while the same accounts for 49 % of academics in the public sector (Akademikerne 2016, 5). No differentiation in regard to gender in the statistics available.

Tab. 52: Actual weekly working hours of full-time employed persons in academic professions by gender and country

		2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
EU28	Women	38.0	38.0	38.2	38.2	38.1	38.3	38.1	38.2	38.2	38.3	38.3
	Men	42.3	42.0	42.0	41.8	41.6	41.6	41.7	41.7	41.4	41.2	41.2
	Total	40.4	40.3	40.4	40.2	40.1	40.2	40.1	40.1	40.0	39.9	39.8
Denmark	Women	37.7	37.9	37.9	38.0	37.9	38.6	37.9	37.9	37.8	37.8	37.8
	Men	40.0	40.3	40.2	40.1	40.1	40.2	40.6	40.6	40.5	40.1	40.4
	Total	39.1	39.4	39.3	39.3	39.2	39.5	39.3	39.3	39.2	39.0	39.1

Source: (Eurostat n.d.-a)

Tab. 52 shows the weekly working hours of full-time employed men and women in academic positions. By 2015, the total is slightly below the EU average. Also in RTDI, men have longer working hours than women. The number of weekly hours has been quite stable in the period 2005-2015.

For a detailed description of the job structure for academic staff at the universities, see *Job structure for academic staff at universities 2013* (Ministry of Higher Education and Science 2013).

Tab. 53: Part-time employment of researchers in the higher education sector out of total researcher population, by sex 2012

	Men	Women
EU28	8.5	13.5
Denmark	5.1	5.1

Source: (Directorate-General for Research and Innovation 2016, 102)

Tab. 53 shows that in 2012 there was an equal distribution of male and female researchers in part-time employment in the HES, which differs from the EU28 where women to a greater degree have part-time employments. The low percentage of both women's and men's part-time employment in higher education might be due to a combination of good childcare facilities, but might also be due to high demands for a stable career path with a "publish or perish" higher education policy; therefore, part-time work in HES is less common.

3.6.3 Working contracts in RTDI

According to the University Act, policies regarding personnel are covered in the rules on employment condition and salary set up by the Minister for Finance (Retsinformation 2015). As of 2013, fixed-term employment contracts can be renewed up to two times (Ministry of Higher Education and Science 2013, 1). An overview of the different levels and working conditions including possibilities for career progression in academia is presented in part 3.6.3.2 below.

3.6.3.1 Fixed-term contracts vs. permanent positions/contracts

Tab. 54 shows that in 2012 more women than men in the HES had precarious working contracts.

Tab. 54: "Precarious" working contracts of researchers in the higher education sector out of total researcher population, by sex, 2012

	Men	Women
EU28	7.3	10.8
Denmark	9.2	10.3

Source: (Directorate-General for Research and Innovation 2016, 104)

As Tab. 55 illustrates, the type of working contract is dependent on career stage. Early career stage researchers (e.g. who have a masters' degree, PhD degree or a postdoc or assistant professor position) do not have stable employment conditions; their contracts are temporary and they are often financed through external funding. Only associate professors and full professors have permanent contracts. See also part 3.6.3.2 below.

Tab. 55: Career stage with stable employment conditions

Career stage with stable working conditions	Number of countries	Countries
R3	17	Denmark (no tenure-track option in R4)

Source: (MORE2 2013, 68)

Gender differences might be explained by the fact that more men than women are at a higher career stage and, therefore, have more stable or fixed contracts. See also part 3.5.2 on vertical segregation in RTDI, and part 3.6.3.2 for an overview of academic career opportunities in Denmark.

3.6.3.2 Career opportunities

At Danish universities, working contracts without a termination date are rather common. However, fixed-term university contracts are governed by the same rules and regulations as contracts for private sector employees (Grimpe and Mitchell 2016, 47).

In general terms, academic positions can roughly be divided into the five categories below (Ministry of Higher Education and Science 2013). However, it should also be noted that staff policies in academia have been decentralised, wherefore specific staff policies at one university might differ from others.

1. Positions below assistant professor level: PhD fellow, research assistant, assistant lecturer and part-time lecturer.⁶³
2. Positions at the assistant professor level: Postdoc, assistant professor/researcher, assistant professor (further-education position) and researcher (further-education position).
3. Positions at associate professor level: Associate professor/senior researcher, associate professor and senior researcher.
4. Positions at professor level: Professor, and professor with special responsibilities.
5. Other positions: Senior adviser, teaching assistant professor/teaching associate professor, instructor, clinical associate professor, part-time clinical professor, clinical instructor, senior clinical instructor or specialist of postgraduate education in odontology, postgraduate fellow in odontology, postgraduate fellow in psychology, instructor of social theory and methodology (Ministry of Higher Education and Science 2013).

In recent years, there has been a focus on making industrial PhD programmes more attractive (see also part 1.2.3.). The Innovation Fund Denmark, established in 2014, administers R&D collaboration between the public and the business sector. Industrial PhD and Industrial postdoc programmes (InnoBooster), as well as public-private partnerships on innovation and strategic R&D projects are the main tasks of the fund (Innovation Fund Denmark 2017). Innovation Fund Denmark has an Industrial Researcher Programme including industrial PhD and industrial postdoc programmes.⁶⁴ The Industrial PhD Programme is part of the Danish Council for Technology and Innovation's umbrella of innovation promotion initiatives (Grimpe and Mitchell 2016, 34). Since 2014, the Industrial PhD programme has been administered by the Innovation Fund Denmark. The legislative framework for industrial PhDs can be found in the Danish Act No. 306 of 29 March 2014 on Innovation Fund Denmark (Innovation Fund Denmark 2017, 13). Additionally, the Industrial Postdoc scheme pointing towards career paths in the private sector, can be pursued by research employees with a doctoral degree (PhD) in public research activities (Grimpe and Mitchell 2016, 34).

In a report on the gender composition in research, Bloch and Henriksen found that female postdocs who received funding from the DFF (Danish Council for Independent Research) were almost twice as experienced as their male colleagues who received funding from DFF. They also found that the number of men who had been recruited by their PhD supervisor almost double the number of women for whom this was the case (Bloch and Henriksen 2013, 1, 18).

3.7 Gender Pay Gap

See general description in part 2.1 (2.1.3) *Equal pay & wage transparency*.

3.7.1 General Gender Pay gap

As Tab. 56 shows, despite regulations on equal pay, the gender pay gap in Denmark is only slightly below the EU average by 2014, but has decreased a little since 2007. The gender pay gap is the difference between average gross hourly earnings of male and female paid employees, expressed as a percentage of the former. See also part 2.1 (section 2.1.3).

⁶³ PhD education regulations, including regulations for industrial PhDs (more on the latter below), are regulated by the Danish Executive Order regarding PhD programmes at universities and certain higher educational institutions of art (the PhD Executive Order) (Innovation Fund Denmark 2017, 13).

⁶⁴ For more information on the industrial postdoc programmes at Innovation Fund Denmark, see *Guidelines for InnoBooster* (Innovation Fund Denmark 2016).

Tab. 56: Gender pay gap by country

	2007	2008	2009	2010	2011	2012	2013	2014
EU28	:	:	:	16.1	16.5	16.6	16.4	16.1
Denmark	17.7	17.1	16.8	15.9	16.3	16.8	16.4	15.8

Source: (Eurostat n.d.-a, Directorate-General for Justice and Consumers 2016, 51)⁶⁵

An inexplicable pay gap between the male and the female labour force remains, even after controlling for education, job function, seniority, etc., which might be caused by gender discrimination (Institut for Menneskerettigheder 2016, 6). The latest available statistical data, provided in the 2016 review of initiatives to promote equal pay between men and women by the Ministry of Employment (hereafter referred to as “the 2016 GE review”) shows that the gross pay gap between men and women in 2013 was 14 %.⁶⁶ When the pay gap is measured as the gross profit/payoff per hour of work performance, the gender gap amounts to 12 %. Whether the overall gender pay gap is measured in the first or the second way, there has been a small decrease of almost 1 percentage point in the (gross) pay gap between men and women since 2009 (Beskæftigelsesministeriet 2016b, 4).⁶⁷ However, men still have overall higher wages than women. The smallest gender pay gaps are found for employees in the government sector, where the gross pay gap difference is 5.7 %, favouring male employees. In 2013, the gender pay gap in the municipal/regional sector and the private sector amounted to 12.6 % and 13.6 %, respectively (Beskæftigelsesministeriet 2016b, 4). However, these percentages do take difference in educational background or similar factors of relevance when measuring pay gaps into account.

In the 2016 GE review, the Ministry of Employment presents results from the latest analysis on equal pay, (pay gaps between women and men, 2007-2011) by SFI (Beskæftigelsesministeriet 2016b, Larsen and Houlberg 2013). SFI’s analysis shows that (Larsen and Houlberg 2013, Beskæftigelsesministeriet 2016b, 2)

⁶⁵ The unadjusted gender pay gap (GPG) represents the difference between average gross hourly earnings of male paid employees and of female paid employees as a percentage of average gross hourly earnings of male paid employees. The GPG is calculated on the basis of:

- the four-yearly Structure of Earnings Survey (SES) 2002, 2006, 2010, etc., and with the scope as required by the SES regulation,

- national estimates based on national sources for the years between the SES years, from reference year 2007 onwards, with the same coverage as the SES.

Data are broken down by economic activity (Statistical Classification of Economic Activities in the European Community - NACE), economic control (public/private) of the enterprise as well as working time (full-time/part-time) and age (six age groups) of employees. Data are released in February/March on the basis of information provided by national statistical institutes.

⁶⁶ In 2013, the (mean) profit/payoff per hour of work performance (*standardberegnet timefortjeneste*) was DKK 263.53 for men and DKK 248.40 for women (Beskæftigelsesministeriet 2016b, 4).

⁶⁷ When comparing gender pay gaps between countries, different ways of measuring pay and pay gaps should be taken into account. For instance, while SFI makes use of the overall gross pay, Eurostat uses men’s pay as denominator. Also, measuring both gender pay gaps for women with and women without children might provide a skewed picture of the actual differences. For example, it is very likely for mothers in Denmark to work, also while their children are small, whereas this is not the case in other European countries, which means that if the contextual differences of each country are not taken into account, e.g. use and duration of parental leave and share of women in the overall workforce, computations and statistics comparing countries may provide an inaccurate picture (Beskæftigelsesministeriet 2016b, 11). For more information (in Danish) on SFI’s and Eurostat’s different ways of measuring gender pay gaps, see the 2016 review (Beskæftigelsesministeriet 2016b, 12).

- The development of economic conjunctures affects the gross pay gaps on the total labour market.
- From 2007 to 2011, the gross pay gap⁶⁸ between men and women in the total labour market and on the sector level has decreased. The largest *increase* is found in the public sector, while the *decrease* in the overall labour market has been modest.
- In 2011, the gross pay gap on the total labour market was 13 % - 17 %, depending on the specific notion/definition of pay.
 - o When taking the different educations, work experiences, sectors, divisions of industries and functions/roles of men and women into account, the adjusted pay gap is between 4 % - 7 %.

The gross gender pay gap difference is smaller for the 25-39 year olds than for the 40-59 year olds. According to SFI, the younger generations of women are better educated/have more education than women aged 40-59 (and also than men aged 25-39), and it is more likely for the younger women to occupy positions similar to their male peers than it is for the “older” group of women (Beskæftigelsesministeriet 2016b, 7-8). The gender pay gaps can be connected to the fact that men between 25 and 39 years of age have more working experience than their female peers, which is probably due to periods of maternity leave. However, the SFI report also concluded that (more) education is not enough to solve the gender pay gap issues; on average women are better educated than men in Denmark today, but men receive better yields/returns for their education than women (Beskæftigelsesministeriet 2016b, 17).

3.7.2 Gender Pay Gap in RTDI

Tab. 57 illustrates the gender pay gap for scientific research and development services, which is above the EU average and above the pay gap in the total economy. In 2010, women’s average gross hourly earnings in scientific research and development services was 19.7 % lower than the earnings of their male colleagues (Directorate-General for Research and Innovation 2016, 108-109).

Tab. 57: Gender pay gap (%) in the economic activity "Scientific research & development" and in the total economy, 2010

	Scientific research and development services	Total economy
EU28	17.9	16.6
Denmark	19.7	16.4

Source: (Directorate-General for Research and Innovation 2016, 109)

This can partly be explained by the fact that there is horizontal and vertical gender segregation, which affects the salaries of men and women in scientific research and development. Moreover, universities use different kinds of financial incentives to boost the number of publications in the most prestigious journals. In addition, most of the long-term funding earmarked to Centres of Excellence is allocated to male research leaders, as shown earlier (see also part 2.1.3).

According to the Danish Confederation of Professional Associations (AC), there is an inexplicable and increasing pay gap, up to 7.9 %, between male and female academics. The gender pay gap for

⁶⁸ The gross pay gap is measured as the mean payment difference between the sexes (in %) of the mean payment for men (Beskæftigelsesministeriet 2016b). Further explanations on the different payment measurements can be found (in Danish) in the SFI report *Lønforskelle mellem mænd og kvinder 2007-2011* (Larsen et al. 2016).

djøfere (lawyers and MAs in economics, social and political science) with no managerial responsibilities has increased from 6.4 % in 2013 to 7.9 % in 2014. The confederation therefore finds that there is a need for the government to implement initiatives engendering actual equal pay between men and women (Beskæftigelsesministeriet 2016b, 19-20).

3.7.3 Gender Gap in Scientific Outputs

3.7.3.1 Gender Gap in Scientific Publications

Danish researchers are among the most productive and most cited in the world in relation to the size of the population (Kalpazidou Schmidt 2012, Bloch and Henriksen 2013). As seen in Tab. 58, there has been a stable increase in the development of the total number of scientific outputs, and in 2014 the production almost doubled compared to 2005.

Tab. 58: Numbers of scientific publications by country

Men and women	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Denmark	5 727	6 200	6 527	6 900	7 656	8 041	9 065	9 920	10 298	10 405

Source: (Scopus, calculations by Fraunhofer ISI)

Tab. 59 also shows an increase in the share of women main authors in scientific publications, which by 2014 had reached 31 %.

Tab. 59: Proportion of publications written by women as main author

Share of women	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Denmark	25 %	26 %	27 %	28 %	28 %	29 %	30 %	31 %	31 %	31 %

Source: (Scopus, calculations by Fraunhofer ISI)

As Tab. 60 shows, the gender ratio of authorships in 2011-2013 is below the EU average, and differs dependent on main field of science. However, gender parity in authorships has not been reached in any of the fields. From 2007/2009 to 2011/2013, there have been improvements in the fields where the gender parity is highest, for instance, from 0.6 to 0.7 in medical and in agricultural sciences, which are the largest fields of science in Denmark and where there are more women researchers compared to natural sciences, engineering and technology. In natural sciences and in engineering and technology, there have not been any changes, while in humanities, which are dominated by female researchers, the development has been negative in terms of reaching gender parity.

Tab. 60: Women to men ratio of authorships (when acting as corresponding author) in all fields of science (2011-2013)

	Ratio
EU28	0.5
Denmark	0.4

Parity between women and men = 1.

Source: (Directorate-General for Research and Innovation 2016, 153)

The women-to-men ratio of Danish authorships in all fields of science in the time period 2011-2013 is lower than in the EU28 and varies depending on the field.

