EGGE – EC’s Expert Group on Gender and Employment

National Reports on the Unadjusted and Adjusted Gender Pay Gap

Denmark

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Report to the European Commission

The Gender Pay Gap

National report 2002

Denmark

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National report – Denmark

The gender pay gap

Contents:

Introduction 2
Danish measures of the unadjusted gender pay gap 3
Review of Danish studies that estimate an adjusted gender pay gap 12
Danish institutional factors and the gender pay gap 25
Policy review 31
Bibliography 32
Annex 1: Outline 34
Annex 2: Data from Danmarks Statistikbank 36
Introduction

The Danish debate and discussion of the gender pay gap has within recent years the following sources available:
Data published by the Danish Central bureau of Statistics.
Research based on surveys of special occupations and trades or special workplaces or branches of trade or lines of business.
Research based on special extracts from the Danish Central bureau of Statistics, the Danish Register based Labour Force Statistics (RAS) or the Central Bureau of Statistics’ Danish Registers for Labour Market research.

Although the pay data published by the Danish Central bureau of Statistics within the last 5 years are excellent, very reliable and highly differentiated, they are still not the foundation for - and not even a part of - the Danish debate of the gender pay gap. However, a study by Pedersen and Deding (2000) based on this data combined with data from other registers is one of the most important contributions to the knowledge of the gender differences of pay in Denmark. This study has also contributed to the broadest possible discussions as to the explanation of the gender differences in pay (se for instance Videncenter for Ligestilling 2001 and DA 2001) – but as one of the authors remarked in the television news – the gender pay gap may be explained – but it cannot be explained away.

This report follows an outline given by the co-ordinating team of EGGE (see annex 1). It makes however special points out of the almost unknown and unused Danish Pay Statistics given by the Central Bureau of Statistics and the study by Pedersen and Deding. It focuses on the most recent studies (for the last 5-6 years) of the gender pay gap. Some measures and figures wanted in the outline are not available in published Danish statistics, and thus it has not been possible to follow the outline in any detail. Where possible, the figures and measures have been replaced with corresponding figures and measures.

The report does not discuss how to measure pay, even though the measure problem can - and should - be discussed (se for instance the Belgian Presidency’s report: *Indicators on gender pay equality* from 2001).
1. Danish measures of the unadjusted gender pay gap

The excellent, very reliable and highly differentiated Pay Statistics published by the Danish Central bureau of Statistics gives gender broken data – but no calculations or indicators of the gender pay gap. As the restructuring and reorganising of the equality units in Denmark has created a break in the tradition of given indicators for the gender pay gap and gender income gap, there has been no continuous estimate and continuously updated assessment of the gender pay gap. The last official book on gender equality was published in 1999 by the Central Bureau of statistics and the former Equality Council (Danmarks Statistik and Ligestillingsrådet 1999). It can however only be a question of time before this tradition of monitoring the gender differences in pay will be resumed by either the Department of Equality or the Ministry of Employment.

Danish data

The Danish Central Bureau of Statistics publish key figures on pay in *Nyt fra Danmarks Statistik* (News from Statistics Denmark) and in *Statistik Årbog* (Statistical Yearbook) as well as in earlier editions of *Statistisk tiårsoversigt* (Statistical Ten-year Reviews). The most detailed statistics are published in *Løn- og indkomststatistik* (Statistics on Earnings and Incomes) appearing in the series Statistikservice (Statistics Service) and are for recent years (from 1996/1997) also available from *Statistikbanken*, the Danish Central Bureau of Statistics’ free internet database which contains highly disaggregated pay-data.

Until 1992 the gender differentiated pay-statistics for blue and white collar workers in the private sector published by the Danish Central Bureau of Statistics was based only on the gender differentiated pay statistics collected and published by the DA (Dansk Arbejdsgiverforening) - the Danish Employers' Confederation. DA stopped however publishing gender differentiated pay statistics in 1992, and in 1994 the pay statistics for employees in the private sector were reorganised by the Central Bureau of Statistics. From 1996 the pay statistics for employees in the public sector were reorganised too. The important purpose was to provide coherent statistics covering the entire Danish labour market and make it possible to compare earnings between the public sector (central and local governments) and the private sector (Danmarks Statistik 2000). The disadvantage is however, that the new earnings statistics from 1994 for the private sector are not comparable with the former annual

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¹ From 1999 the Statistical Ten-year Reviews only contains data on income and pay as part of income.
earnings statistics for the private sector from the DA. Neither are the new earnings statistics from 1996 for the public sector comparable with former annual earnings statistics on central government employees (compiled from 1966 to 1995) and on local government employees (compiled from 1976 to 1995). Consequently the most interesting time series on pay - with the most reliable and disaggregated data ever in Denmark - at the moment only covers a short period 1996-2001 for the public sector and 1994-2000 for the private sector. The descriptive statistics in this report are based only on the new earnings statistics.

The main concepts for the new statistics are:

- **Total earnings related to the number of hours worked.** Earnings comprise each employee's total earnings in connection with his/her job, including employees' or employers' share of any pension contributions, fringe benefits (car and phone free of charge), sickness with pay, etc. and holiday allowances - calculated both inclusive and exclusive of nuisance bonuses. **Hours of work** are understood as the number of hours actually performed by an employee, and thus include overtime hours and exclude holiday hours, hours off in connection with public holidays and hours of absenteeism due to sickness, etc.

- **Hourly earnings** are defined as earnings exclusive of nuisance bonuses, holiday allowances, sickness with pay and other absenteeism, public holiday allowances and fringe benefits.

- **Monthly earnings** are calculated for fixed salary-earners as hourly earnings divided by the typical normal monthly working time (160,33 hours corresponding to 37 hours per week) with an addition for special holiday allowances and fringe benefits per month.

The Central Bureau of Statistics claim, that the statistical reliability is reasonably high but even small margins of statistical error may have a considerable effect on the annual pay increases. The statistical errors are especially linked to hours of work. Any errors occurring in period indications, in hours of work and in missing or in erroneous indications of absenteeism (hours) may have a substantial impact on data.

The statistics give information about earnings for government employees as well as for all employees in business enterprises with 10 employees or over in the private sector (part-time employees are converted to full-time employees). The target group constitutes about 80 pct. of the total number of persons employed in the private sector, although agriculture and

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2 DA (Dansk Arbejdsgiverforening) - the Danish Employers’ Confederation is the main organisation of private-sector employers in manufacturing industry, the commercial sector, the service sector and the small-scale craft trades. DA has since its foundation in 1896 acted as overall co-ordinator of collective bargaining in the areas covered by the employers' associations affiliated to it.
fisheries are not included. The former statistics published by the DA included less than 50% of the employees now included in the new statistics. The primary data is available at the level of individuals and could be used in longitudinal studies, and could as well be used in connection with compiling more detailed statistics or in coupling data from other statistics.

Published data from the new statistics by the Danish Central Bureau of Statistics are however – until now - mainly gender broken average pay as well as lower and upper quartile and the median. Data is differentiated for public and private employment, and further in local and central government sectors. Information on pay for male and female employees are further differentiated by:

- occupation (by DISCO-88, the Danish version of the international standard classifications of occupations, ISCO-88),
- industry (after the Danish trade classification build on the European NACE),
- level of education (from the Danish central Bureau of Statistics register over populations education, UKM),
- location of workplace (divided in county councils)
- and/or age.

