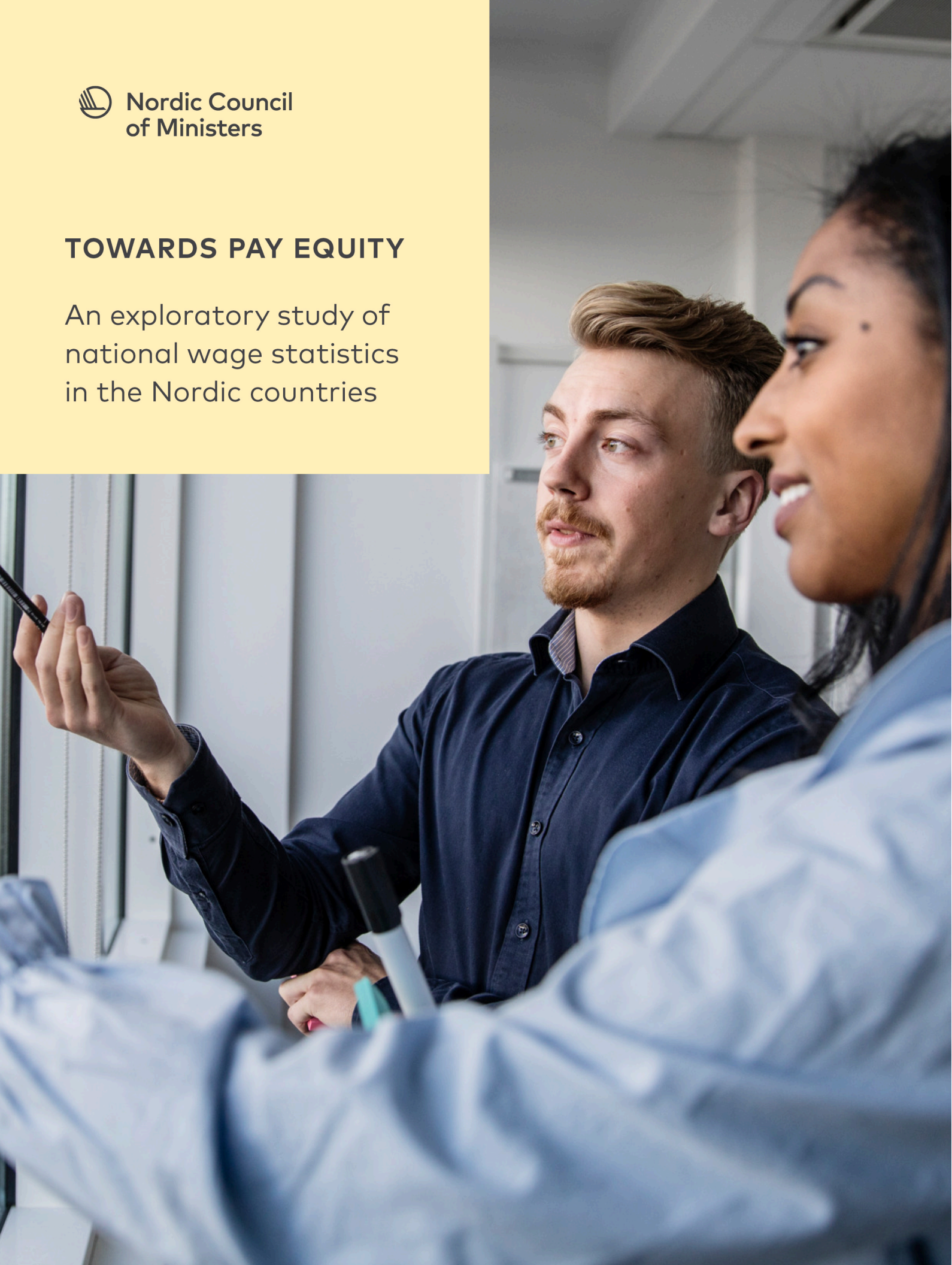
Nordic Council of Ministers

TOWARDS PAY EQUITY

An exploratory study of national wage statistics in the Nordic countries



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This publication is also available online in a web-accessible version at:
https://pub.norden.org/temanord2025-545

1. About the report

In the Nordic countries, statistics are published annually on the size of the gender pay gap – the difference between men's and women's pay. This pay gap is partly due to the fact that men and women are paid differently for similar work, but a more significant explanation is that men and women work in different occupations with different levels of pay. According to the EU's Pay Transparency Directive 2023/970, it should be possible to compare pay levels between different jobs if they are equal, i.e. have equal levels of requirements. The UN's 2030 Agenda has the sub-goal of eliminating the gender pay gap for work of equal value. Although the Nordic countries have long had legislation on equal pay for work of equal value, such comparisons have rarely been carried out and have not led to a reduction in the pay gap. However, as the Pay Transparency Directive is binding, the issue has been raised.

To help reduce the pay gaps that still exist between women and men in the Nordic countries, the Nordic Council of Ministers initiated a project on equal pay for work of equal value in the Nordic region. The project was carried out by the Nordic Council of Ministers' co-operation body Nordic Information on Gender (NIKK), based at the Swedish Secretariat for Gender Research, and has resulted in this publication, among others. The report was written by Minna Salminen-Karlsson and Anna Fogelberg Eriksson, Sweden. Salminen-Karlsson is an associate professor of sociology, affiliated with the Centre for Gender Research, Uppsala University, and Fogelberg Eriksson is a senior associate professor of education at the Department of Behavioural Sciences and Learning, Linköping University.

The report presents a pilot study that investigated how available official statistics can be used to analyse pay differences between women and men in work of equal value at the national level in the Nordic countries. In particular, statistics from Finland, Norway and Sweden were analysed. The pilot study examined how statistics can be applied in the case of occupations that have already been assessed as being of equal value, i.e. as if the occupations were equal. The report was originally written in Swedish and subsequently translated into English.

This publication is the second in a series of reports from the project on equal pay for work of equal value in the Nordic countries. The first report, authored by Eberhard Stüber, describes legislation and policy initiatives in the Nordic countries, including a discussion of the implementation of the EU Pay Transparency Directive with a focus on the theme of work of equal value. The third and final report discusses various explanations for the undervaluation of women's work in a gender-segregated labour market based on a survey of social partners and other key actors in the Nordic countries.

Special thanks go to the members of the project reference group: Byrial Rastad Bjørst, PhD, lawyer at The Danish Association of Professional Technicians (DK); Kevät Nousiainen, Professor Emerita, PhD, at the University of Turku (FI); Þorgerður Jennýjardóttir Einarsdottír, Professor of Gender Studies at the University of Iceland (IS); and Mari Teigen, Professor and Research Director of CORE – Centre for Research on Gender Equality at the Institute for Social Research (NO).

Thanks also go to Eberhard Stüber, Maria Forthun Hoen, Liza Reisel and Paula Koskinen-Sandberg who provided valuable input and information for the pilot study.

Overview

- The report begins with a summary.
- The report then presents a review of previous research on gender pay gaps in relation to gender-segregated labour markets, the valuation of work dominated by women, work of equal value, and the Nordic model on pay formation and the gender pay gap.
- This is followed by a section examining how national statistics on gender and pay have been used and reported by government actors.
- The next section examines occupational classifications in the Nordic countries, a key starting point for comparisons of pay across different occupations at the national level.
- This is followed by a description of pay measures used and the significance of the choice between mean and median as statistical measures.
- This is followed by a section addressing the availability of statistics in this area from national statistics offices and some shortcomings identified in these statistics.
- Subsequent sections in the report then explore a variety of aspects in the national statistics:

- pairwise comparisons of pay levels across a number of sample occupations with similar requirements;
- trends over time;
- descriptions and comparisons of pay levels for occupations in different sectors (private-public) of the labour market;
- pay and gender in relation to full-time and part-time work, age, immigrant background; and

- The report concludes with recommendations from the pilot study.
- A methodological description of the pilot study can be found in the appendix.

2. Summary

The report presents the results of a pilot study that investigated how available official statistics can be used to analyse pay differences between women and men for work of equal value at the national level in the Nordic countries. In particular, statistics from Finland, Norway and Sweden were analysed. The pilot study took place within the framework of the Nordic Council of Ministers' project on equal pay for work of equal value in the Nordic countries.

A review of previous research found that the gender pay gap persists despite laws and regulations. A common explanation for the pay gap is the gender-segregated labour market, i.e. that the labour market is divided into occupations dominated by men and those dominated by women. Occupations dominated by women are often undervalued in terms of pay compared to those dominated by men with equal requirements. Legislation has not been able to achieve equal pay for work of equal value, and the Nordic pay formation model has actually been counterproductive to closing the gender pay gap.

National occupational classifications are important for pay comparisons. Although all countries follow an international standard, occupational classifications vary to some extent between them. The way in which pay is defined, i.e. the pay measures used, in national statistics also varies between countries. There is also some variance in how monthly pay is defined, and hourly pay is sometimes used as a measure of pay in the statistics. This affects the comparability of pay for work of equal value both within and between the Nordic countries. The statistical variables mean and median are both used to measure pay gaps but can yield different results. With regard to national statistics on pay and gender across occupations, each Nordic country has its own specific challenges and shortcomings that affect the comparability of pay between occupations in which work of equal value is performed.

This study examined how statistics can be used based on existing assessments of work of equal value between various occupations. Example comparisons between occupations dominated by men and those dominated by women indicate significant

pay gaps. Pay also varies between the private and public sectors, which means that pay gaps between different occupations doing equal work vary when sectoral affiliation is taken into account. While the pay gap has narrowed somewhat over time, there are still significant differences between occupations and sectors.

In general, women in the Nordic countries are more likely to work part time than men, and the general pattern is that part-time work has a negative impact on pay. However, the prevalence of part-time work varies across occupations and the extent of working hours can affect pay in different ways.

Although job requirements, and not the characteristics of the worker, should be the basis for assessing if occupations are equal, factors such as age and having a migrant background affect pay and the pay gap at the national level. Age is also included as an indicator for the UN 2030 Agenda (UN 2025) target. In terms of educational attainment, occupations dominated by women often have higher educational requirements than those dominated by men at the same pay level.

Recommendations

The recommendations from the pilot study set out basic requirements for official national statistics and stipulate the statistics that should be available for analyses on gender and pay for work of equal value at the national level:

- Information describing occupations dominated by women and those dominated by men in equal level of detail
- Statistics on pay at the most detailed level of occupational classification, as far as possible
- Statistics on the number of men and women in various occupations in a shared table with pay
- Data on both mean and median pay for occupations included in the classification system
- Pay data for the private and public sectors (public sector data should be divided into central and local government) both individually and combined
- Readily available data on the number of men and women working full time and part time in each occupation and on full-time and part-time pay
- Data on age structures in different occupations in a shared table with pay
- The number of domestic and foreign-born workers within an occupation, broken down by gender and mean and median pay, at least in occupations with a significant number of foreign-born workers
- Data on education linked to gender and pay
- Time series, at least for data on both mean and median pay and the number of men and women in occupations at the four-digit level of the classification systems, by sector and for sectors combined.

3. Equal pay for work of equal value – a look at previous research

This section of the report provides an overview of previous research on the gender pay gap, particularly in relation to gender-segregated labour markets, the valuation of work and the Nordic pay formation model.

Causes of the gender pay gap

All Nordic countries have passed laws to address the fact that women are generally paid less than men. The EU has also provided recommendations and, most recently, introduced binding regulations through the Pay Transparency Directive (2023/970) to close the pay gap in Member States. However, despite laws and regulations to close the pay gap being in place for decades, the pay gaps remain stubborn. In the Nordic countries, the pay gap ranges from 9.3%, in Iceland, to 15.5%, in Finland (Eurostat, 2022). In recent years, the pay gaps in Sweden and Finland have not narrowed at all, and in Sweden it widened slightly between 2022 and 2023 (Ekberg et al., 2024). In Norway, while the trend of the pay gap narrowing has not completely ended (Grini & Fløtre, 2023), the difference in average monthly pay remained almost unchanged, about 13%, between 2015 and 2022 (Hoen et al., 2024).

Causes of the gender pay gap are found in several areas. Policy decisions taken in the Nordic countries to address the pay gap seem to be based mainly on theories of discrimination, with employers required to map and analyse their pay practices to prevent gender pay discrimination. However, it has been shown that even when gender pay audits are mandated by law, many employers fail to carry them out, or carry them out without really trying to identify and address the gender pay gap, which in turn contributes to the persistence of differences in pay between men and women (Kumlin, 2016; Måwe, 2019).

What Stockdale and Nader (2013) call sociological theories suggests that the pay gap is also related to structural factors in the labour market. Various analyses of the pay gap point to gender segregation of the labour market as the most important factor. In the Nordic countries, the majority of occupations and jobs are dominated either by men or by women (Måwe, 2019; Wagner & Teigen, 2021). This means that even if all employers individually endeavoured to pay their employees equally, some proportion of the pay gap would remain: Employer A may apply gender-neutral pay for its employees in a field dominated by women, as may Employer B, whose employees work in a field dominated by men with better average pay, thus while the men at Employer A and women at Employer B would receive equally high pay as their colleagues of the opposite sex, the general gender pay gap within the labour market would not be reduced (cf. Salminen-Karlsson & Fogelberg Eriksson, 2023).

Leaving the task of addressing unfair pay differences between women and men to individual employers ignores the gender segregation of the labour market, which coincides with the traditional undervaluation, in terms of pay, of jobs predominantly performed by women.

Gender-segregated labour market and pay

Gender pay gaps at the occupational level are recognised and taken into account in reports published by authorities across the Nordic countries at the national level (e.g. Ekberg et al., 2023a; Grini & Fløtre, 2023). In these reports, occupation is considered a variable like age, labour market sector or education level. They show that occupation as a variable generally explains the majority of the gender pay gap at the national level, without further analysis. More detailed analyses of this variable are necessary to formulate policies that promote equal pay. In this regard, it is particularly important to consider the gender segregation of the labour market.

The theory of the gender-segregated (or segmented) labour market explains the gender pay gap as an expression of the general labour market being divided into two, with the employees on one side (primary) being mostly men and the other (secondary) mostly women. These labour markets have different general levels of pay, as well as different working conditions, and movement between them is limited (Gaweł & Mroczek-Dabrowska, 2020; Semenza et al., 2021). O'Reilly et al. (2015) reviewed the literature on the gender pay gap in several countries over the past 40 years and found that gender segregation of the labour market exists in all countries and persists because few workers cross this boundary, although there is some variation between different national cultural contexts.

Nicolás-Martínez et al. (2023) argue that segregation can be traced to the roles women are assigned in society, not least with regard to health and social care. The

Nordic countries have a high percentage of women in the workforce, but they also have highly segregated labour markets (Ellingsaeter, 2013; Kowalewska, 2023). This has been attributed to the existence of a large public sector with a predominantly female labour force; the development of the welfare state meant that the care work previously performed by women in the home shifted to paid work in the service of society. Unpaid work in the home was replaced by low-paid work in the public sphere (Rubery & Grimshaw, 2015; Wagner et al., 2020).

In the Nordic countries, the solution to reducing the gender pay gap is rarely seen as pay equalisation between occupations; instead, women are encouraged to move to male-dominated occupations with higher pay (Koskinen Sandberg & Saari, 2019; Wagner et al., 2020). However, Peetz (2015) notes that segregation is maintained by both workers and employers. Workers have grown up in a world with gender-segregated jobs, and it is often easier for them to visualise their future in an occupation in which they are not a minority in terms of gender. Employers, on the other hand, have specific ideas about the kind of employees that best meet their needs, which may favour a particular gender.

A gender-segregated labour market does not imply a pay gap in itself. The pay gap arises when work in the part of the labour market that is dominated by women is valued less in terms of pay. Undervaluation of work dominated by women means that occupations dominated by women are paid less than those dominated by men, despite comparable working conditions and requirements, when there is no other reasonable justification for this situation (Grimshaw & Rubery, 2007).

According to Rubery and Grimshaw (2015), the size of the pay gap is directly related to how society values public services. In the Nordic welfare states, the value of public services has not been reflected in the national pay structure, as exemplified by Saari et al. (2021) with nurses in Finland. Saari et al. note that low 'female wages' for care occupations are not only a historical phenomenon but also institutionalised in contemporary wage movements.

Wagner and Teigen (2022) point out that women in the public sector have not been able to use the market-based argument to increase their wages, i.e. they have not been able to threaten to switch to an employer that would pay better wages. One argument for the privatisation of the public sector has been that it allows employees in occupations dominated by women to rely on the market-based argument. However, the intended results have not materialised – privatisation has not been shown to reduce the pay gap, on the contrary, wages of care workers have sometimes deteriorated further as a result of privatisation (Egede Hansen et al., 2023; Thörnquist in SOU 2014:34).

Valuing work

In the Nordic countries, except Denmark, where employers are required to ensure equal pay, various job evaluation systems have been recommended to compare male- and female-dominated jobs with different content but similar requirements. A foundational study by Joan Acker (1989) on the evaluation of jobs in the public sector established, as early as 1989, a fact to which Koskinen Sandberg (2017), for example, returns: job evaluation is not a neutral tool. Since it is a question of valuation, it matters how the valuers perceive what is better or worse, or more or less valuable.