Tab. 61: Women-to-men ratio of scientific authorship (when acting as corresponding author), by field of science, 2007-2009 and 2011-2013

		Natural sciences	Engineering and technology	Medical sciences	Agricultural sciences	Social sciences	Humanities
EU28	2007-09	0.3	0.2	0.5	0.6	0.5	0.6
	2011-13	0.3	0.3	0.5	0.7	0.6	0.6
Denmark	2007-09	0.3	0.2	0.6	0.6	0.3	0.4
	2011-13	0.3	0.2	0.7	0.7	0.4	0.3

Source: (Directorate-General for Research and Innovation 2016, 155)

As to the publication rates, the Taskforce for More Women in Research stresses that it is important to account for periods of parental and maternity leave:

Women generally step back from research during their maternity leave and during this period their frequency of publication will typically decrease. Women thereby lag behind and this can follow them in the future and make it more difficult to get their research career back on track. In other words, it puts women in an uneven competitive situation when parameters such as publications and citation are measured. (Ministry of Higher Education and Science 2015d, 44)

As recent research (Nielsen 2015) shows, the publication rates of female researchers are low during the maternity leave period, which usually is at the postdoc level, while the publication rates at full professor level are at the same level. However, as also the above table illustrates, there is a variation in the publication rates between the different scientific fields. Moreover, younger women researchers in the Danish natural and health sciences are still not quite at the same publication level as their male colleagues (which at least to some extent may be due to maternity leave periods and domestic responsibilities). A different but related issue is that especially female postdocs are cited less than male postdocs (Bloch and Henriksen 2013, 1). The research also demonstrates that at a Danish university researchers are at gender parity as regards normalised citation rates and contributions to the top 10 most cited articles in the world (Nielsen et al. 2015). See also part 1.2.5 *Number of scientific papers in relation to population size* and part 4.1.4 for general descriptions of the development of scientific publications in Denmark.

3.7.3.2 Gender Gap in Scientific Patents

In the following, we discuss the gender gap in scientific patents based on national and international data.

Tab. 62: Number of patents by country

Men and women	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Denmark	1 303	1 309	1 542	1 486	1 301	1 346	1 525	1 389	1 447	56

Source: (Patstat, calculations by Fraunhofer ISI)

According to national sources, since 2006, the number of patent applications from Danish companies have increased by over 44 % (Danish Patent and Trademark Office 2015). The Danish companies' aspiration to innovate has increased significantly over a ten-year period. However, during the financial crisis of 2008-2009, patent application activity declined noticeably. Judging from

the number of patent applications from Danish companies in 2015, the crisis is over. Thus, from 2012 to 2015, the number of patent applications from Danish companies increased by 8 %. The number of patents granted to Danish firms increased by 91 % since 2006. The number of patents issued in the United States has especially grown significantly since 2009. In 2015, Danish companies generated 160 % more patents in the US, compared to 2009. Looking at the development of patent applications with the European Patent Office (EPO), over a 10-year period, we notice that only three countries (the Netherlands, Sweden and Finland) filed more patents per million inhabitants than Denmark in 2015. Hence, Denmark occupies the 4th place in Europe and has a position well above the EU average. (Danish Patent and Trademark Office 2015).

Figure 20: National granted patents

Year of grant	Granted national patents in total	Grants with Danish applicant	Percentage with Danish applicant
2006	161	100	62%
2007	220	151	69%
2008	225	147	65%
2009	211	130	62%
2010	155	112	72%
2011	110	73	66%
2012	190	152	80%
2013	309	251	81%
2014	292	217	74%
2015	431	297	69%

Figure 20 shows the actual developments in Danish patents granted at the Danish Patent and Trademark Office in the period 2006-2015, including filings with a Danish applicant (Danish Patent and Trademark Office 2016).

As Tab. 63 shows, the proportion of patents filed by women is very low and has been stable since 2005.

Tab. 63: Proportion of patents filed by women

Share of women	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Denmark	8 %	7 %	7 %	8 %	7 %	6 %	7 %	8 %	7 %	8 %

Source: (Patstat, calculations by Fraunhofer ISI)

This might be explained by the fact that it is often men in higher positions who file for patents and that the share of patents is also field-specific; therefore, it is probable that more patents are filed in research fields which are male-dominated, such as engineering and natural and technical sciences. See also part 1.2.6 *Number of patents developed by publicly financed research per inhabitant/citizen*.

3.8 Sex differences in international mobility of researchers

In regard to tax reliefs for researchers abroad, the conditions for privately employed researchers are more beneficial than for researchers employed at universities (Ministry of Higher Education and Science 2015d, 41).

3.8.1 During their PhD

As Tab. 64 shows, Denmark has a very high mobility rate in the HES compared to the EU average. This is not surprising since internationalisation is prioritised and highly valued in academia, and promoting internationalisation through mobility is one of the key interests of the Danish Council for Independent Research (Uddannelses- og Forskningsministeriet 2016a).

Tab. 64: International mobility rates of HES researchers during their PhD, by sex and sex difference 2012

	Women	Men	Sex difference*
EU27	17.6	18.9	1.3
Denmark	38.9	55.4	16.5

*The sex difference is calculated by subtracting the share of internationally mobile women researchers from the share of internationally mobile men researchers.

Source: (Directorate-General for Research and Innovation 2016, 106, 124)

3.8.2 In their post-PhD careers

While men are more mobile than women during their PhD (see Tab. 64), the differences in mobility are very small in the post-PhD careers, where women are slightly more mobile than their male colleagues. However, the gender difference post-PhD is rather small (see Tab. 65).

Tab. 65: International mobility rates of HES researchers in post-PhD careers, by sex and sex difference 2012

	Women	Men	Sex difference
EU28	25.1	34.2	9
Denmark	53.7	52.6	-1.1

Source: (Directorate-General for Research and Innovation 2016, 107, 125)

3.9 Women in decision-making positions in RTDI

3.9.1 Proportion of women grade A staff by main field of science

As Tab. 66 shows, there has been an increase in the share of women grade A staff (professors), when looking at 2007, 2010 and 2013.

Tab. 66: Proportion of women grade A staff by main field of science, 2013

		Natural sciences	Engineering and technology	Medical sciences	Agricultural sciences	Social sciences	Humanities
	2007	-	-	-	-	-	-
EU27	2010	13.7	7.9	17.8	15.5	19.4	28.4
EU28	2013	15.8	9.8	23.3	22.7	23.5	30
Denmark	2007	8.7	4.1	11.5	16.4	15.2	18.2
	2010	9.8	6.3	15.6	17.8	17.3	27.6
	2013	11.5	8.9	21.2	22.7	22.4	27.8

Source: (Directorate-General for Research and Innovation 2016, 133, Directorate-General for Research and Innovation 2013, 93, Directorate-General for Research 2009, 116)

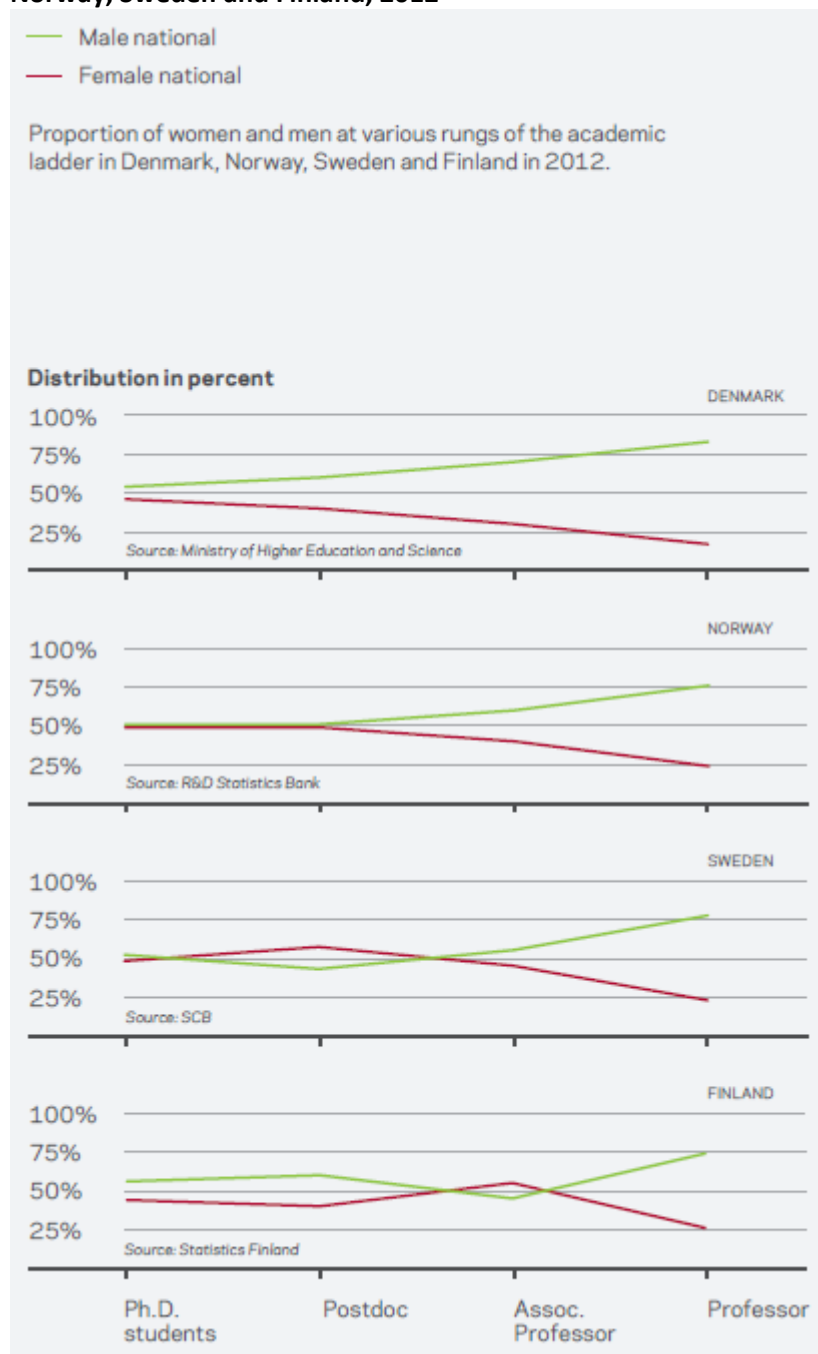
The largest share of female professors is found in humanities (27.8 % in 2013), followed by agricultural sciences (22.7 %) and social sciences (22.4 %). The shares of female professors in natural

sciences (11.5 %) and engineering and technology (8.9 %) are rather modest, but there have been improvements from 2007 to 2010 and from 2010 to 2013. The smallest improvements are found in fields with the highest shares of female professors, and in humanities, there has hardly been an improvement since 2010 due to financial cuts in the field. See also part 3.2.1 on proportion of women academic staff by grade and part 3.5.2 on vertical segregation.

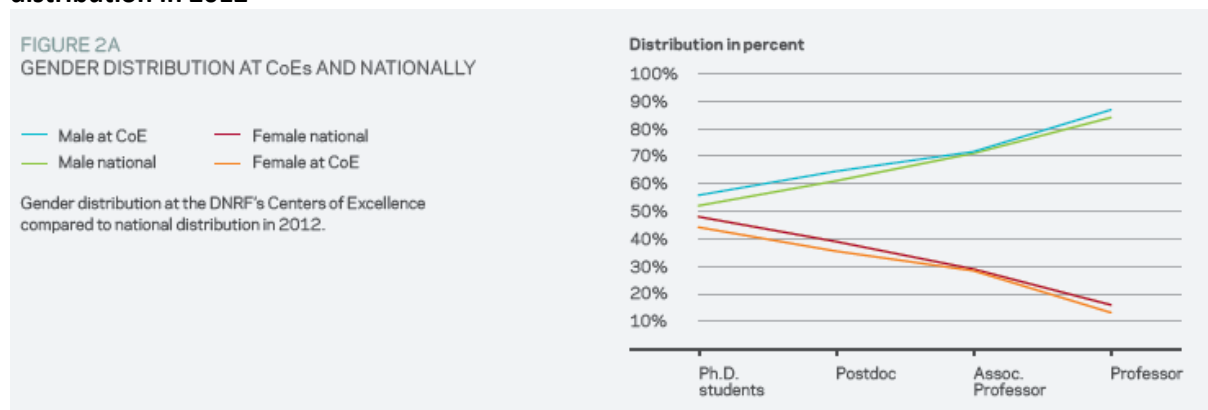
In the 1990s, Denmark established the Centre of Excellence (CoE) program funded by the DNFR, the Danish National Research Foundation (*Danmarks Grundforskningsfond*). A centre grant is large and flexible, and a centre may have a lifetime of up to 10 years. Only top researchers with the most ambitious ideas are awarded a CoE grant through competition. A total of 100 Centres of Excellence have been established so far; 39 centres are currently active. It is as such also interesting to take a look at the gender distribution in the Nordic Centres of Excellence at different levels: In their annual reports, the Centres of Excellence provide statistics on the gender balance at each centre (Højgaard and Sinkjær 2014, 11).

Figure 21 shows the gender distribution at the DNRF centres of excellence in Sweden in comparison to CoEs in Norway, Denmark and Finland (Højgaard and Sinkjær 2014, 4).

Figure 21: Proportion of women and men at various rungs of the academic ladder in Denmark, Norway, Sweden and Finland, 2012



The figure illustrates that, when comparing the Nordic countries, the greatest gender division is found in Denmark. In 2012, the share of male and female PhDs was almost equal, but already at postdoc level, the curve changes remarkably. At the associate professor level, the share of women in Denmark was around one third, and less than 20 % of female researchers were employed in professorship positions in Denmark in 2012. See also distribution of men and women at different academic career levels in the figures in part 3.4.3.

Figure 22: Gender distribution at the DNRF's Centres of Excellence compared to national distribution in 2012

Looking at the gender distribution in Centres of Excellence (Figure 22), Højgaard & Sinkjær found a distinctive gender imbalance in the DNRF's Centres of Excellence (CoEs) (Danish National Research Foundation n.d.).⁶⁹ In 2012, 32 % of the CoE staff were women. As seen in Figure 22, when comparing the national distribution of researchers based on gender within the CoEs, the same development can be seen and the numbers are almost the same (Højgaard and Sinkjær 2014, 4-5). See also part 3.5.2.1 *Proportion of women academic staff by grade*.

3.9.2 Glass Ceiling Index

As Tab. 67 shows, there has been an improvement in the share of women in grade A positions in the period 2004 to 2013. But the numbers also indicate that there still are glass ceiling issues in regard to the promotion of women in research.

Tab. 67: Glass Ceiling Index

	2004	2007	2010	2013
EU27	2	1.8	1.8*	1.8*
Denmark	2.3	2.2	1.9	1.7

* Data for EU28

The GCI compares the proportion of women in grade A positions to the proportion of women in academia. A GCI of 1 indicates that there is no difference between women and men being promoted. A score of less than 1 means that women are over-represented at grade A level and a GCI score of more than 1 points towards a Glass Ceiling Effect.

Source: (Directorate-General for Research and Innovation 2016, 136, Directorate-General for Research and Innovation 2013, 96, Directorate-General for Research 2009, 78)

Drawing on a gender-specified analysis of a psychological workplace assessment and a web survey on work-life aspects at a university, Nielsen (2015) provides insights into how female researchers tend to find the job more stressful than their male colleagues and are less satisfied with their career prospects. Moreover, they feel less secure in their current positions and are more inclined to opt out of a career due to job insecurity (in particular, at the postdoc level where the tendency is to recruit researchers in non-tenure positions) and unclear career paths. The results also reveal that women at some ranks and in some fields are lonelier and less included in their research environments than

⁶⁹ The Danish National Research Foundation, DNRF, has established a range of Centers of Excellence (CoE). The CoE initiative is meant to provide funding for the best researchers with the most ambitious ideas in a period of up to 10 years of funding. Today, there are 39 active CoEs (Danish National Research Foundation n.d.).

male researchers. These structural and cultural factors are some of the main obstacles to the advancement of female researchers.

See also part 3.2.1 on proportion of women academic staff by grade and part 3.5.2 on vertical segregation.

3.9.3 Proportion of women heads of institutions in the higher education sector

Comparing 2007, 2010 and 2014, there has been a positive development in the proportion of women heads of institution in the HES. By 2014, around one third of the HES head of institutions are women.

Tab. 68: Proportion of women heads of institution in the higher education sector

	2007	2010	2014
EU27	13	16	20*
Denmark	5	14	33

* Data for EU28

Source: (Directorate-General for Research and Innovation 2016, 141, Directorate-General for Research and Innovation 2013, 115, Directorate-General for Research 2009, 97)

Figure 23 shows the gender composition in university management and at department head level in 2008 and 2014 (Ministry of Higher Education and Science 2015f, 22).

