THE GENDER WAGE GAP IN GERMANY: UNDERSTANDING THE ROLE OF EMPLOYERS AND FIRM CHARACTERISTICS

Presentation on the Conference “The Gender Wage Gap in Europe: What Can We Learn Using Linked Employer-Employee Data?”

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Central gender inequalities in the German labour market have softened over the last decades especially regarding education and labour market participation: Currently, women achieve higher educational attainments than men and represent half of the German work force.

Nevertheless: Women still earn substantially less than men substantial and persistent gender wage gap
GENDER WAGE GAP: INTERNATIONAL COMPARISON

UNADJUSTED GENDER WAGE GAP, 2017

Legend
- 3.5 – 8.0
- 8.0 – 14.2
- 14.2 – 15.4
- 15.4 – 19.8
- 19.8 – 25.6
- Not available

THE DEVELOPMENT OF THE GENDER WAGE GAP IN GERMANY

(IN % DIFFERENCE OF GROSS HOURLY WAGES)

EARNINGS DIFFERENCES BETWEEN MEN & WOMEN

GROSS HOURLY EARNINGS EUR, IN 2014

Reasons for differences
- Unexplained residual (adjusted gender pay gap)
- Educational level and work experience
- Working hours
- Occupation and economic branch
- Leadership and qualification requirements
- Other factors

RESEARCH QUESTION

How does the employer – and more specific, HR measures of the firm as well as organizational diversity arrangements affect the gender wage gap in Germany?

Do performance related organizational practices relate differently to male and female wages than “non-competitive” practices?
STATE OF RESEARCH
LITERATURE REVIEW: GENDER WAGE GAP

• Firm characteristics
  – Increase of wage inequality within firms, limited effects of firm characteristics on GWG (Antonczyk, Fitzenberger & Sommerfeld 2010)
  – Substantial within firm and job wage gaps (Hinz & Gartner 2005)
  – Smaller within than across GWG, union coverage and works councils are associated with smaller GWG (Heinze & Wolf 2009)

• Females in management position
  – Limited access to managerial positions for women (Hultin & Szulkin 2003)
  – No evidence for lower GWG in firms with female managers (Srivastava & Sherman 2015)

• Organizational practices
  – Practices helping to coordinate work and life have limited or no impact on GWG (Van der Lippe, Van Breeschoten & Van Hek 2018)
  – Mothers return quicker to family friendly establishments (Frodermann et al. 2018)
• Women are less favourable to competition (Niederle & Vesterlund 2011, Bertrand 2011; Croson and Gneezy 2009)

• Females have higher risk aversion in general but not visible among professionals and managers (Croson and Gneezy 2009)

• No clear evidence for compensating wage differentials for favourable working conditions
HYPOTHESES

• H1: Organizational characteristics can explain part of the Gender Wage Gap
• H2: Men’s wages are positively influenced by performance related organizational practices
• H3: Practices that foster equal opportunities positively relate to female wages
• H4: Flexible working arrangements negatively relate to female wages
THE LINKED PERSONNEL PANEL
The gender wage gap in Germany: Understanding the role of employers and firm characteristics

## Structure of the Linked Personnel Panel

<table>
<thead>
<tr>
<th>IAB Establishment Panel since 1993</th>
<th>1(^{st}) wave 2012</th>
<th>2(^{nd}) wave 2014</th>
<th>3(^{rd}) wave 2016</th>
<th>4(^{th}) wave 2018</th>
</tr>
</thead>
<tbody>
<tr>
<td>LPP-Establishment survey</td>
<td>1,219 establishments</td>
<td>771 establishments</td>
<td>846 establishments</td>
<td>Admin. records since 1975</td>
</tr>
<tr>
<td>Sample of 7,508 employees</td>
<td>Admin. records since 1975</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sample of 7,282 employees</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sample of 6,779 employees</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

On its way
DATA I – LINKED PERSONNEL PANEL (LPP)

• Topics of employer survey:
  – recruitment and selection, performance management, talent management and employee development, retention management and corporate culture, firm characteristics

• Topics of employee survey:
  – current job/working conditions, development and promotion possibilities, subjective job quality, personality, socio-demographics

• Information from IAB Establishment Panel:
  – sales, investments, capital, workforce composition, works council, collective agreement
DATA II – INTEGRATED EMPLOYMENT BIOGRAPHIES (IEB)

- Survey information of employees are linked to employment records (since 1975 or entry into labour market)
- This administrative data encompasses information on start and end date of employment on a daily basis, sex, education, occupation, wages, unemployment experience, etc.
- Experience can be calculated using administrative data
METHOD

- **Dependent variable**: Log hourly wage
- **Control variables**: Age, age², migration background, educational degree, fixed-term contract, collective agreement, management position, firm size, sector, lives with partner in household, children in household, region
- **OLS models**, separately for men and women in 2014 and 2016 with clustered SE for firms
- **Fixed effect models**, separately for men and women
- **Oaxaca-Blinder decomposition**
DESCRIPTIVES
DEVELOPMENT OF ORGANIZATIONAL PRACTICES - ESTABLISHMENTS

The gender wage gap in Germany: Understanding the role of employers and firm characteristics
DEVELOPMENT OF ORGANIZATIONAL PRACTICES - EMPLOYEES

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The gender wage gap in Germany: Understanding the role of employers and firm characteristics

DECOMPOSITION: BASE MODEL

The diagram shows the decomposition of the gender wage gap in Germany for the years 2014 and 2016. The unexplained and explained components of the gender wage gap are presented. For 2014, the unexplained component is 11.7% and the explained component is 10.7%. For 2016, the unexplained component is 13.8% and the explained component is 10.7%.