What job evaluation systems aim to measure is not really the value of work (to an employer, the organisation, society) but the requirements of work. In this respect, most systems refer to the factors defined by the International Labour Organization (ILO): skills, effort, responsibility and working conditions (ILO, 2013). These factors are also reflected in the EU Pay Transparency Directive (2023/970). Different job evaluation systems define these factors slightly differently, have different subcategories and weight the factors differently, resulting in variation in how valuable (or rather how demanding) different male- and female-dominated jobs are perceived to be. Feminist scholars have pointed out, among other things, that demands in occupations traditionally dominated by women are easily rendered invisible (Bender & Pigeyere, 2016; Steinberg, 1992). These include social skills, mental effort, responsibility for people and stressful working conditions.

Iceland has come the furthest in using job evaluation and pay audits to equalise pay. As of 2018, employers with more than 250 employees, revised in 2021 to employers with more than 25 employees, are required to certify that they have and use a gender-neutral job evaluation model. Among the Nordic countries, the gender pay gap has narrowed fastest in Iceland since 2010.

In Finland, job evaluations in some collective agreements are based on commercial models (Sosiaali- ja terveysministeriö, 2022). Swedish employers use a number of different commercial models for job evaluations. The expert network Lönelotsarna provides a payroll analysis tool, Analys Lönelots, for use by employers, which was previously administered by the Equality Ombudsman. Lönelotsarna has used the tool to evaluate 425 occupations in the Swedish labour market to demonstrate the structural pay differences resulting from gender segregation (Harriman et al., 2023).

Using job evaluation to compare occupations across an entire labour market also requires interpretation. The requirements of different occupations can be viewed and weighted differently in the assessment of equivalence. Even if there is a structure that guides and limits the possibilities of interpretation, the evaluation can still not be completely objective.

The Nordic pay formation model and the gender pay gap

Pay formation is similar across the Nordic countries, with some variations. Labour market parties (employer organisations and trade unions) negotiate and establish collective agreements which, to varying degrees in the different countries, define (lower) limits for the pay levels that can be set by individual employers. The extent to which the state is involved in the negotiation processes varies, as does the level of detail in the agreements (see also Stüber, 2024, for an overview of pay formation models in the Nordic countries).

It is only in the last decade that Nordic researchers have looked more closely at the impact of the Nordic pay formation model on gender pay gaps. They have found that the model has hindered the closing of gender pay gaps in a variety of ways, despite trade unions at times strongly defending gender equality. This has been described as 'egalitarian inequality' (Wagner & Teigen, 2022) and 'institutional undervaluation' (Koskinen Sandberg, 2017).

The Nordic model makes it difficult to conduct pay comparisons and ensure parity of pay between different occupations under the same employer, as these occupations may belong to different collective agreements with different employment conditions. The same applies at the national level – occupations with equivalent requirements exist in both the private and public sectors, for example, and are thus negotiated by different actors with different priorities.

In Finland, Norway and Sweden, there is a more or less formalised agreement that pay increases in the export industry determine the general level of pay increases. The public sector, which is dominated by women, should therefore not experience higher pay increases than the export industry, which is dominated by men. The fact that this relationship cements the structural pay gap is pointed out, for example, by NOU 2008:6 and Oslo Economics (2022). Thus, there are differences not only between occupations dominated by men and those dominated by women but also within the same occupations for employees operating in different sectors.

4. Reports on gender and pay from the Nordic Countries

In all Nordic countries, national pay statistics have been used to study the gender pay gap, and government agencies have published reports on this. This is true particularly in Finland, Sweden and Iceland. In Finland, the Equal Pay Programme has produced several reports based on national statistics. In Sweden, the National Mediation Office, which is responsible for national pay statistics, publishes at least one report annually and sometimes special reports on the gender pay gap. In Iceland, there is a continuous effort to address the gender pay gap, with its related publications. However, only a few reports discuss work of equal value, while none address pay differences in work of equal value at the occupational level. Most apply statistics on similar work. The Norwegian report by Hoen et al. (2024) and the Icelandic working group's final report on Job Evaluation (2024) are the only two reports that explore the concept of work of equal value in more detail, in particular the problem of defining in which jobs the work performed can be considered of equal value.

However, other reports also point out, at a general level, that an upgrading of undervalued work dominated by women is necessary if the pay gap is to be closed. The gender segregation of the labour market features in the background of almost every report and is referred to more explicitly in some, such as the main report by the Danish *Lønstrukturkommitéen* (Pay Structure Committee; 2023), in which gender segregation between both occupations and sectors is highlighted. Differences between sectors are addressed in several reports, and Laine (2024) in particular also provides an analysis of different sectors. Otherwise, the analyses are based more on individual characteristics, such as age or education – however, there are no analyses of the importance of part-time work.

Although the reports do not directly address pay gaps between occupations in which work of equal value is performed, they can be a step towards understanding the current state of the gender pay gap between jobs.

Finland

In Finland, the Ministry of Social Affairs and Health is currently undertaking its third four-year project on equal pay. The projects have produced a number of reports, and the two most recent, like several previously, rely on national statistics. Laine and Kauhanen's (2023) report *Naisten ja miesten työuraerot Suomen teollisuuden kuukausipalkkaisella henkilöstöllä 2002–2020* (Differences in monthly pay between women's and men's careers in Finnish industry 2002–2020) addresses the issue of equal pay for work of equal value by comparing different occupations and men's and women's starting positions within them, as well as their further career development. While the report does not explicitly address whether women and men with different pay levels in different trades and at different hierarchical levels perform work of equal value, it does raise questions about whether work is equal and about remuneration both within and between different occupations in Finnish industry.

In 2023, the Finnish Ministry of Social Affairs and Health also published the report *Samapalkkaisuusohjelman ja hallituksen samapalkkaisuustoimenpiteiden kokonaisarviointi 2020–2023* (Overall assessment of the equal pay programme and government measures for equal pay 2020–2023; Kostiainen, 2023). It focuses on equal pay for similar work and work of equal value in general, not in specific occupations, and uses statistics mainly to show the development of the pay gap before and after the introduction of the Equal Pay Programme. Pay statistics from Statistics Finland are used as the basis for measuring the progress of the Equal Pay Programme through an agreement between the government and employer and employee organisations. However, the report notes that because the statistics do not include part-time workers or sole traders, they cover only 83% of paid workers and that the Incomes Register, which includes part-time pay but does not have an occupational breakdown, shows a greater pay gap than the pay statistics.

In the Ministry of Social Affairs and Health's report 2024:26 *Työelämän muutokset, sukupuolten työmarkkina-asema ja samapalkkaisuus* (Changes in working life, gender equality in the labour market and equal pay), Pekka Laine provides a thorough review of the development of the gender pay gap in the municipal, state and private sectors, individually. Using data from Statistics Finland, he calculates the degree to which the decrease or increase in the gender pay gap is due to changes in the composition of the labour force in different occupations in each sector or the gender composition of occupations compared to the convergence of women's and men's pay. The calculations also take into account part-time work. While work of equal value is not discussed, as the calculations are made based on the 20 most common occupations for women and men in each sector, they provide valuable insight, in as far as these occupations can be said to constitute work of equal value.

In the Ministry of Social Affairs and Health's report 2023:21 *Tasa-arvon edistäminen työpaikoilla. Keinoja sukupuolen mukaisen segregaation purkamiseen* (Promoting gender equality in the workplace – methods to phase out gender segregation), Teräsaho et al. identify pay differences as a factor that maintains gender segregation in the workplace, for example by not encouraging men to enter low-paid occupations dominated by women. Teräsaho et al. identify contractual pay policies as the cause, arguing that they make it more difficult for individual professions to get higher pay increases than others, and call for more awareness of gender effects among social partners. Greater recognition of occupations dominated by women is necessary to address the pay gap, and the public sector should serve as a role model in this respect. Teräsaho et al. refer to statistics that explain pay differences in individual sectors based on men and women undertaking different tasks, but still regard the unexplained pay difference for similar work as important to address.

Norway

In the Norwegian public report NOU 2024:6, representatives for employers and employees, the government (ministries) and Statistics Norway present the basis for calculating pay settlements to the Ministry of Labour and Social Inclusion. The report includes sections on pay development for women and men with regard to different sectors defined in collective agreements and characteristics such as education, age, occupation, etc. The report notes that differences in women's and men's labour force participation, industry/sector affiliation, education, work experience and skills are important factors behind the pay gap, as is the gender distribution in the labour market and the fact that women and men hold different positions in the workplace. The report notes that the gender pay gap may reflect various forms of pay discrimination. It also refers to a report by Statistics Norway titled *Lønnsgapet i Norge. Lønnsforskjellen mellom menn og kvinner –hvor stor er den?* (The Pay Gap in Norway. The pay gap between men and women – how big is it?; Grini & Fløtre, 2023), which shows how the pay gap is reduced if different statistical methods are applied or certain statistics are omitted. The Norwegian report does not explicitly discuss equal pay for work of equal value.

The report that most clearly analyses the pay gap relative to work of equal value, commissioned by the Norwegian Directorate for Children, Youth and Family Affairs (Bufdir), is Hoens et al. (2024) *Ulik lønn for likt arbeid? Lønnsforskjeller mellom kvinner og menn, 2015–2022* (Unequal pay for equal work? Pay gaps between women and men, 2015–2022). The first section addresses the reasons for the pay gap between women and men doing similar work (same occupation) with statistical calculations for a number of factors, such as age, responsibility for children, sectoral affiliation, etc. The second part of the report contains reasoning and calculations on how jobs in which work of equal value is performed could be

compared and the indicators that could be relevant when determining whether jobs are equal. Hoen et al. note that their task is not to determine equal value and also point out that equal value is not about the status of the job but the requirements of the job in different areas. Using data from Statistics Norway, a number of general comparisons are made with men's pay between female-dominated and male-dominated occupations, taking various relevant aspects, such as skill or effort, into account.

The report *Lønns- og karriereutvikling blant høyt utdannede i Norge, 2015–2022* (Pay and career development among highly educated people in Norway, 2015–2022; Salvanes, 2023) compares the pay of highly educated people (with a master's degree or higher) in four categories: employees in scientific occupations in the private sector and those in the public sector and other highly educated employees in the private sector and in the public sector. Comparisons are made over time within, but not between, the sectors. The comparisons are made between men and women and between individuals with foreign backgrounds and those with Norwegian backgrounds. However, these groups are kept separate – the intersectional effects on pay in groups consisting of women with foreign backgrounds, for example, are not analysed. Salvanes finds that men receive the highest pay in all categories, especially in the private sector, where women are in the minority. Those in scientific occupations in the public sector were found to have the lowest pay. While the report does not compare jobs of equal value, it does give some indications of how equal value may be salaried differently between sectors.

Sweden

In Sweden, the National Mediation Office, which is responsible for statistics on pay structures, publishes an annual report on the gender pay gap. The issue is approached from several perspectives, including through the use of both unweighted and weighted pay gaps and the application of various metrics such as percentiles, while differences between sectors are also considered. In addition, aspects such as part-time work, teleworking and commuting are discussed. Occupational segregation is also addressed, but the National Mediation Office itself states that 'on the basis of the official pay structure statistics, it is not possible to determine whether one occupation or job is of equal value compared to another occupation or job' (Ekberg et al., 2023a, p. 12). As in pay structure statistics, the private sector, but not the public sector, is divided into salaried and waged workers, meaning that direct comparison between sectors is not always possible. The report does, however, offer some further thoughts on the possible underlying reasons for the difference in men's and women's pay.

In the National Mediation Office's report *Inkomstskillnader mellan kvinnor och män* (Income differences between women and men; Ekberg et al., 2023b), the pay gap is

treated as part of the gender income gap. No specific information on occupations is provided, but part-time work in different sectors is discussed. The report notes that in terms of income from work, the gap between women and men is 22%, i.e. women earn 78% of what men earn, which is explained by women both receiving lower pay and working fewer hours. Interestingly, in high-paid occupations, part-time work is less common, both in occupations dominated by men and those dominated by women.

The report also draws attention to the cost of education, i.e. the fact that women are much more likely to be paying back student loans for a significant part of their lives. Thus, it should be considered that when comparing two occupations of equal value over the course of a life, one requiring a university education and the other not, the economic outcomes of the occupations are not influenced solely by pay levels.

The Budget Bill 23/24 (Prop 23/24: 1) contained, as usual, an annex on 'Economic equality'. It can be seen as being aligned with the report by the National Mediation Office in that it considers differences in income instead of pay. With regard to pay, it finds that the gap in labour incomes narrowed between 2011 and 2021, that women, especially foreign-born, still have lower employment rates than men, that women still work part time at twice the rate of men and that women receive lower levels of pay, despite narrowing occupational and sectoral gaps. It notes that the proportion of women has increased in more occupations dominated by men (69 out of 99 occupations) than the proportion of men in occupations dominated by women (40 out of 71 occupations) and that this may be a contributing factor to the narrowing of the pay gap. The fact that occupations dominated by men are highly paid is taken for granted, i.e. there is no reflection on equal pay for work of equal value.

In its report *Jämställdhetsarbetet tappar styrfart* (Gender equality work loses momentum; Swedish Gender Equality Agency, 2024), the Swedish Gender Equality Agency comments on the Budget Bill and states that the report has a limited view of how to achieve economic equality. According to the Swedish Gender Equality Agency, it is also necessary to reduce the pay gap between welfare occupations dominated by women and other occupations of equal value. The Swedish Gender Equality Agency's report also notes that the narrowing of the pay gap has stalled since 2019. The Agency points to the UN's Convention on the Elimination of all Forms of Discrimination against women, which calls for Sweden to ensure equal pay for work of equal value.

In the report *Likvärdiga yrken – likvärdiga kollektivavtal?* (Equivalent occupations – equivalent collective agreements?; Swedish Gender Equality Agency, 2023), the Swedish Gender Equality Agency compares several aspects of collective agreements for six occupations dominated by women and six dominated by men. The pay-related factors compared are minimum pay, overtime pay and

compensation for inconvenient working hours. Minimum pay, where available, appears to be slightly higher for occupations dominated by men. Overtime pay is calculated in very different ways across various agreements, so the report does not consider it possible to compare them. Compensation for inconvenient working hours is lowest in care occupations dominated by women, and slightly lower in the private sector than in the municipal sector, but the report finds that the differences are not substantial. However, occupations dominated by men covered by the IF Metall collective agreement and the electricians' collective agreement provide significantly higher compensation for inconvenient working hours among qualified positions than both welfare occupations and other occupations dominated by men.

Denmark

In Denmark, *Lønstrukturkommitéen* (Pay Structure Committee) published its main report in June 2023. While it mainly takes a gender-neutral approach with 'staff groups', it also points to the gender segregation of the labour market, both in occupational and sectoral terms, and greater tendency for part-time work among women and the resulting differences in pay between men and women. It does not make a straightforward comparison of pay between women and men but compares the pay of female-dominated groups with an expected value (LEU pay) calculated on the basis of management responsibilities, education and experience. It also repeatedly notes that people with the same level of education can have very different levels of pay. The report suggests educational choices and possibly responsibilities for a household and children by way of explanation. However, it does not consider whether pay for work of equal value (a concept that does not appear in the report) should be compared.

Verner and Mikkelsen (2023) compare pay mainly among private sector salaried workers. They mostly use sector-based categorisations (wholesale, retail, motor vehicle and other trade) divided by five types of work: management, work requiring high educational qualifications, work requiring medium educational qualifications, office and customer service, and sales and service. The results are consistent with other findings, showing that the pay gap is highest among workers who are highly paid. The pay gap is expressed as a percentage, and the number of women and men included in each category is not given. The categories likely hide several cases of work of equal value, but this is not recognised in the report.

Iceland

Between 2021 and 2023, an Icelandic working group, established by the Prime Minister, was tasked with proposing a pilot model for re-evaluating undervalued work dominated by women in the state sector to allow for fair comparisons between jobs of equal value. The group's final report *Job Evaluation. Report of the Task Force on Pay Equity and Equality in the Labour Market* (2024) provides a thorough review of the difficulties of job evaluation. It is mainly based on ILO recommendations and uses the ILO terms of 'male' and 'female' aspects of jobs. Although the report states that job evaluation is not in itself about pay setting, it does also refer to court cases concerning equal pay for work of equal value in Iceland, Europe and New Zealand.

5. Classifying occupations

To compare work and pay at the national level, the concepts of 'work' and 'pay' need to be defined. At the national level, calculations and descriptions of gender pay gaps are often related to the classification of occupations provided by national statistical authorities. While a number of trade unions have their own pay databases, journalists and researchers, for example, often rely on data from the statistical authorities in each country. A statement such as 'male teachers are paid x% more than female teachers' is based on an understanding of teachers' pay and genders. To make such comparisons, work tasks across the population need to be categorised into different occupations. A categorisation of occupations is needed when comparing the pay levels of work dominated by men and work dominated by women.

The starting point for comparisons of equal pay for work of equal value can be derived from the occupational classifications that exist in each country (cf. Harriman et al., 2023). These classifications are linked to the International Standard Classification of Occupations (ISCO), created by the ILO. By classifying work by occupation at the national level in relation to an international standard, international comparisons and reporting are made possible. However, each country can make adjustments to the international occupational classification to better reflect national labour market conditions. This standardised national occupational classification is not in itself designed to provide a basis for identifying equal jobs on the basis of knowledge and skills, responsibility, effort and working conditions. There are several areas of application and thus different requirements and expectations of the occupational classification, and in that regard the classification represents a compromise between the needs of different users (SSYK 2012).

What the methodology for conducting job evaluations at the national level based on the occupational classification should be is far from clear. Nor is it clear which actors could take or be assigned responsibility for carrying out job evaluations of occupations to assess equivalence at the national level. This is an issue that is also beyond the scope of this report (see also Harriman et al., 2023; Stüber, 2024; Hoen et al., 2024).