Figure 23: Gender composition in university management in 2008 and 2014

	2008			2014		
	Men	Women	Percentage women	Men	Women	Percentage women
Rector	7	0	0%	7	1	13%
Pro-rector	4	3	43%	5	2	29%
University director ⁵	7	0	0%	6	1	14%
Dean	28	3	10%	18	5	22%
Head of department	131	27	17%	116	32	22%
Total	177	33	16%	153	40	21%

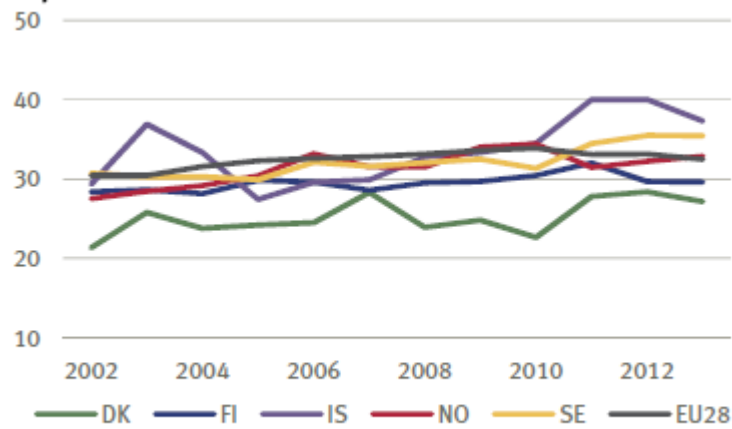
Source: Danish University and Property Agency (2008), ISOLA (2014)

The figure above shows that, while the overall percentage of women in university management has increased from 2008 to 2014, there has been a decrease in the share of female pro-rectors, and even in the management levels where most women are represented, they still account for less than a third at all management levels.

For a general description, see also part 3.5.1.1 *Share of male and female members of boards in largest quoted companies, supervisory board or board of directors.*

3.9.4 Proportion of women on boards, members and leaders

Figure 24 is an illustration of the development in the share of women with managerial responsibilities (at all levels) in the Nordic countries in the period 2002-2012 (Nordic Council of Ministers 2015, 36).

Figure 24: Share of women among employed persons with managerial responsibilities

Source: OECD

Denmark is not only below the EU average, but is also one of the Nordic countries with the lowest share of women with managerial responsibilities; Women account for less than a third of employees with managerial responsibilities during the entire period.

Tab. 69: Proportion of women on boards, members and leaders

	2007	2010	2014	
			Members	Leaders
EU27	22	36	28*	22*
Denmark	37	35	43	9

* Data for EU28

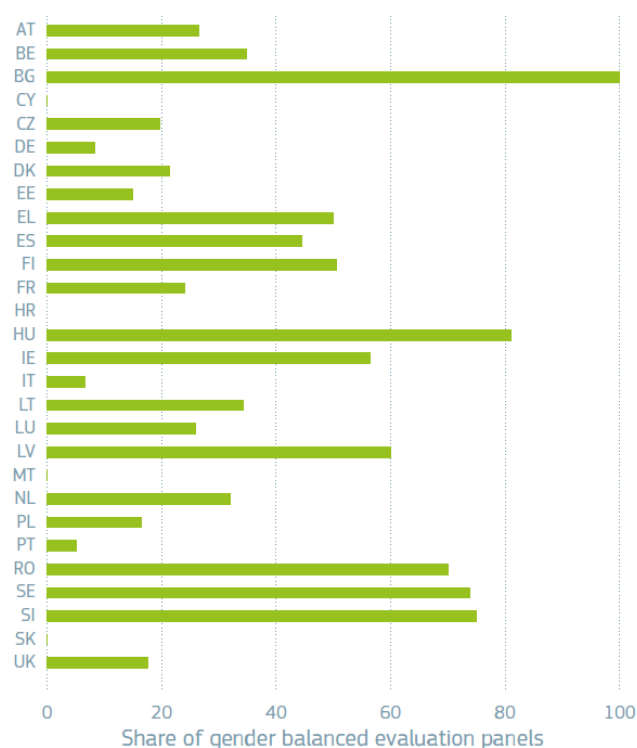
Source: (Directorate-General for Research and Innovation 2016, 143, Directorate-General for Research and Innovation 2013, 117, Directorate-General for Research 2009, 98)

As seen in Tab. 69, there has been an increase in the share of women on boards, which reached 52 % in 2014, of which 43 % are female board members and 9 % are female board leaders.

In a note from March 2017, a Danish think tank DEA states that today, women constitute 51 % of directorship positions/university board positions. However, university rectors and board leaders are still typically male; only one of the Danish universities has a female rector. As such, there seems to be a tendency that the organisations appointing new board members usually chose men, which explains the skewed gender compositions (Klausen and Thygesen 2017).

3.9.5 Percentage of research evaluation panels in RFOs that included at least 40 % of target of under-represented sex on boards

As Figure 25 shows, Denmark was ranked 13th in gender-balanced research evaluation panels in 2014.

Figure 25: Share of gender-balanced research evaluation panels in funders, 2013*Source: ERA survey 2014*

Source: (Directorate-General for Research and Innovation 2015, 32)

Figure 25 and Figure 26 show the gender composition in the five councils in the Danish Council for Independent Research (DFF) and the share of women in evaluation panels in 2014 (Ministry of Higher Education and Science 2015f, 25-26).⁷⁰

Figure 26: Gender balance among the five councils under DFF as of 1 January 2015

Councils under DFF	Men	Women	Percentage women
DFF Humanities	6	6	50
DFF Natural Sciences	10	5	33
DFF Social Sciences	9	3	25
DFF Medical Sciences	15	3	17
DFF Technology and Production Sciences	13	5	28
Total	53	22	29

As seen in Figure 26, also the gender composition in research council boards varies across different fields, with a total of 29 % women in the councils, spanning from 50 % women in humanities to 17 % in the DFF Medical Science council.

⁷⁰ For a description of DFF and the other funds mentioned in the figures, see part 2.3.4 *Actors responsible for GE in RTDI*.

Figure 27: Gender balance among evaluation panels and external evaluators as of 1 December 2014

	Men	Women	Percentage women
Danish National Research Foundation	79	11	12
Innovation Fund Denmark	231	33	13
Danish Council for Independent Research	1440	411	22

Figure 27 illustrates an area where the gender balance is far from equal. The Ministry of Higher Education and Science stated that this is because “all three councils and foundations have problems finding as many female evaluators as male” (**Ministry of Higher Education and Science 2015f, 25**). Another explanation could be the lack of systematic monitoring, evaluation and follow-up by the responsible bodies. However, in the recent years there has been an increased attention on this issue in general. See also parts 3.4 *Horizontal segregation* and 3.5.1.1 *Share of male and female members of boards in largest quoted companies, supervisory board or board of director*.

Figure 28: Board members as of 1 January 2015

	Men	Women	Percentage women
Danish National Research Foundation	5	4	44
Innovation Fund Denmark	5	4	44
Danish Council for Independent Research	5	4	44

When examining the five research councils under DFF, the percentage of women as of 1 January 2015 swings from 17 per cent in the Danish Council for Independent Research | Medical Sciences to 50 per cent in the Danish Council for Independent Research | Humanities. In total, the five research councils (as of 1 January 2015) have 75 members, of which 22 (corresponding to 29 per cent) are women.

As seen in Figure 28, by 2015, the Danish National Research Foundation, the Danish Council for Independent Research and the Innovation Fund Denmark each had five men and four women as board members, and women in chair or vice-chair positions (Ministry of Higher Education and Science 2015f, 24).

3.10 Inclusion of gender in research and teaching

As stated in the introduction to part 2, while GE issues in academia are addressed as important societal and democratic issues in some countries, in Denmark, the focus on GE is often oriented towards improving research quality, innovation and Denmark’s position in a globalised world, and can therefore be interpreted as an instrument to achieve these other goals rather than being a goal in its own respect. Although improved research quality implies inclusion of gender in research, attempts to do so are sporadic. However, there is increased attention on incorporating gender in research, mainly due to the initiatives of the European Commission. Inclusion of gender in teaching

has not been an issue in Danish higher education. For further description, see also part 2.3.3.3 *Measures addressing the integration of gender dimension in research*.

3.10.1 Support to the inclusion of gender contents in research agendas by funders (%)

Tab. 70 indicates that support to the inclusion of gender contents in research agendas is not a priority in Denmark as much as in many other countries.

Tab. 70: Support to the inclusion of gender contents in research agendas by funders (%)

	Frequently	Occasionally	None	Not applicable	No answer
Denmark	0	0	67.1	32.9	0

Source: (Directorate-General for Research and Innovation 2015, 85)

For further information see part 2.1.3.

3.10.2 Inclusion of the gender dimension in research contents (% RPO)

Although inclusion of gender contents in research agendas is not perceived as an area of priority, Tab. 71 shows that around 60 % of RPOs state that they include gender dimensions in the research content.

Tab. 71: Inclusion of the gender dimension in research content (%RPO)

	Yes	No	Not known	Not applicable
Denmark	61.1	31.6	7.1	0.1

Source: (Directorate-General for Research and Innovation 2015, 85)

This is also in line with the arguments provided in the ministerial report *Women in research. Bringing all talents into play* (Ministry of Higher Education and Science 2015f); see description in part 2.3.3.3.

3.10.3 Inclusion of the gender dimension in teaching/curricula

As mentioned above, inclusion of the gender dimension in teaching and curricula has not been a priority in Danish higher education. The reason for this is a general perception of the university as a gender-neutral (or gender-blind) organisation building on meritocracy, where there is no need for specific gendered efforts (Nielsen 2015).

4 Evaluation Culture and Policy

The section on evaluation culture and policy in Denmark explicitly deals with public evaluation culture and public evaluation policy, as solely private trends and activities are not publicly accessible. However, the fields of gender equality, RTDI, and gender equality in RTDI are highly politicised and largely under governmental regulation. Hence, the majority of non-governmental agents that are actively engaged with evaluation activities within these fields are supposedly consultants responding to a tender for a public procurement of evaluation.

4.1 Description of Evaluation Culture

4.1.1 Explicit legislation and adoption of evaluation standards

In an international perspective, Denmark was fairly late to adopt evaluation routines (Dahler-Larsen 2000, Andersen et al. 2009). This may have contributed to the lacking formalisation of evaluation standards and procedures. In Denmark, there is no legislative framework guiding the standards, frequencies or objectives of public policy evaluations. But spending and initiation of public evaluation activities has been part of a larger debate on the increased use of public consultancy activities and the transparency, fairness and adequacy of such activities. As holds for all public-sector activity, formal and informal regulations apply, for instance, in relation to public spending and public procurement. Public policy evaluation is an influential activity that takes place throughout the public sector except for matters within the realm of the Ministry of Justice and Ecclesiastical Affairs (Hansen 2003).

Evaluation is not a fixed term, and depending on the construal of the concept, a variety of activities can be included in the listing of public evaluation activities: benchmarking, reporting, auditing, analysis, monitoring, assessment, accreditation, evaluation, reviewing, quality assurance (Hansen 2003, Kalpazidou Schmidt 2011). In the following, the specific Danish evaluation culture is described. Whenever specific evaluation examples are referred to, an inclusive notion of the evaluation term will be used. However, the stated self-referral – as an ‘analysis’, an ‘audit’ etc. – will be mentioned.

At municipality level evaluation is a widespread activity. As early as 1996, an investigation found that 77 % of all Danish municipalities had executed citizen or user-oriented evaluations (Hansen 2003, Dahler-Larsen 2000). Participatory and dialogue-oriented evaluations seem to have decreased remarkably in prominence since; focus in the current political culture is much more on forms of evaluations that encompass “... performance management, indicators, benchmarking, and accreditation” (Dahler-Larsen and Schwandt 2012, 81).

A survey-based study published in 2000 found that 85 % of heads in municipal administration considered evaluation an important instrument. However, much evaluation activity has taken place as internal analyses, and some evaluation activities did not lead to publicly available reports which weakened the foundations for systematically assessing evaluation practice and norms in Denmark (Hansen 2003, Dahler-Larsen 2000).

In the field of responsibility of the Ministry of Education, for example, an institutionalised part of the regulation of the Danish education system is the ongoing comparative performance measurement at an institutional level and at aggregate levels. The founding of the Danish Evaluation Centre (later the Evaluation Institute) in 1999 can be considered a direct response to “... unsatisfactory results of international performance measurements” (Andersen et al. 2009, 138) including the PISA (Programme for International Students Assessment) results. In this particular field, the rapid

development of tests, school reports and satisfaction surveys among pupils and parents along with wide-spread self-evaluation initiatives have given rise to the notion of an evaluation culture in the Danish public schools. To contextualise this area, the private alternative to public schooling comprises approximately 16 % (in 2012) of all pupils, with an increasing share in the older age groups. Currently, 20% of all 8th graders are in private schools (Andersen, Dahler-Larsen and Pedersen 2009, Kamil 2013, Pihl and Caspersen 2016).

One of the first systematic investigations into public evaluation activity and standards across policy areas and ministries was led by professor (then associate professor) Hansen as a research project. It was an empirical analysis of 452 evaluations in total published by a range of different ministries in the period from 1993 to 1998. The investigation concluded that evaluation is a government tool that takes places as a “sectorised policy process” (Hansen 2003). This means that evaluation norms and culture are highly sector-specific. Among the most common evaluators are governmental research institutions in some policy fields, private consultancies in others, and peers in some policy fields (including research policy). The evaluation also varies between ministerial policy fields: some ministries evaluate permanent policies based on law, whereas others tend to evaluate specific, temporary initiatives. Danish research policy was found to focus on a mixture of evaluation types. There is also a large variety between sectors in the evaluation objective. Hansen (2003) finds that evaluations within research policy tend to have a retrospective focus on process assessment, whereas in innovation and business policy evaluations, the reactive focus is more on assessment of results. When it comes to education, the trend is process evaluation with a more proactive objective in mind. Evaluations in research and education policy tend to have a high degree of user involvement compared to other fields. A plethora of evaluation models and methods are taken into use across all fields. As a more general finding, public evaluation activity seems to be commissioned and initiated by the administrative system, and the use of the evaluation results also often remains a public management issue within the policy system (Hansen 2003).

As will be further described in section 4.1.6, current development in evaluation practice is in line with the New Public Management (NPM) ideology and involves ideas of control, rationalism, and methodical focus on randomised control trials as the ‘golden standard’ over a multitude of other forms of knowledge production (Vedung 2010; Krogstrup 2011; Bredgaard 2016). This narrow conceptualisation of valid and constructive knowledge production is, however, highly contested among evaluation and public policy theorists (Vedung 2010, Cartwright and Hardie 2012, Krogstrup 2011).

Rigsrevisionen, the Danish National Audit Office, audits the government accounts and examines whether government funds are administered in accordance with the decisions of the Danish Parliament, the *Folketing*. The Danish National Audit Office performs its audits independently of the parliament and reports the results of its audit to the Danish Public Accounts Committee. In 2005, the Danish National Audit Office published an audit explicitly addressing the use of evaluation at state level covering activities of seven ministries over a three year-period from 2000-2003. The ministry responsible for research and innovation policy was not included in the investigation, though. Among the recommendations in the review was a pointer to the need for better clarification of evaluation definitions, evaluation questions, and intentions with evaluation use in order to strengthen the specific function of evaluation use as a targeted managerial tool for public administration (Danish National Audit Office 2005).

According to Bredgaard (2016), public policy evaluation needs to be understood not only as a technique addressing a specific evaluation question or ‘problem’; evaluation is embedded in public administration and is part of governance. The current tendency to continually reform public sector organisations is related to an increased internalisation and institutionalisation of evaluation in Danish public administration (Bredgaard 2016).

4.1.2 Budget, number, frequency and public access to evaluations

In all probability, most public evaluation that results in a report is made publicly available; however, as mentioned, this does not cover all public evaluation activity, as, for example, statistical data resulting from an evaluation or organisational process evaluation may not be communicated in the form of a report.