Annual statistics including these elaborated information are given in special issues of *Løn- og indkomststatistik* (Pay- and Income Statistics), and in *Statistikbanken*. The published statistics contains on the other hand no special data on pay for part-timers, and only the average, the median and the lower and upper quartile are given for the total earnings related to the number of hours worked. Lowest and highest deciles of pay are only shown graphically in summary figures (not even divided by sex).³

**Unadjusted pay gap**

The overall picture in Denmark is that women on average have lower pay than men have in the public as well as in the private sector (Annex 2, table 1). The overall picture is that there seems to be a slightly narrowing of the gender pay gap, although there seems to be a slight tendency of an increase in the gender pay gap in the local government, where more than half of the women are employed. The highest gender pay gap is found in the private sector (see figure 1a-b), where women in average have to raise their pay 20 percent to have equal pay. This pay gap is fairly stable since 1994 and slightly increasing in the period 1996-2000.

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³ This unfortunately makes it impossible to follow the outline for the report and give
- the ratio of lowest decile wage (by sex) to the median for all male full-time workers,
- shares of male and female workers earning less than two thirds of the median for all male full-time workers,
- and the ratio of lowest to highest decile (by sex and for all workers). This is replaced by the ratio of the lower to the upper quartile.
Figure 1.a. Women’s average pay in relation to men’s average pay in total and in the private and public sectors 1994/1996-2000/2001.

![Women's pay ratio of men's pay - average](image)

Sources: Statistikbanken. Data is shown in Annex 2 table 1.
Note: Date for 2001 for the private sector will be available in December 2002.

Figure 1.b. The gender average pay difference in relation to women’s average pay in total and in the private and public sectors 1994/1996-2000/2001.

![Percentage women will have to raise their pay to have equal pay - average](image)

Sources: Statistikbanken. Data is shown in Annex 2 table 1.

The gender pay gap is relatively low in a European comparison, as is the overall pay gap (The Belgian presidency’s report: *Indicators on gender pay equality* (2001)), and it is in this light the gender pay gap is as important in Denmark as in other EU-countries.
Although the pay-deviation is narrower among women than among men the median, the upper and lower quartiles for pay for women and men show a similar pattern. The upper quartile pay for women is lower than that for men, as is the lower quartile and median pay. This includes the public as well as the private sector, as figure 2 shows. However, the figure also shows that women’s upper quartile pay is higher than the median male pay and the medium female pay is again higher than the lower quartile male pay. This is true for the public as well as for the private sector, and it indicates that the wage-deviation due to qualifications and education as well as trade and profession may account for part of the gender-pay gap. The trends according to these rough measures show a higher deviation in pay in the private than in the public sector and indicate almost parallel development in wage – and give no direct evidence of a declining gender-pay-gap.

**Figure 2**  Pay-Development in the private and public sectors 1994/1996-2000/2001
Median, lower and upper quartile for women and men.

The gender pay gap measures in figure 3 for the median, upper and lower quartiles show however all an increasing tendency for employees in the local government, while the opposite tendency is found for the upper quartile in the central government. The gender gap
seems to be stable in the private sector. The spread of pay (measured as the lower and upper quartile ratio) seems to decline for both male and female employees in the public sector while it is stable in the private sector (table 1 Annex 2).

Figure 3. Women’s average, median, upper and lower quartile pay in relation to men’s average, median, upper and lower quartiles pay in the private and public sectors 1994/1996-2000/2001.

This indicates a change in earnings in the public sector especially in the local government, while the private sector is stable. It may (as later discussed in section 2) be due to the introduction of New Wage in the public sector. The stability in the private sector may however cover substantial changes that have had a neutralising impact on each other.

A breakdown of the data, where occupations are divided in 9 categories in a special Danish version of the ILO and EU official nomenclature for occupation based on education and skills, which makes pay comparable between employees within the same category, allows a further investigation of trends. Data is given in table 2a-e in Annex 2.

In the public sector the pay gap seems to be to the woman’s advantage for women occupied in clerical work, which is not the case for women in the private sector, where the gender pay gap is increasing in the period 1996-2000 as women’s average pay is decreasing to 90% of men’s pay (figure 4 a).
The gender pay gap in sales and service work also seems to be to the women’s advantage in local government, whereas women’s average pay is decreasing from 95% to 85% of men’s average pay in central government sector and almost stable around 87% in the private sector.

Women in employment that requires medium-high level of qualifications (as for instance nurses and teachers) have in average almost the same wages as men in local government. There seems however to be a slightly growing gender pay gap in central government and in the private sector, and in 2000 women’s average pay amounts to 87% of men’s average pay in central government and 81% in the private sector.

In local government there is a declining tendency of the gender pay gap for work requiring high level of qualifications, and at the same time an inclining tendency for this work in central government. These gender pay gaps seem to converge to the same level as women’s average pay forms 92% of men’s average pay in 2000/2001 for both. In the private sector the gender pay gap is higher – and almost stable in the period at a level where women’s average pay amounts to around 84% of men’s average pay.

The highest gender pay gap is found in managerial work at high level in central government and the private sector, where women’s average pay only amounts to less than 80% of men’s average pay in the end of the period, and only 75 percent in the private sector. Women will thus in average have to raise their pay with 30 per cent to have the same average pay as men in this category in the private sector.

In the other end of the qualification scale – named “other work” (which covers cleaning etc) the pay gap is increasing in the public sector and is almost as high in central government as in the private sector in 2000 around 85%.

Women's pay ratio of men's pay - average pay

Sources: Statistikbanken. Data is shown in Annex 2 table 2.
Note: Only ratios where both women and men form more than 1000 employees in the category in the total period are shown.
2. Review of Danish studies that estimate an adjusted gender pay gap

As earlier mentioned one of the most important studies in recent years in Denmark is the study “Lønforskelle mellem kvinder og mænd i Danmark“ (Pay differences between women and men in Denmark) by Pedersen and Deding (2000) made for and financed by the former Ligestillingsråd (Equality Council) and Arbejdsminderiet (Ministry of Labour).

This study combines a Human Capital approach with the theory on the segmented labour market. The study is based on the Danish Central Bureau of Statistics’ New Earning and Income Statistics for the year 1996, which was the only year with comparable and reliable data, when the study was conducted. The study includes employees in the age group 25-59 years old and uses data on different types of pay, hours of work, hourly earning, trade (in 9 and 27 categories), workplace locality and occupation. Occupations are divided in 9 categories in a special Danish version of the ILO and EU official nomenclature for occupation based on education and skills. This makes pay comparable between employees within the same category.

This data is combined - on an individual basis - with following data from other registers at the Danish Central Bureau of Statistics:

- Data about family: that is on marital status, cohabitation as well as number of children between 0 and 2 years (crèche children), 3 and 6 years (kindergarten children) and 7 and 17 years old (schoolchildren or older).
- Data on education: highest educational level (in 7 categories: basic school, general upper secondary education, general/vocational upper secondary education, vocational education and training, short cycle higher education, medium cycle higher education, and long cycle higher education) and time spent in in-service and training courses within the last 5 years before 1996.
- Data on absence from the labour market within the last 5 years prior to 1996 divided in maternity, educational and sabbatical leave, unemployment, sick leave and forms of job training.
- Finally data on insurance systems divided in part-time insurance and full time insurance – used as an indicator as to whether the person holds a part-time or a full-time job.

The limitation to the age group 25-59 years excludes most students and people on early retirement – in fact it excludes a high percentage of part-timers as the part-timers of today in Denmark are mostly persons under education or seniors gradually leaving the labour force (Emerek 2002). Furthermore, jobs under 200 hours or over 2500 hours a year are not included. The study includes 938 867 observations.
The study concludes that the gender pay gap has no precise size as it depends on the measurement of pay and hours of work. The study uses 3 different pay-measures:

- **Hourly earnings**,  
- **Total earnings related to the number of wage hours** (that is, agreed normal working hours) and **total earnings related to the number of hours worked**  
- and gives an overall impression of the differences based on average (shown in Table 1).