As the occupational classification provides a basis for job evaluation and comparison of jobs in which work of equal value is performed, it is necessary that it reflects occupations present in the labour market as accurately as possible. Understanding the structure of the classification, the information it contains and the problems of using existing occupational classifications for the evaluation of work of equal value is fundamental to analysing pay differences at the national level. A description is therefore provided, although for the purposes of this report we have chosen to base it on an already conducted job evaluation (Harriman et al., 2023).

Description of the occupational classification system

The latest version of the ILO's occupational classification is ISCO-08. This in turn has led to revisions in the national occupational classifications of the Nordic countries. The occupational classifications in the Nordic countries are AML2010 (Classification of Occupations, produced by Statistics Finland) in Finland, STYRK-08 (Classification of Occupations, produced by a working group with participants from Statistics Norway and Nav, the Norwegian Labour and Welfare Service) in Norway and SSYK 2012 (Swedish Standard Classification of Occupations, produced by Statistics Sweden and the Swedish Public Employment Service) in Sweden. The equivalents in Denmark are DISCO-08, and in Iceland Ístarf21 (but in the Icelandic statistical database Ístarf95 is used). The description below is mainly based on the Swedish Standard Classification of Occupations SSYK 2012.

The classification system defines ten broad occupational fields for the purposes of categorisation:

1. Managers
2. Occupations requiring advanced level of higher education
3. Occupations requiring higher education qualifications or equivalent
4. Administration and customer service clerks
5. Service, care, and shop sale workers
6. Agricultural, horicultural, forestry, and fishery workers
7. Building and manufacturing workers
8. Mechanical manufacturing and transport workers, etc.
9. Elementary occupations
10. Armed forces

Under the SSYK 2012 classification, every occupation is associated with a four-digit code, with each digit corresponding with specific information:

- Major group/One-digit level
- Sub-major group/Two-digit level
- Minor group/Three-digit level
- Unit group/Four-digit level

The occupational groups at the four-digit level define the occupations.

Each level includes a description of job content, with increasing degrees of specialisation. Below are examples from two sub-major groups with varied gender compositions, from Major group 5 Service, care and shop sales workers, which is dominated by women. Major group 5 covers a wide range of jobs: ensuring the safety of travellers and checking tickets; providing guide services; preparing and serving food and drinks; providing hair and beauty treatments; supervising, planning and coordinating cleaning work; supervising, managing and maintaining buildings; arranging funerals; managing and planning the operation and day-to-day running of a shop; demonstrating, selling and hiring out goods; caring for children, disabled people, patients and the elderly, etc. Thus, the major care occupations, for example, will be included in Major group 5, among several other smaller occupational groups.

Sub-major group 51, Service, care and safety work encompasses some of the tasks in Major group 5: ensuring the safety of travellers; checking tickets and providing guide services; preparing and serving food and drink; providing hair and beauty treatments; supervising, planning and coordinating cleaning work; supervising, managing and maintaining buildings; arranging funerals. It includes 15 different occupations, such as bartenders, within minor group of waiters and bartenders.

- 51 Service, care and safety work, gender balanced
- 513 Waiters and bartenders, dominated by women
- 5132 Bartenders, gender balanced

Sub-major group 52, Sales workers, etc. includes another group of tasks within Major group 5: managing and planning the operation and day-to-day activities of a retail store, selling goods in grocery and specialised stores, selling goods and services over the telephone, demonstrating goods to potential customers, renting vehicles, etc. It includes 9 different occupations, such as rental salespersons, which are part of the minor group Shop staff occupation group.

- 52 Sales workers, slightly weighted towards women
- 522 Shop staff, slightly weighted towards women
- 5226 Rental salespersons, dominated by men

Each minor group and occupational group, i.e. occupation, also has a short description similar to those given here for the main groups. In ISCO-08, the descriptions are long and detailed, with bulleted lists of typical tasks that may be included. The Finnish and Norwegian systems are also relatively detailed and provide bulleted lists, while the descriptions in the Swedish SSYK are much shorter and summarised.

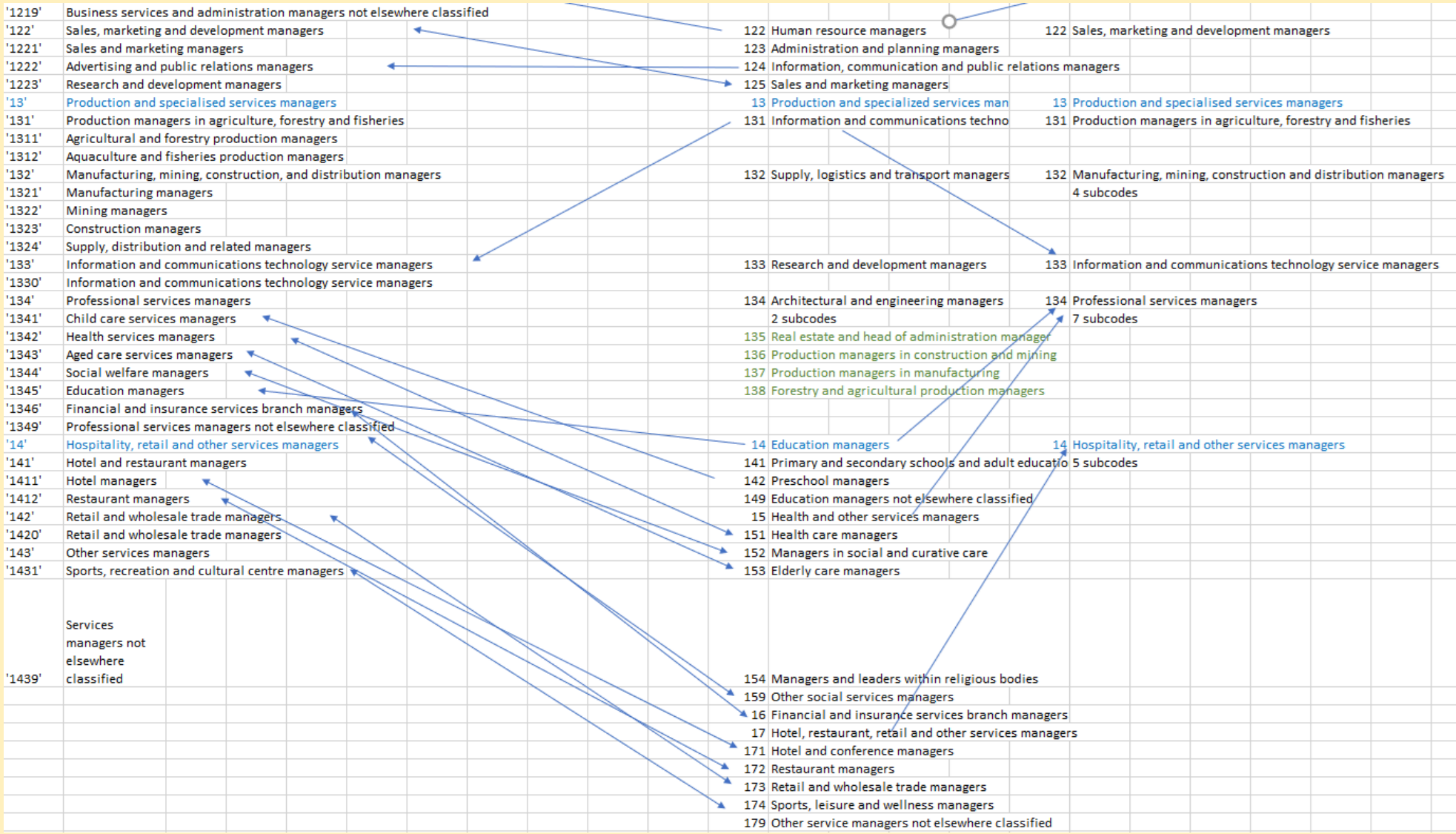
As shown in the example above, the gender distribution may be different at the four-digit level to the three- or two-digit levels. Therefore, it is important that the assessment of whether occupations are equal for gender pay gap analyses based on national occupational classifications is conducted at the four-digit level, where possible.

National differences in occupational classification

The national classifications differ in how closely they correspond to ISCO-08. There are also differences in how occupations are classified in each Nordic country, as well as the number of levels in the classification. In Finland and Denmark, a fifth digit (five-digit level) is sometimes used. The Finnish classification follows ISCO-08 most closely. The Swedish classification sometimes follows ISCO-08 relatively loosely, diverging and creating new groups. For example, the occupation 'rental salesperson' is included in SSYK but not in ISCO-08 or the classifications of Nordic countries.

By way of example, the figure below shows the differences in classification among a selection of managerial occupations (Major group 1: Managers) in Finland, Sweden and Norway. It is clear that comparisons between these three countries are not easily drawn. When groups are moved or new groups created, the content of included occupations may also change. When not defined as a separate group, 'rental salesperson', to cite the previous example, must be classified within another group, which thus changes its content slightly. Another example is police officers: ISCO-08 has two different groups for police officers, 3355 and 5412. In addition, police chief constables and police commissioners are categorised in two different occupational groups within Major group 1: Managers. While the Finnish occupational classification follows ISCO-08, the Swedish classification has only one occupational group, 3360, as does the Norwegian classification, 3355. When comparing pay with equal occupations dominated by women, i.e. occupations with equal requirements, the outcome differs depending on if the comparison is made between a single occupational group of police officers or two different occupational groups.

Extract from the classification of managerial occupations in AML2010, SSYK 2012, STYRK-08



'1219'	Business services and administration managers not elsewhere classified				
'122'	Sales, marketing and development managers	122	Human resource managers	122	Sales, marketing and development managers
'1221'	Sales and marketing managers	123	Administration and planning managers		
'1222'	Advertising and public relations managers	124	Information, communication and public relations managers		
'1223'	Research and development managers	125	Sales and marketing managers		
'13'	Production and specialised services managers	13	Production and specialized services man	13	Production and specialised services managers
'131'	Production managers in agriculture, forestry and fisheries	131	Information and communications techno	131	Production managers in agriculture, forestry and fisheries
'1311'	Agricultural and forestry production managers				
'1312'	Aquaculture and fisheries production managers				
'132'	Manufacturing, mining, construction, and distribution managers	132	Supply, logistics and transport managers	132	Manufacturing, mining, construction and distribution managers
'1321'	Manufacturing managers				4 subcodes
'1322'	Mining managers				
'1323'	Construction managers				
'1324'	Supply, distribution and related managers				
'133'	Information and communications technology service managers	133	Research and development managers	133	Information and communications technology service managers
'1330'	Information and communications technology service managers				
'134'	Professional services managers	134	Architectural and engineering managers	134	Professional services managers
'1341'	Child care services managers		2 subcodes		7 subcodes
'1342'	Health services managers	135	Real estate and head of administration manager		
'1343'	Aged care services managers	136	Production managers in construction and mining		
'1344'	Social welfare managers	137	Production managers in manufacturing		
'1345'	Education managers	138	Forestry and agricultural production managers		
'1346'	Financial and insurance services branch managers				
'1349'	Professional services managers not elsewhere classified				
'14'	Hospitality, retail and other services managers	14	Education managers	14	Hospitality, retail and other services managers
'141'	Hotel and restaurant managers	141	Primary and secondary schools and adult educatio		5 subcodes
'1411'	Hotel managers	142	Preschool managers		
'1412'	Restaurant managers	149	Education managers not elsewhere classified		
'142'	Retail and wholesale trade managers	15	Health and other services managers		
'1420'	Retail and wholesale trade managers	151	Health care managers		
'143'	Other services managers	152	Managers in social and curative care		
'1431'	Sports, recreation and cultural centre managers	153	Elderly care managers		
'1439'	Services managers not elsewhere classified	154	Managers and leaders within religious bodies		
		159	Other social services managers		
		16	Financial and insurance services branch managers		
		17	Hotel, restaurant, retail and other services managers		
		171	Hotel and conference managers		
		172	Restaurant managers		
		173	Retail and wholesale trade managers		
		174	Sports, leisure and wellness managers		
		179	Other service managers not elsewhere classified		

Level of detail and gender in the classification of occupations

It is essential to know the gender distribution of occupations to make comparisons of the pay situation between occupations dominated by women, those dominated by men or those that are gender-balanced and can be considered work of equal value. National statistics in the Nordic countries do not always contain easily accessible information on the gender distribution of occupations at the four-digit level. In Finland, for example, the information is provided by sector, which means that the gender balance needs to be calculated from three different tables. Table 1 summarises the gender composition at the three-digit level.

Table 1: Percentage of male-dominated, female-dominated and gender-balanced minor groups in Finland, Norway, Sweden. Source: National statistical authorities.

	Finland	Norway	Sweden
Male-dominated occupations	46%	51%	43%
Female-dominated occupations	34%	24%	32%
Gender-balanced 40/60	20%	25%	25%
Total minor groups (three-digit level)	128	121	114

The information in Table 1 does not indicate the number of people who work in a particular occupation, but since there are roughly equal numbers of men and women in the labour market and jobs dominated by men are divided into a greater number of groups, the implication is that groups dominated by women generally contain more individuals (for example, personal care workers in health services are the largest group in Sweden). Thus, there is a risk that these occupations are specified with a lower degree of detail and specialisation than the occupations predominantly held by men.

Evidence of a tendency to divide occupations dominated by men into more and smaller categories can be found in previous research (Acker, 1989;

Salminen-Karlsson et al., 2015). A report by the Swedish expert group Lönelotsarna on structural pay differences (Harriman et al., 2023) highlights that this is also a problem in SSYK. The report exemplifies this with the male-dominated operator occupations, which at the four-digit level are divided into 24 occupations according to industry or the material handled, while there is a single unit code at the four-digit level for assistant nurses, in home care and in homes for the elderly, an occupation which is dominated by women, despite differences in conditions for assistant nurses working in homes for the elderly (nursing homes) compared to home care.

Another example of male-dominated occupations being divided into more categories is found in the Danish classification of lorry drivers, occupational group (8332) within major group 8, 'Operator, assembly and transport work'. In the Danish occupational classification DISCO-08, lorry drivers are presented according to different job functions at the six-digit level, providing a high level of detail across six subgroups:

833210 Lorry driver, national transport

833220 Lorry driver, international transport

833230 Lorry driver with sales and representation duties

833240 Lorry driver with renovation duties

833250 Lorry driver with relocation duties

833260 Lorry driver for dangerous goods

In the case of lorry drivers, DISCO-08 differs somewhat from ISCO-08, which classifies all lorry drivers under code 8332. Meanwhile, in the case of the nursing profession, SSYK goes counter to the tendency to categorise male-dominated occupations more finely than female-dominated ones; while ISCO-08 has only two codes for nurses and midwives, professions dominated by women, SSYK has 14 different codes.

Table 2: Professional classification of nurses in Finland (AML2010), Norway (STYRK-08), Sweden (SSYK 2012).

Finland	Norway	Sweden
32211 Nurses	2221 Nursing professionals	2221 Professional nurses
32212 Public health nurses	2222 Midwifery professionals	2222 Professional midwives
3222 Midwifery associate professionals	2223 Nurses	2223 Anaesthesia nurses
	2224 Social educators	2224 District nurses
		2225 Psychiatric nurses
		2226 Nurses – ambulance
		2227 Nurses – geriatric
		2228 Nurses – intensive care
		2231 Nurses – operation
		2232 Nurses – children
		2233 Nurses – school
		2234 Company nurses
		2235 Nurses – radiology
		2239 Other specialist nurses

Job content can differ significantly between different areas of work (a midwife has different tasks to an company nurse), and degrees of specialisation can also be accompanied by different gender distributions, which can also co-vary with pay. For example, pay varies across different nursing professions in Sweden (see Figure 1), partly but not exclusively, according to the proportion of men within the specialisation.

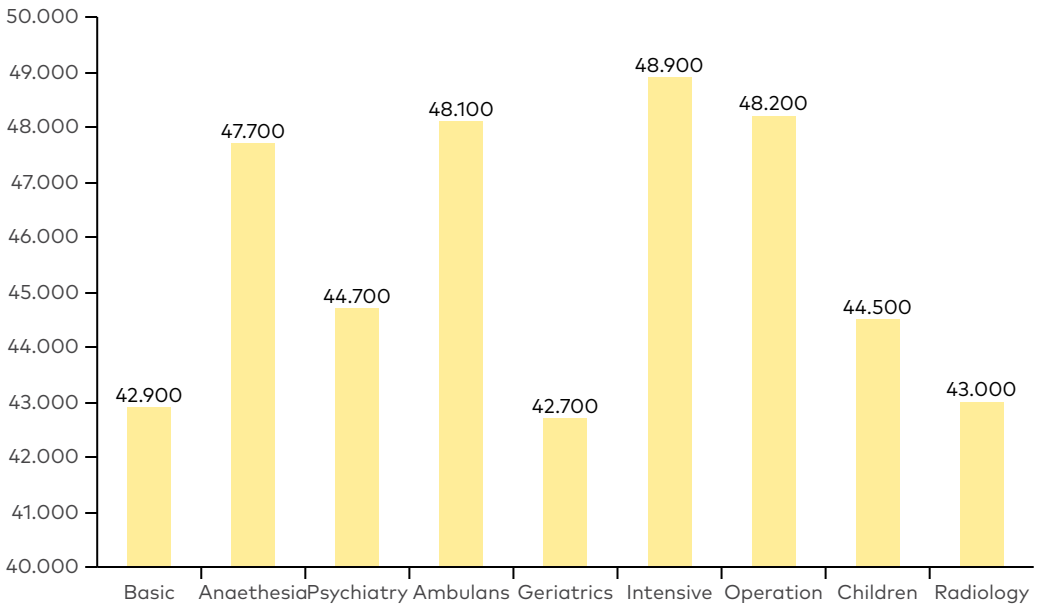


Figure 1: Pay in nursing occupations, Sweden.