There is no requirement for public authorities to report on their evaluation activities, neither are they obligated to report their spending on evaluations or to make evaluation results or reports publicly available. The aforementioned review of the use of evaluation at state level by the Danish National Audit Office (2005) suggests a more transparent evaluation policy that specifically aims at targeting these issues.

The Danish National Audit Office (2005) also addresses issues of frequency and extent of government-commissioned evaluations and spending on these evaluations. It is found that the seven Danish ministries audited undertook 258 evaluations during 2000-2003. On average, the direct expenses per evaluation amounted to DKK 1.1 million equivalent to DKK 89 million a year for these seven ministries. The field under regulation by the Ministry of Higher Education and Science was not included in this audit, though.

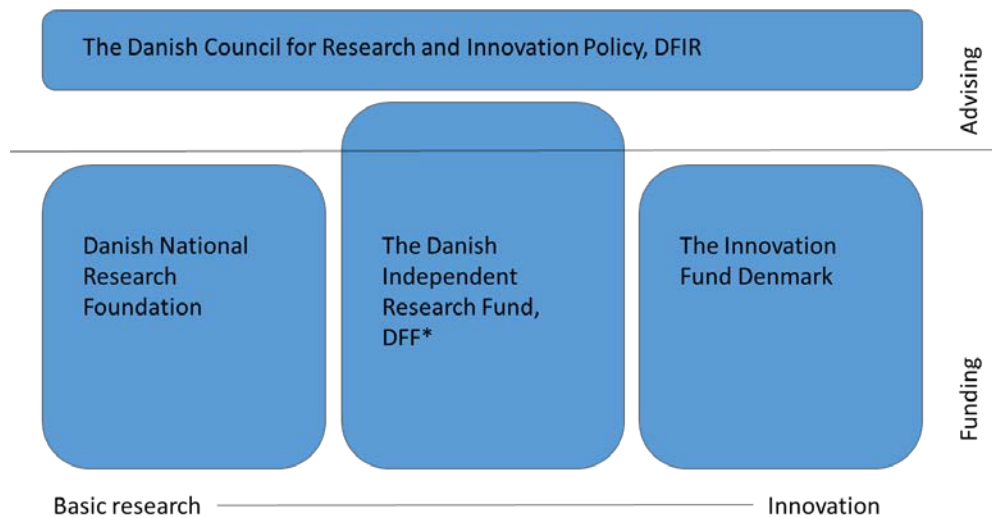
Evaluation activity has become an increasingly routinised part of the everyday public administration practice (Bredgaard 2016, Andersen et al. 2009, Hansen 2003) and the general obligations of the public sector to perform responsibly and adhere to public procurement regulations apply.

4.1.3 Actors and Institutions

The Ministry of Higher Education and Science is the main actor in the field of RTDI policy in Denmark (it was called the Ministry of Science, Technology and Innovation in the period from 2001-2011 until the responsibility of the ministry was widened to encompass higher education institutions including those provided by non-universities). The Danish Agency for Science, Technology and Innovation (DASTI, now abolished) was the primary initiator of RTDI policy evaluations.

As of January 2017, an organisational restructuring came effective in the ministry replacing previous agencies with the Danish Agency for Institutions and Educational Grants and the Danish Agency for Science and Higher Education. Along with the department, these agencies are to contribute to ministerial services and policy development, and they divide specific administrative functions between them, including the responsibilities of conducting follow-up studies, analyses and evaluations of policy measures.

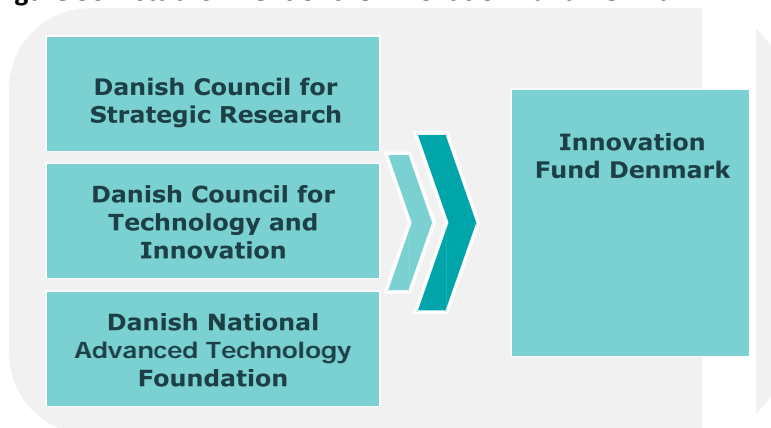
The councils and commissions of the Ministry of Higher Education and Science are responsible for advisory tasks and economic funding, and there is a distinction between support for basic research and more strategic, innovation-oriented areas as illustrated below.

Figure 29: Institutions in Denmark

Source: (Ministry of Higher Education and Science 2016c)

As mentioned earlier, the Danish Council for Independent Research, DFF, will change its name during 2017 to *Danmarks Frie Forskningsfond*. This new name will presumably translate into English as the Danish Independent Research Fund as put in Figure 29 (Ministry of Higher Education and Science 2016f). With the new name comes an emphasis on the main function which is funding rather than advising. As a new task, the fund will henceforth provide funding for specific thematic fields. Furthermore, a deferring period will be implemented for applicants whose previous applications were assessed to be of low quality or who were found guilty of scientific misconduct (Ministry of Higher Education and Science 2016g).

The Innovation Fund Denmark was established in 2014 after a merger of three bodies (see Figure 30).

Figure 30: Establishment of the Innovation Fund Denmark

Source: (Innovation Fund Denmark 2015)

The Innovation Fund Denmark has a formalised governance model for assessment and recurring effect measurement of the research and innovation projects that are funded. However, these evaluations are not made publicly available in order to avoid compromising the publication opportunities of the involved researchers along with intellectual property rights, related to potential commercial products resulting from the innovation collaborations.

The GTS institutes, Advanced Technology Group, are non-profit research and technology organisations that support public-private research collaboration for innovative purposes and growth. These are also under the auspices of the Ministry of Higher Education and Science. They have up to 20 000 Danish customers, 10 000 international customers and participate in more than 1 000 Danish and international research and development partnerships every year (GTS Advanced Technology Group n.d.).

Some of the activities of the Ministry of Business and Growth are related to RTDI, specifically activities aiming at business development. Furthermore, some sectoral ministries, for instance, the Ministry of Climate, Energy and Building, the Ministry of Food, Agriculture and Fisheries, the Ministry of Environment and the Ministry of Foreign Affairs, have larger R&D programmes. The ministries have specific agencies which implement the respective policies (Grimpe and Mitchell 2016).

The main research performers in the public sector are the eight universities. Other central players in relation to ensuring a solid foundation for Danish research and innovation are several of the Danish hospitals, the three national laboratories and the nine independent academies of professional higher education (Grimpe and Mitchell 2016).

All Danish regions have targeted regional innovation support systems. However, they play a minor role in the overall RTDI policy system.

The use of private consultancies to perform commissioned studies including policy evaluations has risen over the past years as found in a number of publications from the Danish Audit Office. The formal obligations of public procurement apply as do formal and informal concerns of public administration in general. Beyond this, no formalised guidance nor any official repository of public policy evaluations exist.

4.1.4 What kind of evaluations are commissioned and conducted?

There is no systematic repository of Danish publicly commissioned evaluations. Therefore, one has to tread carefully when making overall conclusions on evaluation practice and extent. However, as addressed in chapter 4.1.1, evaluations of a diverse nature take place at all levels of Danish public administration and have become an integral aspect of current public governance systems (Bredgaard 2016, Andersen et al. 2009, Hansen 2003, Dahler-Larsen 2000).

Current trends in the public governance of RTDI-related matters will be described in section 4.1.6 and some examples of evaluations in this area made by the major players will be mentioned here to illustrate the most recent development.

Statistics and descriptive data are provided routinely along with statistical information about commercialisation, performance accounts, and entrepreneurship (Ministry of Higher Education and Science 2016h). To some extent, data is also collected that allows, for instance, for the establishing of an overview of gender (im)balances in academia and among applicants for research and innovation funding.

Evaluations of gender-directed initiatives in RTDI are rare, as are such initiatives (see also section 4.1.5). Two examples can be mentioned: One is the evaluation of the short-term effects of the so-called YDUN programme (Younger women Devoted to a UNiversity career) targeting female researchers (Damvad 2015) commissioned by the Danish Council for Independent Research. This evaluation was intended to give a first overview based on the first round of applications for the

programme. Among the preliminary conclusions it was found that the YDUN programme presented the extra incentive that motivated a range of female researchers to apply for funding that they would not have applied for elsewhere.

The other is an evaluation of a range of policy measures intending to support younger researchers and female researchers including the initiative Female Researchers in Joint Action, FREJA (Danish Centre for Studies in Research and Research Policy 2010).

A large study of the Danish research performance commissioned by the Danish Council for Research and Innovation Policy, DFiR, and performed by the Danish Centre for Studies in Research and Research Policy lead to a series of conclusions in 2016 (Danish Centre for Studies in Research and Research Policy 2016). Based on analyses of the period ranging from 1980 to 2014, the publication output and the impact of Danish research were generally assessed to have had a positive, improved performance since the 1990s (Aagaard and Schneider 2016). The evaluation compared the Danish development with that of other countries, in particular the 'innovation leaders' from the Innovation Union Scoreboard (Germany, Sweden and Finland) as well as other selected countries like the United States, Japan, and China.

A range of RTDI evaluations are performed with various thematic foci. Two of the most recent examples are a survey performed by the Ministry of Higher Education and Science focusing on the performance of Danish research into the use of biological resources (Ministry of Higher Education and Science 2017c) and an evaluation commissioned by the ministry and performed by the IRIS group investigating the annual grants to the network organisation University of the Arctic, Uarctic (IRISgroup 2016b).

Furthermore, evaluations have in recent years been made of many specific policy programmes of the RTDI support system. Recent examples of such evaluations all commissioned by the Danish Agency for Science, Technology and Innovation, DASTI, (as previously mentioned, DASTI has now been restructured and renamed) include:

- 1 An evaluation of the initiative International Network Programme, INP, during 2009-2014 performed by the Danish Centre for Studies in Research and Research Policy (Graversen 2016).
- 2 An effect evaluation of R&I support programmes undertaken in 2009-2013 focusing on multiple participants of the programmes performed by the Centre for Economic Business Research (2016).
- 3 A user-based investigation of the experiences with the GTS system, the Advanced Technology Group was published by the IRIS group (2016a).
- 4 An evaluation of the public sector industrial PhD programme performed by the IRISgroup (2015a).
- 5 An evaluation of the UNIK programme, Investment Capital for University Research, which was a research excellence initiative launched in October 2009 that funded four interdisciplinary research programmes at three Danish universities (IRISgroup 2015b).
- 6 An evaluation jointly commissioned by the Ministry for Higher Education and Science and the Ministry of Foreign Affairs about the value creation of the six Danish innovation centres abroad performed by Oxford Research (2015a).
- 7 An econometric analysis of the Danish Innovation Incubator Programme focusing on employment and economic growth executed by EPAC (2015).

- 8 An overview of key issues and relevant data regarding the gender distribution and gender issues in the Council for Independent Research performed by Danish Centre for Studies in Research and Research Policy (Bloch & Henriksen, 2013).
- 9 The Nordic Council of Ministers in 2015 published two reports based on a mapping of good practices and effects of gender mainstreaming, including an evaluation of GE in Nordic countries and recommendations for state institutions and municipalities (Nordic Council of Ministers 2015).

Furthermore, a descriptive mapping of the role of private foundations in the Danish RTDI landscape has been developed by the ministry (Danish Agency for Research and Innovation 2016).

A range of the evaluations under the responsibility of the Ministry of Higher Education and Science have had a meta-focus on the bodies of the public RTDI support system. This includes:

- 10 An evaluation of the Danish Council for Independent Research, DFF, by an international panel (DASTI 2014).
- 11 An evaluation of the Danish National Research Foundation (DASTI 2013).

Furthermore, an effect evaluation of The Danish Growth Fund's activities by DAMVAD and Centre for Business and Economic Research was commissioned by the Ministry of Industry, Business and Financial Affairs (Damvad 2013).

4.1.5 Relevance of gender equality in RTDI evaluations & evaluation of gender equality initiatives in RTDI

Gender equality initiatives have been scarce in RTDI programmes in Denmark. A few attempts in the last two decades from the Danish Council for Independent Research had earmarked funding to facilitate career trajectories for female researchers (Aagaard 2014). A few other attempts, introduced at the university level, funded earmarked professorships to female professors (Nielsen 2015). Common for the initiatives are a successful fulfilment of the original purpose, i.e. increasing the number of female professors. However, another common feature of the initiatives has been the focus on 'fixing the women' (Kalpazidou Schmidt et al. 2015) and a broad national critique for discrimination (towards male researchers) by the initiatives. According to Nielsen (2014a), the negative attitude towards direct measures is caused by the "relatively weak institutionalisation of gender policies in Denmark", i.e. a "low level of concern for issues of gender inequality in academia". Similarly, there exists no "overall national legislation" for gender equality demands except for the common general discrimination laws (Oxford Research 2015b, Nielsen 2014a).

The gender equality dimension in RTDI is thus seldom directly mentioned and articulated. Instead, the framing is on talent development, productivity, excellence, and resource optimisation (European Commission 2012, Nielsen 2013).⁷¹ However, under these headings a variety of intentions and plans have been formulated. The growing attention on gender issues and gender equality has, for example, resulted in several action plans at university and funding levels. Most of them still focus on 'fixing the women' but a growing share now also focus on 'fixing the institutions' (Oxford Research 2015b, Nielsen 2015, Danish Council for Research and Innovation Policy 2015).

⁷¹ Similarly, gender equality indicators are not included in the annual Research Barometer that compares Danish research performance internationally (Ministry of Higher Education and Research 2016).

After a conference on the role of gender, research and excellence in 2013, the Danish Council for Independent Research adopted a gender equality policy.⁷² This policy addresses issues such as transparency, composition of the council, means and evaluation, and special initiatives (Grimpe and Mitchell 2016, 49). In 2015, the ministerial Taskforce for More Women in Research presented a number of recommendations to improve gender equality in Danish research (Ministry of Higher Education and Science 2015f). Among others, the recommendations built on a ministerial report from early 2015 that documented recent development in gender in public RTDI in Denmark, i.e. number of female researchers, shares of research leaders, managers and board, councils and funds members, competition for research positions, and work culture and environment (Ministry of Higher Education and Science 2015f). At the same time, the taskforce identified additional continuous needs for better knowledge on the gender issue. The latter is a very common characteristic of how gender equality is approached in Denmark, namely with a common assumption that gender equality exists by law, so inequality has to be proven before actions are needed (Nielsen 2015, Danish Council for Research and Innovation Policy 2015). Earlier justification or an institutionalised acceptance of structural inequalities, as in Sweden and Norway, are usually not the starting point accepted in Denmark.

In line with this is the status report from the Danish Council for Independent Research (2013b), as well as the newly established Danish Council for Research and Innovation Policy's (DFiR) order of a report collecting best practice evidence on gender equality initiatives and frameworks from four comparable countries in 2015 (Oxford Research 2015b, Danish Council for Research and Innovation Policy 2015). DFiR (2015) has also made a list of recommendations, but mainly evidence on best practice among initiatives, i.e. that top-down national focus and engagement in gender equality as well as economic incentives improves gender equality, and that 'fixing the institutions' as well as gender mainstreaming is getting increasing attention (Danish Council for Research and Innovation Policy 2015, Ministry of Higher Education and Science 2015f).

All the various initiatives are circulating around demanding more women in science. Initiatives that demands women solely, e.g. quotas, is permitted only after a dispensation of the discrimination rules in Denmark, so the focus has changed towards the indirect and incorporated initiatives, where, for example, applicants are invited, but seldom demanded, to describe the gender shares, and sometimes the gender mainstreaming dimensions. However, there has not been such common demands in general. In the Innovation Fund Denmark, measures have been undertaken to assure diversity and a representation of both genders in the projects funded. After initiation of innovation projects, though, there are no demands that gender equality is addressed and systematically assessed for instance via the project evaluations that are performed routinely to follow up on the progress of all funded projects. However, this perspective has recently been set on the internal agenda.

