

Method and data sources for the gender pay gap in the UNECE Statistical Database

The Gender pay gap is the difference between men's and women's average earnings from employment, shown as a percentage of men's average earnings. The UNECE Statistical Division compiles and releases two kinds of statistics on the gender pay gap: (1) gender pay gap in hourly wage rate and (2) gender pay gap in monthly earnings. The policy concerns that each of these indicators relates to and the implications for the required earnings data are detailed in the UNECE report [Gender pay gap: Data availability and measurement issues](#), presented at the UNECE Gender WorkSession of 2008.

1. Gender pay gap in hourly wage rates

The gender pay gap in hourly wage rates measures the overall comparative position of men and women in the labour market. In this indicator, the basic element of comparison between men and women is the average wage rate, which is the average agreed upon unit-value for work done, irrespective of the amount of time worked. Many factors that are not intrinsic to the accomplished work can influence the amount that one earns over a long period of time. An hourly wage rate is based on a sufficiently short unit of time, reflecting the value attached to a unit of work accomplished without the interference of exogenous factors.

The following presents the definition and statistical elements to take in account for calculating the gender pay gap in hourly wage rates.

1.1. Wage rate components

Wage rates should be measured as stipulated by the ILO Resolution concerning an integrated system of wages statistics (ILO, 1973) and outlined as follows:

- The data on time rates of wages should relate to an appropriate time period such as the hour, day, week, month or other customary period used for purposes of determining the wage rates concerned. (In the UNECE Statistical Database, the reference time period for these data is the hour.)
- Wage rates should include basic wages, cost-of-living allowances and other guaranteed and regularly paid allowances, but exclude overtime payments, bonuses and gratuities, family allowances and other social security payments made by employers. Ex gratia payments in kind, supplementary to normal wage rates, are also excluded.
- Statistics of wage rates fixed by or in pursuance of laws or regulations, collective agreements or arbitral awards (which are generally minimum or standard rates) should be clearly distinguished from statistics referring to wage rates actually paid to individual workers. (UNECE Statistical Database uses the latter.) Each of these types of wage rates is useful for particular purposes.

1.2. Statistical units and population

The target population is composed of employed persons, further specified according to type of economic activity, status in employment, hours worked and size of enterprise.

1.2.1. Types of economic activity

The policy relevance of this indicator is to monitor how wages are set up through recruitment bargaining. This is more often the case in the private sector and in companies where no collective remuneration schemes are set. For this reason, the economic activities covered exclude the public sector and the activities of extraterritorial organisations and bodies. Most data sources for earnings and wage statistics do not cover the sector of agriculture, forestry and fishing (ISIC Rev. 4 category A).

1.2.2. Status in employment

The target population includes employees and excludes employers, own-account workers, contributing family workers, and members of producers' cooperatives.

1.2.3. Hours worked

Average earnings data utilised to compute the gender pay gap should represent all employees under work contract either on part-time or full time basis.

1.2.4. Size of enterprise

In principle, the size of enterprise does not matter. However, for statistical survey design, some limitations may apply, such as covering employees in enterprises with personnel size above certain threshold, as is the case with the European Structure of Earnings Surveys.

1.3. Data for calculating the gender pay gap in hourly wage rates

For calculating the gender pay gap in hourly wage rates, UNECE considers establishment surveys as the most appropriate source, because they produce least deviations from the definition described above. The second priority is to use other sources with a definition close to the one described above, such as income tax administrative records and household surveys. The discrepancies from the definition are often country-specific and are listed in the individual country footnotes to the extent that the information is available.

For European Union member countries, Norway and Switzerland, UNECE publishes the unadjusted hourly gender pay gap based on hourly earnings figures from the EU Structure of Earnings Surveys, which are available from the Eurostat online database.

Please refer to Eurostat's methodological notes on [unadjusted hourly gender pay gap statistics](#) and the [structure of earning surveys arrangements](#) for further explanations.

2. Gender pay gap in monthly earnings

The gender pay gap in monthly earnings measures the relative difference in between women's and men's earnings over a period of one month. It reflects differences in time worked and type of work performed, which translates into gender differences in economic autonomy. Monthly earnings are shaped by the wage rates, by the amount of time spent at work and by other rewards linked to performance and recognition. The underlying data for gender pay gap in monthly earnings should reflect the combined influence of the factors evoked above.