This section of the report focussed on the level of detail and gender in the classification of occupations and its implications for pay comparisons between occupations in which work of equal value is performed. The next section further explores the use of different levels of occupational classification and pay.

Classification detail and pay

Occupational classifications at the four-digit level (occupational group) and three-digit level (minor group) provide different levels of detail on occupations, but the choice of starting point between the four-digit or three-digit level can also provide different statistical information and reveal certain patterns for those interested in gender distribution within occupations and the pay gap.

An example is presented from the Finnish national statistics for minor group 132 'Manufacturing, mining, construction and distribution managers', examining the proportion of women within the minor group (three-digit level) and the included occupational group (four-digit level), as well as the pay gap for the different groups.

Table 3: Percentage of women and the gender pay gap within minor group 132 and its four-digit levels, Finland.

	Percentage of women (%)	Gender pay gap
132 Manufacturing, mining, construction and distribution managers	14%	10%
1323 Construction managers	9%	11%
1321 Manufacturing managers	15%	3%
1324 Supply, distribution and related managers.	19%	20%

The proportion of women within the different occupational groups (four-digit level) varies from 9% to 19%. The gender pay gap between the occupational groups varies from 3% to 20% – some women working within minor group 132 are thus subject to a gender pay gap several times larger than the group as a whole.

The Swedish statistical database includes the minor group 335, 'Tax and related government associate professionals'. This contains the occupational groups 3351, 'Customs and coastguard officers'; 3352, 'Tax officials'; 3353, 'Government social benefits officials'; 3355, 'Fire and building inspectors.' and 3359, 'Administrative secretaries and related associate professionals'. (3354, 'Safety and quality inspectors', is not included in the statistical database.) This example is not concerned with the pay gap within the occupational groups (as in Table 3) and instead provides a comparison of the average pay of the occupational groups with the average pay across minor group 335 as a whole. This comparison reveals clear, gendered differences.

Table 4: Percentage of women and pay in minor group 335, Swedish data.

	Percentage of women	Pay as % of occupational group pay	Average pay
335 Tax and related government associate professionals	61%		35,800
3353 Government social benefits officials	79%	90%	32,100
3359 Administrative secretaries and related associate professionals	72%	101%	36,100
3352 Tax officials	70%	96%	34,400
3351 Customs and coastguard officers	41%	107%	38,300
3355 Fire and building inspectors.	35%	116%	41,600

In two of the three occupations in which women are the majority, the average pay is lower than for the group as a whole, while it is higher in the occupations in which men are in the majority. This is clearly illustrated in the figure below. Thus, it can be seen that pay comparisons conducted at the three-digit level rather the four-digit level obscure significant pay differences (between government social benefits officials and fire and building inspectors these amount to SEK 9,500 per month) and varied requirements between occupations within the group. (According to Harriman et al.'s, 2023, valuation, occupational groups 3351 and 3359 have lower requirements than the other occupations.)

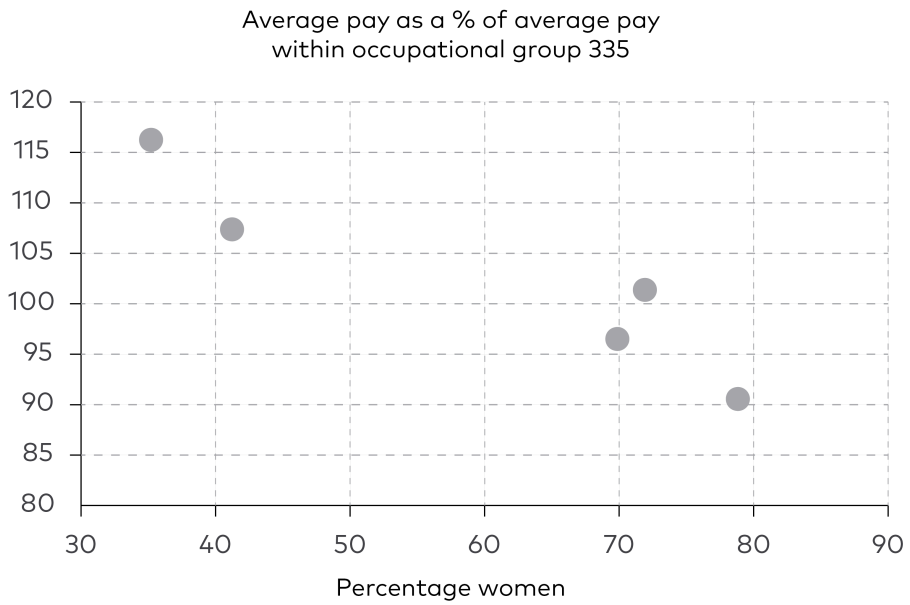


Figure 2: Average pay of occupational groups compared to the average pay of minor group 335, Swedish data.

Comparisons at the four-digit level are thus preferable. However, there is a trade-off in the case of small labour markets, such as Iceland, where a four-digit code would often cover too few workers to enable meaningful statistical comparisons and may also raise privacy concerns.

6. Pay and statistical measures

In the context of equal pay for work of equal value in the national statistical databases, occupational classifications, as discussed in the previous section, are the basis for determining which jobs, or occupations, are comparable and can possibly be considered work of equal value. In the following section, the problem of occupational classification is ignored to instead focus on pay differences themselves. An analysis is presented of current pay levels within and, above all, between occupations based on existing classifications and assumptions of equal occupational value, as presented by Harriman et al. (2023).

In the following section, we clarify slight differences in the meaning of pay in different national databases and present some of the implications of different pay measures for pay comparisons. We also discuss the difference between using mean or median averages in pay comparisons, as both are used and also required by the EU Pay Transparency Directive.

Pay measures – how pay is defined in national statistics

Pay refers to remuneration for work done, but there are different ways of defining this remuneration, i.e. different pay measures used in statistics. The remuneration (pay) for work can be linked to different *units of time*: for example, an hour or a month. Pay can also be *fixed or variable*. Fixed pay is the same month by month or hour by hour, while variable pay can change upwards or downwards, for example as a result of piece work and commission pay. Remuneration, and therefore measures of pay, can also vary according to *what it encompasses*, i.e. whether or not increments or bonuses are included. Increments can also be fixed or variable: a fixed increment, for example a shift premium, is the same every month, while a variable increment, such as an overtime increment, depends on the number of overtime hours worked, and can vary every month (Neu Morén & Eriksson Lindwall, 2013). Income types such as bonuses and increments have been found to particularly benefit men (Rubery & Grimshaw, 2015). They are often not included in official statistics on pay, so in the case that bonuses apply in one of two comparable occupations their impact on the pay gap is unknown.

The Swedish statistics on pay structure allow for a choice of comparisons based on both basic and monthly pay. In addition to basic pay, monthly pay includes income such as fixed and variable increments. The National Mediation Office uses monthly pay in its analyses of the gender pay gap. All pay in the Swedish statistics is converted to the full-time equivalent to facilitate comparisons for monthly units, i.e. pay for part-time employees is converted to full-time equivalence to enable calculation of the pay gap. Statistics Finland does the opposite: when comparing full-time and part-time pay, full-time pay is converted to hourly pay. However, the converted levels of pay are not readily available in Statistics Finland's database, and individuals working part time are not included in statistics based on monthly pay – which makes these statistics somewhat misleading for occupations with many part-time workers.

Monthly pay is the main concept used in pay statistics provided by Statistics Norway (SSB). Monthly pay in the Norwegian statistics include contractual monthly pay (i.e. fixed pay), irregular increments linked to specific tasks or working hours, and bonuses (monetary benefits that are usually not linked to specific tasks, e.g. profit sharing). Overtime pay is not included in monthly pay statistics.

The Finnish monthly pay measure includes more separate components than the Swedish and Norwegian statistics; see Table 5. There are thus variations between how the three Nordic statistics authorities define monthly pay.

Table 5: Data included in the monthly pay measure in national statistics in Finland, Norway and Sweden.

Finland	Norge	Sverige
Basic pay	Contracted monthly pay/basic pay	Basic pay
Increments paid on the basis of task, professional skills, seniority, etc.	Bonuses	Fixed increments
Increments paid on the basis of workplace location and environmental increments	Variable increments	Variable increments
Working time increments		
Pay for civil servants on the basis of results and performance, pay for employees on the basis of performance		
Taxable value of fringe benefits		
Pay for additional and overtime work		

As an example from the statistics available through Statistics Norway, a user who wants to know more about monthly pay by occupation (Table 11418) can access information on pay such as: monthly pay, agreed monthly pay, variable increments, bonuses and overtime pay, as well as information on age, and contracted working hours per week. These variables reported in the Norwegian statistics with respect to monthly pay are not available in the same way, or cannot be separated from or combined with monthly pay, in the Swedish or Finnish statistics.

Table 6 shows the average pay for the female-dominated occupational group Hotel receptionists (STYRK code 4224) and the male-dominated occupational group Heavy truck and lorry drivers (STYRK code 8332).

Table 6: Average pay for hotel receptionists and heavy truck and lorry drivers in Norway in 2022, based on monthly pay, contracted monthly pay, irregular increments and overtime pay. Amounts in NOK.

		Monthly pay	Agreed monthy pay	Irregular increments	Bonuses	Overtime pay
Hotel receptionists	Genders combined	34,280	32,850	1,310	120	200
	Women	34,120	32,910	1,090	120	170
	Men	34,590	32,730	1,750	120	240
Heavy truck and lorry drivers	Genders combined	41,880	40,090	1,340	450	2,670
	Women	39,560	38,140	1,100	320	2,010
	Men	41,960	40,150	1,350	460	2,690

When comparing the monthly pay of the occupational groups, it can be seen that hotel receptionists are paid about 82% that of heavy truck and lorry drivers. The pay gap between these two occupational groups is thus 18%, corresponding to an average pay difference of NOK 7,600 per month. The pay gap for agreed monthly pay is equally large, 18%, and thus seems to be the 'decisive' factor in the size of the pay gap for these occupational groups. Table 6 also shows that women's pay is lower than men's in both occupational groups.

When overtime pay is taken into account (which is not included as part of monthly pay in Norway), the pay gap widens between the occupational groups in Table 6. When monthly pay and overtime pay are combined, the pay gap is 23% between the occupational groups. Overtime pay serves as compensation for additional hours worked and is not part of contracted monthly pay, thus leading to different levels of pay income for employees in each occupational group. In this case, the corresponding average difference in pay is NOK 10,070.

Whether the normal working hours for hotel receptionists and heavy truck and lorry drivers are the same is unknown. Any differences in normal working hours can increase or decrease a pay gap: in the case of equal pay but different normal working hours, there is an actual pay difference because the compensation per hour worked is different. In this case, the basis for calculating overtime is also different, and since overtime is compensated with above-regular pay, the overtime effect is greater than if the basis for the calculation is the same.

Using mean and median averages to calculate the pay gap

The concept of the gender pay gap is often used to describe the differences in pay between women and men on an average basis, i.e. mean values. Mean values are calculated by dividing the sum of all values by the number of values: the mean pay is thus the sum of all pay divided by the number of people in the group. The median pay is the middle pay level among a group of pay levels sorted in ascending order, from lowest to highest. The National Mediation Office, which is responsible for statistics on the pay structure in Sweden, states that 'the median value can be useful if a distribution is skewed, with many people earning significantly more or less than the rest of the group' (www.mi.se). A report on the pay gap in Norway (Grini & Fløtre, 2023) states that the pay gap is reduced if median rather than mean pay is used as a measure. One aspect addressed by the report is that there are more women in the lowest paid group, as well as noticeably more men in the highest paid group. The Nordic Council of Ministers' report *Increasing Income Inequality in the Nordics* (Aaberge et al., 2018) uses median values throughout but also points out that the use of related values, such as percentiles (differences in pay between those who, for example, are in the 25% pay percentile – rather than 50%, as in the median – from the lowest or highest earners) may be needed to detect differences that are not picked up through the use of median values alone.

The choice of whether to use mean or median values is a judgement call. If the purpose of analysis is to determine the difference in pay for 'most' people across a subset of occupations, ignoring the fact that a number of individuals (usually men) will have significantly higher pay within this group, the median is the more suitable metric. If, on the other hand, the comparison of all pay within an occupation is most relevant, the mean pay is most applicable. For the purposes of the calculations in

this report, the latter position is taken and the mean average is used. Another reason is that the mean is the measure most often used in other contexts. However, the authors believe that both mean and median values can, or even should, be used when analysing pay gaps for work of equal value.

It is also not the case that pay gaps calculated on the basis of the median are always smaller than pay gaps calculated on the basis of the mean; the pay dispersion within occupations also plays a role. Here, an example is presented based on data from Swedish pay statistics. Figure 3 shows two pairwise comparisons of the pay situation across occupations.

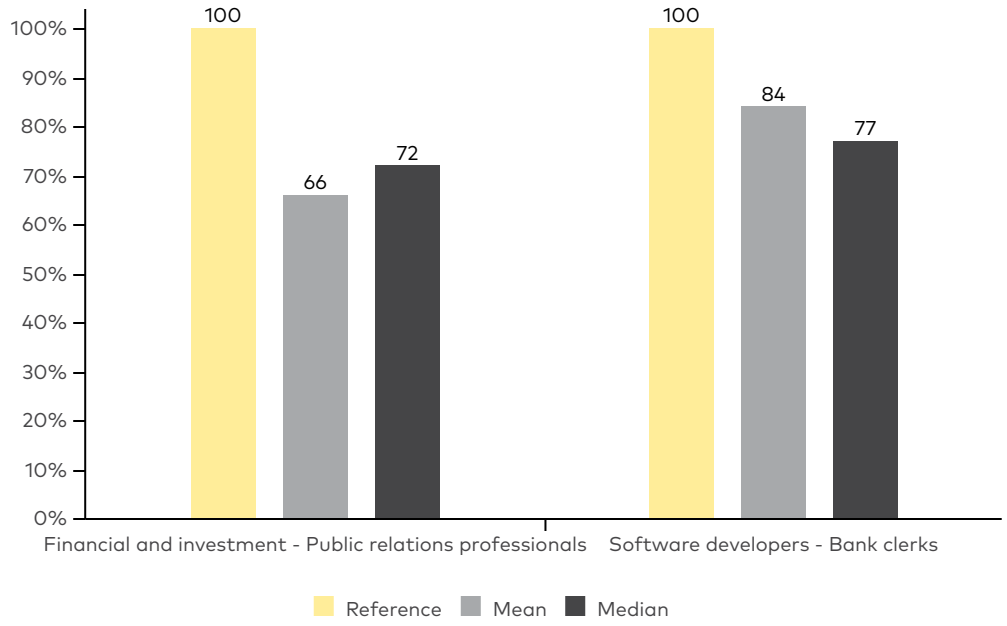


Figure 3: Comparison of the percentage difference in mean and median pay for two male-dominated and female-dominated occupations. Pay in the female-dominated occupation is shown as % of pay in the male-dominated occupation.

The first pair compares mean and median pay in the male-dominated occupation of financial analysts and investment advisors, etc. (reference value 100%) with mean and median pay in the female-dominated occupation of public relations professionals. The pay gap is significantly larger when the mean is used. This result thus follows the 'expected' pattern of smaller pay gaps when using the median for comparison. This happens in the case of a large pay dispersion, especially in the higher paid occupation – which is often the case.

The second pair compares mean and median pay in the male-dominated occupation of software and system developers (reference value 100%) with mean and median pay in the female-dominated occupation of bank clerks. In this case, the pay gap between the occupations is larger when based on median rather than mean pay. This is because the difference between mean and median pay is small for software and system developers, while the median pay for bank clerks is significantly lower than the mean.

7. National statistics on pay and gender in different occupations – and their shortcomings

To understand the gender pay gap at an overall, national level, gender-disaggregated statistics are required that show how different factors relate to pay. It is not only single factors that are of interest but correlations between several different factors. These include, for example, occupational classifications in different levels of detail, gender distribution within occupations, labour market sector, full and part-time pay, age structure, migrant background and education.

The national statistical authorities of all the Nordic countries provide a statistical database for the general public, which enables users to create their own tables by combining different data. In the case of pay and salaries, for example, this might include choosing which occupations, pay measures, statistical measures, genders and years a table should cover. However, the choices are not unlimited, and different statistical authorities have prepared different bases from which to compile tables. The choices available at any given time are of course crucial with regard to the comparability of different occupations. In the following section, we provide our background thoughts for the analysis of the possibilities offered by the national databases.

The level of detail of the occupational classifications (from a general overview at the one-digit level to a more detailed breakdown four-digit level) associated with statistical data on pay can largely determine the possibility of analysing the pay situation of occupations of equal value. In the section Classification occupations, it is argued that the four-digit unit code, which offers the most detail, is the most relevant in the comparison of jobs of equal value, which is why there is particular focus on it in the review of the national statistical databases.

The gender distribution in an occupation is key for identifying gender pay gaps between occupations in which work of equal value is performed where the majority of those working in the occupations are women and men respectively. Comparisons between sectors are relevant, as pay levels may differ between sectors even if those working within a given occupation perform similar work.