Hence, gender equality is nowadays an attention point in RTDI evaluations in Denmark, but gender equality is still neither the main purpose of RTDI evaluations nor the usual aim of the initiatives in RTDI.

⁷² The Council for Independent Research (2013a) ordered and published the most recent and comprehensive report on central issues and relevant data regarding the gender distribution in Danish research, and gender issues in relation to the funding practice of the Council for Independent Research.

4.1.6 Recent trends/developments in RTDI policy evaluation

In Danish evaluation culture and evaluation policy, also within the RTDI field, there is a tendency to focus on evaluations as instruments to provide a certain type of knowledge often referred to as 'evidence' which involves a prioritisation of experimentation with randomised control trials as the 'golden standard' over a multitude of other forms of knowledge production. Evidence-based policy-making is an ideal that is definitely pursued in the Danish RTDI context which in this narrow construal implies that policy-making is seen as a fairly linear, simplistic process that can be engineered and governed with the right, evidence-based tools and policy interventions. However, this tendency does not stand alone in practice, and accordingly, it is also highly contested among evaluation and public policy theorists (Vedung 2010; Cartwright & Hardie 2012; Krogstrup 2011; Krogstrup 2016).

Process evaluation and interactive types of evaluations focusing on user involvement, empowerment or democratisation are not as highly esteemed as evaluations that seek to isolate and measure causal mechanisms relating policy initiatives to their effects (Rieper and Hansen 2007, Vedung 2010, Baadsgaard and Krogstrup 2016, Krogstrup 2011).

As previously mentioned, evaluation procedures have become institutionalised as a part of public administration routines, and monitoring and performance measurement are generally 'hot topics', although no overarching requirements are formally decided upon. An administrative apparatus for following up on evaluation results is in place, although a direct way for evaluation results in themselves to influence policy cannot always be traced instrumentally. And it is not quite clear what the administrative 'follow-ups' on evaluations might imply; in some instances, possibly only the provision of a publicly available report.

Since no mandatory registry or repository exists of public policy evaluations (and no general definition of what should and should not be included in this term), it is not possible to give a valid estimate of the extent of evaluation activities in RTDI. It is beyond doubt, though, that an increasing number of evaluations are made in Danish public policy in general (Hansen 2003; Andersen et al. 2009; the Danish National Audit Office 2005; Bredgaard 2016). Generally, there is a high degree of trust in evaluations as contributing to a legitimate and efficient public policy system by providing information on the functioning and effects of policy measures. In the RTDI policy system, efforts have been made to strengthen evaluation procedures in order to support evidence-based policy-making (Alslev et al. 2014), and at the level of the Ministry for Higher Education and Science an evaluation framework serving as a guideline has been published in 2016 (Ministry of Higher Education and Science 2016i). In these publications, as in the ministry, there is a large focus on evidence provision understood as the strictest rational choice theory-inspired ideal of valid knowledge, and evaluations are often summative effect evaluations. A recent trend has been a focus on bibliometric data and quasi-experimental studies.

In the Innovation Fund Denmark, evaluation procedures are an integrated part of the overarching governance model. Alongside, steps have been taken to initiate evaluation procedures that collect generalisable data in new ways that are better suited to assess innovation projects within the arts and social sciences where evidence derived via randomised control trials is not always meaningful nor transferable to other contexts.

4.2 Evaluation utilisation and policy learning

The fairly new construction within the Danish national innovation support system (2014) where three previously distinct organisations were merged into one can be considered an example of evaluation results contributing directly to subsequent policy-making.

At a more general level, it has been subject to much debate how – if at all – policy evaluation influences the policy cycle and future decision-making. However, a distinction must be made between intended use and unintended use. A range of critical voices have pointed to the seemingly low level of direct compliance of actual evaluation use with initially stated evaluation purposes (Albæk 1988; Vedung 2002; Bemelmans-Videc et al. 1998; Hansen 2003; Dahler-Larsen and Larsen 2001; Kalpazidou Schmidt 2009; Krogstrup 2016; Larsen and Lassen 2001; Bredgaard 2016). In part, this might be related to too little focus on explicitly stating evaluation purposes and evaluation questions as found in the audit of state commissioned evaluations by the Danish National Audit Office (2005).

Another fundamental problem related to the assessment of policy evaluation utility has to do with the inadequacy of the theoretical understanding of decision-making as a rational, logically forward-moving process to actually explain what takes place in reality. As highlighted by Albæk,

applied – or practical – nature of evaluation research has forced it to reconsider a number of its assumption about the nature of the policy making process because these assumptions quite simply do not fit reality. Three such central assumptions have been: a) policy goals are – or can be – clearly formulated by policy-makers; b) evaluation research analyses a direct cause-effect relationship between policy means and policy goals/effects; c) hierarchical organizational structures guarantee that policies are implemented in such a way that programme activities are directed towards reaching the intended policy goals. (1988, 8)

Three overall uses of policy evaluations seem to coexist in most theoretical typologies, namely control, learning, and what may be termed enlightenment or knowledge generation (Krogstrup 2016; Vedung 2002; Hansen 2003; Dahler-Larsen and Larsen 2001; Dahler-Larsen 2016; Kalpazidou Schmidt 2003). However, policy evaluations are also utilised in much more subtle ways. Dahler-Larsen (2016) lists strategic, tactical and symbolic uses of evaluations, and also points to the constitutive effects of policy evaluation. In recent years, evaluation theorists have suggested replacing the term evaluation use with the concept of evaluation influence to emphasise that evaluation processes, evaluation activities, evaluation results, evaluation culture, and evaluation discourse all seem to contribute to society in complex interaction with other societal activities (Krogstrup 2016).

The specific tendency in Denmark – as elsewhere – is largely aligned with NPM-inspired policy administration development where instrumental use of evaluation procedures and results are the ideal. However, instrumental use of evaluation results are much less common than this ideal would prescribe, and the notions of evaluation ‘effects’ may even be considered inadequate (Krogstrup, 2016; Bredgaard, 2016) as is perhaps the distinction between intended and unintended effects (Dahler-Larsen & Larsen 2001; Dahler-Larsen 2016 Dahler-Larsen 2014; Dahler-Larsen 2012a; Dahler-Larsen 2012b), since the process of evaluating as well as the outcomes of this process influence policy processes and decision-making in much more subtle, sometimes structural, ways (Dahler-Larsen 2004).

When gender equality is addressed in the Danish RTDI context, the follow-up of initiatives mainly focuses on providing the statistical overview of gender representation. However, such statistical descriptions are not sufficient for capturing deeper structural inequalities and gendering mechanisms.

5 Conclusions

5.1 Comparison between gender equality in the labour market and in RTDI

Denmark is perceived by many as a gender-equal society with an extended welfare system. Denmark is characterised by a high participation of women in the labour market, family-friendly policies and regulations in the labour market targeting equal pay and anti-discrimination. Therefore, some might argue that discussing issues related to GE might be less interesting in a country like Denmark. However, others argue that there are still important gender-related issues which have not been addressed, such as unequal access to societal power and economic decision-making, a segregated labour market and educational and research system, etc. When it comes to public, academic and political perceptions of gender equality, the topic of GE is of a low priority. Denmark shows a relatively weak institutionalisation of GE policies in general and in RTDI in particular. Researchers (Borchorst and Siim 2008) claim that this can be explained by the demobilisation of the women's movement in the 1990s, which resulted in the fading of GE as an issue on the public and political agenda. Moreover, while GE issues in other Nordic countries are addressed as important societal and democratic issues, it appears that in Denmark, GE is rather perceived as a means for improving the general economy and Denmark's position in a globalised world rather than an independent goal in its own right.

The general GE debate, as well as the GE debate in the RTDI sector, is reflected in the current gender distribution with a low number of female researchers at grade A and B, in decision-making positions and on boards. While there are legally binding recommendations on gender mainstreaming, it is up to the relevant authorities and actors in the labour market and the RTDI system to implement concrete initiatives and report to the Ministry of GE. There are, however, no sanctions in cases of non-compliance. The current model is based on a "comply-or-explain" principle, where actors in different public sectors have to formulate a GE strategy and set measurable targets and either live up to the intentions or explain to the ministry why they have not managed to achieve the stated objectives. This model prerequisites the explicit commitment of the relevant actors in the RTDI system. However, there is a lack of well-formulated GE strategies and concrete measures in the majority of the research-producing institutions. Existing measures are usually sporadic, not well-institutionalised, followed-up or evaluated. Universities can, for example, voluntarily set equality targets in their development contracts. However, only two universities have chosen to set gender distribution targets for applicants to scientific positions or staff in scientific positions in their development contracts (signed with the ministry) for the period 2015-2017. In some cases, the legislation on equal treatment has prohibited implementation of GE actions as it does not allow affirmative actions that favour one gender over another. Such actions need specific dispensation from the responsible ministry in order to be implemented and usually raise an intensive debate about discrimination of the other gender.

While gender mainstreaming is recommended by the Minister for GE as a means to achieve GE in the public sector, in the RTDI sector the debate on *structural and cultural changes*, and on recruiting more women professors and in decision-making positions, as well as on integrating the gender dimension in research, has recently been intensified inspired by the strategy adopted by the European Union. Thus, structural change initiatives have very recently been promoted by the Ministry of Higher Education and Science and the research councils.

5.2 Main strengths and weaknesses of the innovation system and their impact on gender equality in RTDI

Denmark is among the innovation leaders in Europe, keeping a position as the second most innovative country in the EU28. Denmark has improved its innovation performance almost every year and has almost caught up with Sweden as a result. Performance has improved on average most strongly in the dimensions *Human resources* and *Economic effects*. Denmark spends the second highest percentage of GDP on R&D and is, together with Sweden, the only country above the 3 % target set by the EU's 2020 targets. The business enterprise sector accounts for the biggest share of the Danish expenditure with 1.87 %, accounting for almost two thirds of the total R&D in 2015.

During the last decade, Denmark increased the total number of FTE researchers in all R&D sectors from 28 179 researchers to 41 809. In particular, the share of FTE researchers employed in the HES has increased remarkably, i.e. from 19.7 % in 2005 to 37.8 % of FTE researchers in 2015. The increase in the numbers of FTE researchers has been attributed to a comprehensive strategy for Denmark in the global economy, initiated by the government in 2006.

In terms of RTDI outcome and impact, Denmark is among the leading countries in the world; Danish researchers are among the most productive and most cited in terms of citations per publication. This development has been attributed to high long-term investments in research, enabling Denmark to reach the goal of spending 1.08 % of GDP on public research funding in 2015. The increase in resources has been distributed through competitive schemes, strengthening the link between funding and performance, and prioritisation of research areas, underpinning a culture of excellence, which is widespread in the Danish research and innovation system (Kalpazidou Schmidt and Graversen 2017). Moreover, according to scholars, what characterises the Danish research and innovation system is a network of stakeholders (highly influential in shaping policy priorities) that transcend the boundaries between government, higher education, funding bodies and the industrial sector. The policies and prioritisations of the recent decades have thus been based on political consensus and have been supported by the business sector, politicians and (to a high extent) the researchers themselves (Olesen Larsen 2010, Benner & Öquist, 2012).

It is also of importance to mention that in addition to the public funding bodies, there are approximately 12 000 to 14 000 private foundations in Denmark, some of them with significant contributions to research funding. For example, the Novo Nordisk and the Lundbeck foundations award substantial resources to biomedicine and biotechnology with a strong emphasis on research internationalisation. The Novo Nordisk Foundation funds strategic centres larger than the DNRF's Centres of Excellence. Also, the Lundbeck Foundation has funded Centres of Excellence based on the DNRF model but has recently moved towards more strategic funding. The Carlsberg Foundation largely supports basic research in science, social sciences and the humanities, mainly to researchers at postdoctoral level. Other large foundations are the Villum Foundation that awards grants for research in the natural sciences and engineering and the Velux Foundation that focuses on some research fields within medicine and the humanities.

Already very early in the 2000s, research and innovation have been identified as the key to addressing globalisation with a governmental strategy initiated in 2006 followed by high investments in research and innovation. In 2003, the research funding system was reorganised. In 2007-2008, a process merging universities and government research institutes was initiated to strengthen the strategic profile of the universities and enhance internationalisation. As a follow-up of the

globalisation strategy, immense investments in PhD students resulted in high numbers of researchers and doubled the numbers of female researchers compared to 2006. Female students and female PhD students have outnumbered the male PhD students in recent years. However, there are considerable gender variations across the different scientific areas.

While far-reaching reforms were swiping the RTDI system, the issue of gender equality has not been a priority. The resources have been unevenly distributed and the large excellence funds have been channelled to mainly male research leaders. Moreover, there are growing challenges with regards to the long-term viability of the increase of resources and in 2015 the government announced cuts in the HE sector. Thus, in recent years the public research system underwent cuts, primarily within scientific areas dominated by women researchers such as the humanities. In addition, the consequences of the cuts for the recruitment and advancement of young researchers in decision-making positions (with the majority of them being female researchers) are tangible as a growing number is employed in non-tenure positions. Similarly, a growing number of young researchers are funded through short-term external funds and have hence uncertain career prospects.

However, there is increasing attention on the recruitment of new talent, especially within engineering and technology and natural sciences (and thus the mobilisation of female researchers) among policy-makers. This resulted in the establishment of a yearly produced national talent barometer, which will provide information on the status of the gender composition among researchers at the universities. The aim with the barometer is to provide incentives to the universities to commit to GE work. According to the Minister, the barometer will become the basis for the discussion on the GE progress between the Minister and the universities.

Another pertinent challenge in Danish RTDI is the gender pay gap for scientific research and development, which is above the EU average but also above the gender pay gap in the Danish labour market in general. This challenge needs to be addressed together with the issue of the horizontal and vertical gender segregation in RTDI, which affect the advancement and salaries of women researchers. However, as concluded by the Taskforce for More Women in Research, a number of professor positions are filled without announcements, i.e. only by invitation (as a rule by male researchers), or are filled without any female researchers among the candidates for the positions. The universities increasingly use different kind of financial incentives to recruit the best researchers (many from abroad) and to some degree with non-transparent procedures in order to boost the number of publications at the most prestigious journals (Ministry of Higher Education and Science 2015c).

Finally, a key challenge in relation to GE in RTDI in general and in the HES in particular is the widespread general perception in the Danish society of academia and scientific research as being gender-neutral (or gender-blind) and solely building on meritocracy. This implies that most gender-affirmative efforts are perceived as discriminatory and stigmatising.

5.3 Main issues of evaluation culture and policy in RTDI

In an international comparison, Denmark was late to adopt evaluation procedures and standards. However, public policy evaluation takes place throughout the public sector and has been intensified in recent decades inspired by the New Public Management ideology. Evaluation is embedded in public administration and is perceived as part of the governance concept. Thus, the current

tendency to continually reform public sector organisations is related to an increased institutionalisation of evaluation in the Danish public administration. Evaluation has become an increasingly routinised part of the everyday public administration practice and the general obligations of the sector to perform responsibly and demonstrate accountability. Public evaluation activity seems to be commissioned and initiated by the administrative system, and the use of the evaluation results also often remains a public management issue within the policy system.

A large number of evaluations are conducted yearly in Denmark, and generally there is a high degree of trust in evaluations as contributing to a legitimate and efficient public policy system by providing information on the functioning and effects of policy measures. In the Danish evaluation culture and evaluation policy, also within the RTDI field, the trend is to focus on evaluations as instruments to provide a specific type of knowledge, referred to as 'evidence' based on measurement of causal mechanisms, while process evaluation and interactive types of evaluations focusing on user involvement, empowerment or democratisation are considered only to a minor degree. Thus, the general evaluation culture is characterised by efforts to measure causal mechanisms relating policy initiatives to their effects and impacts. However, evaluations in research and education policy tend to have a higher degree of user involvement compared to other fields and a plethora of evaluation models and methods are taken into use across all fields.