Table 1. **Different measures for hourly average pay for male and female employees (25-59 years old) in 1996**

<table>
<thead>
<tr>
<th>Sector</th>
<th>Hourly earnings</th>
<th>Total earnings related to the number of wage hours</th>
<th>Total earnings related to the number of hours worked</th>
</tr>
</thead>
<tbody>
<tr>
<td>Private</td>
<td>Women</td>
<td>126.68</td>
<td>143.19</td>
</tr>
<tr>
<td></td>
<td>Men</td>
<td>153.17</td>
<td>174.59</td>
</tr>
<tr>
<td>Public (central government)</td>
<td>Women</td>
<td>132.83</td>
<td>131.33</td>
</tr>
<tr>
<td></td>
<td>Men</td>
<td>147.02</td>
<td>145.40</td>
</tr>
<tr>
<td>Public (local government)</td>
<td>Women</td>
<td>122.22</td>
<td>117.58</td>
</tr>
<tr>
<td></td>
<td>Men</td>
<td>136.94</td>
<td>135.17</td>
</tr>
<tr>
<td>Pay gap: measured as</td>
<td></td>
<td>%</td>
<td>%</td>
</tr>
<tr>
<td>women’s pay in percentage</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>of men’s pay</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Private</td>
<td>82.7</td>
<td>82.0</td>
<td>83.3</td>
</tr>
<tr>
<td>Public (central government)</td>
<td>90.3</td>
<td>90.3</td>
<td>94.3</td>
</tr>
<tr>
<td>Public (local government)</td>
<td>89.3</td>
<td>87.0</td>
<td>108.9</td>
</tr>
<tr>
<td>Pay gap: measured as</td>
<td></td>
<td>%</td>
<td>%</td>
</tr>
<tr>
<td>men’s pay minus women’s pay</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Private</td>
<td>20.9</td>
<td>21.9</td>
<td>20.1</td>
</tr>
<tr>
<td>Public (central government)</td>
<td>10.7</td>
<td>10.7</td>
<td>6.0</td>
</tr>
<tr>
<td>Public (local government)</td>
<td>11.8</td>
<td>15.0</td>
<td>-8.2</td>
</tr>
</tbody>
</table>

Sources: Pedersen and Deding (2000)

These simple average calculations demonstrate the sensitivity of the measure. Women’s earnings are relatively higher for total earnings related to the number of hours worked than for the other two measures. This indicates, that women to a greater extent are compensated for absence, which not only includes pay in case of sickness and public holidays but also maternity leave as well as time off in case of sick children – if this is paid by the employer. This is the case in the public sector and in a minor part of the private sector, and may explain why the pay gap measured as total earnings related to the number of hours worked is low in the central government sector, and even to women’s advantage in the local public sector.
Although the study recommends total earnings related to the number of hours worked as the most accurate measure of pay, all 3 measures are used in the study’s decomposition (with the Oaxaca-method) of the pay gap in 3 different analyses:

- firstly by human capital (in the broad sense in form of education, labour market experience absence and family), sector and occupation (model 1),
- secondly by human capital, trade (in 9 categories) and occupation (model 2),
- and thirdly by human capital, trade (in 27 categories) and occupation (model 3)

The study concludes that the gender pay gap primarily is explained by the different distribution of male and female employees on sectors, as earnings in the private sector in general are higher than in the public sector. Sector constitutes 35-43 per cent of the pay gap depending on the measure used, as table 2 shows. Women are to a much greater extent employed in the public sector – especially in local government.

Table 2.: Decomposition of the pay gap by different measures for hourly average pay for male and female employees in total (25-59 years old) in 1996

<table>
<thead>
<tr>
<th>Sector</th>
<th>Hourly earnings</th>
<th>Total earnings related to the number of wage hours</th>
<th>Total earnings related to the number of hours worked</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>( \frac{w_f - w_f}{w_f} )</td>
<td>( \frac{w_f}{w_m} )</td>
<td>( \frac{w_f - w_f}{w_f} )</td>
</tr>
<tr>
<td></td>
<td>%</td>
<td>%</td>
<td>%</td>
</tr>
<tr>
<td>Model 1</td>
<td>Human Capital</td>
<td>3 19,4</td>
<td>3,5 17,5</td>
</tr>
<tr>
<td></td>
<td></td>
<td>5,4 34,8</td>
<td>8,6 43,0</td>
</tr>
<tr>
<td></td>
<td>Occupation</td>
<td>1,1 7,1</td>
<td>1 5,0</td>
</tr>
<tr>
<td></td>
<td>Unexplained in model</td>
<td>6 38,7</td>
<td>6,9 34,5</td>
</tr>
<tr>
<td>In total</td>
<td>15,5 100,0 86,6</td>
<td>20 100,0 83,3</td>
<td>12,4 100,0 89,0</td>
</tr>
<tr>
<td>Model 2</td>
<td>Human Capital</td>
<td>3 19,4</td>
<td>3,5 17,5</td>
</tr>
<tr>
<td></td>
<td>Trade (9 categories)</td>
<td>3,2 20,6</td>
<td>5,8 29,0</td>
</tr>
<tr>
<td></td>
<td>Occupation</td>
<td>2,2 14,2</td>
<td>2,6 13,0</td>
</tr>
<tr>
<td></td>
<td>Unexplained in model</td>
<td>7,1 45,8</td>
<td>8,4 42,0</td>
</tr>
<tr>
<td>In total</td>
<td>15,5 100,0 86,6</td>
<td>20 100,0 83,3</td>
<td>12,4 100,0 89,0</td>
</tr>
<tr>
<td>Model 3</td>
<td>Human Capital</td>
<td>3 19,4</td>
<td>3,5 17,5</td>
</tr>
<tr>
<td></td>
<td>Trade (27 categories)</td>
<td>4,2 27,1</td>
<td>7,2 36,0</td>
</tr>
<tr>
<td></td>
<td>Occupation</td>
<td>2,8 18,1</td>
<td>3 15,0</td>
</tr>
<tr>
<td></td>
<td>Unexplained in model</td>
<td>5,5 35,5</td>
<td>6,3 31,5</td>
</tr>
<tr>
<td>In total</td>
<td>15,5 100,0 86,6</td>
<td>20 100,0 83,3</td>
<td>12,4 100,0 89,0</td>
</tr>
</tbody>
</table>

Sources: Pedersen and Deding (2000: p.46-47)

Note: \( w_f \) equals women’s pay and \( w_m \) men’s pay, see note to table 3.
In the public sector women would have to increase their pay 9-12 per cent to have the same pay as men - depending on the measure used, as table 3 shows. This gender pay gap is mostly due to the fact that men employed in this sector have a higher education and are placed higher in the job hierarchy. Only 1–3 percent of this 9-12 per cent gender pay gap cannot be explained by factors in the study. In the public sector women gain less from their education and high placed occupations than men, as they have generally lower earnings than men given the same education and occupation. However, as employees in the public sector are given compensation for absence, the pay gap is to women’s advantage, when it is measured as total earnings related to the number of hours worked. Especially women with small children gain by compensation for absence.