In official reports on gender pay gaps, part-time pay is usually converted into full-time pay to allow for comparisons and calculate pay gaps. This practice obscures the role that part-time work plays in the pay gap, with part-time work being significantly more common among women than men. Part-time workers do not earn less simply because they work fewer hours; analysis of hourly pay reveals that part-time workers are also paid less per hour worked (Rubery & Grimshaw, 2015). Working part time can also affect pay in other ways: in addition to affecting hourly pay directly, it can affect opportunities for skills development, which in turn affects pay. The concept of part-time work is also not fixed: working almost full time can be seen as having a different impact on pay than working only a few hours a week.

Age also affects pay development, and occupations in which workers of one sex are generally younger than those of the other sex can be assumed to have a different pay structure than those in which the ages are more gender-mixed. In general, the gender pay gap increases with age; while it is smaller or non-existent among younger workers, men's pay often increases more quickly, widening the gap among those of upper-middle age (Måwe, 2019). However, Wagner et al. (2020) find that age is correlated with education and increases the pay gap, particularly in occupations with low educational requirements.

There are relatively few studies on how migrant background affects pay in the Nordic countries (Måwe, 2019). No research has been conducted on how migrant background affects the pay gap across different occupations – for example, if one occupation has significantly more migrants than another. Such a study would also be difficult to conduct based on publicly available statistics, since pay statistics do not include country of birth.

Formal education is also an important factor, and the easiest to define, when valuing different occupations and offers an indication of how different occupations do, and should reasonably, compare, in terms of pay. The gender pay gap is often greater among high-paid workers than low-paid workers, even in percentage terms (Ekberg et al., 2023a; Måwe, 2019; Wagner & Teigen 2022). This is consistent with the findings of previous research: the pay gap is larger among the highly educated than the less-well educated (Wagner et al., 2020).

Given their importance in relation to the gender pay gap, the statistical variables that have been discussed here will be highlighted throughout this report. In the following section, we review some of the features of the statistical databases that are freely available in the different Nordic countries that make it difficult to compare men's and women's pay and gender pay gaps across occupations.

Finland

In the Finnish statistical database, the number of women and men employed (i.e. the basis for calculating gender distribution) in different occupations is provided at the four-digit level but in three different tables: for the private, central government and local government[1] sectors. This makes it difficult to compare pay across sectors. All tables based on monthly pay generally include mean, median and percentile pay, as well as basic pay (without increments) and monthly pay (with fixed increments). The number of part-time employees, broken down by gender, is available in the pay tables for each sector, which present monthly pay at the four-digit level. However, part-time workers' pay is not included in the mean or median pay data, i.e. this pay data is simply omitted and has not been converted into full-time pay.

Hourly pay is presented in separate tables for full-time and part-time employees, both overall and by sector, but only at the three-digit level for the overall statistics. However, the gender distribution of occupations is not available in the same table and has to be obtained elsewhere.

In addition to the national occupational classification, pay for women and men in the central and local government (but not private) sectors can also be searched by the occupational titles that appear in employment and other contracts, of which there are 674.

Only in the private sector is it possible to combine variables on occupation, age, pay and gender – but only at the two-digit level. Otherwise, there are no tables in which the variables of age and occupation can be combined, i.e. it is not possible to see whether the gender composition differs between age groups within an occupation. Gender is excluded in the table combining educational attainment and age with pay.

It is possible to combine education with gender and pay for each sector individually, but comparisons between sectors are difficult to make. The education codes used vary between sectors: for local and central government a level and field code are used (101 fields and 7 levels), for private sector employees who are paid monthly a uniform system is used that assigns 476 designations for different degrees, while private sector employees who are paid hourly are reported in the same way as employees in central and local government.

An archive is available that includes older tables, the earliest being from 2005, allowing statistical developments to be traced back. These are stored by year, meaning that comparisons of two or more points in time require data to be compiled from several different annual tables.

1. As of the 2023 pay statistics, the municipal government sector is referred to as local government.

Norway

In the Norwegian statistical database available through Statistics Norway, a single table allows users to see data on occupational pay by sector, gender and working hours for the years 2015–2023. In this example table (11418), highlighted here, it is possible to combine a variety of information to make comparisons of the gender pay situation between occupations, such as information on the gender distribution within occupations and various statistical measures for comparisons.

In the Norwegian statistics, the sectors are divided into three: the private sector and publicly owned enterprises, local government and central government. Pay statistics on occupations in the sample table can be disaggregated from the one-digit to the four-digit level as per the Norwegian occupational classification STYRK-08, according to user preference. Part-time pay is converted to be equivalent to monthly full-time pay. In the table, part-time work is defined as less than 100% working time, and full-time as working 100% or more. In the table on gender and pay at the four-digit level, it is possible to select from the last ten reporting years.

The example table does not provide the age distribution (age structure) of occupations, but data on, for example, mean or median age for occupations at the four-digit level are available. Data on age distribution in the categories, under 40, 40–54, and 55 and over, for occupations at the four-digit level is available in another table. For those interested in pay distribution by level of education, statistics are available but not by gender or occupational classification.

Overall, in the Norwegian statistics, users can experiment with combining various statistical variables in the same table to compare women's and men's pay in occupations of equal value at the four-digit level, but multiple tables need to be combined to compare women's and men's pay in occupations in which work of equal value is performed in relation to age categories or education level.

Statistics Norway reports statistics and summaries relating to gender equality under the sub-area Population. The statistical database contains two tables on indicators for gender equality in municipalities in Norway. These tables do not include pay as an indicator of gender equality (but do include average gross income). These tables therefore do not provide data that can help to measure pay differentials between women and men in work of equal value.

Sweden

The Swedish statistical database is based on five sectors: the central government, municipalities, regions, private sector salaried workers and private sector waged workers. One table combines four-digit occupations, the number of men and women employed and pay, as well as women's pay as a percentage of men's pay and regional pay, both within the labour market as a whole and by sector (either all five sectors or grouped into public and private sectors). Another table presents occupations at the four-digit level, the number of men and women employed, age in 10-year intervals and pay, and women's pay as a percentage of men's pay, both within the labour market as a whole and by sector. In a third table, the age variable is replaced by level of education, divided into seven levels. There is also a table that presents, in addition to the pure pay gap, the standard weighted gap (taking into account age, education, hours worked and sector) for each occupation individually.

The database includes the most recent table or tables compiled from previous years (from 2005 or 2014), allowing the user to see data from a specific year or all available data in a single table, for which the year can be selected. This means that historical developments are easy to trace.

Pay can only be linked to the variables of gender and part-time or full-time work for private sector salaried workers and only at the one-digit level; the number of hours worked is not specified for part-time workers.

There are often many empty cells in the Swedish tables, even when the data is apparently available in the database. For example, the number of employees is missing for many occupations in several pay tables (even when monthly pay is provided), despite this data being available in another table, at least for the year 2022. Thus, obtaining the gender distribution and pay for an occupation requires two tables.

The homepage for Statistics Sweden includes a link to 'Pay statistics', via which users can search for an occupational title and be directed to pay statistics with information on gender, sector, age and education. This entry point is useful for comparing pay for equal work, but not for comparing work of equal value.

Denmark

Statistics Denmark (dst.dk) provides national statistics across nine different areas, with statistics on pay available under Labour and Income. On its website it provides 20 tables under the sub-heading Pay. For example, in one table (LONS20) users can obtain pay statistics by job function (at the one- to four-digit level based on the DISC-08 occupational classification), sector (overall, for the public sector overall or broken down by, for example, state or local government, enterprises and organisations/private sector), type of pay (hourly pay, fixed pay, total), employee

group (total or divided into different categories), pay components (25 different variants based on pay increments or statistical measures), gender for full-time equivalent (total, women, men) and year (2013–2022). Three of the tables can be found under the heading *Ligestillingsindikator, løngab* (Gender equality indicator, pay gap) and allow the user to obtain data on annual national pay gaps from 2004 to 2022, pay gaps by occupational classification (1–4 digits according to DISC-08) and age in the years 2010–2022, and pay gaps by full- or part-time work and age in the years 2009–2022.

What makes it difficult to compare pay for work of equal value in the Danish context is the lack of data on gender distribution (number of women and men) in different occupations. This information is needed to know which occupations are male and female dominated so that pay gaps between these occupations can be analysed, rather than within the same occupation.

Gender equality is presented as a separate section on the Danish Statistical Authority's website. Here it is easy to compare the size of the pay gap and its development between different groups, but data on pay itself is missing.

Iceland

The link to the database can be found on the Statistics Iceland website, where gender-disaggregated pay statistics can be found under Society: Wages and income.

A large part of the labour market is not included in the Icelandic pay tables: the tables are based on about 100,000 employees, while the number of employees in Iceland in 2022 was about 200,000 (Statice.is). For example, the tables only include employers with more than 10 employees. The statistics are also somewhat skewed, as the tables from the database show that there are more women employed than men, while the proportion of women in the total labour force was slightly below 50%.

All the tables, except the one that presents occupation, gender and pay, identify occupations at the one-digit level only, making it difficult to identify occupations in which work of equal value is performed. At the one-digit level, gender-disaggregated tables on pay by sector, pay by industry, pay distribution by sector, pay distribution by industry and the gender pay gap are available.

According to Statistics Iceland, there is an Icelandic occupational classification, Ístarf21, that is based on ISCO-08. However, the pay tables in the statistical database still use the Ístarf95 classification. Ístarf21 breaks down occupations in much finer detail, but so far the advantages are not capitalised on. Ístarf95 includes 9 main groups based on ISCO-95, with 20 groups at the two-digit level and 52 groups at the three-digit level. However, several of the groups at the three-digit level include no data in the tables from the statistical database. This is also the

case for the 156 four-digit codes. Some of these indicate the type of work and not the area of work as sub-codes within the three-digit code (general employees – skilled craft workers – skilled craft foremen), which should make it easier to assess whether occupations between two codes are comparable. Statistics Iceland also adds a fifth digit to some four-digit codes for the same purpose. In addition, Statistics Iceland has created some particular codes by, for example, combining codes that cover workers in the fishing industry (combining occupational with industry classifications) or combining supervisors from several different four-digit labour areas. In the latter case, several comparable occupational classifications have been combined, which makes the pay gap within the category (20%) interesting. Thus, the classification used includes a number of elements that facilitate pay comparisons between jobs in which work of equal value is performed.

Due to the small labour market in Iceland, all tables have several empty cells, i.e. some combinations of two or more variables (e.g. occupation, pay and part-time work) include no individuals, or so few that the table does not give the result.

The main table, which includes variables for gender (number of men and women) and different types of pay (basic pay, regular pay including fixed increments, all pay including bonuses) in mean, median and quartile terms for different occupations at the four-digit level, covers only full-time employees. No sectoral breakdown is provided.

The main table, which thus covers only about half of employees, includes more women than men and presents a different pattern than in the other countries: here the majority of occupations (at the three-digit level) are not male dominated, but gender equal (42%), and more occupations appear to be female dominated than male dominated (30% versus 27%). Moreover, in several of the occupations, especially in area 7, usually male-dominated craft occupations, there are so few women that the gender breakdown is not reported for men or women, and male dominance therefore cannot be easily verified in this particular material. However, actual pay between occupations can be compared. While it is not possible to report pay for either gender if the number of individuals is small, for understandable reasons, it should be possible to obtain the actual gender distribution.

In the sectoral table, occupations are only given in 11 categories. It also includes part-time workers and distinguishes between full-time and part-time workers – but the occupational classification is too coarse for the table to be used to compare men's and women's pay for work of equal value.

In another table, the rough occupational classification can be combined with industry. This can be used to identify differences in pay within the same occupational area depending on the industry, for example whether there are differences in pay within the group of clerks (group 4, clerical support workers) because their specific occupation is in a male- or female-dominated industry.

All tables cover the years 2014–2023, so comparisons over time are easy to make.

In the Gender Pay Gap section, there are a number of variables that show the development of pay and the pay gap: different sectors, full-time and part-time work, age groups, fields of activity and occupational classification across nine different occupational areas. However, the variables in the table cannot be combined and, as the occupational classification is very coarse, it is not really possible to compare occupations in which work of equal value is performed.

Summary

The table below summarises the main differences between the national databases. The information that can be obtained at the four-digit level can generally also be obtained at the more general levels, therefore additional notes are only provided at the three-, two- and one-digit levels if additional information is provided. The table is also otherwise highly general and serves mainly to illustrate how different data on pay and gender can be specified and presented with regard to occupation.

To summarise, there is varied scope for extracting variables that can be considered relevant in the comparison of the pay situations of occupations in which work of equal value is performed, and in most cases some information cannot be obtained. At present, the Norwegian database offers the greatest scope.

The different databases treat part-time work in different ways – the Finnish statistics omit part-time work entirely in some tables and in Denmark part-time work is converted into full-time equivalent; only the Norwegian statistics provide information on full- and part-time work as well as contracted weekly hours at the four-digit level. Age data in relation to gender and pay at this level is available in Norway, Sweden and Denmark, however in Denmark it is only provided in terms of the gender pay gap within the occupation, which is not useful when comparing different occupations. In Norway, the average age for different occupations is available at the four-digit level. Data on education levels and pay in relation to occupations is only available in Sweden, as rough categorisation. There is no indicator for migrant background as a selection option in any of the tables.

Much of what is missing from the publicly available databases can be customised by the Agency, subject to costs for compiling additional tables, meaning that the information exists, even if it is not publicly available.

Table 7: Comparison of data in national statistical databases on pay and gender in relation to occupation.

	Finland	Norway	Sweden	Denmark	Iceland
4-digit level	Number of women/men and pay broken down into three sectoral tables	Pay, sector, gender, full-time/part-time, contracted weekly pay, age, number of women/men, number of full-time equivalent women/men	Pay, sector, region, number of women/men, age, education in 7 levels, women's pay as a % of that of men, standard weighted gender pay gap 4 tables	Sector, number of full-time equivalent women/men, hourly pay/fixed pay, managers/non-managers. Gender pay gap by occupation and age	Pay, number of women/men
Pay measure	Basic pay, monthly pay, pay for regular working hours; hourly pay in separate tables	Monthly pay, irregular increments, bonus, overtime pay	Basic pay, monthly pay	Monthly pay, hourly pay with several optional increments	Monthly pay, monthly pay with overtime payments, total pay including bonuses and a number of other increments
Statistical measure	Mean pay, median, percentiles	Mean pay, median, quartiles	Mean pay	Mean pay; for hourly pay median, quartiles	Mean pay, median
3-digit level	Hourly pay of full-time and part-time employees, no figures for women/men		Pay, sector, region, number of women/men, age, education in 7 levels, women's pay as a % of that of men, standard weighted gender pay gap, median pay, percentiles. 4 tables		
2-digit level	Private sector: gender, age, pay in one table				
1-digit level			Private sector salaried workers, gender, pay, part-time		Sector, industries, part-time, gender pay gap, number of women/men
Over time	Most recent year in one table, previous years in annual archive tables	Previous 10 years compiled in one table	Previous 10 years compiled in one table or most recent year in a table, 10 previous years in one table	Most recent 10 years in a table	Previous 10 years compiled in one table

8. Examples based on information in national statistical databases

With regard to the principle of equal pay, it is important to compare male-dominated and female-dominated occupations. While the gender pay gap for similar work reflects men's and women's pay within the same occupations, the focus here is comparing the general level of pay between occupations dominated by different genders (cf. Swedish Gender Equality Agency, 2022, Chapter 7).

It has proved difficult to establish the value of work between two different occupations. Given that this is a subjective judgement, even when structured job evaluation systems are used, there is always room for debate (cf. Hoen et al., 2024), however, this is beyond the scope of the current report. Here we assume sufficient consensus on the equivalence of job requirements between two different occupations to constitute a meaningful comparison. In Sweden, the expert network Lönelotsarna has done extensive work to evaluate and classify occupations in the Swedish labour market into categories based on work of equal value (Harriman et al., 2023). In the following section, occupations that they have assessed as being of equal value are compared. We do not claim that the work performed in these occupations is necessarily of equal value but use their assessment to offer an example of the kinds of insights that can be obtained from the national statistics when two occupations of equal value are identified.

Pair comparisons – comparisons of pay between occupations

Based on Harriman et al. (2023), we chose to compare psychologists and construction engineering professionals, on the one hand, and security guards and child care workers, on the other (Johansson, 2021).

The pay of the male-dominated group of construction engineering professionals differs significantly from that of the female-dominated group of psychologists. The graph below shows the pay of engineering professionals in each country, with a reference value of 100%, in relation to the pay of psychologists. The pay gap between the male-dominated profession of engineering professionals and the female-dominated profession of psychologists is 13–17%.

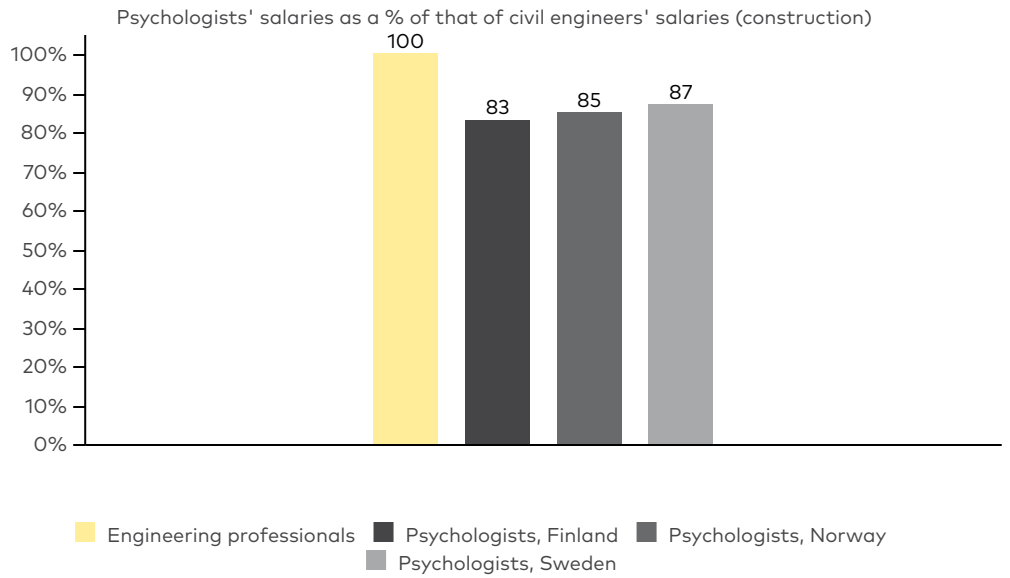


Figure 4: Psychologists' pay as a % of that of engineering professionals (reference value 100%) in Finland, Norway and Sweden.