In the RTDI policy system, efforts have been made to strengthen evaluation procedures in order to support evidence-based policy-making. The Ministry for Higher Education and Science has very recently published an evaluation framework serving as a guideline for effective evaluations. Focus at the ministerial level is on bibliometric data and statistical information. Statistics and descriptive data are provided routinely along with information about commercialisation, performance accounts, and entrepreneurship. To some extent, data is also collected that allows for the establishing of an overview of the gender balance in academia and among applicants for research and innovation funding. This information has provided the basis for the recent gendered actions initiated by the ministry and the research councils.

Gender equality initiatives have been limited in RTDI programmes in Denmark. A few attempts in the last two decades from the Danish Council for Independent Research had earmarked funding to facilitate career trajectories for female researchers. A few other attempts, introduced at the university level, funded earmarked positions to female professors, at Copenhagen University and Aarhus University but were met with a broad national critique for discrimination of male researchers. Denmark is thus characterised by a weak institutionalisation of gender-targeted policies. As a consequence, evaluations of gender-directed initiatives in RTDI are rare and only initiated on an ad hoc basis. Two examples can be mentioned, both commissioned by the Danish Council for Independent Research: 1) the evaluation of the short-term effects of the YDUN (Younger women Devoted to a UNiversity career) programme, targeting female researchers, which was intended to give a first overview based on the first round of applications for the programme. Among the preliminary conclusions it was found that, despite the very low numbers of funded projects (3 %), the YDUN programme presented the extra incentive that motivated a range of female researchers to apply for funding (and continue to do so in future calls) that they would not have applied for elsewhere; and 2) the evaluation of a range of policy measures intending to support younger researchers and female researchers including the initiative Female Researchers in Joint Action, FREJA.

In conclusion, the gender equality issue in RTDI is seldom directly addressed and evaluated. Instead, the issue is framed in terms of talent development, productivity, excellence, and resources. Under these headings a variety of initiatives and action plans have recently been formulated. The growing attention on gender issues and gender equality has, for example, resulted in action plans at university and funding body levels. Most of them still focus on 'fixing the women', such as mentoring programmes, but a growing share now also focuses on 'fixing the institutions' to include more women, in particular in decision-making positions. The assessment of the effectiveness, sustainability and impact of these actions on the RTDI system will be an exciting task for future research.

Acknowledgement

The country note is mainly based on literature and document studies. However, expert interviews have been undertaken to supplement data gathering. We gratefully acknowledge the contribution made by:

Bettina Hauge, PhD, Scientific Officer, Innovation Fund Denmark.

The contribution of **Victoria Antonova** to proofreading of the report is gratefully acknowledged.

6 Glossary

AC	Danish Confederation of Professional Associations (Akademikernes Centralorganisation)
AE	Economic Council on the Labour Market (Arbejderbevægelsens Erhvervsråd)
AETR	average effective tax rate
BES	business enterprise sector
CoE	Centre of Excellence
DA	Confederation of Danish Employers (Dansk Arbejdsgiverforening)
DASTI	Danish Agency for Science, Technology and Innovation
DDF	Danish Council for Independent Research (Det Frie Forskningsråd)
DFIR	Danish Council for Research and Innovation Policy (Danmarks Forsknings- og Innovationspolitiske Råd)
DG	Danish National Research Foundation (Danmarks Grundforskningsfond)
DJØF	Danish Association for Students and Graduates in Law, Business, Economics and Political and Social Sciences (Danmarks Jurist- og Økonomforbund)
DI	Dissimilarity Index
DKK	Danish krone
DM	Danish Association of Masters and PhDs (Dansk Magisterforening)
DNRF	Danish National Research Foundation (Danmarks Grundforskningsfond)
EFFORTI	Evaluation Framework for Promoting Gender Equality in Research and Innovation
EPO	European Patent Office
EU	European Union
EUR	Euro
EIS	European Innovation Scoreboard
FA	Danish Employers Association for the Financial Sector (Finanssektorens Arbejdsgiverforening)
FIU	Fagbevægelsens Interne Uddannelser
FREJA	Female Researchers in Joint Action
FTE	full-time equivalent
FTF	Danish Confederation of Salaried Employees and Civil Servants (Funktionærernes og Tjenestemændenes Fællesråd)
GCI	Glass Ceiling Index
GDP	gross domestic product
GE	gender equality
GERD	Gross Domestic Expenditure on Research and Development
GOV	government sector
GPG	gender pay gap
GUDDP	Green Development and Demonstration Program
HE	higher education
HEI	higher education institution
HES	higher education sector
HR	human resources
IFD	Innovation Fund Denmark
INP	International Network Programme
ITU	IT University of Copenhagen (IT-Universitetet)
ISCED	International Standard Classification of Education
KIA	knowledge intensive activities
KIABI	knowledge intensive activities – business activities
KL	Local Government Denmark (Kommunernes Landsforening)
KRL	Payroll Data Office for Danish Municipalities and Regions
KU	University of Copenhagen (Københavns Universitet)

EFFORTI Country Note Denmark

LO	Danish Confederation of Trade Unions (Landsorganisationen i Danmark)
NACE	Statistical classification of economic activities in the European Community (Nomenclature statistique des activités économiques dans la Communauté européenne)
NIKK	Nordic Information on Gender (Nordisk Information för Kunnskap om Kön)
NPM	New Public Management
PhD	Doctor of Philosophy
PISA	Programme for International Students Assessment
PNP	private non-profit sector
R&D	Research and Development
R&I	Research and Innovation
RFO	research funding organisation
RIO	Research and Innovation Observatory
RPO	research performing organisation
RTDI	Research, Technological Development and Innovation
RUC	Roskilde University (Roskilde Universitet)
SES	Structure of Earnings Survey
SFI	Danish National Centre for Social Research (Socialforskningsinstituttet)
STEM	Science, Technology, Engineering and Mathematics
TFR	total fertility rate
UNESCO	United Nations Educational, Scientific and Cultural Organisation
WP	working paper
WSR	professors with special responsibilities
YDUN	Younger women Devoted to a UNiversity career

7 Bibliography

- 3f. 2016. *Working Hours*. <https://www.3f.dk/english/working-conditions/working-hours>.
- Aagaard, Kaare. 2014. *Forskningsprojekter, karrierefremme og postdocs: En oversigt over effekter af DFF-bevillinger*. Danish Council for Independent Research.
- Aagaard, Kaare, and Jesper Wiborg Schneider. 2016. *Links between research policy and national academic performance*. Ministry of Science Technology and Innovation.
- Aagaard, Kaare, and Niels Mejlgaard. 2012. *Dansk forskningspolitik efter årtusindskiftet*. Aarhus Universitetsforlag.
- Akademikerne. 2016. *Balancen mellem arbejde og privatliv. Akademikernes psykiske arbejdsmiljø 2016*. København K: Akademikerne.
- Albæk, Erik. 1988. "Policy evaluation: Design and utilization." *Knowledge in Society*, 6-19.
- Alslev, Thomas, Hanne Frosch, and David Boysen-Jensen. 2014. *Central Innovation Manual on Excellent Econometric Evaluation of the Impact of Public R&D Investments*. Danish Ministry of Science, Innovation and Higher Education.
- Andersen, Hald Signe. 2016. *Paternity leave and the motherhood penalty*. Copenhagen: The Rockwool Foundation Research Unit.
- Andersen, Ib. 2003. *Reform af sektorforskningen*.
<http://www.arbejdsmiljoforskning.dk/da/nyheder/arkiv/2003/reform-af-sektorforskningen>.
- Andersen, Vibeke Normann, Peter Dahler-Larsen, and Carsten Strømbæk Pedersen. 2009. "Quality assurance and evaluation in Denmark." *Journal of Education Policy*, 135-147.
- Ankestyrelsen. n.d. *Ligebehandlingsnævnet*.
<https://ast.dk/naevn/ligebehandlingsnaevnet/ligebehandlingsnaevnet?page=1138>.
- . 2014. *Om Ligebehandlingsnævnet*. <https://ast.dk/naevn/ligebehandlingsnaevnet/om-ligebehandlingsnaevnet>.
- Arbejdsmiljøorganisation. n.d. *Arbejdsmiljøorganisation*.
<http://bm.dk/da/Beskaeftigelsesomraadet/Et%20godt%20arbejdsliv/Arbejdsmiljoe/Arbejdsmiljoorganisation.aspx>.
- Augustín, Lise Rolandsen. 2015. *The Policy on Gender Equality in Denmark - Update*. Bruxelles: Policy Department C: Citizens' Rights and Constitutional Affairs, European Parliament.
- Baadsgaard, Kelvin, and Hanne Kathrine Krogstrup. 2016. "Metaanalyser og evidens." In *Evaluering af offentlige politik og administration*, by Thomas Bredgaard. Hans Reitzel.
- Bemelmans-Videc, Marie-Louise, Ray C. Rist, and Edung Vedung. 1998. *Carrots, sticks, and sermons: Policy instruments and their evaluation*. London: Routledge.
- Benner, Mats, and Gunnar Öquist. 2012. "Fostering breakthrough research: a comparative study."

Beskæftigelsesministeriet. n.d.-a. *Barselsdagpenge*. Accessed 11 14, 2016.

<http://bm.dk/da/Beskaeftigelsesomraadet/Ydelser/Barselsdagpenge.aspx>.

— . n.d.-b. *Barselsloven: Hvor meget orlov, og hvordan kan den holdes?* Accessed 11 11, 2016.

<http://bm.dk/da/Beskaeftigelsesomraadet/Et%20godt%20arbejdsliv/Barselorlov/Den%20fleksible%20barselorlov.aspx>.

— . n.d.-c. *Barselsudligningsordning*. Accessed 11 14, 2016.

<http://bm.dk/da/Beskaeftigelsesomraadet/Et%20godt%20arbejdsliv/Barselorlov/Barseludligningsordninger.aspx>.

Beskæftigelsesministeriet. 2016b. *Beskæftigelses- og ligestillingsministerens ligelønsredegørelse*.

Beskæftigelsesministeriet.

— . n.d.-d. *Forældre i arbejde*. Accessed 11 11, 2016.

<http://bm.dk/da/Beskaeftigelsesomraadet/Et%20godt%20arbejdsliv/Barselorlov/Den%20fleksible%20barselorlov/Foraeldre%20i%20arbejde.aspx>.

— . n.d.-e. *Forskelsbehandlingsloven*. Accessed 11 14, 2016.

<http://bm.dk/da/Beskaeftigelsesomraadet/Arbejdsret/Forskelsbehandling/Forskelsbehandlingsloven.aspx>.

— . n.d.-f. *Kønsopdelt lønstatistik*. Accessed 11 11, 2016.

<http://bm.dk/da/Beskaeftigelsesomraadet/Arbejdsret/Ligestilling/Koensopdelt%20loenstatistik.aspx>.

— . n.d.-g. *Ligebehandlingsloven*. Accessed 11 11, 2016.

<http://bm.dk/da/Beskaeftigelsesomraadet/Arbejdsret/Ligestilling/Lovgivning%20om%20ligestilling/Ligebehandlingsloven.aspx>.

— . n.d.-h. *Ligebehandlingsnævnet*. Accessed 11 14, 2016.

<http://bm.dk/da/Beskaeftigelsesomraadet/Arbejdsret/Forskelsbehandling/Ligebehandlingsnaevnet.aspx>.

— . n.d.-i. *Ligelønsloven*. Accessed 11 11, 2016.

<http://bm.dk/da/Beskaeftigelsesomraadet/Arbejdsret/Ligestilling/Lovgivning%20om%20ligestilling/Ligeloensloven.aspx>.

— . n.d.-j. *Lovgivning om ligestilling*. Accessed 11 11, 2016.

<http://bm.dk/da/Beskaeftigelsesomraadet/Arbejdsret/Ligestilling/Lovgivning%20om%20ligestilling.aspx>.

— . 2016a. "Vejledning om beskyttelse mod afskedigelse pga. graviditet og barsel."

Beskæftigelsesministeriet.

Beskæftigelsesministeriet, Ligestillingsafdelingen, Dansk Arbejdsgiverforening, and

Landsorganisationen i Danmark. 2006. *En Ligelønsguide til virksomheder, der vil arbejde med at fremme lige løn mellem kvinder og mænd*. København K: Beskæftigelsesministeriet.

- Bloch, Carter, and Dorte Henriksen. 2013. *Køn og forskning i Det Frie Forskningsråd*. København K: Styrelsen for Forskning og Innovation.
- Bloksgaard, Lotte, and Tine Rostgaard. 2016. "Denmark Country Note." In *International Review of Leave Policies and*, by Alison Koslowski, Sonja Blum and Peter Moss.
- Borchorst, Anette, and Birte Siim. 2008. "Woman-friendly policies and state feminism: Theorizing Scandinavian gender equality." *Feminist Theory* 9 (2): 207-224.
- Bredgaard, Thomas. 2016. *Evaluering af offentlig politik og administration*. Hans Reitzel Forlag.
- Cartwright, Nancy, and Jeremy Hardie. 2012. *Evidence-based policy: A practical guide to doing it better*. Oxford University press.
- Centre for Economic Business Research. 2016. *The Effect of Multiple Participations in the Danish Innovation and Research Support System*. <http://ufm.dk/publikationer/2016/filer/the-effect-of-multiple-participations-in-the-danish-innovation-and-research-support-system.pdf>.
- Cevea. 2016. *Det kønsopdelte arbejdsmarked*. København V: Cevea.
- Dahler-Larsen, Peter. 2000. "Surviving the Routinization of Evaluation. The Administrative Use of Evaluations in Danish Municipalities." *Administration and Society*, 70-92.
- . 2016. "Reflections on vocabularies in research on evaluation." *Education Inquiry*, 373-380.
- Dahler-Larsen, Peter, and Flemming Larsen. 2001. "Anvendelse af evaluering - Historien om et begreb, der udvider sig." In *Tendenser i Evaluering*, by Peter Dahler-Larsen and Hanne Kathrine Krogstrup, 211-220. Odense Universitetsforlag.
- Dahler-Larsen, Peter, and Thomas A. Schwandt. 2012. "Political culture as context for evaluation." *New Directions for Evaluation*, 75-87.
- Damvad. 2011. *Organisation og ledelse af velfærdsinnovation*. LO.
- . 2013. *The Danish Growth Fund's (DGF): activities Mapping the effects of DGF*. <http://www.vf.dk/~media/files/analyser/evalueringer%20og%20effektanalyser/mapping%20the%20effects.pdf>.
- . 2015. *Undersøgelse af YDUN-programmets kortsigtede effekter og betydning*. <http://ufm.dk/forskning-og-innovation/rad-og-udvalg/det-frie-forskningsrad/publikationer/publikationer/undersogelse-af-ydun-programmets-kortsigtede-effekter-og-betydning3fd83ed49efe41759e11a11a4341d5ce> .
- Danish Agency for Research and Innovation. 2016. *En kortlægning af bidraget til dansk forskning, innovation og videregående uddannelse*. <http://ufm.dk/publikationer/2016/filer/private-fonde-en-kortlaegning-af-bidraget-til-dansk-forskning-innovation-og-videregaende-uddannelse.pdf> .
- Danish Agency for Science and Higher Education. n.d.-a. *About the agency*. <http://ufm.dk/en/the-minister-and-the-ministry/organisation/danish-agency-for-institutions-and-educational-grants/about-the-agency/about-the-agency>.