Table 3.: Decomposition of the pay gap by different measures for hourly average pay for male and female employees by sector (25-59 years old) in 1996

<table>
<thead>
<tr>
<th>Sector</th>
<th>Hourly earnings</th>
<th>Total earnings related to the number of wage hours</th>
<th>Total earnings related to the number of hours worked</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>( \frac{w_m - w_f}{w_f} )</td>
<td>( \frac{w_f}{w_m} )</td>
<td>( \frac{w_m - w_f}{w_f} )</td>
</tr>
<tr>
<td></td>
<td>%</td>
<td>%</td>
<td>%</td>
</tr>
<tr>
<td>Private sector</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Human Capital</td>
<td>3.3</td>
<td>19.9</td>
<td>3.5</td>
</tr>
<tr>
<td>Occupation</td>
<td>0.8</td>
<td>4.8</td>
<td>0.9</td>
</tr>
<tr>
<td>Unexplained in model</td>
<td>12.5</td>
<td>75.3</td>
<td>12.6</td>
</tr>
<tr>
<td>In total</td>
<td>16.6</td>
<td>100.0</td>
<td>85.8</td>
</tr>
<tr>
<td>Public sector (central)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Human Capital</td>
<td>5</td>
<td>50.5</td>
<td>4.7</td>
</tr>
<tr>
<td>Occupation</td>
<td>3.3</td>
<td>33.3</td>
<td>3.4</td>
</tr>
<tr>
<td>Unexplained in model</td>
<td>1.6</td>
<td>16.2</td>
<td>1.6</td>
</tr>
<tr>
<td>In total</td>
<td>9.9</td>
<td>100.0</td>
<td>91.0</td>
</tr>
<tr>
<td>Public sector (local)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Human Capital</td>
<td>7</td>
<td>66.0</td>
<td>6.9</td>
</tr>
<tr>
<td>Occupation</td>
<td>2.8</td>
<td>26.4</td>
<td>2.6</td>
</tr>
<tr>
<td>Unexplained in model</td>
<td>0.5</td>
<td>4.7</td>
<td>2.1</td>
</tr>
<tr>
<td>In total</td>
<td>10.3</td>
<td>97.2</td>
<td>90.7</td>
</tr>
</tbody>
</table>

Sources: Pedersen and Deding (2000: p.46-47)

Note: \( w_f \) equals women’s pay and \( w_m \) men’s pay,

\[
\frac{w_f}{w_m} = 1 + \left( \frac{w_m - w_f}{w_f} \right)^{-1}
\]
The gender pay gap is higher in the private sector. Here women would have to increase their pay 16-17 per cent to have the same pay as men - depending on the measure used. The greater part of it (75 per cent) cannot be explained by factors in the study – men’s higher education and higher placing in the job hierarchy explain only a smaller part. Children seem to have no negative effect on pay.

Pedersen and Deding suggest, that the results of the study may indicate, that women actually choose to work in the low paid public sector, where they have a greater flexibility and better possibilities for reconciling work and family (Pedersen and Deding 2000:18). The result is interesting in the discussion of the gender-segregated labour market as the explanation of the gender pay gap. The gender pay gap thus connected to alternative payment in forms of flexibility and family friendly advantages may as well be part of the cause and explanation for the stability of the gender segregation. In her book on the segregated labour market Udsen also argues that different developments of fringe benefit on the female and male dominated labour markets will contribute to increasing gender segregation (Udsen 2002).

Beskæftigelsesministeriet (Ministry of Employment) will publish a follow up to Pedersen and Deding’s study with almost the same variables in 2003. The new study is expected to cover the period 1997-2001, and will thus give an idea of the latest development - stability or trends - in the gender pay gap. This is particularly important, as the wage setting has been changed in the public sector from 1998.

The Danish Employers' Confederation (DA) has questioned the results in Pedersen and Deding’s study. They argue that pay in the private sector for the individual employee is composed of formal as well as of informal qualifications, that is education, experience, engagement, efficiency etc. (DA 2001), and that although all these factors are not measurable, measurable factors explain most of the gender pay gap at DA’s part of the labour market. Furthermore women and men chose different education and trade, and they have different occupational functions in the highly segregated Danish labour Market. Therefore women and men’s pay cannot be compared at an aggregated level.

DA has in the annual report from 2001 published a study of the gender pay gap in the private sector. The study is based on data from 1998 from DA’s own registers on more than
400,000 employees and a 10 percent sample from the database IDA\(^4\) in Denmark Central Bureau of Statistic supplemented by information from other registers. This gives access to almost the same factors as used in Pedersen and Deding's study. Wage is given as total earnings related to the number of hours worked, DA argues that this is the most suitable method when measuring the gender pay gap (DA 2001:142). In an internal document on Pedersen and Deding's study Udsen questions this and argues, that using this method to calculate the gender pay gap may be giving misleading results (Udsen, 2001). Women as a group are more absent from work than men are as a group. If a group of men and a group of women have the exact same basic pay, the exact same fringe benefits etc., the women will according to this measure thus have a *higher* hourly pay than the men, simply because they have a higher degree of absence. Udsen argues that this concept is closer to describing the costs of hiring women rather than the wage the women actually receive. To an employer the average cost of hiring a woman is very relevant, but to the individual woman it is her actual wage that is relevant – not her employer’s costs.\(^5\)

The gender pay ratio is measured as the difference in men and women’s pay according to men’s pay (which will make the difference seem less, as men have higher pay). For blue collar workers pay is decomposed by work experience, education (in 50 categories), occupational functions (in 182 categories), trade (in 106 categories), the number of children between 0 and 2 years (crèche children), 3 and 6 years (kindergarten children) and 7 and 17 years old (schoolchildren or older), number of years on parental leave, number of years on education of sabbatical leave and urbanization (in 3 categories). For white collar workers pay is decomposed by the same factors (where education is measured in 52 categories, occupational function in 219 categories and trade in 104 categories) together with a factor on full-time or part-time.

\(^4\) The Integrated Database for Labour Market Research, which contains register based information on each person in the Danish population and each Danish workplace since 1980. The database contains an estimation of the hourly pay annually from 1980. The database is described in *IDA – en integreret database for arbejdsmarkedsforskning* (IDA an integrated data base for labour market research) (Danmarks Statistik 1991 – or [www.dst.dk/data/18240/18240.pdf](http://www.dst.dk/data/18240/18240.pdf)) and the estimation of hour worked and the hourly pay as well as the discussion of the quality of the estimates is found in *Timeløn og arbejdsomfang i den enkelte ansættelse* (Danmarks Statistik 1991).

\(^5\) Udsen discuss the question how to treat absence in equal pay statistics: If absence is deducted from the hours worked, women’s pay will be over-estimated. If absence is not deducted from the hours worked, the employers’ costs will be underestimated in the case of paid absence. The recent revision of the Danish equal pay law has brought this dilemma out in the open. Gender pay differences based on relevant criteria are unquestionably legal. Education, training and seniority have been recognised as such relevant criteria. Are differences in absence a legal criteria for pay differences between groups? If so individual women will most likely be victims of statistical discrimination, where characteristics of a group is transferred to an individual without knowledge of whether or not her behaviour is in accordance with the group (Udsen 2001).
Based on this study DA finds (using the Oaxaca method) that the gender difference in the average pay in relation to men’s pay is 15 per cent for blue collar and 26 per cent for white collar workers with no management responsibility. This is respectively equivalent to a gender pay ratio of 85 per cent and 74 per cent (see table 4).\(^6\) 12 of this 15 per cent (corresponding to 79 per cent of the gender pay ratio) for blue collar workers can be explained by measurable factors. For white-collar workers these factors explain 19 of the 26 per cent relative gender pay gap (corresponding to 69 per cent of the gender pay ratio).

The most important factor is the occupational function, which together with trade amount to more than half of the explanation. Human capital factors as education and work experience amount to around a quarter of the gender pay ratio, which is the same level as found by Pedersen and Deding, and similarly leave, number of children and urbanization has almost no influence. DA’s study indicates that education as such is not the complete answer to the problem of the gender pay gap.