This is a comparison of the average pay between two professions with different gender compositions, and the question of whether male psychologists earn more than female psychologists (similar work) is not of interest. However, it may be interesting to compare male engineering professionals with male psychologists (work of equal value) and female engineering professionals with female psychologists. Again, the engineering professionals' pay serves as a benchmark in these cases.

It can be seen that in both Sweden and Finland the pay gap is larger among men than among women with regard to work of equal value. This is a common phenomenon. In other words, men can be said to be even more disadvantaged in terms of pay than women when choosing a female-dominated job.

Figure 5: Pay of male and female psychologists as a % of the pay of male and female engineering professionals (reference value 100%) in Finland, Norway and Sweden.

For the occupations of security guards and child care workers, a similar pattern is observed to that of the previous comparison. The pay gap between the male-dominated occupation of security guards and the female-dominated occupation of child care workers is 10–19%.

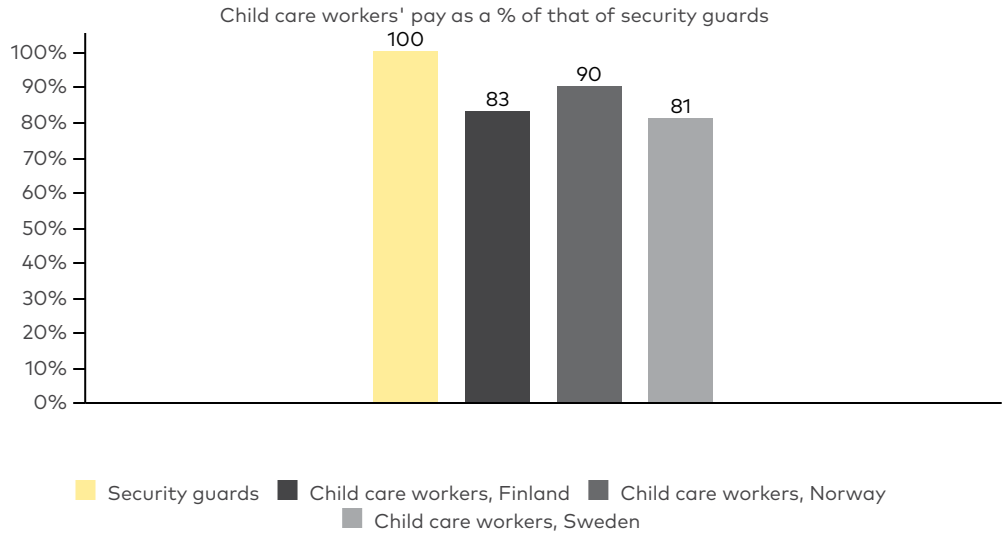


Figure 6: Child care workers' pay as a % of that of security guards (reference value 100%) in Finland, Norway and Sweden.

Comparing the occupations by gender, the same pattern emerges as for engineering professionals and psychologists: the differences are greater for men than for women. For example, in Sweden, a male child care worker earns 78% of what a male security guard earns, while a female child care worker earns 85% of what a female security guard earns.

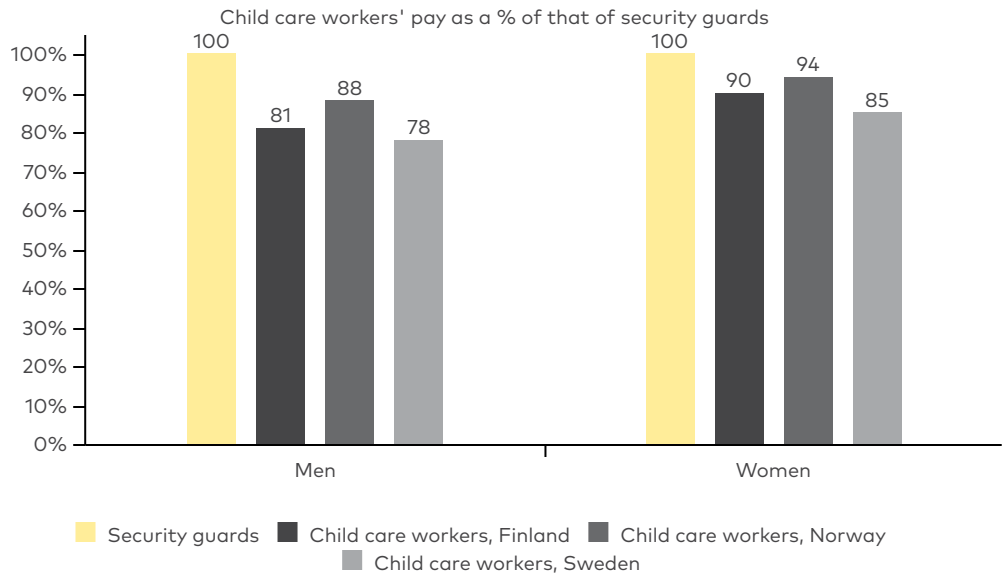


Figure 7: Pay of male and female child care workers as a % of the pay of male and female security guards (reference value 100%) in Finland, Norway and Sweden.

Over time, the pay gap between psychologists and engineering professionals, and security guards and child care workers has narrowed in Finland, Norway and Sweden, but only marginally. In the case of psychologists and engineering professionals, there has been a decrease of 2–3%, and in the case of security guards and child care workers it has been 1–4%. Moreover, the Swedish statistics show that the pay gap was narrowest for both groups in 2020 and has increased slightly since then.

Development over time

Data on the development of the pay gap over time indicate whether the pay gap is narrowing. In this respect, it is important to be able to follow developments over a number of years. As an example, pay development in the female-dominated occupations of department managers in primary and secondary education and adult education, department managers in social and curative care and department managers in elderly care can be compared with the pay development in the male-dominated occupations of IT service managers, production managers in construction and mining, and production managers in manufacturing, between the years 2014 and 2022. The comparison is based on Swedish statistics, in which development over time is easy to follow.

Table 8: Pay gap comparison between female-dominated and male-dominated managerial occupations in 2014 and 2022 respectively. Source: Statistics Sweden.

	IT service managers 2014–2022	Construction Managers 2014–2022	Production managers 2014–2022
Department managers in education	9% -> 13%	26% -> 17%	6% -> -3%
Department managers in social work	19% -> 21%	33% -> 25%	16% -> 7%
Department managers in elderly care	14% -> 22%	29% -> 25%	11% -> 8%

IT service managers have seen the best pay growth of all groups, and the pay gap between IT service managers and all three female-dominated managerial occupations has increased. However, the pay gap has narrowed in all other cases, to the extent that in 2022 department managers in education received higher pay than production managers in manufacturing. The gap remains widest between female-dominated managerial occupations and construction managers, although it has narrowed since 2014.

However, comparing pay gaps between two years is not enough. The picture of narrowing pay gaps is more nuanced when more years are added to the comparison. Comparisons between female-dominated managerial occupations and IT service managers have been omitted from the graph below, for readability.

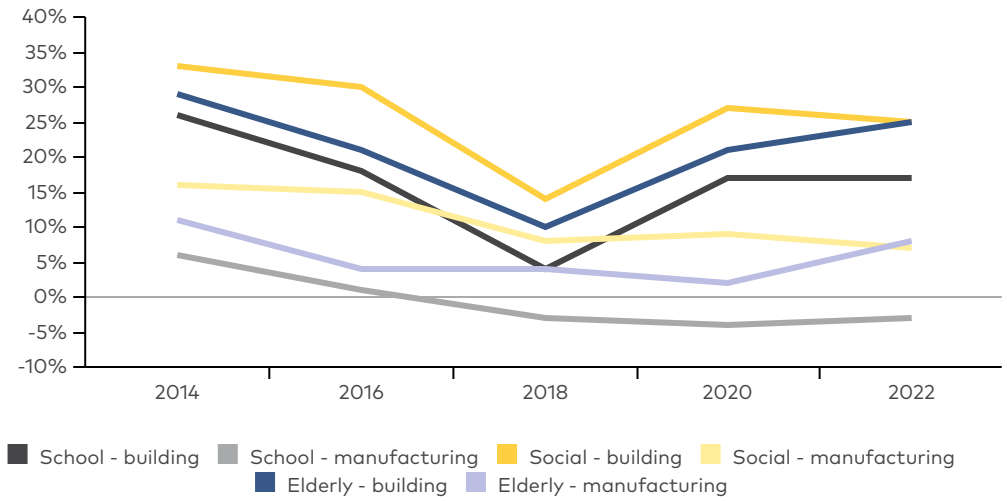


Figure 8: Development of the pay gap from 2014 to 2022, comparing managers in education, social work and elderly care, and managers in construction and manufacturing.

Out of the six occupational comparisons, only two, between managers in manufacturing and managers in both social work and construction, show a slight narrowing trend. Managers in education have received higher pay than production managers in manufacturing since 2016, i.e. the pay gap has been reversed, and since 2020 it has been slowly narrowing in favour of production managers. For all three other comparisons, a narrower pay gap was observed at some point between 2014 and 2022, but the trend has either reversed and is widening or has stabilised at a wider level. Thus, a comparison between only two years is not necessarily an accurate reflection of the situation.

The sharp reduction in the pay gap for comparisons with construction managers in 2018 is not explained by the statistical data. By studying the pay gap over several

years, anomalies in single years are less pronounced than if the statistics had been used to study the pay gap in 2018, for example.

Returning to female managers in the Finnish statistics, a group discussed in the section on classifications at the three- and four-digit levels, there are also interesting developments to observe:

Figure 9: Gender pay gap and proportion of women in occupation 132 Manufacturing, mining, construction and distribution managers and occupational groups, in Finland in 2012 and 2022.

Figure 9 shows that the proportion of women in the minor group (three-digit level 132) increased by five per cent between the reference years. There was no gender pay gap for the group in 2012, but in 2022 there was a gender pay gap of 10%. The gender pay gap therefore increased by more than the corresponding increase in the proportion of women in the occupational area.

If we use statistical data linked to the four-digit level of the occupational classification, other patterns emerge.

- For construction managers (1323), the proportion of women increased by 4%. In 2012, the pay gap for this occupational group was 'inverted' with respect to how pay gaps typically manifest, with women earning on average 108% of men's pay, but by 2022 the pay gap had widened to 11% to the detriment of women.
- For manufacturing managers (1321), the proportion of women also increased, by 11%, but the pay gap narrowed, from 10% in 2012 to 3% in 2022.
- For distribution managers (1324), the pattern is again different with the proportion of women remaining unchanged between 2012 and 2022 but the pay gap increasing by 16%.

Thus, trends can differ significantly, and an increase in the proportion of women in a profession can coincide with either an increase or decrease in the pay gap.

Sector, pay and occupation

In Norway (*frontfagsmodellen*; front-runner model) and Sweden (*industrimärket*; industrial mark), there is a more-or-less-formalised agreement that public sector pay may not exceed pay in the export industry, and a similar model is being introduced in Finland (*vientivetoinen palkkamalli*; export-driven pay model). In practice, pay in the same occupation is usually lower in the local government sector [2], while in the central government it often remains at the same level or higher than the private sector.

Thus, assuming that individuals working in the same occupation do the similar work, the pay they receive for this work is not necessarily similar if they work in different sectors. This relationship has clear gender equality implications as women are more likely to work in the relatively lower-paid local government sector than men: more than a third of working women compared to about 10% of men in Finland, Norway and Sweden. The table below shows the distribution of women and men across sectors.

2. However, we showed in the section on pair comparisons of pay in different occupations with approximately equivalent requirements for work that the pay for the occupational group security guards was higher in the local government sector than in the private sector in Finland and Norway.

Table 9: Percentage of women and men working in the local government, central government and private sectors in Finland, Norway and Sweden.

	Women, local govern-ment	Men, local govern-ment kommunal	Women, central govern-ment	Men, central govern-ment	Women, private	Men, private
Finland	35%	10%	4%	4%	61%	85%
Norway	34%	10%	15%	9%	52%	81%
Sweden	38%*	12%*	6%	5%	56%	83%

* In Sweden, the regional sector is combined with the local government sector.

In Finland, Norway and Sweden, the mean and median pay in the central government sector are higher than in both the local government and private sectors. In most occupations, the number of central government employees is not large enough to significantly impact average pay in the public sector, and thus the pay differences between the public and private sectors. However there are a few occupations where this is the case.

The matter is further complicated when comparing different occupations in which work of equal value is performed. Support technicians and library staff are two such example occupations, one male dominated and the other female dominated. The sizes of pay gaps vary when sectoral affiliations are taken into account. The table is based on Finnish data. When comparing the private and local government sectors, the pay gap favours the government sector.

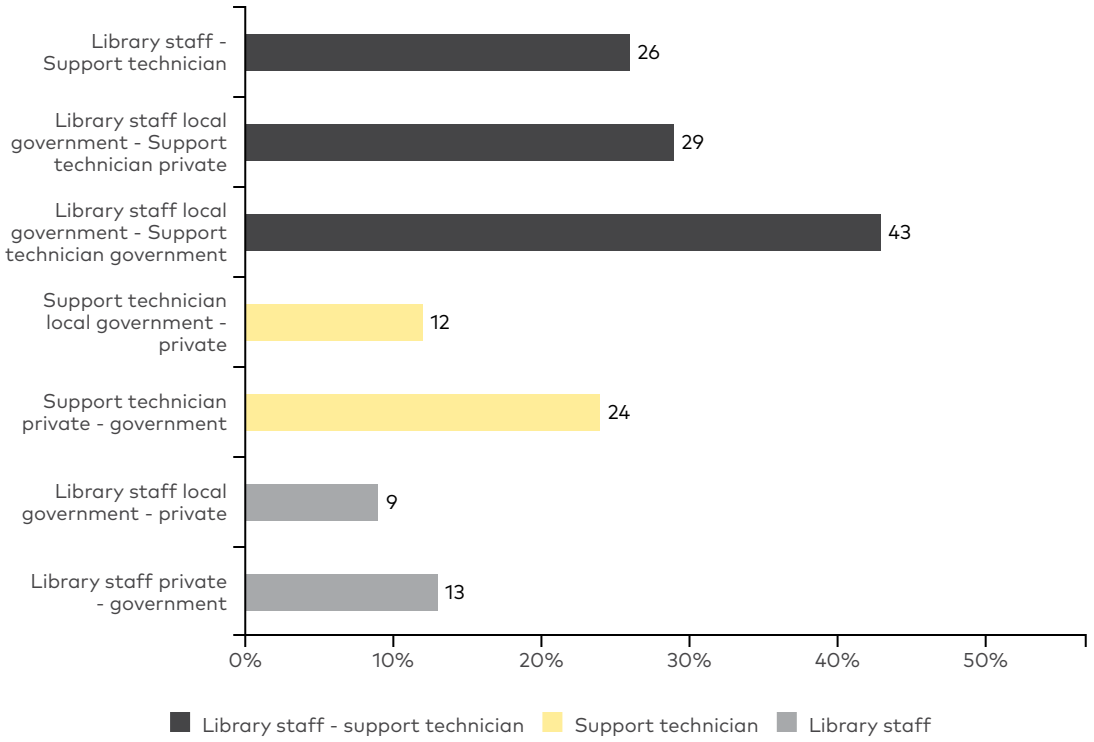


Figure 10: Pay gap between and among support technicians and library staff in the local government, state government and private sectors in Finland.

The gap between the lowest and highest average monthly pay for these groups doing potentially equal work is 43%: from €2,541 for librarians employed by local governments to €4,422 for support technicians employed by central government. This is comparable with the already large gap between support technicians and librarians when sectoral affiliation is not taken into account.

Full-time and part-time work

Comparing the pay of full-time and part-time workers is not straightforward, even within the same occupation. In this section, it is assumed that individuals are doing equal work (because they are doing 'similar' work), although this is not always the case. It can be seen that both the proportion of full- and part-time employees and the impact of working hours on pay vary considerably across occupations.

It is not self-evident that full- and part-time workers do equal work, even in the same occupation – for example, part-time workers may have less extensive and therefore less skilled tasks than full-time workers, but the opposite can also be true, with part-time workers having more specialised and therefore more skilled tasks. Part-time workers may have inconvenient working hours and thus worse working conditions than full-time workers, or it may be that full-time workers have more inconvenient working hours. Some part-time work may be desired by employees, for

example in certain occupations, where the employees may be self-employed alongside their contractual employment relationship, while others may work part time because full-time work is not available.