- . n.d.-b. *Danish Agency for Science and Higher Education*. http://ufm.dk/en/the-minister-and-the-ministry/organisation/danish-agency-for-science-and-higher-education?set_language=en&cl=en.
- Danish Business Authority. 2016. "Guidelines on Target figures, policies and reporting on the gender composition of management ."
- Danish Business Authority. 2015. "Report on gender composition 2013 Executive Summary."
- Danish Centre for Studies in Research and Research Policy. 2010. "Forskningsrådenes virkemidler til fremme af karriere." <http://ufm.dk/publikationer/2010/filer-2010/forskningsradenes-virkemidler-til-fremme-af-karriere-hovedrapport.pdf>.
- . 2016. *Viden i verdensklasse. Styrelsen for Forskning og Innovation*. <http://ufm.dk/publikationer/2016/viden-i-verdensklasse>.
- Danish Council for Independent Research. 2013a. *Equal opportunities policy for the Danish Council for Independent Research*. <http://ufm.dk/en/research-and-innovation/councils-and-commissions/the-danish-council-for-independent-research/equality-policy>.
- . 2013b. *Køn og Forskning i Det Frie Forskningsråd*. <http://ufm.dk/publikationer/2013/kon-og-forskning-i-det-frie-forskningsrad>.
- Danish Council for Research and Innovation Policy . 2015. "Et internationalt perspektiv på køns- og ligestillingsudfordringer I forskningen."
- Danish Government. 2012a. *Danmark Løsningernes Land*. <http://ufm.dk/publikationer/2012/filer-2012/danmark-loesningernes-land.pdf>.
- . 2012b. *Denmark: a nation of solutions*. <http://ufm.dk/en/publications/2012/denmark-a-nation-of-solutions>.
- . 2015. *Forsknings- og Innovationspolitisk redegørelse 2015*. <http://gts-net.dk/wp-content/uploads/2015/12/forsknings-og-innovationspolitisk-redegorelse-2015.pdf>.
- Danish Government. 2005. "Nye mål - Regeringsgrundlaget."
- Danish National Audit Office. 2005. *Beretning til statsrevisionerne om statens anvendelse af evalueringer*. <http://www.rigsrevisionen.dk/media/1854316/14-04.pdf> .
- Danish National Centre for Social Research. n.d. *Betydningen af fædres orlov i forbindelse med børn*. <https://www.sfi.dk/projekter/betydningen-af-faedres-orlov-i-forbindelse-med-boern-13098/>.
- Danish National Research Foundation. n.d. *Centers of Excellence*. <http://dg.dk/en/centers-of-excellence-2/>.
- . 2015. *Om Fonden*. <http://dg.dk/om-fonden/>.
- Danish Patent and Trademark Office. 2015. *Key Figures*. <http://www.dkpto.dk/information/om-os/noegletal/#ScrollToGraph>.

- . 2016. "National patent filings."
<http://www.dkpto.org/media/23032611/statistics%20english%20patent%202015.pdf>.
- Danish Prime Minister's Office. 2006. *Progress, Innovation and Cohesion*.
http://www.stm.dk/multimedia/PROGRESS_INNOVATION_AND_COHESION.pdf.
- Danmarks Forsknings- og Innovationspolitiske Råd. 2015. *Et internationalt perspektiv på køn- og ligestillingsudfordringer i forskningen*. Styrelsen for Forskning og Innovation.
- Danmarks Statistik. 2016a. *Fald i de offentlige forskningsbevillinger*.
<http://www.dst.dk/da/statistik/nyt/NytHtml?cid=26466>.
- . 2015a. "Lidt flere end hver tredje far holdt barsel." *NYT fra Danmarks Statistik*. 26 marts.
<http://www.dst.dk/da/Statistik/NytHtml?cid=19185>.
- . 2015b. "Lidt flere end hver tredje far holdt barselsorlov." *Nyt fra Danmarks Statistik*, 26 March.
- Danmarks Statistik. 2012. *Statistiske Efterretninger. Dagpenge ved graviditet, fødsel og adoption 2011*. København Ø: Danmarks Statistik.
- . 2016b. *Stigning i udgifter til forskning og udvikling i 2014*.
<http://www.dst.dk/da/statistik/nyt/NytHtml?cid=21545>.
- Dansk Industri. 2016. *Lov om kvinder i ledelse og bestyrelser*. 06 09.
<http://di.dk/Virksomhed/mangfoldighed/Pages/Lovomkvinderiledelseogbestyrelser.aspx>.
- DASTI. 2014. *Evaluation of the Danish Council for Independent Research*.
<http://ufm.dk/publikationer/2014/filer-2014/evaluation-of-the-danish-council-for-independent-research.pdf>.
- . 2013. *Evaluation of The Danish National Research Foundation*. http://dg.dk/wp-content/uploads/2015/02/Evaluation_of_DNRF.pdf.
- Dinnesen, Tobias. 2016. "Hvis mænd tager en større andel af barslen, gavner det især kvinders karriere." *Magisterbladet*. 15 November. Accessed November 28, 2016.
<http://magisterbladet.dk/news/2016/november/hvismaendtagerenstoerreandelafbarslengavnerdetisaerkvinderneskarriere>.
- Directorate-General for Internal Market, Industry, Entrepreneurship and SMEs. 2016. "European Innovation Scoreboard 2016 - Database."
<http://ec.europa.eu/DocsRoom/documents/17823/attachments/1/translations/en/renditions/native>.
- Directorate-General for Justice and Consumers. 2016. *Report on Equality between women and men 2015*. Brussels: European Commission.
- Directorate-General for Research and Innovation. 2015. *European Research Area: Facts and figures 2014. Denmark*. Brussels: European Commission.
http://ec.europa.eu/research/era/pdf/era_progress_report2014/country_fiches/era-dk.pdf.

Directorate-General for Research and Innovation. 2013. *She Figures 2012*. Brussels: European Commission.

Directorate-General for Research and Innovation. 2016. *She Figures 2015*. Brussels: European Commission.

Directorate-General for Research. 2009. *She Figures 2009*. Brussels: European Commission.

DR. 2016. *Mor får højere løn hvis far tager mere barsel*. 16 11.
<http://www.dr.dk/nyheder/indland/mor-faar-hoejere-loen-hvis-far-tager-mere-barsel>.

EPAC. 2015. *Econometric Analysis of the Danish Innovation Incubator Programme*.
<http://ufm.dk/publikationer/2015/filer/econometric-analysis-of-the-danish-innovation-incubator-programme.pdf>.

Erhvervs- og Vækstministeriet. n.d. "Bekendtgørelse af lov om ligebehandling af mænd og kvinder i forbindelse med forsikring, pension og lignende finansielle ydelser." *Retsinformation*. Accessed 11 14, 2016. <https://www.retsinformation.dk/forms/R0710.aspx?id=168655>.

Erhvervsstyrelsen. 2016. *Vejledning om Måltal og politikker for den kønsmæssige sammensætning af ledelsen og for afrapportering herom*. Erhvervsstyrelsen.

Europa-Kommissionen. 2016. *2016 Tilstandsrapport angående uddannelse. Danmark*. Europa-Kommissionen.

European Commission. 2013. *Barcelona Objectives*. http://ec.europa.eu/justice/gender-equality/files/documents/130531_barcelona_en.pdf.

European Commission. 2012. *Peer-review of the Danish Research and Innovation System: Strengthening innovation Performance*. Expert Group Report.

European Union. 2016. *European Innovation Scoreboard 2016*.
<http://ec.europa.eu/DocsRoom/documents/17822>.

Eurostat. n.d.-a. *Database*. <http://ec.europa.eu/eurostat/data/database>.

—. n.d.-b. *European Union statistics on income and living conditions*.
<http://ec.europa.eu/eurostat/web/microdata/european-union-statistics-on-income-and-living-conditions>.

Eydal, Gudny Björk, Ingólfur V. Gíslason, Tine Rostgaard, Berit Brandth, Ann-Zofie Duvander, and Johanna Lammi-Taskula. 2015. "Trends in parental leave in the Nordic countries: has the forward march of gender equality halted?" *Community, Work & Family*.

Folketinget. 2015a. *Ligestillingsudvalgets arbejde*. 19 10. Accessed 11 25, 2016.
http://www.ft.dk/Folketinget/udvalg_delegationer_kommissioner/Udvalg/Ligestillingsudvalg/LIU_Arbejde.aspx.

—. 2015b. *The Gender Equality Committee*. 08 12.
http://www.thedanishparliament.dk/committees_and_delegations/committees/liu.aspx.

- Graversen, Ebbe Krogh. 2016. *Evaluering af International Netværksprogram 2009-2014*. Aarhus Universitet.
- Grimpe, Christoph, and Jessica Mitchell. 2016. *RIO Country Report 2015: Denmark*. Luxembourg: Publications Office of the European Union.
- GTS Advanced Technology Group. n.d. *Technology that works – Accelerating technology adaption in companies*. <http://en.gts-net.dk/about-gts/>.
- Hansen, Helle Foss. 2003. *Evaluering i staten: Kontrol, læring eller forandring*. Copenhagen: Samfundslitteratur.
- Højgaard, Liselotte, and Thomas Sinkjær. 2014. *Getting all talents in play*. Copenhagen K: The Danish National Research Foundation.
- Hollanders, Hugo, Nordine Es-Sadki, and Minna Kanerva. 2016. *European Innovation Scoreboard 2016*. Brussels: European Commission. <http://ec.europa.eu/DocsRoom/documents/17822>.
- Humbert, Anne Laure, Viginta Ivaškaitė-Tamošiūnė, Nicole Sarah Oetke, and Merle Paats. 2015. *Gender Equality Index 2015: Measuring gender equality in the European Union 2005-2012*. European Institute for Gender Equality.
- Innovation Fund Denmark. n.d. <http://innovationsfonden.dk/en>.
- Innovation Fund Denmark. 2017. *Guidelines for industrial PhD*. Copenhagen K: Innovation Fund Denmark.
- Innovation Fund Denmark. 2016. "Guidelines for InnoBooster." Copenhagen.
- . 2015. *Innovation Fund Denmark 2015 Strategy*. http://innovationsfonden.dk/sites/default/files/innovationsfondensstrategien_0.pdf.
- Innovationsfonden. 2016. http://innovationsfonden.dk/sites/default/files/erhvervsphd-statistik_28.06.2016.pdf.
- Innovationsindikator. 2015. *Liste der Einzelindikatoren des Innovationsindikators*. http://www.innovationsindikator.de/fileadmin/2015/PDF/Liste_der_Einzelindikatoren_2015.pdf.
- Institut for Menneskerettigheder. 2014a. *Fædre og barseel. Analyse*. København K: Institut for menneskerettigheder.
- . n.d. *Køn*. Accessed 11 16, 2016. <http://menneskeret.dk/emner/koen>.
- Institut for Menneskerettigheder. 2016. *Køn, status 2015-16*. København K: Institut for Menneskerettigheder.
- Institut for Menneskerettigheder. 2014b. "Målbar ligestilling. Statistik som værktøj til fremme af kønsligestilling i kommunerne."

- IRISgroup. 2016a. *Analyse af GTS-nettets teknologiske ydelser set fra et brugerperspektiv*. http://irisgroup.dk/wp-content/uploads/2016/04/analyse_offentlige-erhversphd-projekter_if-uddrag_april2016.pdf.
- . 2016b. *Evaluation of the Danish Agency for Science, Technology and Innovation's grants for UArctic 2010-2015*. <http://irisgroup.dk/wp-content/uploads/2017/02/UArctic-final-14-12-16.pdf>.
- . 2015a. *Evaluering af Offentlige ErhvervsPhD-projekter*. http://irisgroup.dk/wp-content/uploads/2016/04/analyse_offentlige-erhversphd-projekter_if-uddrag_april2016.pdf.
- . 2015b. *Was UNIK Unique? Evaluation of effects from the Danish research excellence initiative UNIK*. <http://irisgroup.dk/wp-content/uploads/2016/01/UNIK-evaluation-of-effects-Final.pdf>.
- Jacobsen, Sara Jul, Alice Hedegaard Klynge, and Helle Holt. 2013. *Øremærkning af barsel til fædre*. København: SFI - Det Nationale Forskningscenter for Velfærd.
- Juul, Jonas Schytz, and Sune Caspersen. 2016. "Få kvinder betaler topskat." *Arbejderbevægelsens Erhvervsråd*. august 17. Accessed november 2016, 2016. <http://www.ae.dk/analyser/faa-kvinder-betaler-topskat>.
- Kalpazidou Schmidt, Evanthia. 2009. "Evaluation." In *Handbook on the Socialisation of Scientific and Technological Research*, by Luciano d'Andrea and Wiebe E. Bijker, 169-189. Rome: Social Sciences and European Research Capacities .
- . 2003. "Evaluation and Science Policy, in The Use of Evaluations in Europe." *the European RTD Evaluation Network Meeting*. Femmøller: Danish Institutes for Studies in Research and Research Policy.
- Kalpazidou Schmidt, Evanthia. 2012. "Internationalisation of Danish Research." In *Danish Research Policy after the Millennium*, by Kaare Aagaard and Niels Mejlgaard, 291-325. Aarhus University Publishing.
- . 2011. "Quality Assurance, Evaluation and the Dynamics of Change in Higher Education." Université Catholique de Louvain.
- Kalpazidou Schmidt, Evanthia, and Ebbe Krogh Graversen. 2017. "Persistent factors facilitating excellence in research environments." *Higher Education* 1-23.
- Kalpazidou Schmidt, Evanthia, Ebbe Krogh Graversen, and Mathias Wullum Nielsen. 2015. "Structural Transformation to Achieve Gender Equality in Science – Guidelines." In *Structural Transformation to Achieve Gender Equality in Science – Guidelines*, by Marina Cacace, Doina Balahur, Inge Bleijenbergh, Daniela Falcinelli and Michaela Friedrich.
- Kamil, Carolina. 2013. *Flere danskere foretrækker det private fremfor det offentlige*. <http://www.b.dk/nationalt/flere-danskere-foretraekker-det-private-frem-for-det-offentlige>.

- Klausen, Kristian, and Sidse Frich Thygesen. 2017. *Kvinder i uddannelsesinstitutionernes bestyrelser*. København K: DEA.
- KORA. 2014. *Kønssforskelle i hjemmeplejen*. København: Det Nationale Institut for Kommuner og Regioners Analyse og Forskning.
- Krogh, Ask Hesby. 2015. *Høring over udkast til forslag til lov om ændring af lov om lige løn til mænd og kvinder (kønsopdelt lønstatistik)*. København K: Institut for Menneskerettigheder.
- Krogstrup, Hanne Kathrine. 2016. *Evalueringsmodeller*. Hans Reitzel.
- . 2011. *Kampen om evidens: resultatmåling, effektevaluering og evidens*. Hans Reitzels Forlag.
- Larsen, Flemming, and Morten Lassen. 2001. "Evalueret set i et policy-perspektiv." In *Tendenser i evaluering*, edited by Peter Dahler-Larsen and Hanne Kathrine Krogstrup, 46-60. Odense: Odense Universitetsforlag.
- Larsen, Freja, Trine Berner Hansen, Christoph Ellersgaard, and Ask Hesby Krogh. 2016. *Kvinder i ledelse. Analyse af lov om måltal og politik for det underrepræsenterede køn*. København K: Institut for Menneskerettigheder.
- Larsen, Mona, and Helle Sophie Bøje Houlberg. 2013. *Lønforskelle mellem mænd og kvinder 2007-2011*. København K: SFI - Det Nationale Forskningscenter for Velfærd.
- Larsen, Mona, Helle Holt, and Malene Rode Larsen. 2016. *Et kønsopdelt arbejdsmarked. Udviklingstræk, konsekvenser og forklaringer*. København K: SFI - Det Nationale Forskningscenter for Velfærd.
- Laursen, Finn, Torben M. Andersen, and Detlef Jahn. 2015. *2015 Denmark Report*. SGI, Sustainable Governance Indicators.
- Ligestillingsafdeling, Udenrigsministeriet. n.d.-a. *Gender Mainstreaming Assessment*. <https://english.ligestillingsvurdering.dk/gender-mainstreaming-assessment>.
- Ligestillingsafdelingen, Udenrigsministeriet. n.d.-b. *Budget analysis*. <https://english.ligestillingsvurdering.dk/budget-analysis>.
- . n.d.-c. *Education / Research*. <https://english.ligestillingsvurdering.dk/specialist-areas/education-research>.
- . n.d.-d. *Gender mainstreaming and employment*. <https://english.ligestillingsvurdering.dk/specialist-areas/gender-mainstreaming-and-employment>.
- Ligestillingsredegørelse. n.d. *Ligestilling i Danmark*. Accessed 11 16, 2016. <http://www.ligestillingidanmark.dk/>.
- Marcussen, Jesper Munk. 2016. *Social Protection in the Nordic Countries 2014/2015. Scope, Expenditure and Financing*. Nordic Social Statistical Committee (NOSOSCO).
- Minister for ligestilling. 2015. *Rapport om måltal og politikker 2015 - for kønssammensætning i statslige institutioner og virksomheder*. Minister for ligestilling.