Table 4: **Decomposition of the pay gap by different measures for hourly average pay for male and female employees in the private sector (18-65 years old)**

<table>
<thead>
<tr>
<th></th>
<th>Blue collar workers with no management responsibility</th>
<th>White collar workers with no management responsibility</th>
</tr>
</thead>
<tbody>
<tr>
<td>( \frac{w_m - w_f}{w_m} )</td>
<td>( \frac{W_f}{W_m} )</td>
<td>( \frac{w_m - w_f}{w_m} )</td>
</tr>
<tr>
<td>%</td>
<td>%</td>
<td>%</td>
</tr>
<tr>
<td><strong>Human Capital:</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>education</td>
<td>2,6</td>
<td>16,7</td>
</tr>
<tr>
<td>education in interaction with experience</td>
<td>1,3</td>
<td>8,3</td>
</tr>
<tr>
<td><strong>Occupational function</strong></td>
<td>6,5</td>
<td>42,5</td>
</tr>
<tr>
<td>Trade</td>
<td>1,5</td>
<td>9,5</td>
</tr>
<tr>
<td>Children, leave and urbanisation</td>
<td>0,4</td>
<td>2,3</td>
</tr>
<tr>
<td>Unexplained in model</td>
<td>3,2</td>
<td>20,7</td>
</tr>
<tr>
<td><strong>In total</strong></td>
<td>15,4</td>
<td>100,0</td>
</tr>
</tbody>
</table>

Sources: Dansk Arbejdsgiverforening (DA) (DA2001: 160-161)

Note: \( w_f \) equals women’s pay and \( w_m \) men’s pay, \( \frac{w_f}{w_m} = 1 - \left( \frac{w_m - w_f}{w_m} \right) \).

---

\(^6\) The differences are here equivalent to 18 per cent in relation to women’s pay for blue collar workers and 35 per cent for white collar workers (calculated on bases of table A5.2 and table A5.3 (DA 2001))
Though DA in this way have decomposed the pay gender gap in great detail, unfortunately without investigating the interaction of education and occupational function and trade, there is still a relatively high percentage of the gender pay gap unexplained at this very disaggregated level. DA argues that this is mostly due to an underestimation of men’s overtime and an underestimation of especially women’s absence due to illness. The pay differences vary by age; the older the age the higher the gender pay gap. DA’s interpretation of this correlation is that formal qualification is more important and that gender plays no role, and the conclusion is, that gender differences among older employees are affected by informal personal characteristics which are difficult to measure – not by gender as such. DA has as such tried - without full success - to decompose the gender pay gap away, concluding that the gender pay gap is mostly due to women’s (and men’s) personal choice of education and job.

**Studies on gender differences in pay based on longitudinal data**

Former economic studies of the pay gap have not had access to the new pay statistics. They have either been based on Registers for Labour Market research, mainly IDA or on the surveys of special occupations and trades or special workplaces or branches of trade or lines of business. Recent studies based on the register based longitudinal data discuss the development within the last twenty years and point to some of the same results as Pedersen and Deding have found, based on the new pay statistics.

A study by Naur and Smith (1996) compares ten years birth cohorts in 1980 and 1990 (20-29 years, 30-39 years and 40-49 years in 1980) and decomposes the pay gap by the Oaxaca-method. This study is based on data from a Danish longitudinal database containing 5 per cent of the population. The main conclusion of the study is that even though the youngest cohort has a lower gender pay gap in 1980, they have the same gender pay gap in 1990 as the older cohorts. The explanations are however not the same for the different cohorts. In the oldest cohort the major factor in explanation of the pay gap is lack of human capital (measured by length of education and labour market experience in years), while sector and occupation seems to be more important in the explanation of the gender pay gap for the youngest and medium cohort. The study finds no direct evidence that family responsibility and children increase the pay gap. The authors argue however that family variables may still be important for the gender pay gap because of new types of statistical discrimination resulting from the extension of maternal/parental leave schemes or by choices of occupation and sector by the individual woman or man - or within the families.
A study by Gupta, Qaxaca and Smith (1998) based on the same database for 1983, 1989 and 1994 shows that the gender pay gap is stable in the public and private sector covering these years. This stability covers however substantial changes that have had a neutralising impact on each other. Women do improve their qualifications relatively to men under the period in the public as well as in the private sector. In the public sector none of the included factors (experience, education, locality of workplace, qualification, level of occupation) in the analysis can explain why this does not influence the gender pay gap. In the private sector the study shows, that the increases in women’s human capital to a large extend is neutralised by an increase in skill prices, which favours men. The study argues, that “one of the key explanations of the stagnating Danish gender gap may be the large public sector which employs a large fraction of female workforce at relatively low wages” (Gupta, Oaxaca and Smith 1998:21) and that this is especially the case for the more qualified employees. The political conclusion of the paper is that private sector market prices applied to the public sector would improve the overall gender pay gap. Under the assumption, that the wage formation processes in the public and private sector are not affected by a major privatisation of the public sector service production, this would be the most obvious way of applying private sector market prices to the public sector. The study uses a new method as well as Juhn-Murphy-Pierce and Oaxaca-Ransom decomposition and establishes the differences and equivalence between the methods.

In a later study by the same authors the developments in Denmark and in the U.S are compared (Gupta, Oaxaca and Smith 2001). The study covers the period 1983-1995, and the Danish data stems from a longitudinal database on 0.5% of the Danish population. The study uses the new decomposition method that includes the overall wage-distribution that is discussed in the author’s earlier work mentioned above (Gupta, Qaxaca and Smith (1998)). Only the Danish results are reported here. The study indicates that although Danish women have improved their education, qualifications and work experience in the period, and at the same time improved their wages though these increases, women suffer from negative wage effects of experience and education prices and for being in the public sector. The gender pay gap is thus slightly increasing in the period as women’s gains are “wiped out by the increase in observed skill prices which hurt women relatively to men.” (Gupta, Oaxaca and Smith, 2001:21). The authors also put it this way:” it can be said, that the average Danish women is floating downstream in this period, in that rising observed skill prices and selection effect more than offset women’s skills improvement” (2001:21). Women at the 90’th decile have improved their qualifications the most, women at the 10’th decile the least, while the skill prices have hurt women at the 90’th decile most, giving this group an increase in the gender pay gap. This indicates a glass ceiling effect in Denmark, and the increasing problems of the more educated and qualified Danish women in keeping up with
their male counterparts regarding wages. The findings for the 90’th decile are supported by the findings in table 4 for the period 1996-2000. The highest gender pay gap is found in managerial work at high level in the central government and private sector, where women’s average pay only amounts to less than 80% of men’s average pay in the end of the period.

The authors suggest that the Scandinavian welfare state model may have a boomerang effect on women’s position.

The study by Gupta and Rothstein (2001) discusses the findings of Pedersen and Deding on the private sector. The study covers the period 1980-1995 (using 1983 and 1995 as years for comparison) and is based on IDA. It focuses on salary workers in the private sector. It includes education length, age, years of work experience, occupation (3-digit code), industry (2-digit code with 52 industrial classifications), establishment and job cell (occupation within establishment) as explanation factors along with four measures of gender concentration (proportion of females in occupation, industry, establishment and job cell). In Denmark job cells are the most gender segregated, followed by occupation, gender segregation is less at industry and establishment level. The study concludes, “that occupation differences account for much of the pay gap between men and women.” However, “even in the fullest specification, which includes human capital characteristics and job-cell fixed effects, men and women earn different wages within job cells.” (Gupta and Rothstein 2001:12). The authors suggest that an investigation into the underlying reasons why men and women enter different occupations is important for understanding one of the primary causes of the gender pay gap, as well as an unveiling of why men and women are paid differently within jobs and within establishments, would provide insight into the stability of the gender pay gap.