Full-time employees are generally paid monthly, while part-time employees may be paid either monthly or hourly. When it comes to equal pay for work of equal value, these two types of pay must be comparable. The most common approaches to making full- and part-time pay comparable are converting full-time pay into hourly pay (as Statistics Finland does) or making hourly pay into full-time pay (as Statistics Sweden does). In both cases, total pay is divided or multiplied by normal working hours. It would theoretically be possible, and probably more correct, to make a calculation based on the degree of part-time work (% of full-time work) instead of the monthly pay of part-time employees, but this approach is not used. Converting different types of pay inherently introduces uncertainty and a margin of error in occupational categories where different pay types are used; thus, some of the figures are 'original' while others have been converted.

We requested statistics on part-time work by occupational categories from both Finland and Sweden, and in Sweden also by sectors. The intention was to separate 'short' and 'long' part-time work, i.e. part-time work up to 19 hours and part-time work of 20 hours or more. However, sectoral statistics in Sweden are incomplete: for occupations that exist in both the public and private sectors, the private sector data is missing even for groups of several hundred individuals. For example, the Swedish statistics divide salespersons workers into two occupational codes, for grocery and specialised stores, but do not include data on part-time work for grocery store salespersons. Missing data in the Finnish statistics seems to pertain to occupations with few practitioners, or at least few part-time workers. Due to the gaps in the Swedish statistics, this section is based on Finnish statistics, even though we have learnt from our samples that the situation differs from country to country.

In general, women in the Nordic countries work part time to a greater extent than men (Drange & Egeland, 2014). Across the Nordic countries, part-time work is most common among women in Norway (Mósesdóttir & Ellingsaeter, 2019). Part-time pay is often slightly lower than full-time pay per hour, although this is not always the case.

To provide a general picture, we examined 15 male-dominated and 15 female-dominated occupations from the Finnish statistics. While this may seem like a small sample, it is already clear that in many male-dominated occupations there are few part-time workers, therefore there is a lack of data on pay available in the statistics. We identified only 15 male-dominated occupations that include data on pay for both men and women working short and long part-time hours.

The first question is whether part-time workers receive lower pay than full-time workers, and the second question is whether this also varies by gender. Although

part-time workers often receive lower pay than full-time workers, this is not always the case. On the other hand, a gender pay gap is usually present even in comparisons of part-time workers. Two example comparisons, between software and application developers and pharmacists and between heavy truck and lorry drivers and shop salespersons, are presented, which show that the inclusion of part-time work can reveal very different patterns.

First the pay gap between men and women working full and part time in the occupation of software and application developers is examined. Male full-time software and application developers are paid 8% more than their full-time female colleagues. Among part-time workers, there is hardly any gender pay gap, although there is a pay gap to full-time workers.

Women working long part-time hours receive almost the same pay as their full-time female colleagues, with the difference being only 1%, while women working short part-time hours receive 12% less pay than women working full time. Men who work many part-time hours are hit harder: they are paid at the same level as women, 9% less than their full-time male colleagues. If they choose to work short part-time hours, they are paid up to 19% less than men working full time. However, very few men (4%) and also few women (9%) work part time in this occupation.

One occupation that can be considered similar to that of software and application developers is pharmacists, an occupation dominated by women. Here the picture is quite different. Part-time work is much more common, with about 30% of both men and women working part time in this occupation. An examination reveals that there is virtually no gender pay gap within the occupation, either among full-time or part-time workers. On the other hand, both men and women who work few part-time hours earn significantly more than those who work full time, about 10% more than full-time pharmacists.

When comparing these two occupations, the differences present as follows:

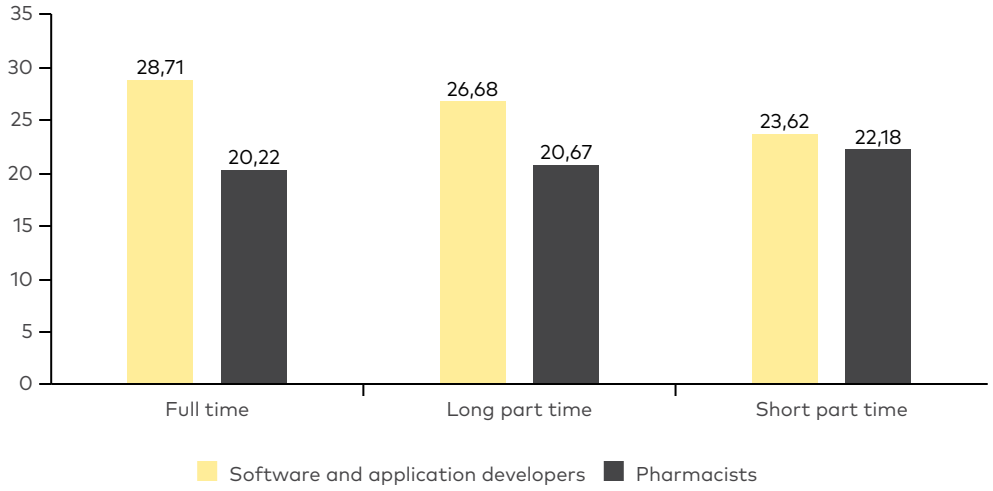


Figure 11: Pay of software and application developers and pharmacists, euros, Finland.

The overall pay gap (not shown in Figure 11) between the occupations of software and application developers and pharmacists is up to 30%. But among those working few part-time hours in these occupations, the difference is only 6%. This is mainly due to the fact that men working few part-time hours receive the highest pay among pharmacists and the lowest among software and application developers. The difference between men working few part-time hours across the two occupations is only 3%. However, the difference persists, and it is also worth keeping in mind that the number of software and application developers who receive this low level of pay is very low.

In general, few individuals work part time in male-dominated occupations. Overall, the pay gap between full-time employees and those working particularly short hours is greater among male-dominated occupations than female-dominated ones. This means that the pay gap among those working few part-time hours is often smaller than the overall pay gap between two occupations – and larger in the rare cases in which the female-dominated occupation receives higher pay overall.

The comparisons of part-time pay between occupations with many part-time workers are particularly interesting. Such occupations include shop salespersons (female dominated, 57% work part time) and heavy truck and lorry drivers (male dominated, 30% work part time). Here, part-time pay remains roughly equivalent to full-time pay in the male-dominated occupation, while it falls in the female-dominated occupation.

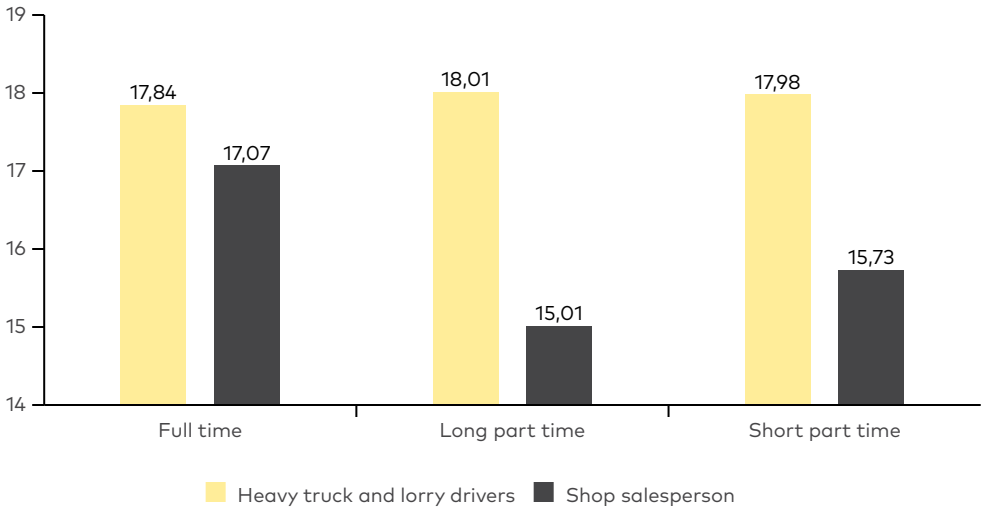


Figure 12: Hourly pay of heavy truck and lorry drivers and shop salespersons, Finland.

The overall pay gap is 10%. However, the gap is larger among part-time workers, and it is highest among those working many part-time hours, where the occupational pay gap is 16%. This is mainly due to the fact that men in the category of shop salespersons, who are highly paid when working full time, receive significantly lower pay when working part time, dragging down the overall pay level of shop salespersons. Given that more than half of shop salespersons work part time, the overall pay gap of 10% thus paints a misleading picture.

Age

The age structure of occupations can also influence the pay gap at the national level and should be included in Agenda 30 (UN 2025) reporting. In general, pay increases with age. While age is not considered a determinant of pay in itself, it is an indicator of increased experience. When evaluating whether two occupations in which work of equal value is performed, age is not a consideration – requirements of the occupation and not workers' characteristics should form the basis of the evaluation. However, if the age structure of two occupations differs significantly, this should raise some questions when comparing pay.

Comparing child care workers with security guards and bus and tram drivers with sports coaches and instructors provides an example of how age statistics can complement a general comparison of the pay levels of occupations. It can be seen that the pay gap increases in some age categories and that increased experience in female-dominated occupations does not necessarily have the pay impact that might be expected given its importance as an aspect in valuing occupations.

Take child care workers and security guards, for example. In Finland, 40% of security guards are under 30 years, while this is only true of 19% of child care workers. This ratio is reversed among employees over 50 years: 19% of security guards and 36% of child care workers belong to this age group.

The pay gap between child care workers and security guards is 17%. The gap is 5% larger, at 22%, in the 40-49 age group, which includes a quarter of child care workers. The highest pay for child care workers (in the 40-49 age group) is still 7% lower than the pay received by security guards in the youngest age group. Swedish statistics show a similar trend. The overall pay gap may therefore need further examination.

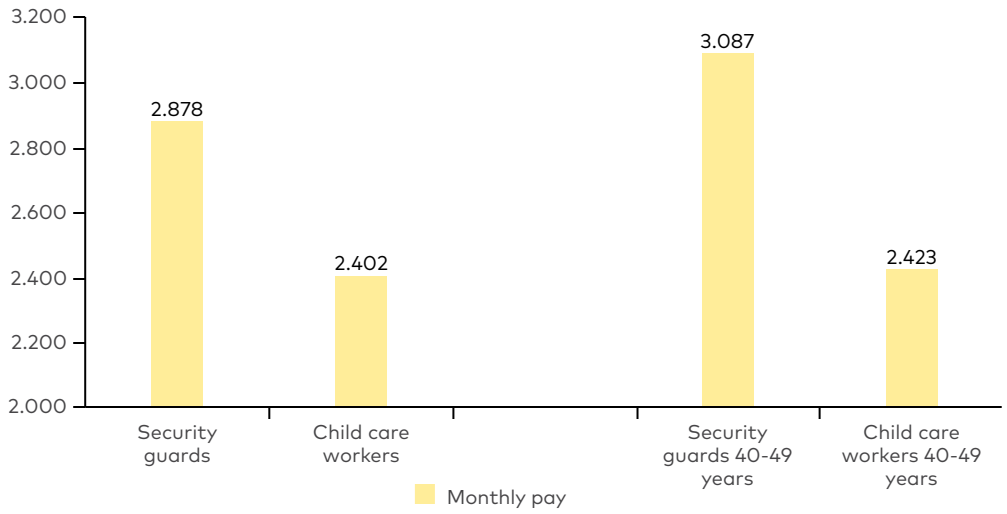


Figure 13: Pay for security guards and child care workers, Finland.

Almost a fifth (19%) of security guards are aged 24 or under and over half, 53%, are aged 34 or under. The overall pay gap is 19%. The gap is largest in the youngest age group, those aged 18-24 (25%), an example of two groups of workers that are both relatively inexperienced but are still subject to a significant pay gap.

It is common for the age structure of occupations that are considered comparable to differ in that male-dominated occupations have a higher proportion of young workers, not least because comparable female-dominated occupations often require more extensive education. However, this can also be the other way round. When comparing bus and tram drivers (male dominated) with sports coaches and instructors (female dominated) in Finland, the age structure also matters:

Pay gap bus and tram drivers – sports coaches and instructors: 16%

Pay gap bus and tram drivers – sports coaches and instructors younger than 40 years: 21%

Sports coaches and instructors: 52% are younger than 40 years

Bus and tram drivers: 21% are younger than 40 years

In other words, more than half of sports coaches and instructors are subject to a pay gap that is 5% larger than the general figure of 16% suggests, compared to equally experienced bus and tram drivers.

If age serves as an indicator of experience, the statistics may also raise a question about the comparability of occupations: can an occupation that is largely made up of younger individuals be considered to have the same requirements or be one in which work of equal value is performed as an occupation in which most employees have considerably more experience (are 40 years or older)?

Migrant background

The EU Transparency Directive 2023/970 emphasises the importance of an intersectional perspective in comparing men's and women's pay. Age is one factor that can interact with gender. Another is ethnicity or race. While statistics on these factors are not collected within the Nordic countries, there are statistics available on country of origin. It is also general knowledge that being born in a country outside Europe is generally correlated with lower pay, mainly due to differences in labour market profile: individuals with a migrant background are overrepresented in a number of occupations with a low level of pay. Within publicly available statistics, it is not possible to examine the gender pay gap, and thus the pay gap, for individual occupations. However, from the Swedish statistical database, data can be extracted that suggests this could be of interest: while the income gap (which includes earnings in addition to pay) between newly arrived women and men is often large, it decreases more and more the longer the individuals remain in Sweden, to generally become narrower than the overall unweighted pay gap in Sweden, which here is 19% (i.e. women's income is 81% of men's income). In 2022, this was the trend for individuals from selected countries and for all individuals born outside Sweden combined:

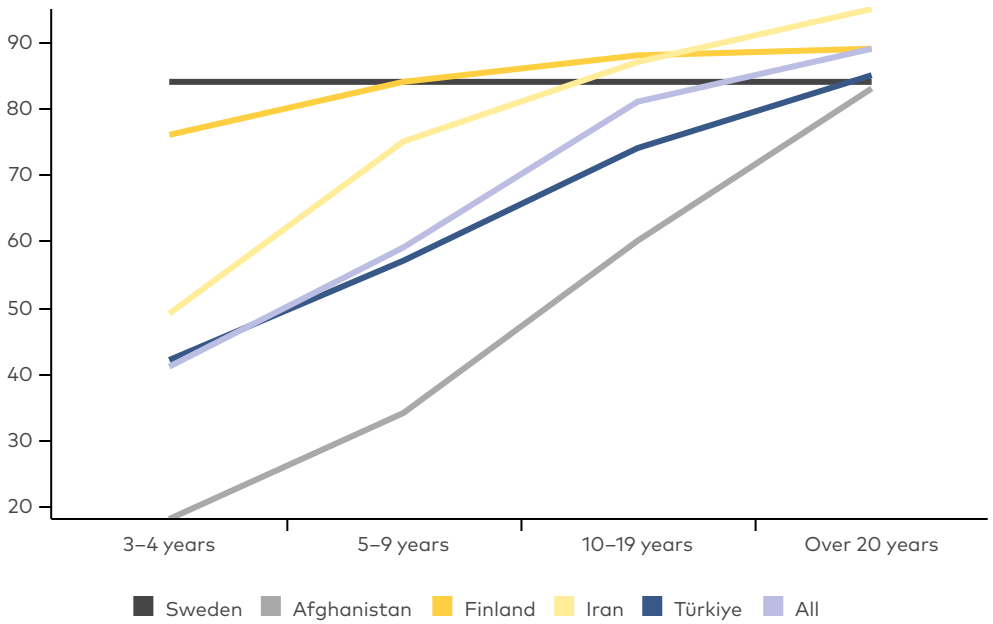


Figure 14: Women's income as a percentage of men's in 2022 by number of years in Sweden, by country of origin.

While the income gap between women and men from the same country is thus narrowing, and often reversing, it should be remembered that an income gap between those born in Sweden and those born abroad still exists. The pay gap between Swedish-born men and foreign-born men who have been in Sweden for over 20 years is 10%, while the equivalent figure for women is 4%.

9. Education, gender, and pay

A clear pattern in the labour market is that pay varies across occupations according to education level. A general pattern, though one with several exceptions, not least related to gender, is that people with longer education can usually expect higher pay than those with shorter education. The normal length of formal education and training within an occupation is a factor in determining the skill level of the occupation in national occupational classifications.

The International Standard Classification of Occupations, ISCO-08, to which national classification systems adhere, organises occupations partly hierarchically by education, based on four broad skill levels:

Level 1: Primary education

Level 2: Secondary education, short vocational training

Level 3: Higher education, 1–3 years

Level 4: Higher education, 3–6 years

These levels of education relate to the occupational areas of the ISCO classification as follows. However, professional experience requirements can be used instead of or in addition to educational requirements at all levels.

Table 10: Occupational areas and qualification levels in ISCO-08.

Occupational area	Skill level
0 Armed forces occupations	1+2+4
1 Managers	3+4
2 Professionals	4
3 Technicians and associate professionals	3
4 Clerical support workers	2
5 Service and sales workers	2
6 Skilled agricultural, forestry, and fishery workers	2
7 Craft and related trades workers	2
8 Plant and machine operators and assemblers	2
9 Elementary occupations	1

The various national classification systems have adapted the broad skill classes of ISCO to their own educational systems. The instructions for ISCO-08 (in contrast to previous versions) also emphasise that the typical tasks of the occupation and not education should determine the classification of the occupation, to allow for comparisons of occupations internationally despite the different educational systems in different countries (Tilastokeskus, 2011). As a result, occupational areas 4– 8 in particular may contain very different qualification requirements, and the classification system itself includes little information about formal educational requirements.

