Gender Differences in Pay, 1873-2016

Relevance & Contribution

- Germany – one of the biggest and most prosperous economies in Europe still has one of the highest gender gaps in hourly earnings:

  ![Unadjusted gender pay gap, Germany 2016: 21.3%](image)

- Historical difference to other countries, e.g. in 1955 France had unadjusted gap of 14% vs. Germany 37% (Ziegler 2010, 74)

  - Where do present-day persistencies in gender pay differences originate?
  - Did Germany take a different path towards gender equality than other European countries or the U.S.? What were the reasons?

Contribution:
1. Construct a time series of the unadjusted gender ratio from 1873 to the present & discuss possible reasons
2. Functional publishing data usable for distributional and decompositional analysis (see Box “Further Ideas”)

Data & Coverage

Sources
1873/74: Special reports on the situation of agricultural and industry workers
1907-1943: irregular reporting of gross earnings by the statistical offices
Since 1953: yearly reports on the actual gross earnings of salaried personnel and wage earners in industry, commerce and agriculture

3 Sector-Occupation Groups

<table>
<thead>
<tr>
<th>Wage Earners in Agriculture</th>
<th>Wage Earners in Industry</th>
<th>Salaried Personnel in Industry</th>
</tr>
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<tbody>
<tr>
<td>Coverage</td>
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Blanks:
- The top of the distribution
- Civil servants
- Assisting family members
- Service sector

Method: Unadjusted Gender Ratio of Gross Earnings

\[
\text{Gross earnings} = \text{wages or salary} + \text{social & other supplements} + \text{continuous premium payments (e.g. overtime)} + \text{in-kind payments for agricultural workers}
\]

\[
\text{Gender ratio} = \frac{\text{Women’s gross earnings}}{\text{Men’s gross earnings}} = 1 - \text{unadj. gender gap}
\]

Results: Gender Earnings Ratios, 1873-2016

Combined by weighting the main earnings of each gender-sector-occupation group by the labor force of each group

- Falling gender ratio 1873-1920 and 1939-1950
- Increasing gender ratio 1920-1939 and after 1950

Seeking for Explanations, 1873-1970

Human capital factors
- Decline in gender high school gap 1910-1930
- Difference in high school enrollment closes around 1975

Sector and occupational change
- 1873-1913: Decline in gender ratio due to slower movement of women from low-pay agriculture to higher-pay industry?
- Post-1913: Occupational change in favor of women’s pay

Selection into employment
- Higher female participation rate \(\rightarrow\) Lower gender pay ratio

Empirical evidence:
- Consistent with theory for 1880-1920
- Anomalous development for WW II
- Did returning men crowd out women in qualified jobs?

Further factors to be explored:
- Experience, Tenure, ...

Male labor & female labor
- Male and female labor not seen as homogeneous before 1945
- Gross wage ≠ marginal productivity

1. case study:
   Gender differences in tariff agreement wages of industrial workers 1928-1943

2. case study:
   Gender differences in wage supplements of clerical workers 1934

Further Ideas to Be Discussed: Towards the Adjusted Gender Ratio

- Aim: Make published grouped data usable similar to micro datasets

Plan

A. Oaxaca-Blinder decomposition from average wage data of industry-skill cells (Blau 1980)
B. Generate a synthetic micro data set by linking grouped data via distribution assumptions
  1. Estimate subdistributions (by gender and industry) by assuming the functional form of a Generalized Beta distribution of the second kind
  2. Link the estimated distributions via assumptions (copulas?)
  3. Analyze the data similar to current micro data

References

Distribution of women’s hourly earnings in the energy industry 1928-1935