2.1. The concept of earnings

The basic concept for measuring the gender pay gap in monthly earnings is the gross earnings. Monthly earnings should include: direct wages and salaries, remuneration for time not worked (excluding severance and termination pay), bonuses, gratuities, and housing and family allowances paid by the employer to the employee. Earnings exclude employers' contributions to social security and pension schemes for their employees and the benefits received by employees under these schemes. Earnings also exclude severance and termination pay.

The three main components of earnings can be described as follows:

- (a) **Direct wages and salaries for time worked or work done** cover: (i) straight-time pay of time-related workers; (ii) incentive pay of time-rated workers; (iii) earnings of pieceworkers (excluding overtime premiums); (iv) premium pay for overtime, shift, night and holiday work; (v) commissions paid to sales and other personnel. Included are: premiums for seniority and special skills, geographical zone differentials, responsibility premiums, dirt, danger and discomfort allowances, payments under guaranteed wage systems, cost-of-living allowances and other regular allowances.
- (b) **Remuneration for time not worked** comprises direct payments to employees in respect of public holidays, annual vacations and other time off with pay granted by the employer.
- (c) **Bonuses and gratuities** cover seasonal and end-of-year bonuses, additional payments in respect of vacation period (supplementary to normal pay) and profit-sharing bonuses.

2.2. Statistical units and population

2.2.1 Types of economic activity

The target population includes all sections of the economic classification, except the activities of extraterritorial organisations and bodies. Activities carried out within the public sector should be included.

2.2.2. Status in employment

In principle, the population represented should include all [statuses of employment](#), except the contributing family workers. However, due to the difficulties faced in collecting earnings for self-employed categories (employers, own-account workers and members of cooperatives), the data often cover paid employees only. In fact, earnings-equivalent data for the self-employed are set to be produced as part of the [measurement of employment-related income](#) adopted by the Sixteenth International Conference of Labour Statisticians in 1998. Therefore, the population coverage can be extended to include self-employed when their required data can be produced.

2.2.3. Hours worked

Earnings from employment of employees working full-time and part-time should be included without any adjustment for the time (no full-time equivalisation of part-time), to reflect the effective participation in the labour market.

2.3 Existing earnings compilation methods in the countries

Although subject to the guidance of the [ILO Resolution concerning an integrated system of wages statistics](#) practices of producing earnings statistics vary from one country to another, hampering real comparability in the released figures. To resolve these discrepancies, the European Commission has adopted the resolution instating the Structure of Earnings Surveys (SES), applicable in its membership. These surveys have been carried out on a four-yearly basis, in 2002, 2006 and 2010. While some EU member States have moved to the SES for intermediary years, other countries base their estimates on other methods, such as payrolls, administrative records or household surveys. Outside the EU, such differences also prevail, limiting the comparability of earnings statistics among the countries.

2.4 Data for calculating the gender pay gap in monthly earnings

To calculate the gender pay gap in monthly earnings, UNECE selects the average monthly earnings data according to the following priorities:

1. The preferred method is earnings statistics produced out of households surveys, because they cover all types of employees, whether in the private or public sector, paid employees or self-employed, full or part-timers. With household surveys, multiple job holders are accounted for, and only once, with the cumulative earnings from all the jobs they hold. As such, the average earnings for the two genders represent the combination of the elements that contribute to the difference in the final amount earned over time. Possible flaws to this kind of surveys are reliability of the declared earned amounts by respondents who can be influenced by social desirability, or the nature of the declared earnings. Depending on the context, it can be the net or gross earnings. We assume that the surveys ensure that the same concept applies within each country.
2. The second priority sources are establishment surveys such as the European Structure of Earnings Surveys, which collect earnings data from enterprises. The data collected through this type of survey usually follows the reference definition of earnings, with the exception that earnings are measured at the job level only. This makes multiple job holders invisible to the surveys. In some cases, including the European Structure of Earnings Surveys, monthly earnings of part-timers are scaled up to a full-time equivalent, artificially inflating the earnings of part-timers. In the UNECE calculation of monthly earnings based on the European Structure of Earnings Surveys, this scaling of part-timers' earnings is not carried out.
3. Other sources for monthly earnings statistics are administrative records of payrolls that are selected as the third priority if none of the previous two are available.