However, most job evaluation systems used for pay setting and pay comparisons consider education to be the most important, and thus often determining, factor in defining pay levels. This is also because it often co-varies with the factor of responsibility.

Equal pay for different education

In the Nordic countries, significantly more women than men undertake higher education. In 2021, 61% of Finnish and Swedish students and 57% of Norwegian students were women (Eurostat, 2021). This is the result of a decades-long trend; according to Pekkarinen (2012), even as far back as 1990 the proportion of female students in higher education in the Nordic countries was higher than that of men. Thus, the fact that women more often than men undertake higher education should help reduce the gender pay gap, given the general pattern that those with longer education can be expected to receive higher pay than those with shorter education.

However, the gender pay gap is found to be larger among highly educated and highly paid employees (Måwe, 2019), which in itself increases the overall gender pay gap. The effect of the segregation of higher education is even more important. As women and men choose different study programmes, they end up in different occupations with different pay levels (Hägglund, 2024; Ransmayr & Weichselbaumer, 2024).

There is thus an 'education gap' in relation to gender and pay. Instead of women and men who receive the same pay having a similar level of education, as would be expected, it seems instead that they have different levels of education. Table 11 exemplifies this by showing the educational levels for men and women who receive (almost) the same monthly pay. The examples for men's pay are related to male-dominated fields of education, while the examples for women's pay relate to female-dominated or gender-equal fields of education.

Table 11: Example comparison of men's and women's educational levels given similar monthly pay. Monthly pay in SEK. Source: Statistics Sweden.

Education	Gender	Monthly pay
3-year engineering programme, higher education	Men	51,300
5-year pharmacy programme, higher education	Women	51,400
One or more semesters of higher education, technology, non-degree	Men	47,500
5-year architectural programme, higher education	Women	47,200
Energy and plumbing, upper-secondary level	Men	38,500
3 years or more, humanities, higher education	Women	38,500

The examples in Table 11 show that for all three levels of monthly pay compared, women have a significantly higher level of education than men.

Education level alone cannot serve as a direct indicator of job equivalence when comparing different occupations, as responsibility, effort and working conditions must also be taken into account. However, since skill requirements, which are largely a matter of education, factor heavily in the valuation of a job, large differences in pay between individuals with equal levels of education, or large differences in educational level between individuals who receive equal pay, are a reason to reflect on whether differences are justified.

A comparison in which a male-dominated job with lower educational requirements has higher pay than a female-dominated job with higher educational requirements does not, of course, always represent a comparison of jobs regarded as doing work of equal value, but comparing education and pay can reveal potential pay gaps between different occupational areas that do not necessarily come to the surface in an analysis of pay for work of equal value when looking exclusively at different occupations.

National statistics on education – and their shortcomings

Information on education in national statistics is relatively coarse-grained and therefore does not provide detailed knowledge in relation to pay for work of equal value. There are some differences between the Nordic countries when comparing how data on education can be related to data on occupations and pay in national statistics.

Finnish pay statistics are broken down by sector. For the local and central government sectors, the variables of level of education (8 levels) and field of education (99 fields) can be combined. For monthly pay in the private sector, instead of defining the level and field of education, 468 different degrees are specified. Hourly pay in the private sector is organised in the same way as monthly pay in the public sector, while information on education in relation to hourly pay in the public sector is not provided. Some information on educational fields can be linked to specific occupations, however there are also many broad programmes included that serve as a possible background for a variety of occupations. All tables are broken down by gender. However, in addition to the absence of part-time public sector employees in the statistics, comparisons between the private and public sectors are complicated.

In the Norwegian statistics, education is divided into five levels (primary and lower-secondary education, upper-secondary education, specialised education, short university and/or college education of up to 4 years) and long university and/or college education (4 years or more and postgraduate education). In the pay

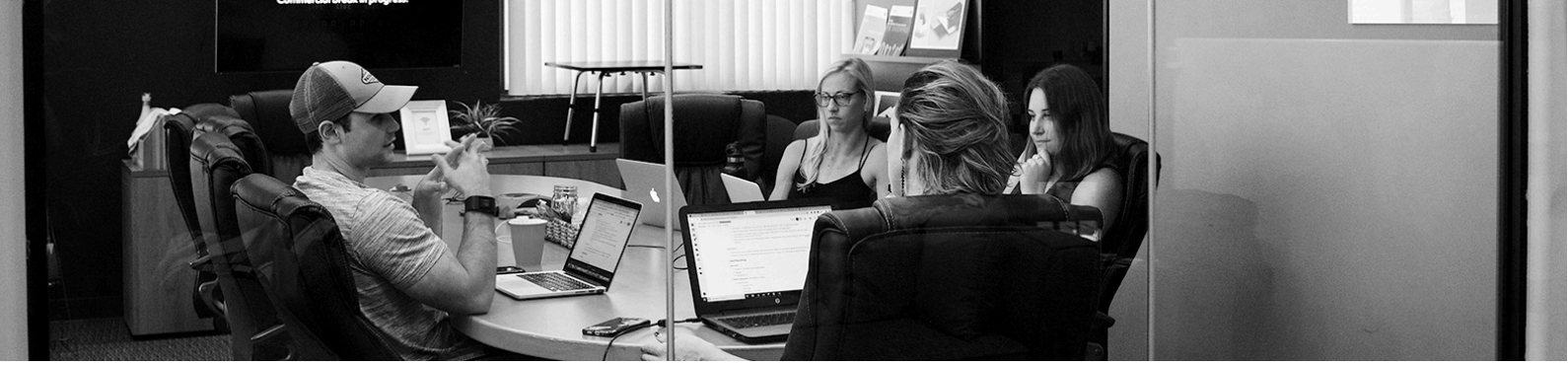
statistics, this data can be refined with information pertaining to educational subject area (179 education groups in total), which can be linked to information on monthly pay but not broken down by gender or directly linked to occupational classifications.

In the Swedish education statistics, information on pay can be obtained for every occupation across seven levels of education, from pre-secondary education of less than 9 years up to postgraduate education, for example the average pay for male and female employment officers with upper-secondary or short or long post-secondary education. Pay statistics are available for about 100 groups pertaining to educational fields, some of which are clearly linked to certain occupations, while others are broader.

Danish statistics provide information on the educational status of the population, e.g. information on gender is available in relation to highest level of education completed based on 93 educational groups or a number of main groups (corresponding to education levels) from primary to postgraduate level. Information on pay by educational group (89 different education groups) is available in relation to sector, type of pay (hourly/fixed), pay recipient group (e.g. employee, manager), different pay components (25 options, e.g. overtime premiums) and gender. However, this data is not linked to occupational classifications.

In Icelandic statistics, detailed information is provided on the number of students in different study programmes in tables covering 'line of study' or 'detailed field of study'. These tables are available for different levels of tertiary education, upper-secondary education and non-tertiary post-secondary education. Several of these lines of study and detailed fields of study correspond to specific occupations. All tables are broken down by gender, and trends can optionally be followed over several years. However, there is no direct link to occupations or pay.

Thus, in some cases, statistical data on education can be linked to a particular occupation, provided individuals work in the area associated with their education – which is not always the case. So, there is an uncertainty factor here too. In the context of work of equal value, gender-disaggregated statistics on education and pay in their current form can mainly be used to draw attention to anomalies in the pay level of occupations in relation to their skill requirements. For organisations, such as trade unions, that are interested in knowing how the pay their members receive compares with other occupational groups facing equal demands in their work, detailed information on educational background and level can be relevant.



10. Summary of recommendations

This pilot study has explored how available official statistics can be used to measure pay differentials between women and men in work of equal value at the national level in the Nordic countries, with a particular focus on Finland, Norway and Sweden. As stated previously, this report makes no claims about how equivalence between occupations can be determined at the national level or which occupations should be considered as ones in which work of equal value is performed. The study is written *as if* it is possible to identify occupations in which work of equal value is performed, leaning on the Swedish expert network Lönelotsarna's (Harriman et al., 2023) valuation of occupations based on the Swedish occupational classification. In light of the explorative analysis of national statistics carried out in this study, some tentative recommendations are provided for facilitating the collection of relevant statistics on pay differentials for work of equal value across occupations at the national level.

The first recommendations concern national occupational classifications. The authors recognise that occupational classifications serve a variety of purposes and that collecting statistics and introducing changes presents challenges. Thus, the following recommendations are to be considered a wish list based solely on the need to compare pay between jobs in which work of equal value is performed. Currently, each of the three countries surveyed already follows one or more of the recommendations, but they differ in those they follow and none follows all of them.

As the classifications are a relevant starting point for identifying work of equal value across occupations, it is important that they present information on occupations at the same level of detail, as far as possible. At present, classifications at the four-digit level are generally the most detailed with regard to defining an occupation for statistical purposes. However, the 'map' provided by the occupational classifications does not always coincide with reality or fulfil the required demands. An overall recommendation is therefore to:

Revise the occupational classifications

Large, female-dominated occupational groups may need to be broken down into more occupations, while smaller male-dominated occupational groups in which relatively similar work is performed could be merged. Individual countries can sometimes draw inspiration from their Nordic neighbours in terms of reviewing the occupational classifications and determining the level of detail in which different occupations are classified.

The remaining recommendations from the pilot study concern the basic requirements that official, national statistics would need to fulfil to facilitate analysis of pay differences between women and men in work of equal value in occupations at the national level in the Nordic countries. The recommendations can be seen as complementing and expanding on what is prescribed in the EU Pay Transparency Directive 2023/970 and the reporting requirements for Agenda 2030, Target 8.5.1. They cover statistics that should be available for analyses of gender and pay for work of equal value at the national level and also which statistics would be relevant for such analyses:

- **It is a basic requirement that statistics on the number of men and women within occupations at the 4-digit level are available in the same table as pay.**
  Even if it is not possible to provide mean and median pay for reasons of privacy, in cases in which there are very few women or men within an occupation, the overall number of women and men should be available.

- **Data on both mean and median pay for occupations in the classification system should be available.**
  The examples in the pilot study demonstrate that the pay gap can vary depending on the measure used, but the patterns are not always the same for different occupations, justifying the use of multiple statistical measures.

- **Pay data should be available for each sector (private and public, public divided into central and local government) and the sectors combined.**
  Patterns in pay vary across different sectors of the labour market: for example, the pay gap in the private sector is often larger than in the public sector (Hoen et al., 2024). If the work performed in an occupation is of equal value across sectors, the overall average, for the sectors combined, should serve as the basis for pay comparisons. Analyses of the gender pay gap for work of equal value should, according to the EU Pay Transparency Directive, allow for comparisons across sectors.

- **National statistics should include easily accessible data on the number of women and men working full and part time in each occupation and on full- and part-time pay.**

Given the importance of working hours in determining actual pay, and the fact that women work part time to a greater extent than men in the Nordic countries, it is important to analyse the impact of part-time work on pay and pay differentials between different occupations. In this context, it is particularly important to consider the way in which part-time and full-time pay are made comparable.

- **Data on the age structures of occupations in the same table as pay are needed.**
  Age structures can affect both the equivalence of occupations and their mean and median pay. A cursory check of whether otherwise comparable occupations have very different age structures may require that the overall pay gap be specified with respect to different age groups.

- **Statistics should include the number of native- and foreign-born persons within occupations, broken down into women and men, and their mean and median pay, at least for occupations with many foreign-born workers.**
  The EU Pay Transparency Directive recognises the importance of taking intersectional discrimination into account. Instances of possible structural discrimination at the national level can be detected by comparing the pay of native and foreign-born workers. In occupations with many foreign-born workers, their pay levels can affect the gender pay picture of the occupation and thus also gender pay comparisons with occupations of equal value.

- **Statistics on education should be easily linkable to data on gender and pay.**
  Data on education in the national statistical databases is relatively coarse-grained, although to different degrees in the three countries. The fact that education and pay are separate statistical domains means that the data on education and pay cannot be easily linked. Analyses of pay differentials based on education can highlight the pay gap between women with higher education and men with lower education. Many educational qualifications are directly linked to different occupations, and it would be beneficial for combined statistics on education and pay to be sufficiently detailed to enable occupations to be identified and compared on this basis.

- **It should be easy to follow developments over time.**
  Time series are needed at a minimum for data on mean and median pay and the number of men and women in occupations at the four-digit level of the classification systems, both by sector and for the sectors combined. The development of the current pay gap within and between occupations in which work of equal value is performed can be useful for making predictions about or influencing the future development of the pay gap. For example, changes in the gender pay gap may relate to changes in the gender composition of occupations or changes in the shares of the private and public sectors.

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Appendix: Method

The analysis of how available official statistics can be used to measure the pay gap between women and men for work of equal value involved a number of different activities which are summarised in this section.

Expert dialogue: As part of the information gathering phase and discussion on the implementation of the project, four interviews were conducted in June 2024 with experts, researchers and investigators in the field: two researchers from Finland, two researchers from Norway and one investigator from Sweden. These were supplemented by information gathering and recommendations by a researcher in Iceland. The aims were to gain insights into relevant statistical sources on pay outside of those available through the websites of the national statistical offices, develop an understanding of how the issue of equal pay for work of equal value is discussed in each country, as well as whether it is perceived as an issue on their respective political agendas, and identify any actors driving the issue that the researchers should be aware of for the purposes of the project. Notes were taken during the interviews. It was later determined that more than enough material was available through the national statistical authorities for the purposes of this pilot project and the idea of using other databases was abandoned.

Literature review: Searches and reviews of previous research and grey literature (reports) were carried out continuously during the project. Previous research comparing pay between occupations of equal value with different gender compositions was found to be almost non-existent. Although several different reports, mainly produced by government agencies, mentioned the need to make pay comparisons between jobs of equal value in addition to conducting pay audits that look at pay structures, almost none have dealt with the issue in more detail.

Review of the official occupational classifications of each country: The occupational classifications AML 2010 in Finland, STYRK-08 in Norway and SSYK 2012 in Sweden were reviewed and compared against the DISCO-08 and Ístarf21 classifications in Denmark and Iceland respectively. Comparison of similarities and differences between the occupational classifications in Finland, Norway and Sweden was carried out and documented in Excel, occupation code by occupation code. The occupational classifications of the three countries were compared with the international standard ISCO-08.

The studies of national official statistics were conducted using a stepwise approach. Statistics from 2022 are used throughout, as well as some earlier comparison years. Statistics from 2022 were in many cases the most recently available at the start of the project.

Orientation in existing statistics: The available tables in each country's statistical databases from the national statistical offices were mapped. One of the authors concentrated on Sweden and Finland, the other on Norway.

The orientation involved examining available statistics by extracting various tables from the databases to ascertain the availability of suitable data on, for example, gender distributions by occupation, average pay in different occupations, pay gaps in different occupations, pay in different sectors, pay by working hours (full/part time) and pay by level of education. Through this process, several gaps were identified, although they differed between the statistical databases of the different countries. As the statistical databases are in many cases not fully comparable, it was decided following the orientation process to mostly use data from only one country to illustrate results.

Pair comparisons: Categorisations by the Swedish organisation Lönelotsarna (Harriman et al., 2023) were used when comparing the pay situation between pairs of male- and female-dominated occupations in which, according to the Lönelotsarna model, work of equal value is performed. These pairs were compared across all three countries. Harriman et al. guided the choice of occupational pairs; the remit for the pilot study did not include a valuation of occupations, but illustrating the shortcomings and applicability of the statistics required some kind of comparative material. While the evaluations by Harriman et al. are not indisputable, they are based on solid work. The pairwise comparisons illustrated mostly similar pay gaps between male- and female-dominated occupations in all three countries. As pay gaps within occupations were also identified, the interaction between intra- and inter-group pay gaps could be analysed.

Special tabulations: As the publicly available statistics in the statistical databases could not address all questions on age, education and part-time employment, specific tables were commissioned, which the statistical offices can supply at a cost. Three tables were ordered from Finland, one on age, one on education – both on levels and fields of education – and one on pay for full-time and part-time work. All tables were gender-disaggregated and based on the four-digit occupational classification.

In Sweden, age could be extracted from publicly available statistics. Data on education related to pay is also publicly available, although not based on occupational classifications, only the classification of education. Thus, only statistics on full-time and part-time pay for women and men in different occupations were requested.

The request for special tables on the Norwegian statistics was cancelled because no information was received as to whether the requested tables could be produced and within what time frame. After a period of waiting, it was decided that the requested Norwegian statistics could not be delivered to enable analysis within the time frame of the project.

Analysing existing and commissioned statistics: The available tables from the statistical databases of the national statistical offices from the respective countries were analysed from a variety of perspectives, alongside the commissioned statistical tables, focusing on comparisons of pay in different (equal) occupations at the three- and four-digit levels of the occupational classifications, pay in different sectors, pay by working hours (full/part time), pay by level of education, pay by age and pay gaps measured using mean and median values.

Finalising the report: In the report, general findings are described using examples that show the kind of factors that might be interesting to investigate using official statistics. The recommendations were written based on the difficulties encountered during the exploratory research as well as insights into which aspects of the available statistics are worth investigating in pay comparisons between occupations in which work of equal value is performed.

About this publication

Towards Pay Equity: An exploratory study of national wage statistics in the Nordic countries

Minna Salminen-Karlsson and Anna Fogelberg Eriksson for NIKK, Nordic Information on Gender

TemaNord 2025:545

ISBN 978-92-893-8279-3 (PDF)
ISBN 978-92-893-8280-9 (ONLINE)
http://dx.doi.org/10.6027/temanord2025-545

Cover photo: Lieselotte van der Meijs/Image Bank Sweden

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Published: April 2025

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