A study by Gupta and Smith (2000) documents that children or the number of children do not seem to have a negative effect on women’s wages in Denmark although there are differences due to occupational level and sector. Women are less penalised from having children in the public than in the private sector; in fact the effect of having children seems to be slightly positive in the public sector. The study covers the period 1980-1995 using a sub-sample of a longitudinal database. There is however evidence that the wage profiles of mothers have increased slower relative to men and non-mothers after 1984, where the leave scheme for parents after the child was born was introduced and further extended in 1985. This may indicate that the extension of leave policies has had an adverse impact on the earnings potential of mothers relative to other groups. The parental leave scheme is mostly used by mothers (in more than 95% of the cases in the period 1985-1995). The authors final remark is “A final policy prescription that could narrow the gender gap in earnings would be the extension of paternity leave schemes” (Gupta and Smith 2000:29).
This topic is further developed in the most recent and not yet published study by Nielsen, Simonsen and Verner (2002). The authors argue that a natural consequence of the difference in birth-related interruptions and child penalties across sectors, would be that mothers (and potential mothers) choose the public sector with family friendly working conditions, and that the selection into family friendly occupations may not be random. The hypothesis is that “rational females who expect to have children choose the public sector deliberately to collect the benefits of family-friendly policies and to avoid the penalty of the private sector” (Nielsen, Simonsen and Verner (2002:1)). Therefore the paper investigates whether the family gap (caused by children and leave) is driven by self-selection into the public and private sectors. Data used in the empirical analysis is a sub-sample of women aged 20-40 years of a 5%-sample of all Danish individuals aged 15-74-age with individual event history in terms of periods of employment, unemployment, maternal leave and publicly subsidised leave (child rearing, sabbatical or educational) on a weekly basis.

The analysis is a cross-section analysis of individuals in 1997, using the retrospective information on the labour market history. The main instrument to identify the parameters of the sector choice is the sector of employment for the parents measured when the woman was 15-17 years. In the model specifications that allow for endogenous fertility, the number of younger siblings is an instrument for fertility. The method used is based on human capital theory, and models a dependent variable measuring log hourly wages.

The authors find that having children increases the probability of being employed in the public sector. There seems to be no evidence of depreciation in the public sector, as most women experience a negative wage effect that dies out over time. “Women with the female-dominated medium length education (nurses, pedagogues and teachers) catch up completely, and women in the public sector with long further education are not at all punished wage-wise for interrupting their career to have a child. In the private sector, women loose earnings no matter the level of education and these losses are not really reduced subsequently” (Nielsen, Simonsen and Verner (2002:30). The estimation of parameters in the paper is sensitive to the endogenous choice of sector, but not to the potential endogeneity of fertility, and the authors conclude that gap in the family-friendly policies affects the women’s sector choice and affects the estimated pay gap according to children and leave. The study thus gives a further indication of an existing selection mechanism, where “pay” in form of family friendly arrangements play an important role in the persistent gender segregation at the Danish labour market.
Studies of gender differences in pay based on survey

Højgaard's study (1996) focuses on wage settings at four major Danish companies. Højgaard states that today it is hard to find employers who consciously pay women less than men at the regulated labour market. In spite of this a gender pay gap still exists but is explained by differences in education, labour market experience and occupation. However as these factors cannot explain the total difference, the purpose of Højgaard’s study is to reveal the mechanisms behind the unexplained gender pay gap. The study is based on interviews with employers and employees. The study shows that the company culture has a great impact in the explanation of the gender pay gap. As an example gender segregation can exist without creating pay differences in one company while it creates lower bonus and piece-rates in another company. The study indicates that the meaning and significance of gender and gender segregation is becoming more ambiguous as women are moving into former male dominated areas.

A study by Ibsen and Christensen (2000) discusses the new wage-setting system (New Wage) from 1998 in the public sector. The new wage-setting model includes centrally agreed basis pay supplemented by a decentralised negotiated supplement for special activities, qualifications and results. The study investigates the wage development since 1998 for employees in central and local government who receive the New Wage.7 The study concludes for central government that almost the same proportion of men and women receive supplements for special activities and qualifications, men’s supplements are however higher than women’s - in average 1000-1300 Danish kroner a month. Part of this can be explained by more women working part-time, but it is not the full explanation, and the authors call upon more research on equal pay to explain the factors behind the gender differences of the New Wage supplements.

In local government men have had a marginally higher increase in pay, and a relatively higher proportion of men held personal supplements for special functions. The qualification supplement is more equally distributed. Men’s function and qualification supplements are however in average 1500 Danish kroner a month – women’s only 1000 Danish kroner. Although it still is too early to evaluate the New Wage system from a gender perspective, the tendency seems to be that men do better than women in this new system. This explains the increasing tendencies of the pay gap in local government shown earlier in figure 3.

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7 Employees can choose to stay in the old wage system, if they were employed before the agreement of the new system, while persons employed after the introduction of New Wage have no choice, they are paid by the New Wage system.
**Ongoing and planned studies**

Quite a few new Danish projects meet the challenge to explain the unexplained gender pay gap. Among these is an unpublished study by Ipsen (2001) on New Wage and equal pay, which investigates the problem for local government in implementing of New Wage without creating and widening the gender pay gap. The study discusses the need of mainstreaming the equal pay polices and how to ensure gender neutrality of functional and qualification wage supplements. Another newly started study by Reinecke is the Danish contribution to a “European project on Equal Pay”. The aim of this project is to evaluate and analyse the consequence of New Wage in the local government in Aarhus, Køge and Ringsted municipalities. The LO (which is the Danish Confederation of Trade Unions) is planning a study of the actual negotiation process to analyse the impact of the decentralised wage-negotiation of the gender pay gap.
3. Danish institutional factors and the gender pay gap

The Danish system of wage-setting
The amount of pay is in principle fixed by agreement between the individual employer and employee. Only in very few cases, e.g. that of trainees, does the law make any stipulation regarding rates of pay. The agreement is however still in practice fairly centralised, and in the private sector the labour market is dominated by collective bargaining between the individual Employers Association organised in the Confederation of Danish Employers (DA) and the Danish Confederation of Trade Unions (LO). The General Agreement between LO and the Danish Employers' Confederation, DA, represents what is termed the "labour constitution" in Denmark, laying down the framework and regulations for collective bargaining (Reinicke 2002). In the public sector the labour market is dominated by collective bargaining between The Ministry of Finance, Local Government Denmark (LGDK) and Association of County Councils in Denmark on the employers side. On the employees side the public organisations are united in bargaining cartels (CFU) in the State and (KTO) in Municipalities and Counties. Decentralising is however in progress based on the collective bargaining between trade unions and employers.

Pay may take various forms. It may be time-based pay or payment by results. The time-based pay is attached to a fixed amount of time worked, e.g. per hour, per day, per week, or per month, whereas payment by results is directly related to output. The time-based rates stipulated in collective agreements in Denmark may be one of three different systems: normalløn - the traditional standard-wage, minimalløn - minimum wage, and mindsteløn - minimum-pay.

In the standard-wage system, the rates indicate the actual pay under the collective agreement period, and the pay is supplemented only by agreed increases. In the minimum-wage system, by contrast, the rates represent no more than a basis ("floor") and are intended to be used only for very young or inexperienced employees. The pay for other employees covered by the same collective agreement also includes a personal pay supplement. This supplement is in principle negotiated individually between the employer and each employee.

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8 DA (the Danish Employers' Confederation) is the main organisation of private-sector employers in manufacturing industry, the commercial sector, the service sector and the small-scale craft trades. LO (Danish Confederation of Trade Unions) is the principal confederation of trade unions in the private sector and a large part of the public sector.

