



Economia, Finanza e Analisi dei Dati

Laurea Magistrale

Data Analysis for Economics

Topic 1: Gender Pay Gap in Europe

Marco Nieddu

Fall 2025

The Gender Pay Gap

- ▶ In recent decades, there has been a large and increasing interest (both in academia and among the general public) in the **gender pay gap**:
 - ▶ the wage differential between men and women.
 - ▶ typically expressed as a percentage: average earnings of female employees as a % of those of male employees.
- ▶ There has been considerable effort by scholars and policymakers to:
 1. Understand the reasons behind observed gender differences in earnings,
 2. Track its evolution over time, and
 3. Design effective policies to close the gap.

What We Know About the Gender Pay Gap

The **drivers** of wage differences are many:

- ▶ differences in **sorting** across industries and occupations;
- ▶ productivity differences related to workforce commitment, fertility decisions, and social norms;
- ▶ differences in bargaining ability (women negotiate wages less intensively or ask for lower salaries);
- ▶ discrimination, either due to preferences (taste) or assumptions about expected productivity (statistical discrimination).

A (very short) literature

- ▶ Sin, I., Stillman, S., Fabling, R. (2022). What drives the gender wage gap? Examining the roles of sorting, productivity differences, bargaining, and discrimination. *Review of Economics and Statistics*, 104(4), 636-651;
- ▶ International Labour Organization. Understanding the Gender Pay Gap <https://www.ilo.org/media/402181/download>
- ▶ Kunze, A. (2018). The gender wage gap in developed countries. *The Oxford handbook of women and the economy*, 4, 369-394.
- ▶ Blau, F. D., Kahn, L. M. (2017). The gender wage gap: Extent, trends, and explanations. *Journal of economic literature*, 55(3), 789-865.

The Child Penalty Atlas

▶ <https://childpenaltyatlas.org/>

This Project

- ▶ We use country-level data for European countries.
 - ▶ Series are available from the Eurostat database:
<https://ec.europa.eu/eurostat/data/database>
- ▶ Our goal:
 - ▶ to explore trends and country differences in the overall gender pay gap
 - ▶ provide suggestive evidence on the importance of the different components in explaining such trends/differences

Data work I

Analyze the different components of the gender pay gap:

- ▶ Cross-country comparisons for a given year
 - ▶ → bar charts, maps, tables...
- ▶ Time-series variation for the EU (and by country)
 - ▶ → line plots, bar charts/scatter plots of changes over time

Data work II

Describe the overall gender pay gap (i.e., the result of all of the mechanisms):

- ▶ Sorting across industries/occupations/fields → presence of women in STEM fields; propensity to part-time vs. full-time work...
- ▶ Glass ceiling effect → presence of women in top/managerial positions
- ▶ Bargaining ability → private *versus* public sector
- ▶ Discrimination/career interruptions → gender wage gap for different age groups
- ▶ ...