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MULTIVARIATE RESULTS
OAXACA-BLINDER DECOMPOSITIONS: EXPLAINED PART

The gender wage gap in Germany: Understanding the role of employers and firm characteristics

![Graph showing the gender wage gap in Germany with contributions from different factors: Part-time, Work council, Performance pay, Sector, Firm size, Controls, Other (insig.).]
## REGRESSIONS, SEPARATELY FOR MEN & WOMEN

<table>
<thead>
<tr>
<th>Variables</th>
<th>Base model</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Men</td>
<td>Women</td>
</tr>
<tr>
<td>Age</td>
<td></td>
<td>0.022***</td>
<td>0.047***</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(0.005)</td>
<td>(0.010)</td>
</tr>
<tr>
<td>Age²</td>
<td></td>
<td>-0.000***</td>
<td>-0.000***</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(0.000)</td>
<td>(0.000)</td>
</tr>
<tr>
<td>Education (Ref. Vocational training)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No educational qualification</td>
<td></td>
<td>-0.072</td>
<td>-0.080</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(0.071)</td>
<td>(0.060)</td>
</tr>
<tr>
<td>Master craftsman training</td>
<td></td>
<td>0.099***</td>
<td>0.130***</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(0.016)</td>
<td>(0.030)</td>
</tr>
<tr>
<td>University</td>
<td></td>
<td>0.341***</td>
<td>0.283***</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(0.022)</td>
<td>(0.032)</td>
</tr>
<tr>
<td>Collective agreement</td>
<td></td>
<td>0.145***</td>
<td>0.136***</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(0.024)</td>
<td>(0.038)</td>
</tr>
<tr>
<td>Fixed-term contract</td>
<td></td>
<td>-0.067</td>
<td>-0.148**</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(0.053)</td>
<td>(0.062)</td>
</tr>
<tr>
<td>Constant</td>
<td></td>
<td>2.227***</td>
<td>1.745***</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(0.120)</td>
<td>(0.270)</td>
</tr>
<tr>
<td>N</td>
<td></td>
<td>2416</td>
<td>952</td>
</tr>
</tbody>
</table>

Models also control for: migration background, management position, firm size, sector, lives with partner in household, children in household, region.
### Variables

<table>
<thead>
<tr>
<th>Variables</th>
<th>Full model</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Men</td>
<td></td>
<td>Women</td>
</tr>
<tr>
<td>Performance pay</td>
<td>0.081***</td>
<td>(0.014)</td>
<td>0.021</td>
</tr>
<tr>
<td>Target agreements</td>
<td>-0.009</td>
<td>(0.022)</td>
<td>0.034</td>
</tr>
<tr>
<td>Performance appraisals</td>
<td>-0.006</td>
<td>(0.013)</td>
<td>0.030</td>
</tr>
<tr>
<td>Work council</td>
<td>0.100***</td>
<td>(0.030)</td>
<td>0.152***</td>
</tr>
<tr>
<td>Home office</td>
<td>0.152***</td>
<td>(0.018)</td>
<td>0.176***</td>
</tr>
<tr>
<td>Strategy of diversity</td>
<td>0.004</td>
<td>(0.021)</td>
<td>0.041</td>
</tr>
<tr>
<td>Part-time</td>
<td>-0.096**</td>
<td>(0.041)</td>
<td>-0.033</td>
</tr>
<tr>
<td>Flexible working hours</td>
<td>0.022</td>
<td>(0.017)</td>
<td>0.128***</td>
</tr>
<tr>
<td>Working conditions</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Physical effort</td>
<td>-0.087***</td>
<td>(0.017)</td>
<td>-0.132***</td>
</tr>
<tr>
<td>Multitasking</td>
<td>0.012</td>
<td>(0.013)</td>
<td>0.043**</td>
</tr>
<tr>
<td>Unpleasant working environment</td>
<td>-0.017</td>
<td>(0.016)</td>
<td>-0.045*</td>
</tr>
</tbody>
</table>

Models also control for: Age, age², education, management position, collective agreement fixed-term contract migration background, firm size, sector, lives with partner in household, children in household, region.
The gender wage gap in Germany: Understanding the role of employers and firm characteristics
CONCLUSION & OUTLOOK
RESULTS & CONCLUSION

We can confirm…

H1: Organizational characteristics can explain a **small** part of the Gender Wage Gap

H2: Men's wages are positively influenced by performance pay → **endowments & returns**

We find mixed evidence for…

H3: Practices that foster equal opportunities positively relate to female wages

H4: Flexible working arrangements negatively relate to female wages

**Conclusion**

Organizational practices do not significantly narrow the Gender Wage Gap
OUTLOOK

• Exploit the panel dimension
• Employing RIF regression based decompositions to analyse whether particular organizational arrangements are of higher importance for the GWG in specific quantiles
• Considering further personal characteristics of the employees (see e.g. Anger, Laible & Müller 2017) as well as organizational characteristics based on the IAB Establishment Panel
CONTACT

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BACK UP
DEVELOPMENT OF ORGANIZATIONAL PRACTICES - ESTABLISHMENTS
DEVELOPMENT OF ORGANIZATIONAL PRACTICES - EMPLOYEES

The diagram shows the development of performance pay, performance appraisals, and home office from 2012 to 2016.
OAXACA-BLINDER DECOMPOSITIONS: EXPLAINED PART

The Linked Personnel Panel – challenges and solutions // Page 34
Diverse reasons:
- (Human capital → of minor importance, nowadays)
- Gender-specific employment histories
- Occupational sex segregation
- Different levels of the hierarchy
- Work volume

→ However: The role of the employer and especially of organizational arrangements has been underexplored so far