9 The description of the wage systems is based on the chapter 6, Løndannelse (Wage setting) in Arbejdsmarkedsrapport (Labour Market Report) 1998 by DA (Dansk Arbejdsgiverforening 1998) and Reinickes report (2002).
employee on the basis of qualifications, training, length of service, degree of responsibility, etc., and thus more experienced employees in workplaces covered by a minimum-wage agreement will be paid a personal pay supplement above the minimum rate. The fact that the rate in the collective agreement is to be regarded as a minimum may be implied in the agreement, but the agreement may also contain a pay supplement clause. Thus, under the minimum-wage system there is a presumption that pay will be negotiated locally while the collective agreement is in force, which allows adjustments in pay during the agreement period. In practice, these adjustments are often negotiated collectively with the co-operation of the workplace union members' representative. The standard-wage system is used mainly in the public sector, although the New Wage with personal supplements is slowly being implemented, and among unskilled and low-paid employees, while the minimum-wage system is used typically among highly paid and skilled employees in the private sector.

Parallel to these traditional standard-wage and minimum wage systems, the minimum-pay system has been introduced in recent years. Under the minimum-pay system there is in principle no collectively agreed basic rate, it is a pure personal pay. The pay is negotiated at local level based on the relevant collective agreement, which merely establishes a "safety net" in the form of a minimum hourly rate that must be paid. For example the actual pay is not necessarily based an individual negotiation taking the employee's qualifications, length of service, training, etc. as a starting point (as is the case under the minimum-wage system). In recent years the minimum-pay is increasingly displacing the other two pay systems. It now covers the majority of employees (table 5).

Table 5: The distribution (in percentage) of employees by wage-system in the private sector 1989-1998:

<table>
<thead>
<tr>
<th></th>
<th>1989</th>
<th>1991</th>
<th>1993</th>
<th>1995</th>
<th>1997/98</th>
</tr>
</thead>
<tbody>
<tr>
<td>Standard wage</td>
<td>34</td>
<td>19</td>
<td>16</td>
<td>16</td>
<td>16</td>
</tr>
<tr>
<td>Minimum wage</td>
<td>32</td>
<td>37</td>
<td>13</td>
<td>12</td>
<td>21</td>
</tr>
<tr>
<td>Minimum pay</td>
<td>30</td>
<td>40</td>
<td>67</td>
<td>61</td>
<td>46</td>
</tr>
<tr>
<td>Without wage rate</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>11</td>
<td>17</td>
</tr>
<tr>
<td>In total</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>100</td>
</tr>
</tbody>
</table>

Sources: DA - (ArbejdsMarkedsRapport 1998)
Note: The table only covers the DA-organized employers' staff.

The Danish labour market is characterised by a high level of unionisation. Around 82 per cent of Danish employees are members of a trade union. Until the late 1980s wage negotiation were relatively centralised in Denmark. An automatic indexation of wages, which gave the highest relative compensation to low wage groups, was permanently
suspended in 1982. Wage formation in the private sector has become much more
decentralised in the 1990s. More contracts have changed into minimum wage contracts
specifying only a minimum wage. Though the bargaining system in the public sector is -
and has been - highly centralised, the same tendency is now seen in the public sector with
the introduction of New Wage, a more individually based wage system with possibilities of
rewarding individual qualifications, special functions and achievements instead of the
former seniority based system.

Payment by results exists in various forms and accounts for about a third of the total
number of person-hours worked among manual workers. The importance of the piecework
system has however been declining due to technological development. Instead various
types of bonus system have been created for payments related to the overall quality of
output, consumption of raw materials, number of disruptions in production, etc., and
another payment on the basis of collective performance has been introduced.

Until late 80’ies the wage negotiation was rather centralised in Denmark. An automatic
indexation of wages gave the highest relative compensation to low paid groups to reduce
pay inequalities. This was suspended in 1982, and wage dispersion increased during the
80’ties and 90’ties, the wage formation in the private sector has become much more
decentralised since 1989, which is part of the explanation of the increase of wage
dispersion in Denmark (Gupta, Oaxaca and Smith). The wage structure has been much
more compressed in the public sector than in the private sector in the last 30 years. The
lowest wages in the private sector are lower than the lowest pay in the public sector
whereas it is the opposite for the highest wages (Ibsen and Christensen 2000).

Though the minimum-pay-system has been introduced in the private sector - DA states that
the wage-system is still not flexible. DA bases this statement on decomposition by a Theil-
index. The decomposition for 1996 (by 11361 workplaces and 322 989 employees) shows
that:
• 29.8 percent of the wage range is explained by difference in workplaces given
employee’s characteristics,
• 38.4 per cent is explained by differences in employees’ characteristics given workplace,
• 17.1 is interaction and
• 14.7 are individual variations (unexplained by the factors in the model).
(ArbedsMarkedsRapporten, 1998). DA has not updated these results by more recent
investigations.
This study thus shows that only 15 per cent of this growing dispersion of pay is individual and not due to occupation, education and experience of the employee and differences from workplaces to workplace. The last 15 per cent is according to DA explained by high-paid employees employed by high-paying work places, which probably indicates, that an occupation is as characteristic for the workplaces as it is for employees (Dansk Arbejdsgiverforening 1998). The question is however, as to how much of the dispersion – if any - is due to statistical gender pay-discrimination.

**Part-time work**

The number of part-time jobs in Denmark has decreased, and as earlier mentioned the part-timers of today are mostly persons under education or seniors gradually leaving the labour force. The Minister of Employment has however submitted a proposal on part time to ensure that an employee and an employer freely can arrange part time work for an employee, in spite of practices and collective agreements (L 106 of the 20’th of February). In the additional remarks to the proposal the Minister of Employment argues, that the consequences of the proposal will be gender neutral. It addresses the part of the labour market with no previous access to part time work, which is mainly the male dominated labour market, thus giving men opportunities of part time work, similar to those of most women, who already predominate the number of part-timers. If so, it should enable employees to stay in the labour market on part time and postpone retirement, thus improving employability. It is difficult to predict if this argument is a valid one. Investigation of previous work time arrangement regarding different forms of leave and sabbatical show that women use these arrangement to a greater extent than men (Emerek 2000). The opposite supposition is that it may only increase the percentage of part-time working women, as women working at the male dominated labour market will now gain access to part time work. If so this may influence the wage-setting and the gender pay gap in a negative direction in the minimum-wage and minimum-pay systems, as the personal supplements or personal wage probably will be relatively lower for part-timers, as indicated by Ibsen and Christensen (2000).

**Childcare and other leave arrangements**

The Danish childcare system almost covers the need for childcare. Yet, the Minister of Social Affairs (same person as the Minister of Gender Equality) has submitted an amendment proposal to the Act on Social Service and Act on Active Social Policy concerning subsidy to the care of one's own children in the age group 24 weeks to six years.
It is stated directly in the gender assessment remarks to the amendment, that this proposal gives men and women an equal right to use the arrangement. The Ministry of Social Affairs expects however that the subsidy to the care of one’s own children will mainly be used by women, as the present parental leave is almost totally used by women.

The Minister of Social Affairs has also submitted another amendment proposal to the Act on Social Service concerning the employment of persons up to six months to care for disabled or very sick dependants in (L 128 by 27’th of February 2002). At the same time these persons are to be guaranteed leave from their normal job by an amendment proposed by the Minister of Employment (L 124 by 27’Th of February 2002). The gender assessment of these two proposal amendments are (like the gender assessment concerning subsidy to the care of one’s own children) that the proposals give men and women equal right to use the arrangement. It is however also expected, that predominantly women will use the arrangement.

In addition the Ministry of Employment submitted an amendment proposal on maternity and paternity leave and parental leave (L 47 by 25’Th of January 2002). The amendment was passed by the 20’th of March 2002, removing the right to parental leave for children born after that date. The maternity/paternity leave is extended to a year in total. The arguments for the amendment were to better the condition for families with children, to make it possible to reconcile work and family, and make maternity/paternity leave more flexible. It is stressed in the gender assessment of the proposal amendments that both mothers and fathers are given an individual right to leave, and that individual rights and flexibility as well as the economic compensation (full unemployment benefit for half the period) may make fathers more motivated to leave taking. Gender assessment of prolonging the maternity/paternity leave has pointed to the necessity of giving special rights to the father (as to the mother), and warned against the negative gender equality consequences of the present law reform.