Ministeriet for Børn, Undervisning og Ligestilling. n.d.-a. *Kvinder i ledelse*. Accessed 11 25, 2016. <http://kvinderiledelse.dk/>.

—. 2015a. *Kvinder i ledelse og bestyrelser*. 23 11. Accessed 11 25, 2016. <http://uvm.dk/Ligestilling/Kvinder-i-ledelse-og-bestyrelser>.

—. 2015b. "Ligestillingsredegørelser." *Ligestilling i det offentlige, Ministeriet for Børn, Undervisning og Ligestilling*. 02 09. Accessed 11 16, 2016. <http://uvm.dk/Ligestilling/Det-offentlige/Ligestillingsredegoerelser>.

Ministeriet for Børn, Undervisning og Ligestilling. 2016. *Ligestillingsredegørelser 2015. Hovedrapport*. Copenhagen: Ministeriet for Børn, Undervisning og Ligestilling.

—. n.d.-b. "Om ligestilling i det offentlige." *Ligestilling*. Accessed 11 16, 2016. <http://uvm.dk/Ligestilling/Det-offentlige/Om-ligestilling-i-det-offentlige>.

Ministry for Children, Education and Gender Equality. n.d. "Gender Equality." *www.uvm.dk*. Accessed 11 15, 2016. <http://eng.uvm.dk/Gender-Equality>.

Ministry for Children, Education and Gender Equality. 2016. *Report / Perspective and action plan 2016*. Ministry for Children, Education and Gender Equality.

Ministry of Employment. n.d.-a. *The Danish Labour Market*. Accessed 11 28, 2016. <http://uk.bm.dk/en/Themes/The%20Danish%20Labour%20Market.aspx>.

—. n.d.-b. *Working in Denmark*. <https://www.workindenmark.dk/Working-in-DK>.

Ministry of Foreign Affairs of Denmark. 2016. *Det går fortsat fremad med at få flere kvinder i de statslige bestyrelser*. <http://um.dk/da/ligestilling/nyheder/newsdisplaypage/?newsID=59762873-C2CA-442E-8414-5968309A3EC7>.

Ministry of Higher Education and Science. 2015a. *Anbefalinger fra Taskforcen for Flere Kvinder i Forskning*. <http://ufm.dk/publikationer/2015/anbefalinger-fra-taskforcen-for-flere-kvinder-i-forskning>.

—. 2015b. *Beskrivelse af rådssystemet pr. 1. april 2014*. <http://ufm.dk/forskning-og-innovation/rad-og-udvalg/oversigt-over-radssystemet/beskrivelse-af-radssystemet-pr-1-april-2014>.

—. 2017a. *Den bibliometriske forskningsindikator*. <http://ufm.dk/forskning-og-innovation/statistik-og-analyser/den-bibliometriske-forskningsindikator>.

—. 2016a. *Det Frie Forskningsråd*. <http://ufm.dk/forskning-og-innovation/rad-og-udvalg/det-frie-forskningsrad/radet?set>.

—. 2016b. *Fremdriftsreformen*. <http://ufm.dk/uddannelse-og-institutioner/indsatsomrader/fremdriftsreformen>.

Ministry of Higher Education and Science. 2013. *Job Structure for Academic Staff at Universities 2013*. Ministry of Higher Education and Science.

- . 2015c. *Kvinder i forskning. Alle talenter i spil*. http://ufm.dk/en/publications/2015/filer-2015/publikation-kvinder-i-forskning-05_2015_iva_eng.pdf.
 - . 2016c. *Oversigt over rådssystemet*. <http://ufm.dk/forskning-og-innovation/rad-og-udvalg/oversigt-over-radssystemet>.
- Ministry of Higher Education and Science. 2015d. *Recommendations for More Women in Research*. København K: Danish Ministry of Higher Education and Science.
- . 2015e. *Regeringen vil investere 20,6 milliarder kroner i forskning og udvikling*. <http://ufm.dk/aktuelt/pressemeddelelser/2015/regeringen-vil-investere-20-6-milliarder-kroner-i-forskning-og-udvikling>.
 - . 2017b. *Strategi for klynge og netværksindsatsen i Danmark*. <http://ufm.dk/forskning-og-innovation/samspil-mellem-viden-og-innovation/viden-netvaerk-og-kommercialisering-til-virksomheder/klynger-og-innovationsnetvaerk/strategi-for-samarbejde-om-danmarks-klynge-og-netvaerksindsats>.
 - . 2016e. *Tal om forskning og innovation 2015*. <http://ufm.dk/publikationer/2016/filer/tal-om-forskning-og-innovation-2015.pdf>.
 - . 2016f. *Uddannelser med gode jobudsigter hitter i 2016*. <http://ufm.dk/uddannelse-og-institutioner/videregaende-uddannelse/sogning-optag-og-vejledning/optag-nyheder-og-pressemeddelelser/uddannelser-med-gode-jobudsigter-hitter-i-201663460ad596664c90bcf6f673ae580fc4?searchterm=ingeni%C3%B8r>.
- Ministry of Higher Education and Science. 2015f. *Women in research. Bringing all talents into play*. Copenhagen: Ministry of Higher Education and Science.
- MORE2. 2013. *Support for continued data collection and analysis concerning mobility patterns and career paths of researchers*. Brussels: European Commission.
- Neuman, Emma. 2014. *Culture, assimilation and gender gaps in labour market outcomes*. Linnæus University. Centre for Labour Market and Discrimination Studies.
- Nielsen, Mathias Wullum. 2013. "Italesættelser og retfærdiggørelser af ligestilling i nordisk akademika." *Forskningspolitikk*, 22-23.
- . 2014a. "Justifications of Gender Equality in Academia: Comparing Gender Equality." *Nordic Journal of Feminist and Gender Research*.
 - . 2015. "New and Persistent Gender Equality Challenges in Academia." *Politica*.
 - . 2016. "Scandinavian Approaches to Gender Equality in Academia: A Comparative Study." *Scandinavian Journal of Educational Research*.
- Nielsen, Mathias Wullum. 2014b. "Self-selection and Adaptive Decision-Making among Younger Female Academics: A Case Study." In *New and Persistent Gender Equality Challenges in Academia*, by Mathias Wullum Nielsen. Aarhus C: Politica.

- Nielsen, Mathias Wullum, Ulrik Lerbech Vinther, Evanthia Kalpazidou Schmidt, and Ebbe Krogh Graversen. 2015. *Ligestilling ved Aarhus Universitet: Status og udfordringer*. Aarhus: Center for Forskningsanalyse.
- NIKK. 2016a. "The design of parental insurance influences men's use of it." *NIKK, Latest News*. 10 10. Accessed 11 14, 2016. http://www.nikk.no/wp-content/uploads/nikk_foraldraledighet_eng_webb.pdf.
- NIKK. 2016b. "Why dads take parental leave: Fact sheet about the parental insurance systems in the Nordic countries."
- Niskanen, Kirsti. 2011. *Gender and Power in the Nordic Countries: A Comparative Perspective*. Oslo: NIKK. Nordic Gender Institute.
- Nørby, Ellen Trane. 2016. *Redegørelse / Perspektiv- og handlingsplan 2016*. Ministeriet for Børn, Undervisning og Ligestilling.
- Nordic Council of Ministers. 2015. *Nordic Gender Equality in Figures 2015*. Copenhagen: Norden.
- Nordic Social Statistical Committee. 2016. *Social Protection in the Nordic Countries 2013/2014: Scope, Expenditure and Financing*. København S: Nordic Social Statistical Committee .
- OECD. 2016a. *Education at a glance 2016: OECD indicators*. Paris: OECD Publishing.
- . n.d. *Time spent in unpaid, paid and total work, by sex*. <http://www.oecd.org/gender/data/time-spent-in-unpaid-paid-and-total-work-by-sex.htm>.
- . 2016b. "Use of childbirth-related leave by mothers and fathers." <http://www.oecd.org/els/family/PF2-2-Use-childbirth-leave.pdf>.
- Oxford Research. 2015a. *Evaluation of the Danish Innovation Centres*. http://ufm.dk/publikationer/2015/filer/15-022371-02-bilag-3-evaluation-of-the-danish-innovation-centres-9265391_1_1.pdf .
- Oxford Research. 2015b. "International study on gender equality in research - For the Danish Council for Research and Innovation Policy (DFiR)."
- Pihl, Mie Dalskov, and Sune Caspersen. 2016. *Næsten hver 3. akademikerbarn går i privatskole*. http://www.ae.dk/sites/www.ae.dk/files/dokumenter/analyse/ae_naesten-hver-3-akademiker-barn-gaar-i-privatskole.pdf, København: Arbejdernes Erhvervsråd.
- Plantenga, Janneke. 2014. "Searching for welfare, work and gender equality."
- Plantenga, Janneke, and Chantal Remery. 2009. *Flexible working time arrangements and gender equality. A comparative review of 30 European countries*. Rome: European Commission, Directorate-General for Employment, Social Affairs and Equal Opportunities.
- Politiken. 2016. *Mere barsel til far giver mor mere løn og bedre karrierekurs*. 11 13. <http://politiken.dk/indland/politik/article5650295.ece>.
- Ravn, Lotte Katrine. 2014. "Offentligt ansatte har langt mere betalt fravær og frihed end privatansatte." *Agenda*, 3 Oktober.

- Regeringen. n.d. *Ligestilling*. <https://www.regeringen.dk/regeringens-politik-a-%C3%A5/ligestilling/>.
- Retsinformation. 2013. "Bekendtgørelse af lov om ligestilling af kvinder og mænd." *Retsinformation*. 19 12. Accessed 11 15, 2016. <https://www.retsinformation.dk/Forms/R0710.aspx?id=160578>.
- . 2015. *Bekendtgørelse af lov om universiteter (universitetsloven) - kapitel 3*. <https://www.retsinformation.dk/Forms/R0710.aspx?id=168797#Kap3>.
- . 2016. *Bekendtgørelse om barselsudligning for selvstændigt erhvervsdrivende*. <https://www.retsinformation.dk/forms/R0710.aspx?id=183283>.
- Rieper, Olaf, and Hanne Foss Hansen. 2007. *Metodedebatten om evidens*. AKF Forlaget.
- Schulze, Erika, and Maja Gergoric. 2015. *Maternity, paternity and parental leave: Data related to duration and compensation rates in the European Union*. Brussels: Policy Department C: Citizens' Rights and Constitutional Affairs.
- Slotsholmsanalyse. 2014. *Analyse: af kønsforskelle i beskæftigelsesindsatsen*. København: Ministeriet for ligestilling og kirke.
- Statistics Denmark. n.d.-a. *Education and knowledge*. <http://www.statbank.dk/10148>.
- Statistics Denmark. 2014. *Labour, earning and income. Statistical Yearbook 2015*. Statistics Denmark.
- . n.d.-b. *R&D Man-year in public sector by sector research institutions, field of science, category of staff and sex*. <http://www.statbank.dk/statbank5a/selectvarval/define.asp?PLanguage=1&subword=tabssel&MainTable=FOUOFF02&PXSid=140584&tablestyle=&ST=SD&buttons=0>.
- Statistik og Analyse. 2016. *Videnskabeligt personale på universiteterne 2015*. København K: Styrelsen for Videregående Uddannelser, Uddannelses- og Forskningsministeriet.
- Statistikbanken. 2016. <http://www.statistikbanken.dk/statbank5a/default.asp?w=1440>.
- Tvarnø, Christina . 2015. *Country Report Gender Equality: Denmark*. European Commission.
- Udbetaling Danmark. n.d.-a. *Lønmodtagere på barsel*. <https://www.borger.dk/Sider/Barsel-loenmodtagere.aspx?NavigationTaxonomyId=919902ec-dfae-4147-b445-353f015b7675>.
- . n.d.-b. *Selvstændig på barsel*. <https://www.borger.dk/Sider/Barsel-selvstaendige.aspx?NavigationTaxonomyId=919902ec-dfae-4147-b445-353f015b7675>.
- Uddannelses- og Forskningsministeriet. 2016a. "Internationalisering som drivkraft for excellente forskningsresultater." *Uddannelses- og Forskningsministeriet*. 02 November. <http://ufm.dk/aktuelt/nyheder/2016/internationalisering-som-drivkraft-for-excellente-forskningsresultater?searchterm=internationalisering>.
- . 2016b. *Minister og universiteter enige om at arbejde for at få alle forskertalenter i spil*. 11 Oktober. <http://ufm.dk/aktuelt/pressemeddelelser/2016/minister-og-universiteter-enige-om-at-arbejde-for-at-fa-alle-forskertalenter-i-spil?searchterm=K%C3%B8n>.

- . 2015. "Undersøgelse af YDUN-programmets kortsigtede effekter og betydning." *Publikationer, Uddannelses- og Forskningsministeriet*. 10 December.
<http://ufm.dk/publikationer/2015/undersogelse-af-ydun-programmets-kortsigtede-effekter-og-betydning>.
- UNECE. 2016. *Statistical database: One parent families and children by sex of parent*.
http://w3.unece.org/PXWeb2015/pxweb/en/STAT/STAT__30-GE__02-Families_households/07_en_GEFHOneParFam_r.px/?rxid=d666e163-3739-46fb-b1c0-badf85132762.
- . 2017a. *Statistical database: Child care enrolment and availability rates*.
http://w3.unece.org/PXWeb2015/pxweb/en/STAT/STAT__30-GE__98-GE_LifeBalance/0104_en_GELB_Child_CARE_r.px/?rxid=c435b0ec-2113-4c07-8b14-9960f8e370b4.
- . n.d. *Statistical database: Employment by occupation and sex*.
http://w3.unece.org/PXWeb2015/pxweb/en/STAT/STAT__30-GE__03-WorkAndeconomy/004_en_GEWEEmpISCO88SPN_r.px/?rxid=144ff3cd-f9b5-4e36-a865-47609264ae8f.
- . 2017b. *Statistical database: Mean age of women at birth of first child*.
http://w3.unece.org/PXWeb2015/pxweb/en/STAT/STAT__30-GE__02-Families_households/04_en_GEFHAge1stChild_r.px/?rxid=d666e163-3739-46fb-b1c0-badf85132762.
- Universities Denmark. 2013. "Universities Denmark - A brief presentation." Copenhagen.
- Vedung, Evert. 2010. "Four waves of evaluation diffusion." *Evaluation*, 263-277.
- . 2002. "Utvärdering som megatrend och gigatrend." *Uppslag Universitet*, 1-15.
- Velsing Nielsen, Morten. 2013. *Brief analysis of national policies towards RRI in Denmark*. ResAGorA report.
- Virk. n.d. *Barsel.dk*. <https://indberet.virk.dk/barseldk/barseldk>.
- Warming, Kenn. 2016. *Diskrimination af forældre - Oplevelsen af diskrimination i forbindelse med graviditet og barselsordlov*. København K: Institut for Menneskerettigheder.
- Watson, Darach, and Jens Hjorth. 2015a. "Comment: Danish gender equity programme founders while men benefit." *Universitypost.dk*. April 8. <http://universitypost.dk/article/comment-danish-gender-equity-programme-founders-while-men-benefit>.
- . 2015b. "Denmark: Women's grant lost in inequality ocean." *Nature*, March 12.
- World Bank. n.d. *Fertility rate, total (births per woman)*.
<http://data.worldbank.org/indicator/SP.DYN.TFRT.IN?end=2014&locations=AT&start=2005>.
- World Economic Forum. 2016. "The Global Gender Gap Report." Cologne/Geneva.