One household will normally only be able to obtain maximum 3 subsidies. It is however up to the individual local authority in the municipality to determine the size of the subsidy within a frame of maximum 85% of the net expenditure of childcare for the child’s age group. It can normally be given up to one year per child.

The mother still has to take 2 weeks maternity leave after the birth of the child, following this period she still has a right to 12 weeks leave, a total of 14 weeks with unemployment benefit. The father can take 2 weeks paternity leave with unemployment benefit during the first 14 weeks after the child is born – normally just after. Subsequently both parents have a right to 32 weeks of leave each giving a total of 64 weeks, which they can claim whenever they (and their employers) wish until the child is 9 years old. The parents have a right to full unemployment benefit for a total of 32 of these 64 weeks.
A wider gender pay gap must be the result of the new childcare and leave policies. Although it is necessary to better conditions for families especially for families with children, the new leave schemes will probably result in women loosing contact with the labour market and falling back in pay. Gupta and Smith’s study from 2000 indicates that the extension of leave policies has adverse impact on the earning potential of mothers relative to other groups, and the authors recommend an extension of paternity leave as an important policy prescription to narrowing the gender gap in earnings. The new leave schemes may thus speed up the inertia in the relation between pay and segregation and lead to a still deeper gender gap and still higher gender segregation.

**Public sector restructuring**

The government has made a significant cut in public expenditure by reduction of employees in the public sector, reduction in advisory councils and boards, and wholesale closing of expert and research centres. The government plans to make further cutbacks. The effect of the governments first initiatives increase the flow out of work, reduce the work force of persons over 60, and the unemployment rate in academic trade unions is however growing since the new government started, and is 4 percent for men and 6 per cent for women by august 2002. This is makes a turning point as the unemployment rate in academic trade unions has been declining since 1995 The result for wage setting and the gender pay gap is not yet known.
4. Policy review

Arbejdsministeriet (the Ministry of Labour) placed equal pay on the agenda by arranging 3 conferences on equal pay in autumn 1999. The ministry of Labour published 3 booklets on the subject concerning the gender pay gap: gender and prestige (Udsen 1999), new gender neutral wage systems (Udsen and Petersen 1999a) and job evaluation as a tool for equal pay (Udsen and Petersen 1999b). Although the former minister of labour even promised to follow up this conference with a new conference the following year, where all the investigations and studies after the first 3 conferences should be discussed, we'll have to wait till another time for this. A consequence of the discussion on the explanation of the gender pay gap was that the former minister for equality put forward a bill proposing enterprise gender broken wage statistics and a ban on the use of wage-confidentiality. The Act on Enterprise-based Wage Statistics broken down on gender was adopted in June 2001. The Minister of Employment in the new government has however submitted an amendment proposal (L 106 by 20'Th of February) to the Act on Equal Pay for Men and Women, which temporarily postpones this act on the grounds of administrative problems. The minister argues that this will have no consequences for equality, as there are alternative ways of ensuring equal pay. The minister calls on the social partners to find these alternative ways and solutions.

This is now the situation of the Danish equal pay discussion - although researchers have shown that part of the gender pay gap should be found within occupations and although researchers have warned against an extension of maternity leave and proposed an extension of paternity leave.
Bibliography


Højgaard, Lis (1996) *Køn og Løn* (Gender and Pay), Samfunds litteratur, Copenhagen.


Pedersen, Lisbeth and Mette Dedinger (2000): Løn forskelle mellem Kvinder (Pay differences between women and men in Denmark), Socialforskningsinstitutet, 00:4, Copenhagen.


Statistikbanken: http://www.statistikbanken.dk/
Udsen, Sanne (1999): Køn og prestige – jo flere kvinder, jo lavere løn (Gender and prestige - the more women, the lower pay), Arbejdsmisteriet.

Udsen, Sanne (2001): Lønforskelle mellem kvinder og mænd i Danmark (Pay differences between women and men in Denmark), Økonomisk responsum: Bemærkninger til rapporten fra SFI udarbejdet af Lisbeth Pedersen og Mette Deding, Internal document to Dansk Sygeplejeråd (the Danish Association of Nurses), Copenhagen.

Udsen, Sanne (2002): Kønsarbejdsdeling og arbejdsmarkedet (Gendersegregation and the Labour mMarket), Beskæftigelsesministeriet.


Videnscenter for Ligestilling (2001): Og så er der lige lønnen (And then the pay).
Annex 1 Outline for national reports

The report should be organised around the following four sections.

1. National measures of the unadjusted gender pay gap
This review of pay trends ought to utilise the sources of wage data that are most widely cited in national debates and discussions regarding the gender pay gap – this may include national wage data in some countries and international data in others. It is expected that this will involve use of already published data (either from existing studies or official reports). The time length chosen is obviously restricted by the data source, but ideally ought to cover the 1980s to the present.

- Review of pay trends over time: unadjusted gender pay gap for full-timers and for all workers; average nominal pay for female full-timers, female part-timers, male full-timers, male part-timers.
- Low pay trends over time: ratio of lowest decile wage (by sex) to the median for all male full-time workers; shares of male and female workers earning less than two thirds of the median for all male full-time workers.
- Wage inequality trends over time: ratio of lowest to highest decile (by sex and for all workers).

2. Review of national studies that estimate an adjusted gender pay gap and comparison with estimates of unadjusted pay gaps. For each study,

- Report the unadjusted and the adjusted gap.
- Identify the source of data (and any notable limitations, such as problems of coverage of sectors, small firms, etc) and the method of decomposition (eg. Oaxaca, Blinder, Neumark, Juhn-Murphy-Pierce, others).
- Identify the variables used in the estimation of the wage equations (eg. education, age, marital status, occupation, etc.) and report those variables that are most significant in adjusting for the gender pay gap.

- Are there any interesting results regarding gender differences in wage rates paid for similar characteristics?
- Report the policy recommendations (if any). Does the study identify policy actions associated with factors that account for the ‘explained’ gap (due to gender differences in education, occupation, etc.) or solely with the remaining adjusted (‘unexplained’) gap?
- Report the main findings of studies that seek to explain the ‘unadjusted’ pay gap using other methods.
### 3. National institutional factors and the gender pay gap

- Describe the national system of wage-setting and recent changes (at national, sectoral and firm levels) that impact on gender wage inequality.
- How is low pay regulated? Is there evidence of changes in this area shaping the gender pay gap? Are there government policies of subsidising low paid jobs? Regarding the minimum wage (or industry minima where no minimum wage is in place) provide information on: trends in the level set; coverage (by male/female); youth rates; uprating agreements; and enforceability issues. Report the trend in the ratio of minimum to median male full-time pay (excluding overtime).
- Regulation of pay (and other benefits) for part-time workers and any recent changes (last three years) that may have impacted on the gender pay gap.
- Recent changes in childcare and parental leave infrastructure that may have impacted on the gender pay gap by altering women’s patterns of labour market behaviour compared to men’s.
- Economic prospects for the major low paying sectors (for example, retail, textiles, etc.) in terms of national trade and industrial policy, pay and employment conditions, etc.
- Public sector restructuring and the impact on the gender pay gap (including issues such as reduced public spending, privatization, outsourcing). Key focus on prospects for qualified nurses and teachers.
- Other issues that are likely to shape the gender pay gap, which may be specific to the particular country (eg. review of job classification systems, important legal cases, etc.).

### 4. Policy review

- Critical assessment of main national policies associated with efforts to close the gender pay gap. How important is the adjusted gender pay gap approach within national policy discussions?